H316

ARCHAEOLOGICAL EVALUATION ON LAND AT WOOLRAM WYGATE, SPALDING, LINCOLNSHIRE (SWW02)

Work Undertaken For

A P S
ARCHAEOLOGICAL
PROJECT
SERVICES

EVENTS LI 2883
LI 4283
LI 4284

SOURCES LI 7552
LI 8833
LI 8834

MON 23832 - PREHIST
23833 - ROMAN
23835 - ROMAN
23836 - MEDIEVAL
23837 - MEDIEVAL
23838 - POST MED
23839 - ROMAN
23840 - MEDIEVAL
23841 - POST MED
23842 PREHISTORIC

ARCHAEOLOGICAL EVALUATION ON LAND AT WOOLRAM WYGATE, SPALDING, LINCOLNSHIRE (SWW02)

Work Undertaken For
Robert Doughty Consultancy and Allison Homes Ltd

March 2003

Report Compiled by
James Snee BSc (Hons.)

Planning Application No: H16/0578/01
National Grid Reference: TF 2350 2305
City and County Museum Accession No: LCNCC: 2001.454

A.P.S. Report No. **47/03**

ARCHAEOLOGICAL PROJECT SERVICES

REGISTERED IFA ORGANISATION

Quality Control

Woolram Wygate, Spalding, Lincolnshire (SWW02)

Project Coordinator	Denise Drury
Project Officer	James Snee
Supervisor	Mark Dymond, Michael Bamford & Fiona Walker
Site Assistants	Denise Buckley, Aaron Clements, Paul Flintoft, Barry Martin, Chris Moulis, Jim Robertson, Aleck Russell & Pete Watkin
Illustration	Mark Dymond, Dave Hopkins, Vicky Mellor & James Snee
Photographic Reproduction	Sue Unsworth
Finds Processing	Denise Buckley
Finds Reports	James Albone, Barbara Precious, Elaine Morris, Gary Taylor & Jane Young
Environmental Analysis	James Rackham
Post-excavation Analyst	James Snee

Checked by Project Manager	Approved by Senior Archaeologist
Denise Drury	Tom Lane
Date: 28/3/03	Date: 31-03-03

CONTENTS

Appendices

List of Figures

List of Plates

1. SUMMARY

An archaeological evaluation (trial trenching) on land at Woolram Wygate, Spalding, Lincolnshire (NGR TF 2350 2305), was undertaken as part of a phased programme of investigation. A desk-based assessment and geophysical survey of the application area had highlighted the potential for archaeological remains within the site.

Know settlement in the area dates from the Romano-British period, and deposits of this date are encountered in and around Spalding, together with evidence of saltmaking.

The aim of the evaluation was to gather sufficient information for the archaeological curator to formulate a policy for the management of the archaeological resources present on the site.

The trial trenching revealed that Romano-British industry and occupation of the area had its origins in the Late Iron Age. Significantly the features and deposits recorded strongly suggest both politically and environmentally driven social and economic change throughout the first four centuries AD.

The earliest deposits revealed were prehistoric sediments, cut by a number of palaeochannels of various sizes. On the bank of one of these brackish creeks, ditches associated with a Late Iron Age saltern (saltmaking site) was revealed, probably concurrent with limited scale domestic settlement.

In the early part of the Roman period the focus of the saltmaking on the site shifted, to slightly higher ground to the southwest (Area 1), where the briquetage filled pits suggest intensity of production increased. The features established here were almost purely industrial in nature, and no evidence was found of associated settlement.

As the Roman period progressed the creek environment changed, from brackish water to fresh water, and salt production ceased. However, evidence of continued Roman occupation was revealed in the forms of pits, ditches and, further north (Area 2) an occupation layer, from which pottery, bone and a fragment of quernstone were recovered. Towards the end of the Roman period (4th century), Area 2 appears to have been the main area of occupation.

At some point at the end of the Roman period, or during the early Saxon period there was a marine transgression, burying the Roman and earlier features with layers of silts and sands.

Evidence of ditches and other features suggests that at some point in the medieval period, a system of strip fields, known as dylings, was established, with settlement – perhaps farms – at the east end of the area. The presence of post-medieval ditches, combined with map evidence suggests that the field system continued through the post-medieval period and into the 19th century.

Finds of pottery, brick, tile, metal work, clay pipe and industrial residue dating between the 1st to 20th centuries were recovered from the site. Analysis of environmental samples established the presence of preserved, charred and waterlogged plant macrofossils.

2. INTRODUCTION

2.1 Definition of an Evaluation

An archaeological evaluation is defined as '*a limited programme of non-intrusive and/or intrusive fieldwork which*

determines the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts within a specified area or site. If such archaeological remains are present Field Evaluation defines their character and extent, and relative quality; and it enables an assessment of their worth in a local, regional, national or international context as appropriate' (IFA 1997).

2.2 Planning Background

Between the 11th November and 4th December 2002, an archaeological evaluation was undertaken on land at Woolram Wygate, Spalding, Lincolnshire.

A planning application (H16/0578/01) was submitted to South Holland District Council for the residential development at Woolram Wygate, Spalding. An archaeological evaluation was required to assist in the determination of the planning application.

A desk-based assessment (Albone 2000) of the site had previously been undertaken, followed by a geophysical survey (Oxford Archaeotechnics 2002).

Based on the results of the earlier work a programme of trial trenching was required to determine the nature and state of preservation of the archaeological remains.

Archaeological Project Services (APS) was commissioned by Robert Doughty Consultancy and Allison Homes Ltd to undertake the trial trenching. A specification (Appendix 1) detailing the methods, techniques and procedures of the evaluation was produced by APS and approved by the Senior Built Environment Officer, Lincolnshire County Council.

The evaluation was carried out in accordance with the guidelines specified in the Institute of Field Archaeologists' *Standard and Guidance for Field Evaluation* (IFA 1999).

2.3 Topography and Geology

Spalding is located 23km southwest of Boston and 30km southeast of Sleaford in the South Holland district of Lincolnshire (Figure 1).

The application area, about 22ha in extent, occupies a roughly rectangular block of land on the western edge of the town bounded by Woolram Wygate to the east and Monk's House Lane to the west at National Grid Reference TF 2350 2305 (Figure 2).

The majority of the site is fairly level ground under arable cultivation and lies at a height of approximately 3m OD. In the southwest corner are former allotments and standing buildings and glasshouses are located in the northeast and southeast parts of the site (Figure 3). An overhead powerline, aligned roughly northwest-southeast, crosses the application area.

Local soils are the coarse silty calcareous soils of the Wisbech Series developed on marine alluvium, with a north-south oriented band of Agney series calcareous alluvial gleys along the western boundary of the site (Robson 1990).

2.4 Archaeological Setting

Although no evidence of prehistoric (pre-50 AD) archaeology has been identified in the immediate vicinity of the investigation, evidence from the wider area suggests a general pattern of colonisation in the Iron Age. From the Neolithic through to the mid- to late Iron Age, the area was subject to periods of marine incursion. Consequently much of the early prehistoric use of the landscape has been deeply buried by marine sediments. However field walking in Pinchbeck South Fen, to the north, and

Deeping Fen, to the southwest, has revealed evidence of a number of Iron Age settlements sited on roddens – the silt levees of former watercourses. Finds from the Iron Age sites in Deeping Fen included quantities of briquetage, a fired clay material associated with saltmaking (Hayes & Lane 1992).

The Romano-British period (50 - 410 AD) saw a drop in sea level, which resulted in extensive settlement on the marine silts. It is believed that subsequent marine incursions late in the period, possibly during the 4th century, resulted in the abandonment of these sites. Later alluvial silts mask Romano-British ground levels and deposits in the area of the proposed site and further to the northeast (Albone 2000).

A Romano-British settlement site has been identified southwest of the application area. Pottery finds from the southern part of this site include Samian ware of mid- to late 2nd century date (Phillips 1970, 290). The cropmark remains of field systems indicate its extent. However, a watching brief carried out during improvements to the Pennygate Drain identified a large number of ditches to the north and west of the area of cropmarks. Pottery dating from the 1st to mid-2nd centuries was recovered from some of these features (Herbert 1996, 7).

Remains of Romano-British salterns (saltmaking sites) have been identified a distance to the south of the proposed development, to the south of Winsover Road. These remains were identified below *c.*0.8m of later alluvium (Albone 2000).

The Baston Outgang Roman road can be traced as intermittent cropmarks from Baston to approximately 2km southwest of the site where it starts to turn northwards (Phillips 1970, 30-1; 286-7; Maps 4, 6 and 8a). It is believed that this road continued, but its course is masked by the later alluvial deposits. The extrapolated course of this road would cross or lay close to the eastern part of the proposed development site.

No archaeological evidence of the Anglo-Saxon period (410 -1066 AD) has been identified within the immediate area. However, the settlement of Spalding seems to have Anglo-Saxon origins and it has been suggested that the Baston Outgang Roman road continued in use into this period (Phillips 1970, 30). Remains of this period may also be buried beneath later alluvial deposits.

Spalding is first referred to as *Spaldingis* in *c.*1074. The place-name is derived from that of an Anglo-Saxon tribe, the *Spalde,* who are recorded in a 7th century tribute list known as the Tribal Hideage (Cameron 1998, 114).

At the time of the Domesday Survey in 1086, Spalding was held by Ivo Tallboys and Guy of Craon. A market was recorded at the town and the manor included six fisheries, saltpans and a wood of alders (Morris 1986).

During the medieval period the town became an important trading centre. Its history and development are well documented, but as these are not directly relevant to the application area they are not discussed here. In contrast to the town itself, information relating the application area is less abundant (Albone 2000).

The Monk's House is located to the south of the proposed development site and was formerly a grange of Spalding Priory. It was first mentioned in the 13th century (Hallam 1965, 177) and after the Dissolution in 1538 it was leased to Thomas Kedbye. Parts of the original moat survive, although these are incorporated into modern drainage systems and landscaped gardens. The present building at the site dates from the 16th to 17th century and has an L-shaped plan. Surviving windows in the two wings are in

the early Tudor and Elizabethan or Jacobean styles (Pevsner 1995, 678).

Recorded post-medieval (1500 - 1900 AD) evidence from the immediate area is sparse. A hoard of 17th century tokens was found in a brass box on allotments in Pinchbeck Road in 1917. These are now held by the Spalding Gentleman's Society but the exact details of the discovery are unclear (Albone 2000).

The 17th century was the great period of fen drainage. Vernatt's Drain, which lies a short distance northwest of the site, was constructed in the 1630s as part of the drainage of Deeping Fen (Wheeler 1896, 318).

Two 19th century maps by G. Clarke show the application area in detail. The site and the fields to the south were made up of a combination of strips and rectangular fields. The alignment of these, in particular the narrow strip along the northern part of the site, perhaps preserves the layout of medieval dylings.

The second edition, 6" to the mile, Ordnance Survey map of 1906 shows that some consolidation of the fields had taken place at the site. The urban area of Spalding had not expanded as far west as the application area by that time and the only development had been the construction of Pennygate House on Woolram Wygate and the farm on Monk's House Lane.

However, this map also provides important dating evidence for the landscape. The line of Monk's House Lane is shown to continue north from the site as a series of field boundaries. The field boundaries to either side butt up to this line and create an organised layout. It is clear that many of these boundaries are cut by Vernatt's Drain and must pre-date its construction in the 1630s. A double boundary to the north of the drain further suggests that Monk's House Lane originally connected the monastic grange with Mill Green Road. It is probable that this road was of a contemporary medieval date to the grange. The adjacent fields, including the application area, may also be of medieval origin and could represent part of the landholding of the grange (Albone 2000).

Modern remains recorded in this part of the town consist of two Second World War concrete pillboxes (Albone 2000).

Undated remains of possible lynchets have been identified *c.*400m north of the proposed development site (Albone 2000).

A recent geophysical survey (Oxford Archaeotechnics 2002), undertaken as part of the scheme of investigation of application area, revealed a number of magnetic anomalies indicating the presence of buried archaeological remains on the site. In particular, in the southwest corner of the site an area of strongly magnetic features was detected and was interpreted as an area of ancient industrial activity, probably a saltern.

3. AIMS

The aim of the evaluation was to gather sufficient information for the archaeological curator to formulate a policy for the management of the archaeological resources present on the site.

The objectives of the investigation were to establish the type, chronology, density, spatial arrangement and extent of any archaeological remains present.

4. METHODS

4.1 Trial Trenching

An initial scheme of 39 trial trenches was laid out. A number were targeted on magnetic anomalies detected during the geophysical survey, in particular the area of a possible saltern. The remaining trenches forming a systematic grid to sample the entire application area (Figure 3).

At the request of the Senior Built Environment Officer, a number of additional trenches (Trenches 40 to 47) were excavated during the programme of works, to investigate the extent of identified remains in Trenches 1 and 17.

A mechanical excavator, under archaeological supervision, removed the layers of overburden with a toothless ditching bucket, until archaeologically significant features or deposits were encountered. The depth of the trenches was limited to 1.2m, unless the trench could be widened and stepped down to greater depths. The exposed surfaces of the trenches were then cleaned by hand and inspected for archaeological remains. Where present, features were excavated by hand in order to retrieve dateable artefacts and other remains.

Each deposit exposed during the evaluation was allocated a unique reference number (context number) with an individual written description. Each trench was allocated a continuous run of 100 contexts, the trench number forming the prefix of the sequence (e.g context numbers for Trench 2 were 200 to 299 and the context numbers for Trench 45 were 4500 to 4599). A photographic record was compiled. Sections were drawn at a scale of 1:10 and plans at a scale of 1:20. Recording of deposits encountered was undertaken according to standard Archaeological Project Services practice.

During the fieldwork twenty environmental samples were taken from archaeological contexts as part of a general sampling strategy. In addition an environmental archaeology consultant visited the site and took a number of additional samples from Area 1 to resolve specific questions about the site.

The location and height OD of the excavated trenches was surveyed with an EDM in relation to fixed points on boundaries and on existing buildings (Figure 3).

4.2 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 6). Of the twenty environmental samples taken from archaeological features, 15 were submitted for analysis and 5 were retained in storage. From the additional samples taken a small number were selected and analysed (the remainder placed in storage), and a single radiocarbon date was obtained (Appendix 7). A list of all contexts and interpretations appears as Appendix 2. Context numbers are identified in the text by brackets.

5. RESULTS

5.1 Description of the results

Due to the size and complexity of the site, the results of the trial trenching have been divided into key archaeological sequences or areas.

The recording of the sequence of natural deposits established the general depositional history of the site (5.2 General Depositional history).

An area of Iron Age and later features (5.3) was identified (Trench 15) along with two areas of Romano-British and later features (5.4). Area 1 was towards the southwest corner of the application area (Figure 3), focussed on the saltern (Trenches 7, 8, 9 & 10) and Area 2 was in the northwest corner and included Trenches 1, 40, 41, 42 and 44.

Across the whole of the application area was a general pattern of medieval and post-medieval activity (5.5 Medieval and post-medieval features and deposits).

A number of trenches proved to be archaeologically negative (Trenches 3, 11, 12, 13, 14, 18, 20, 22, 23, 30, 31, 33, 34, 36, 37 & 39). These trenches revealed only natural deposits overlain by topsoil (described below). Modern field drains were present in some of the otherwise negative trenches, however these were not individually recorded.

5.2 General depositional history

In keeping with most of the surrounding area, the depositional history of the site is dominated by marine alluvium. The earliest deposits revealed were mottled orange-brown and grey fine silts and clayey silts (Figures 42 & 43). These deposits formed an undulating surface that was highest in Area 1 (*c.*2.7mOD), dipping away to the west where a substantial palaeochannel was identified (Trench 3, Figure 20). The deposits also dipped to the east (to about 1.6mOD) before rising slightly in the area of Trench 15 (2.1mOD) and then gently sloping down towards the eastern end of the site, below the level of the excavated trenches. A number of palaeochannels were identified that cut this alluvial deposit, although these will be discussed in more detail below.

Overlying the earliest alluvial deposits was a *c.* 0.10m thick layer of grey clayey silt, the upper horizon of which contained a concentrated dark organic component, which was observed in the western half of the site, but dipped below the level of the trenches on the eastern half of the site. This layer, formed in fresh water marsh conditions, is possibly of the same date as a similar horizon identified within a paleaochannel in Trench 7 (see below) and radiocarbon dated to AD 230 (AD 130 to 260 at 68% probability (Appendix 7)). This is considerably earlier than a similar deposit identified at the Holland Park excavations to the south, and dated to *c.*650AD.

Sealing the organic, marshland deposit were beds of course marine alluvium, composed of grey, brown and orange-brown silts and fine sands of varying depth. These deposits were probably laid down during a period marine transgression, broadly dated to the post-Roman/Saxon period They contain a number of interdigitating lenses, and the courses of short-lived saline creeks.

The upper portions of the marine alluvium show signs of transformation, and the possible effects of deep ploughing, forming an intermittent subsoil layer across the site. Overlying this was a layer of topsoil up to 0.40m thick.

5.3 Iron Age and later features and deposits.

In Trench 15 (Figure 7), approximately 200m from the western boundary of the site (Figure 3), the upper horizon of the pre-Roman alluvium was cut by two north-south oriented ditches (1504) and (1514). Ditch (1504) was 1.20m wide and 1.0m deep with a rounded profile (Figure 27,

section 73), with a dark grey silt fill (1503) containing briquetage (fired clay associated with saltmaking) and charcoal fragments. Approximately 2.6m to the west of (1504) was a parallel ditch (1514), 1.7m wide and 0.50m deep with a rounded profile (Figure 27, section 74). The lower fill (1515) comprised burnt silt and briquetage fragments, overlain by lenses of ashy silt and briquetage (1517) and burnt silt and briquetage (1516). The final fill was dark grey clayey silt (1513) with charcoal, briquetage and burnt bone fragments. Although the briquetage was broadly dated to the early Roman period (late 1st to 2nd centuries) a significant assemblage of Late Iron Age pottery fragments (Appendix 3) was recovered from the same deposits, suggesting a slightly earlier date. Environmental analysis of fill (1513) identified large quantities of wood charcoal (possibly fuel) and fragments of sheep/goat and cattle bones from domestic refuse (Appendix 7).

Sealing both ditches was a 0.1m thick layer of mottled grey and brown silt (1502 & 1512).

Cutting alluvial layer (1502 & 1512) and truncating both north-south ditches, was an east-west oriented post-medieval ditch (1511) (Figure 27, section 76) with yellow brown to grey-brown clayey and silty fills (1507, 1508, 1509, & 1510), sealing the upper portions of the ditch were two transformed soil layers (1501 & 1505) overlain by topsoil (1500).

5.4 Romano-British and later features and deposits.

Area 1.

Area 1 refers to a group features and deposits centred on Trench 9, and also including trenches 7, 8 and 10 (Figure 3).

The earliest identified silt deposits (903, 907, 921, & 943) occur at their highest point in Trench 9, at a level of *c.* 2.7mOD. Into these, two irregular pits (911) and (935), approximately 3m wide, were cut (Figures 6 & Figure 25, section 43). Filling these pits were deposits composed mainly of fired silt/clay and containing a large concentration of briquetage fragments (915, 916, 917, 918, 919, 920, 934, 937, 938, 942 & 945). Analysis of the briquetage suggested an early Roman date (late 1st to 2nd centuries), and confirms that intensive saltmaking was taking place in the vicinity.

To the south of pit (911) was a sub-rectangular pit (909), 0.48m long by 0.40m wide and 0.16m deep (Figure 25, section 40), with a mixed orange to dark brown clayey silt fill (908).

At the north end of Trench 9, pit (935) was cut by a substantial palaeochannel (939/944) (Figure 25, section 43), oriented approximately east-west, and containing a lower silty fill (940).

Cutting the upper fills of pit (935) and palaeochannel fill (940) were two north-south oriented ditches (Figure 6). Ditch (913) was 0.53m wide and 0.14m deep (Figure 25, section 39) and curved to the southwest, and was filled grey-brown clayey silt (930). Pottery recovered from this ditch was dated to the late 2nd to 3rd centuries. Cutting the south-west end of (913) was ditch (914), 0.48m wide and 0.14m deep (Figure 25, section 38) and filled with mid-yellow/grey-brown clayey silt (929) from which a small fragment of Roman pottery was recovered.

Overlying channel fill (940) and the fills of ditches (913) and (914) was a darker more organic fill (922), which was it turn overlain by a thin band of peat (946) and pale marine alluvium (941) (Figure 25, section 43).

It is believed that the northern portion of palaeochannel (939/944) was revealed in a deep machine excavated sondage in the southeast end of Trench 7 (Figure 23). This contained thick deposits of peat (707) which environmental analysis showed to be of freshwater origin (See Appendix 7). A fragment of late 2nd to 3rd century pottery was recovered from the peat layer, and a radiocarbon date for the peat was AD 230 (AD 130 to 260 at 68% probability), this is consistent with the stratigraphic sequence. An auger survey of Trench 8 (Figure 24) confirmed that similar palaeochannel deposits continued to the west.

Cutting pit (911) was ditch (910), 0.58m wide and 0.59m deep (Figure 25, section 41), with yellow-brown and grey-brown clayey silt fills (931) and (932) from which 2nd to 3rd century pottery was recovered. The south end of ditch (910) was cut by an east-west oriented ditch (906), 1.22m wide and 0.80m deep (Figure 25, section 42), with a mottled olive grey-brown clayey silt fill (933).

To the south of ditch (906) was a second east-west oriented ditch (905). This was 1.80m wide and 0.90m deep (Figure 25, section 37), with a lower fill of dark brown clayey silt (926), dated by finds of pottery to the 2nd to 3rd centuries, and an upper fill of yellow/orange silt (904). The southern edge of the ditch was truncated by an east-west oriented palaeochannel (927) filled with mid-brown to orange-brown marine alluvium (903 & 927) of probable Saxon date.

To the south of Trench 9, Trench 10 contained a group of three pits (Figures 7 & 26). Cutting mottled orange/grey-brown fine silt (1004), the earliest pit (1021) was sub-oval 0.77m wide by 0.30m wide and 0.30m deep, with a rounded profile (Figure 26, section 35). It contained orange/grey-brown silty fills (1027, 1024 & 1022) with charcoal and briquetage rich (1025 & 1026) and grey silt (1023) lenses. Sealing the latest fill of pit (1021) was a 0.37m thick deposit of mottled grey-brown silt (1003), which was cut by irregular sub-rectangular pit (1028), 1.80m long by 0.90m wide and 0.75m deep (Figure 26, section 36). Within the cut of pit (1028) were grey-brown to black clayey silt fills (1029, 1030 & 1031). Fragments of Romano-British pottery (late 2nd to 3rd century) and slag were recovered from fill (1030) and (1031). Approximately 0.5m south of (1028) was sub-rectangular pit (1017), 0.70m long by 0.50m wide and 0.07m deep (Figure 26, section 34), with orange-brown silty fills (1018 & 1020) separated by a layer of charcoal rich silt (1019).

Pits (1017) and (1028) were sealed by a 0.23m thick layer of transformed alluvium/subsoil (1002).

Cutting transformed soil (1002) towards the south end of the trench was a post-medieval ditch (1005) with laminated orange to black clayey and silty fills (1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1013, 1014, 1015 & 1016) (Figure 26, section 33).

Area 2

Area 2 comprised Trench 1 and the additional Trenches 40, 41, 42 and 44 (Figure 3), which were excavated around Trench 1 to assess the extent and intensity of the archaeology.

Cutting the pre-Roman alluvium (112 & 117) in Trench 1 were three features (Figure 4). At the east end was a 0.10m wide posthole (110), cut by a sub-circular pit (109), 0.40m wide and 0.15m deep Figure 18, sections 14 & 15). Towards the west end of the trench was a north-south oriented, 0.46m wide ditch (123) (Figure 17, sections 10 – 12). Filling all of these

features was a general layer of very dark grey humic silt (102, 107, 108 & 122), believed to be an occupation deposit, which extended into Trenches 40 (4003), 41 (4104), 42 (4203) (Figure 13 & 14). Romano-British pottery dating from the mid 2nd to the 4th century was recovered from this deposit. In addition a fragment of quernstone was also collected.

Overlying the possible occupation layer were layers of brown coarse sediment (106, 111 & 125), which were cut by an east-west oriented ditch (105, 116, & 120) (Figure 4), more than 1.80m wide and greater than 0.90m deep (Figure 18, sections 13 & 14). This contained a lower grey silt fill (105, 113, 115 & 119) and a mixed brown silty clay backfill (103, 114 & 118). Although Romano-British pottery was recovered from both of these fills, it was established that this ditch, which continued west into Trench 40 (4005 to 4009) (Figure 37, section 48), was in fact medieval in origin.

To the north of Trench 1, Trench 41 (Figure 14 & Figure 38, section 51) showed that the occupation layer (4104) continued north, but dipped down to the south of the trench, possibly suggesting that the Roman occupation lay on both sides of an east-west oriented palaeochannel (4103), filled with later marine sediments (4102 & 4101). A short distance to the north the sediments are cut by a post-medieval field boundary ditch (4107).

South of Trench 1, the Roman and post-Roman layers were cut by an undated 2.60m wide ditch (4205), with grey to brown silty fills (4206, 4207 & 4208). This was probably a medieval or post-medieval boundary ditch (Figures 14 & Figure 38, section 49)

Approximately 45m south of Trench 1, Trench 44 (Figure 15) revealed an approximately north-south oriented ditch (4409), 2.30m wide and containing a number of interdigitating silty fills (4403 to 4408) (Figure 39, section 71). Occasional fragments of briquetage were observed in two of the lower fills (4405 & 4408) and Romano-British pottery was recovered from the upper two fills (4403 & 4404). The lower of the two fills (4404) was dated to the late 2nd to the early 3rd centuries, and the upper (4403) to the late 3rd to mid 4th centuries. Overlying (4403) was a layer of dark brown humic clayey silt (4402), which extended to the west beyond the limits of the excavation. Residual 2nd to 3rd century pottery was recovered from this deposit, and it is possibly a continuation of the occupation layer identified to the north. Post-Roman alluvium (4401) and topsoil (4400) sealed the earlier deposits.

5.5 Medieval and post-medieval features and deposits.

Traversing the application area in an east-west axis were a number of medieval and post-medieval ditches.

Approximately parallel to the northern site boundary, post-medieval ditch (503, 2104, 2511, 4107 & 4507) was identified in Trenches 5, 21, 25, 41 and 45 (Figure 3, A). In Trench 5 (Figure 21, section 62) it was 4.80m wide and 0.70m deep and across the site it had dark organic lower fills and transformed clayey silt upper fills.

In Trenches 17, 25, 45 and 46 (Figure 3, B) an east-west oriented ditch (1706, 2509 4502 & 4603) was identified 2.43m wide and more than 0.92m deep (Figure 29, sections 44 – 45 & Figure 39, section 50), the main fill comprised mottled/patchy brown and grey clayey silt (1704, 2510, 4501 & 4603), with overlying tip lines of orange brown silt (1703) and blue and brown clay (1702). Along the edges of the cut was a blue-grey silt deposit (1705) that

probable represented the transformation of the ditch sides by vegetation. Although Late Iron Age pottery was recovered from transformed deposit (1705), it is probable that these sherds are residual as the ditch is cut into post-Roman alluvium. The ditch appears to follow the same alignment as the medieval ditch in Area 2 (Figure 3, C (described in 5.4 - see above)), although the absence of the ditch in Trench 5 rules out the possibility of it being the same ditch.

A further east-west oriented post-medieval ditch (1711, 2508, 2909, 4303, 4505 & 4605) was revealed in Trenches 17, 25, 29, 40, 42, 43, 45 and 46 (Figure 3, D), approximately 22m to the south of ditch A, and *c.* 20m north of an existing field boundary. In Trench 17 (Figure 8 & Figure 29, sections 46 – 47) the ditch was 2.70m wide and more than 0.60m deep, with dark organic lower fills and transformed clayey silt upper fills that were identified across the entire extent of the feature.

To the south of ditch D, in Trench 47 were a number of undated features (Figures 16 & 40). These included a northeast-southwest oriented curving gully (4705), 0.28m wide and 0.18m deep with a grey-brown silt fill (4704), overlain by a north-south oriented curving gully (4703), 0.70m wide and 0.40m deep with a mottled grey-brown silt fill (4702). It is probable that these are post-medieval agricultural features.

A short segment of an undated (but probably medieval or later) ditch (Figure 3 E) was revealed in Trench 42 and described as part of Area 2 (See 5.4 above).

At the western end of Trench 26 (Figure 10) was the corner of a ditch (2611), more than 0.80m wide and 0.45m deep (Figure 32, sections 6 & 7), oriented east-west and turning north. It contained a bluish grey clay lower fill (2613) and mottled brown and grey silty upper fills (2610 & 2612). It is probable that this feature represents the continuation of the extant field boundary to the west (Figure 3 F). To the east of ditch (2611) was a north south aligned gully (2604), 0.35m wide and 0.30m deep (Figure 32, section 1) with a brownish grey clayey silt fill (2603). Approximately 2m east of (2604) was an irregular oval pit (2608), 0.90m wide and 0.20m deep (Figure 32, section 5), filled with grey clayey silt (2607) and sealed below two layers of alluvium (2605 & 2606).

At the extreme eastern end of the site (Trench 38) (Figure 13) was a single square medieval pit (3806), 0.90m wide and 0.30m deep (Figure 36, section 22), with light to dark yellowish brown silty sandy fills (3805, 3811 & 3812), one of which (3811) appeared to have been heat affected. Finds of 12th to 13th century pottery were recovered from the pit fills, and environmental analysis of one of the fills revealed animal bone and food debris, indicating the presence of medieval domestic settlement in the vicinity Appendix 7).

To the east of pit (3806) was a posthole (3809) of probable similar date (Figure 36, section 21). North of the pit and posthole was an east-west oriented post-medieval ditch (3804), 2.80m wide and 1.00m deep (Figure 36, section 31) with brown and grey silty fills (3803 & 3813), this was probably a continuation of ditch D (Figure 3).

Towards the west end of the site, to the south of undated ditch E, was an east-west aligned post-medieval ditch (211 & 1408), recorded in Trenches 2 and 14 (Figure 3 G). In Trench 2 the ditch (211) was 4.40m wide and more than 0.60m deep (Figure 19, section 59) with a dark brown silty fill (210) with orange brown lenses.

Approximately 4.5m south of ditch (211) was an undated east-west oriented ditch (209) (Figure 3 H), 0.98m wide and 0.40m deep and filled with dark grey silt (Figure 19, section 78). This feature was sealed below transformed silt layer (202), but cut post-Saxon alluvium (203) and might, therefore, be of medieval date.

In Trench 6, approximately 20m south of ditch (211 & 1408) was east-west oriented post-medieval ditch (600) (Figure 3, I), which was 1.58m wide and 0.69m deep (Figure 5 & Figure 22, section 72) with mixed grey, brown and orange clayey silt fills (601, 602 & 603).

Southwest of Trench 6, post-medieval ditch J was recorded in Trench 15 (Figure 3) and described in section 5.3.

Further to the southwest was Trench 19 which revealed east-west oriented post-medieval ditch (1904) (Figure 3, K), 2.05m wide and 0.55m deep (Figure 19 & Figure 28, section 65) with grey to black silty fills (1902 & 1903).

To the east of Trench 19, an east-west oriented medieval ditch (2705 & 3504) was revealed in Trenches 27 and 35 (Figure 3, L). In Trench 27 (Figure 31, section 60), the ditch was 2.10m wide and at least 0.70m deep, with grey and brown silty fills (2703 & 2704) containing 13th century medieval pottery. Cutting the northern edge was re-cut (2707) with a dark greyish brown silty fill (2706) containing 14th to 15th century pottery and a hone. In Trench 35 (Figure 35, section 63) the ditch had grey and brown silty fills (3502 & 3503) but had no re-cut.

South of ditch L, Trench 28 contained a north-south aligned post-medieval ditch (2801) (Figure 3, M), 3.85m wide and more than 0.70m deep (Figure 31, section 70), with brown silty fills (2802 & 2803).

Close to southern boundary of the site was an east-west oriented post-medieval ditch (404, 1604 & 2405), revealed in Trenches 4, 16 and 24 (Figure 3, N). In Trench 16 (Figure 8 & Figure 28, section 68) it was approximately 3.0 wide and more than 0.60m deep, and across its extent it contained dark brown and grey clayey silt fills (403, 1602, 1603, 2402 & 2403).

In the southeast corner of the application area, Trench 32 revealed two east-west oriented ditches (Figure 12). The northern ditch (3206) was post-medieval, 2.80m wide and filled with brown silt (3205) and probably a continuation of ditch N. The southern ditch (3204) (Figure 3 O) was undated, 1.21m wide and 0.64m deep Figure 34, section 64) with grey-brown and brown-grey clay fills (3202 & 3203).

6. DISCUSSION

The earliest deposits revealed during this investigation were pre-Roman marine sediments, the undulations, and general trend, sloping to the west of the site, probably reflects the presence of a large prehistoric river channel running approximately northeast-southwest in the area between Woolram Wygate and Pinchbeck road. This could be a continuation of the confluence of channels mapped in the Deeping Fen area, during the Fenland Survey (Hayes & Lane 1992), and its presence may help to explain the apparent dearth of Romano-British activity in the area between Woolram Wygate and Pinchbeck Road.

It has been established by previous studies that by the Late Iron Age most of the prehistoric rivers had silted up to the extent that many had been reduced to creeks or were only seasonally wet. However the general landscape was essentially marshy, with the salinity of the marshes (and hence their vegetative character) varying through

time according to local conditions. At Woolram Wygate the archaeological evidence demonstrates the presence of a number of active creeks, flowing across the site, the courses of these would meander considerably, but it is probable that they generally flowed from west to east. Environmental analysis of channel sediments in Trench 7 showed that although brackish conditions were recorded in the lower (possibly Iron Age/Early Roman) deposits, fresh water conditions were prevalent by the 2nd to 3rd centuries.

Overlying the freshwater marsh deposits of the Roman period were alluvial sediments, laid down during the last major marine transgression, broadly dated to the post-Roman/Saxon period. Medieval and later agricultural activity has established a substantial topsoil layer, and intermittent subsoil layer, derived mainly from the post-Roman alluvial sediments. However in Area 1 the topsoil formation was seen to truncate the Romano-British features, suggesting that some reduction or levelling of the ground surface has take place in recent centuries.

Trench 15 revealed two parallel ditches with briquetage rich fills, and dated by pottery to the Late Iron Age. Due to the limits of excavation and the presence of a later feature, it was not possible to determine if these features existed in isolation, or were part of a more extensive pattern of features. The briquetage in the fills was interpreted as primary dumping of saltmaking waste, and it is likely that these features were directly associated with the saltmaking process. It is possible that the ditches extended south to the northern edge of the east-west palaeochannel identified in Trenches 7, 8 and 9. If this is a case they could have been feeder channels intended to collect salt water from the (then) brackish channel. Environmental analysis of a sample taken from one of the ditch fills identified animal bone and charcoal, probably from domestic refuse, suggesting habitation in the vicinity, and that the site was not purely industrial.

The Romano-British remains in Area 1 (Trenches 7 to 10) contrast sharply with the Late Iron Age remains in Trench 15, and confirm the presence of a saltern, as suggested by the Geophysical survey. However, it was not possible to correlate the magnetic anomalies to individual features, probably due to the strength of the magnetic signal produced by the briquetage, which would have overwhelmed the more subtle magnetic anomalies produced by features such as ditches.

Cutting into the highest level of pre-Roman alluvium were two pits filled with briquetage, believed to be the primary dumping of saltmaking debris. No pottery was recovered from these deposits except for two small fragments retrieved from an environmental sample, which are believed to be intrusive. The briquetage collected from this area included a concentration of container sherds, and a number of pedestal, brick and slab fragments, and it is suggested that this assemblage is associated with intensive salt production, probably for trade or to supply a major industry (Appendix 4). The briquetage was dated to the 1st to 2nd centuries AD and it is believed that the creek immediately to the north of the saltern pits was brackish at this time. Cutting, and therefore post-dating the saltmaking deposits were a number of ditches, from which 2nd to 3rd century pottery was recovered. Exactly what these ditches were is unclear, although they appear to converge on a point approximately 5m to the west of Trench 9 and radiate towards the creek, which was by this time fresh water, and probably fairly slow moving. It is likely that these ditches are part of a post-saltern

phase of occupation, possibly domestic although the evidence for this is sparse. It is probable that the pits identified in Trench 10, and dating to the same period are part of this same occupation. Interestingly the environmental samples from this area produced evidence of hammerscale, suggesting the presence of iron smithing in the general area.

Area 2 revealed an area of domestic occupation, primarily characterised by a layer of soil into which had been incorporated a quantity of refuse. Significantly, almost no briquetage was recovered from this area. Only three features of definite Roman date were revealed, a posthole, a pit and a ditch, all possibly associated with domestic settlement. A dip in the level of the occupation layer in Trench 41 suggests that the occupation straddled an east-west oriented creek. The quantity of finds from the 2nd and 3rd centuries suggests that this area was occupied at the same time as Area 1, but in contrast the occupation of Area 2 was demonstrably continuing into the 4th century, whereas Area 1 appears to have been abandoned in the 3rd century. An interesting stratigraphic sequence recorded in Trench 44 may illuminate the issue. The earliest fills of the Romano-British ditch (4409) included briquetage, but no pottery, whereas the last two fills indicate two clearly defined phases of deposition, the first dated to the 2nd to 3rd centuries, and the second dated to the 3rd to 4th centuries. This ditch appears to have been open from early in the Roman period, when salt making was the major activity on the site, with very little associated domestic activity. As it went out of use it was filled by dumping from the 2nd to 3rd century occupation (both industrial and domestic) of the site that extended across Areas 1 and 2, and from the 3rd to 4th century domestic occupation of the site, possibly limited to Area 2.

The most significant medieval remains were exposed in Trench 38, and comprised a pit and a posthole, associated with domestic refuse. The character of the refuse, in particular the presence of house mouse bones, indicates that domestic settlement was located in the immediate vicinity.

Across the rest of the site were a series of medieval and post-medieval ditches, mainly oriented east-west and clearly demonstrating the medieval origin of the post-medieval field system (as shown on the two 19th century maps by G. Clarke) proposed in the earlier desk based assessment (Albone 2000).

7. ASSESSMENT OF SIGNIFICANCE

For assessment of significance the *Secretary of State's criteria for scheduling ancient monuments* has been used (DoE 1990, Annex; See Appendix 14).

Period

Features and deposits dating from the Late Iron Age, Romano-British, medieval and later were identified during the evaluation. The range of features and deposits are characteristic of the periods represented.

Rarity

Iron Age features are rarely revealed in this region, as they are often insubstantial and deeply buried by later deposits of marine alluvium. Romano-British features are not uncommon in the area around Spalding, but again tend to be deeply buried and inaccessible. Medieval and post-medieval features represent a formerly common resource that has been greatly reduced in extent in recent decades.

Documentation

Several archaeological investigations in Spalding have previously been undertaken and reported. Additionally records of archaeological sites and finds made in the Spalding area are kept in the files of the Lincolnshire Sites and Monuments Record. A desk-based assessment of the application area has been undertaken (Albone 2002) collating all the documented archaeology in the locality and this has been supplemented by geophysical survey (Oxford Archaeotechnics 2002).

Group value

The Late Iron Age to late Roman features revealed at the western end of the site form a valuable group. The transition from Iron Age saltmaking, associated with domestic occupation, to the production specific early Roman saltern to mid - late Roman (probably domestic) occupation is a clear and graphic illustration of social and economic change of both political and environmental origin. The medieval and later field system associated with domestic settlement at the east side of the site (the road side) also forms a moderately valuable group.

Survival/Condition

The deposits and features revealed during the investigation appeared to have survived well although evidence for recent disturbance, in the form of plough damage was apparent in Area 1 where the pre-Roman sediments were highest. Environmental evidence was preserved but the smallness of the flots suggest that the preservation was only good in the deeper features.

Fragility/Vulnerability

Development of the site is likely to impact into Iron Age and later deposits. Consequently, archaeological remains present are vulnerable. The undulating nature of the Pre-Roman sediments means that in places (particularly Area 1) the topsoil lies directly over early Roman deposits at a depth of approximately 0.40m, and consequently archaeological features will be particularly vulnerable to ground disturbance, including continued ploughing.

Diversity

Period diversity is high with Late Iron Age to 20th century features and deposits represented.

Functional diversity is high with two areas of saltmaking, pits and ditches identified, indicating the presence of domestic, agricultural and industrial activity on the site.

Potential

There is high potential for further archaeological deposits to survive within the investigation area. The presence of the two Late Iron Age features suggests high potential for more Iron Age deposits and features in the vicinity of Trench 15 including saltern and settlement features. There is high potential for further saltern features to occur in Area 1, and there is high potential for Romano-British features in Areas 1 and 2, with moderate potential for additional features to occur between the two areas. There is moderate potential for medieval remains, including structural features, at the east end of the site. There is high potential for further medieval and post-medieval field boundaries.

7.1 Site Importance

The criteria for assessment have established that the group of saltern and occupation features dated from the Iron Age to the late Roman period, located at

the western side of the site, are of high local importance, high regional importance and moderate national importance as they demonstrate both politically and environmentally driven social and economic change. The medieval settlement remains at the east end of the site are of moderate local importance and moderate regional importance with reference to the settlement and economy of the fens during this period, and the medieval and later field boundaries are of low to moderate local importance.

8. CONCLUSIONS

Archaeological investigations on land at Woolram Wygate, Spalding, Lincolnshire, were undertaken because the area was regarded as potentially archaeologically sensitive. Settlement in the area dates from the Romano-British period, and deposits of this date are encountered in and around Spalding

The investigation revealed that Romano-British industry and occupation of the area had its origins in the Late Iron Age. Significantly the features and deposits recorded strongly suggest both politically and environmentally driven social and economic change throughout the first four centuries AD.

The earliest deposits revealed were prehistoric sediments, cut by a number of palaeochannels of various size. On the bank of one of these brackish creeks a Late Iron Age saltern was established, with associated (if limited) settlement.

In the early part of the Roman period the focus of the salt making on the site shifted to slightly higher ground to the southwest (Area 1), where the intensity of production increased. The saltern established here was almost purely industrial in nature, and no evidence was found of associated settlement.

As the Roman period progressed the creek environment changed, from brackish water to fresh water, and salt production ceased. Roman occupation continued however, and extended further north (Area 2) where the dumping of domestic refuse left a clear occupation layer. Towards the end of the Roman period, Area 2 became the main area of occupation.

At some point towards the end of the Roman period, or during the early Saxon period there was a marine transgression, burying the Roman and earlier features with layers of silts and sands.

As the land began to dry out and become cultivatable in the medieval period, a system of strip fields, known as dylings, was established, with settlement – perhaps farms – at the east end, close to the present road. The field system continued through the post-medieval period and was mapped in the 19th century.

Finds of pottery, brick, tile, metal work, clay pipe and industrial residue dating between the 1st to 20th centuries were recovered from the site. Assessment of environmental samples indicated well preserved, charred and waterlogged plant macrofossils, pollen and diatoms. A radiocarbon date was successfully determined from a peat sample from one of the palaeochannels. A number of environmental and dating samples were also retained to aid further research.

9. ACKNOWLEDGEMENTS

Archaeological Project Services would like to acknowledge the assistance of the Robert Doughty Consultancy and Allison Homes Ltd who commissioned the fieldwork and this report. The project was

coordinated by Denise Drury and Tom Lane edited this report.

10. BIBLIOGRAPHY

Albone, J., 2000, *Desk-Based Assessment at Land West of Woolram Wygate, Spalding, Lincolnshire (SWW00),* unpublished APS report No. **185/00.**

Cameron, K. 1998, *A Dictionary of Lincolnshire Place-Names,* The English Place-Name Society.

Clarke, G. n.d. *Map of the Parish of Spalding in the County of Lincoln* (LAO Misc Dep 23)

Clarke, G. n.d. Plan of the Parish of Spalding in the County of Lincoln (LAO HD 1/8)

Hallam, H.E., 1965 *Settlement and Society. A Study of the Early Agrarian History of South Lincolnshire.*

Hayes, P.P. and Lane, T.W., 1992 *The Fenland Project Number 5: Lincolnshire Survey, The South-West Fens*. East Anglian Archaeology No. **55**

Herbert, N., 1996 *Archaeological Watching Brief at Pennygate Drain, Spalding, Lincolnshire.* APS Report No. **38/96**

IFA, 1999, *Standard and Guidance for Archaeological Field Evaluations*.

Lane, T. and Morris, E.L., 2001, *A Millennium of Saltmaking: Prehistoric and Romano-British Salt Production in the Fenland,* Lincolnshire Archaeology and Heritage Report Series No. **4.**

Morris, J. (General Ed.), 1986, *Domesday Book: Lincolnshire,* Phillimore, Chichester.

Ordnance Survey 1906 *6" to the mile map; Lincolnshire [Parts of Holland]* Sheet **CXXXIV.SW**. Second Edition.

Oxford Archaeotechnics, 2002 *Land west of Woolram Wygate, Spalding, Lincs.: topsoil magnetic susceptibility and magnetometer survey* unpublished report

Pevsner, N., 1995 *Lincolnshire.* The Buildings of England (2nd edition revised by J. Harris and N. Antram)

Phillips, C. W., 1970, *The Fenland in Roman Times.*

Robson, J.D., 1990 *Soils of the Boston and Spalding District.*

Wheeler, W.H., 1896, *A History of the Fens of South Lincolnshire,* Watkins, Stamford.

11. ABBREVIATIONS

APS Archaeological Project Services

BGS British Geological Survey

DoE Department of the Environment

IFA Institute of Field Archaeologists

OD Ordnance Datum

OS Ordnance Survey

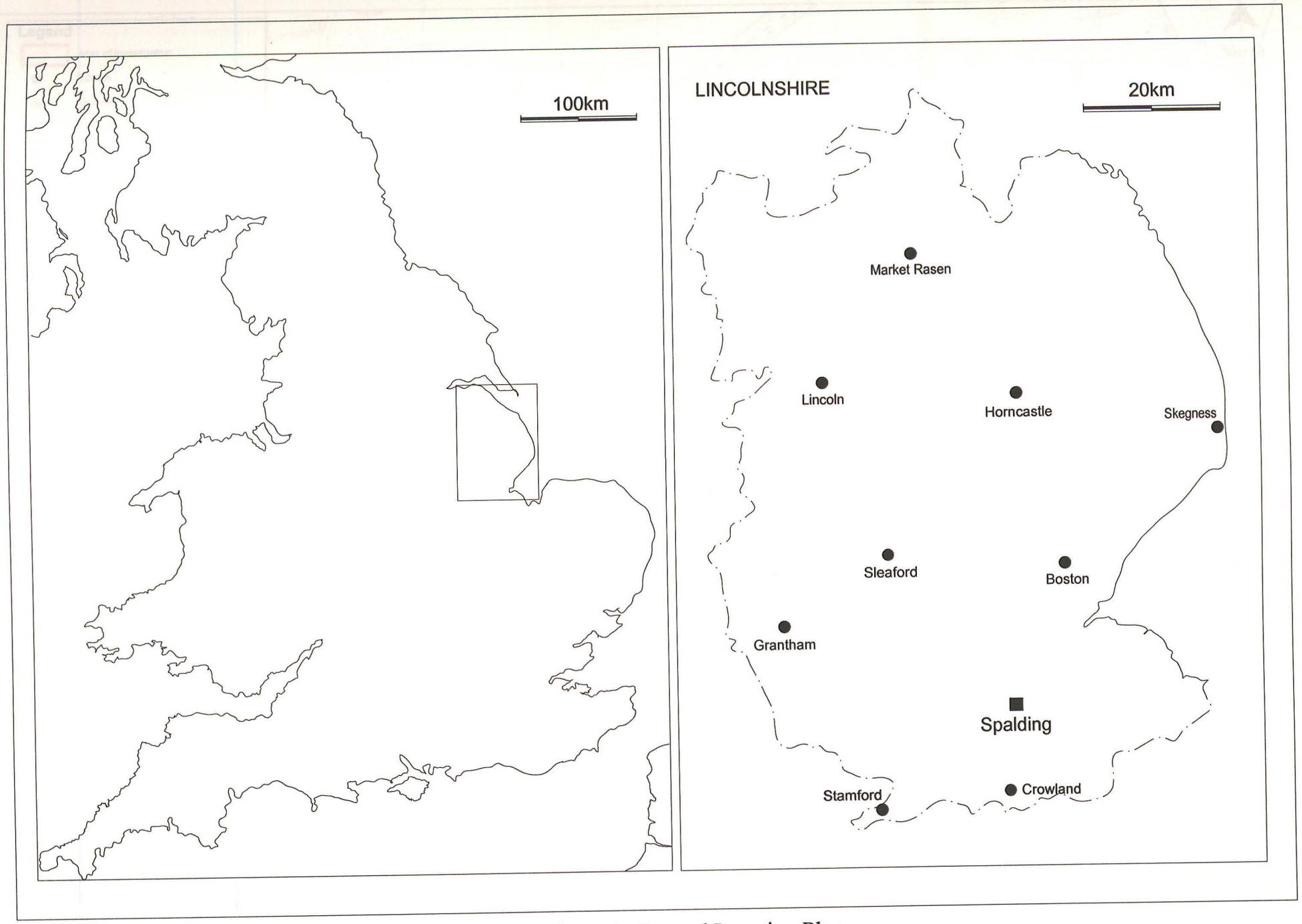


Figure 1: General Location Plan

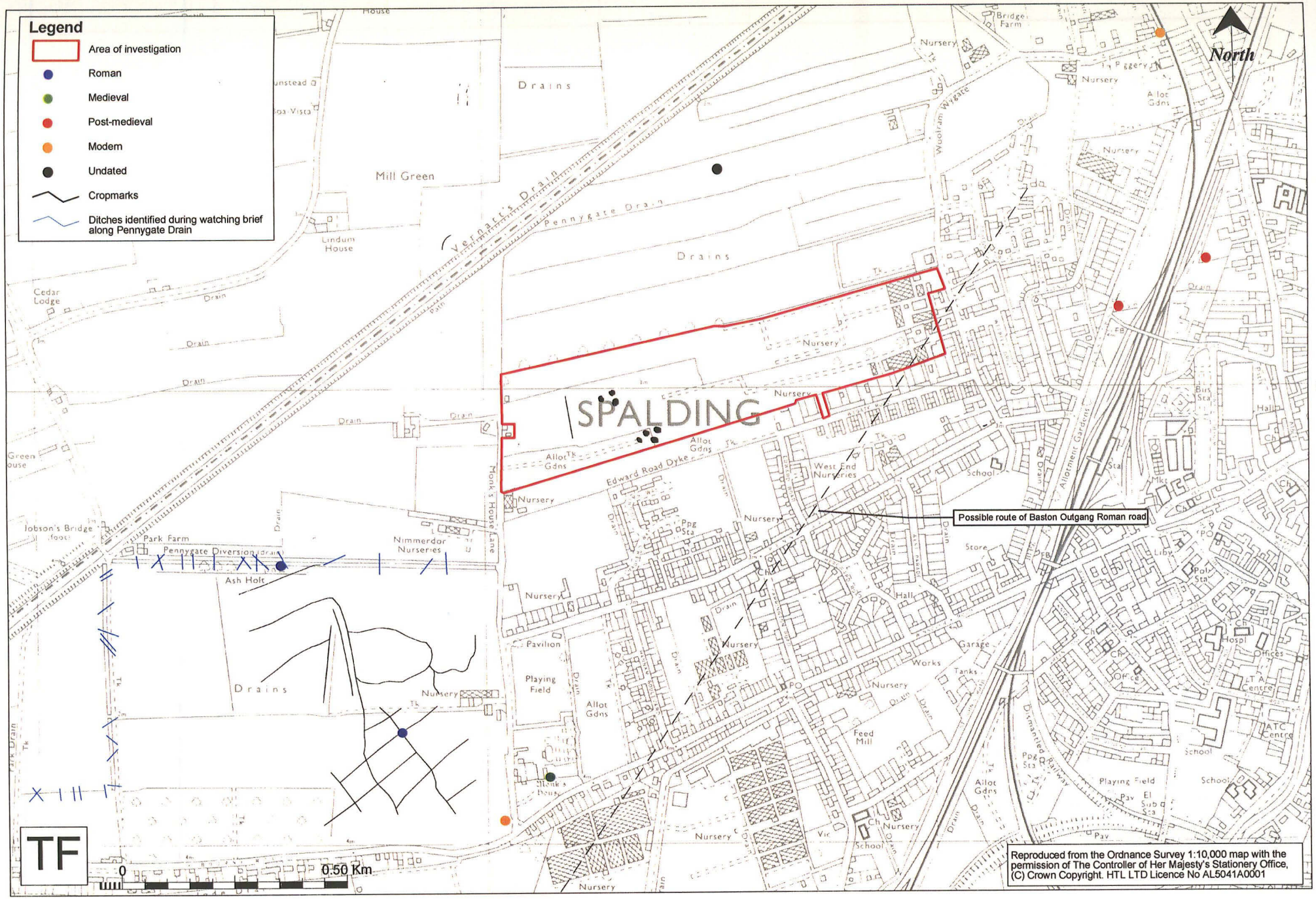


Figure 2 Location plan and archaeological setting

23

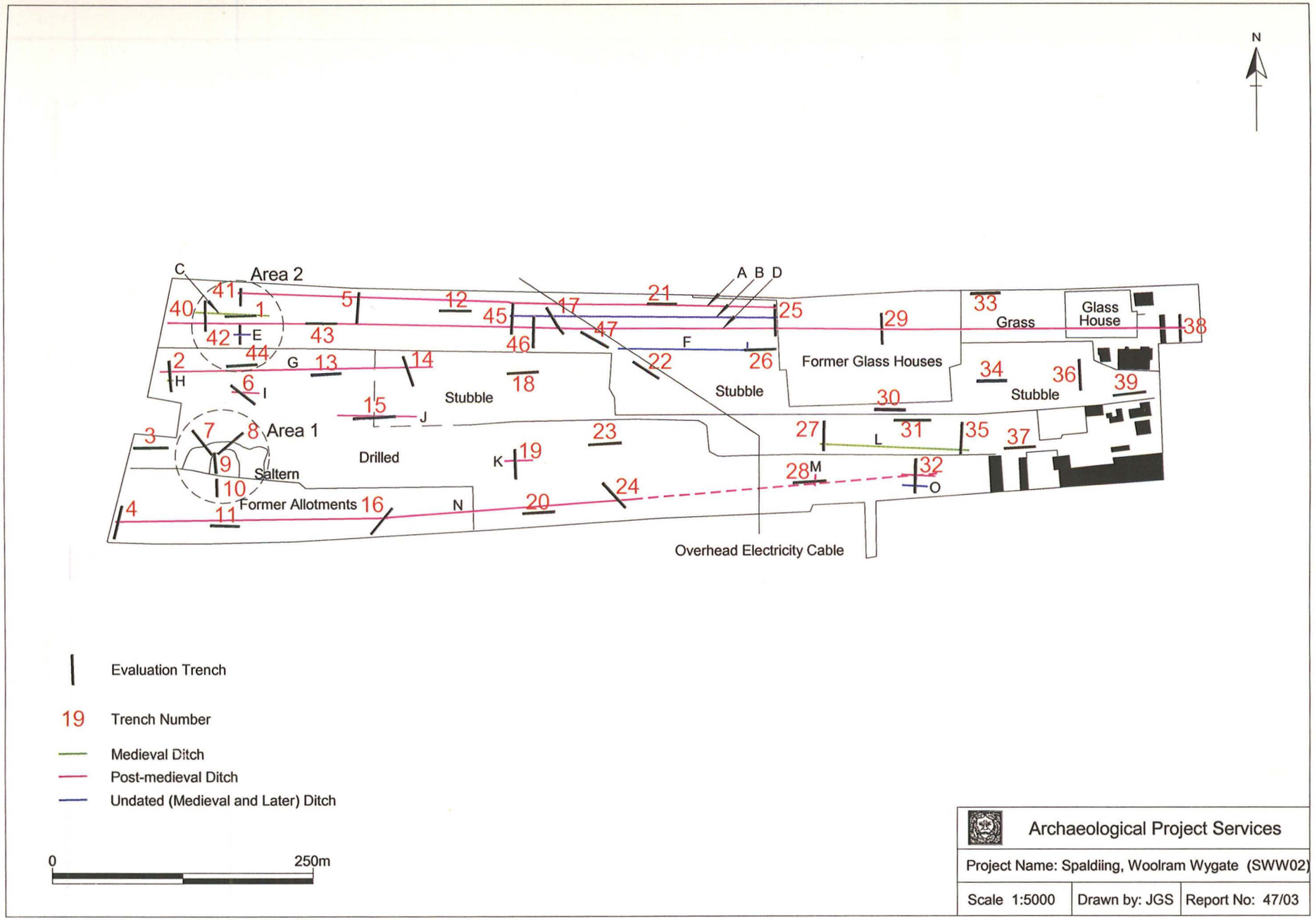
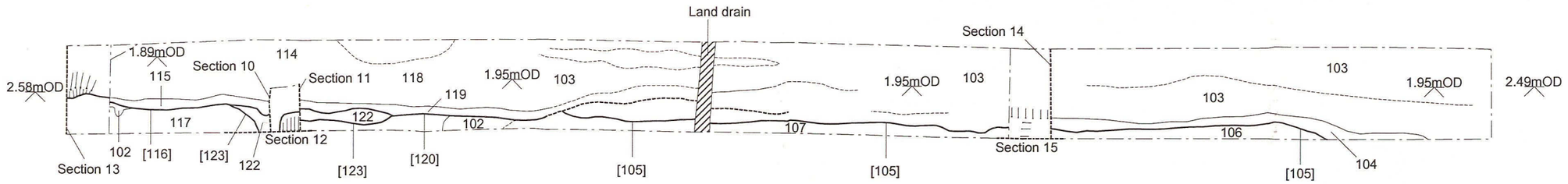
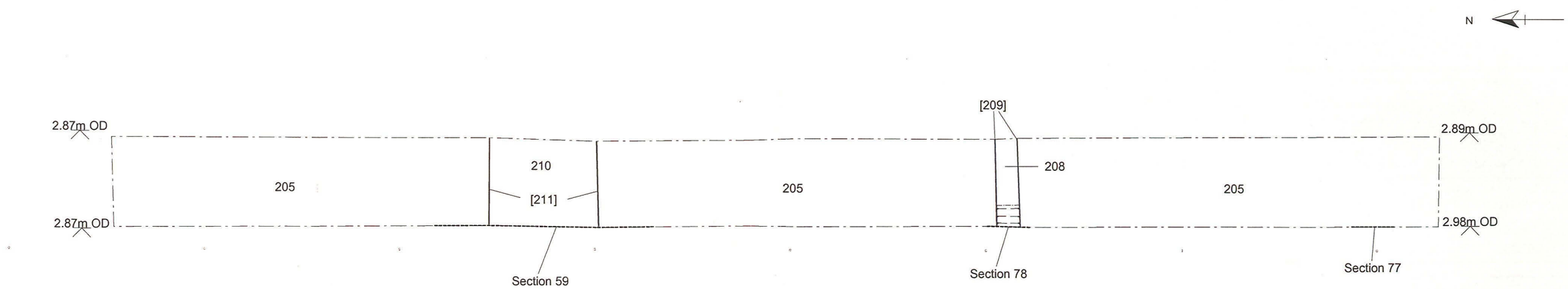


Figure 3 Trench location plan.



Trench 1



Trench 2

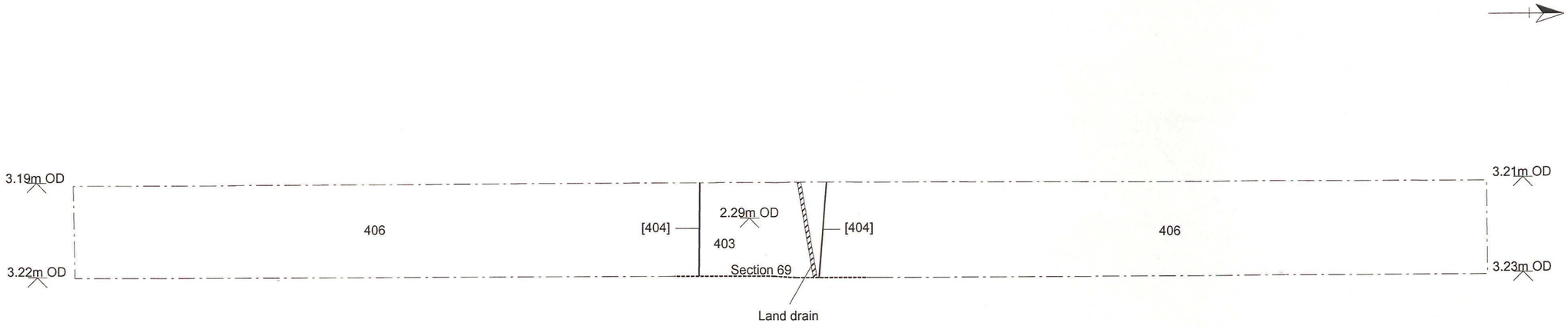
0 5m

Archaeological Project Services

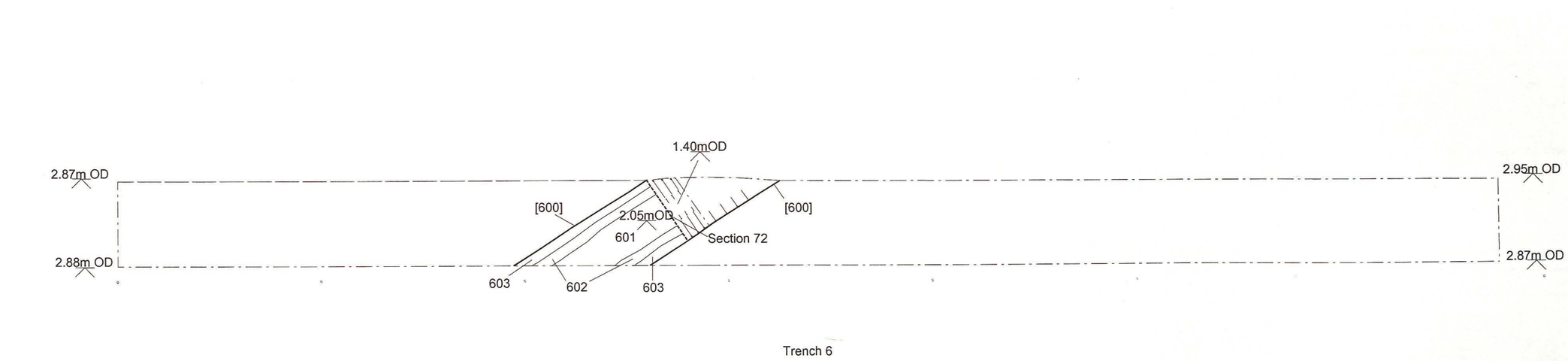
Project Name: Spalding, Woolram Wygate (SWW02)

Scale: 1:100 | Drawn by: VM | Report No: 47/03

Figure 4 Trenches 1 & 2.

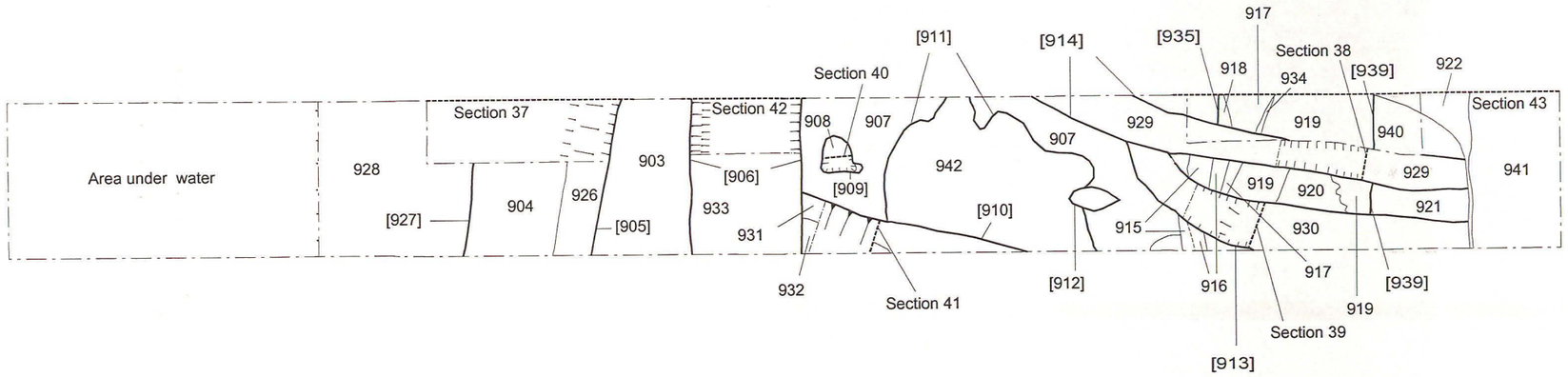


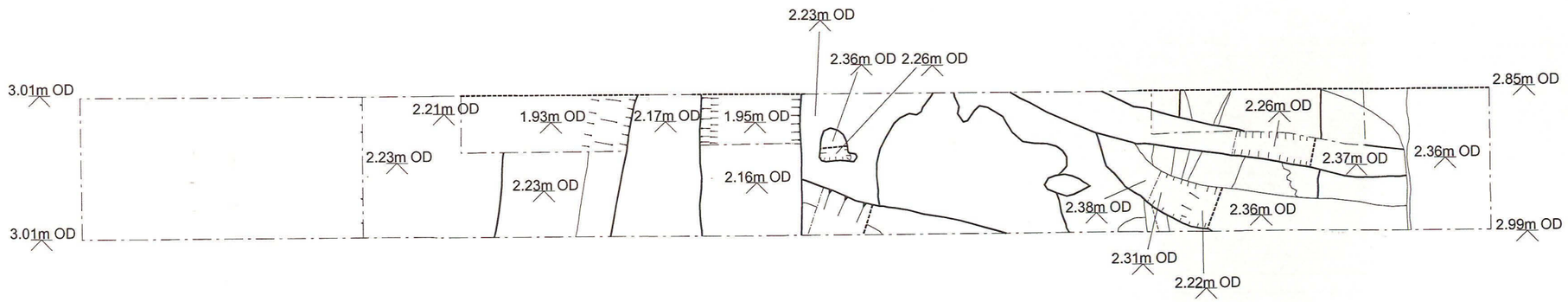
Trench 4



Trench 6

Figure 5 Trenches 4 & 6.

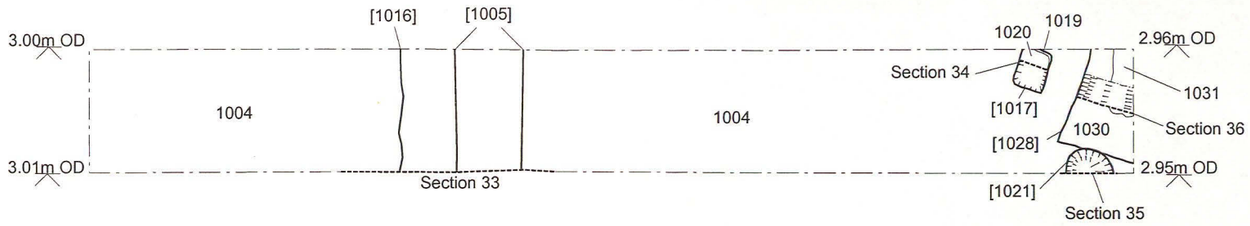




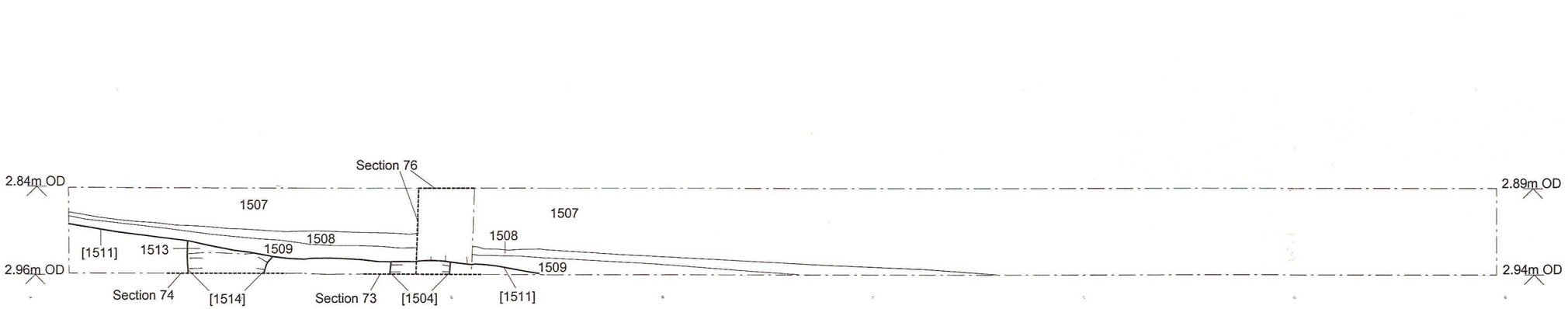
0 5m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:75	Drawn by: VM	Report No: 47/03

Figure 6 Trench 9.



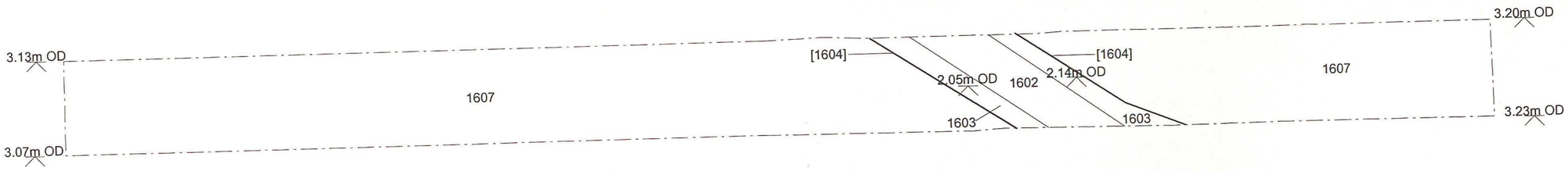
Trench 10



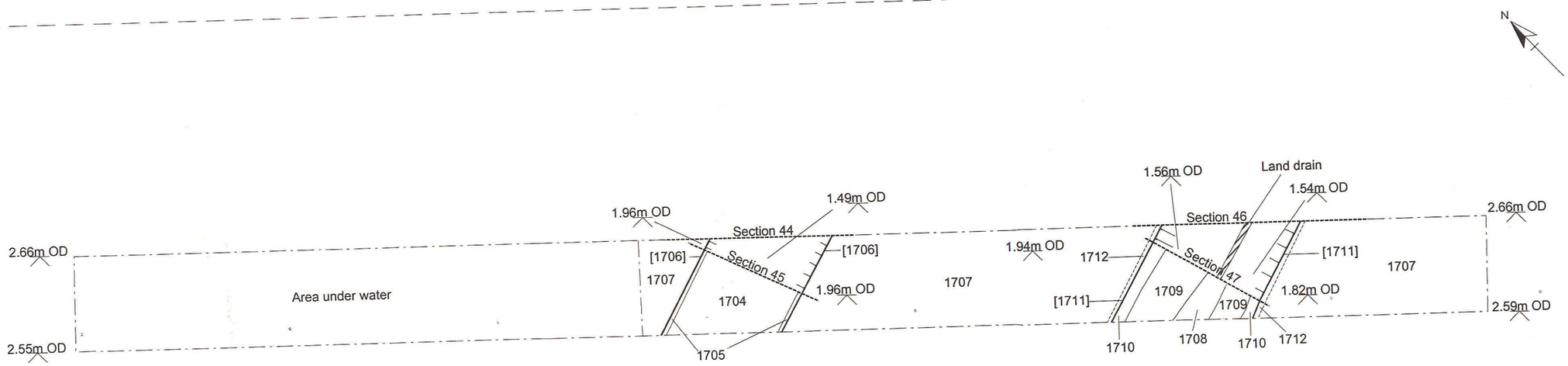
Trench 15

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 7 Trenches 10 & 15.



Trench 16

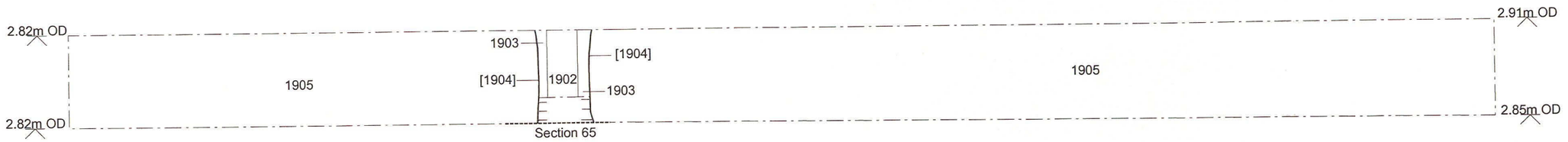


Trench 17

0 5m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 8 Trenches 16 & 17.



Trench 19

Trench 24

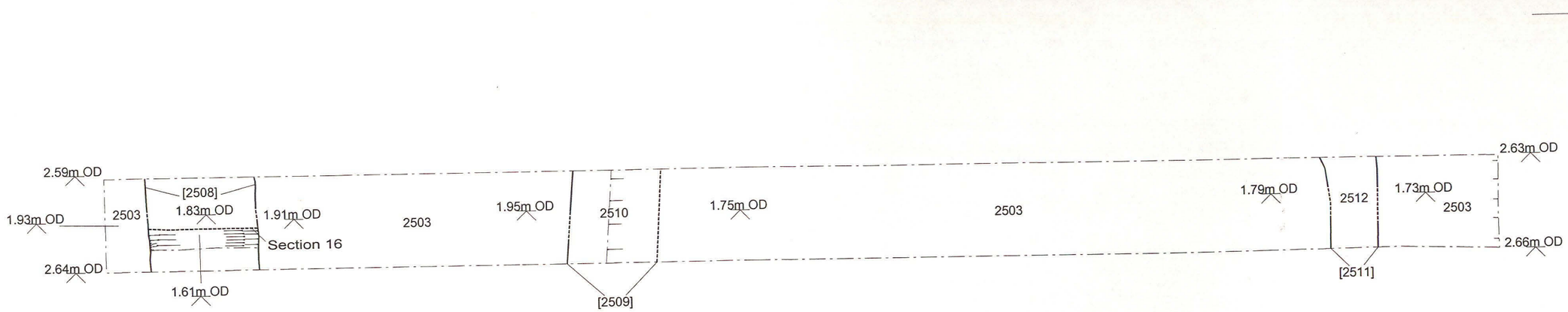
0 5m

Archaeological Project Services

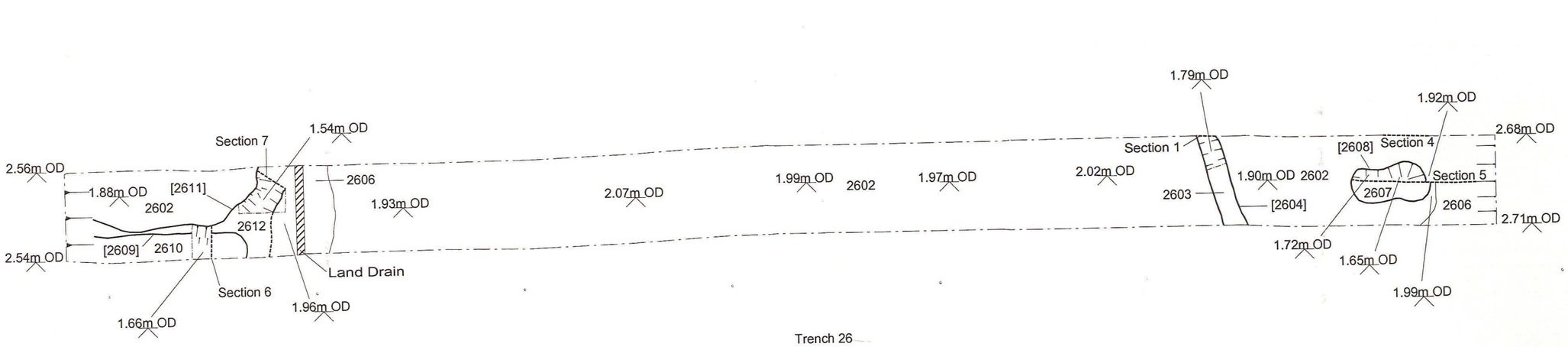
Project Name: Spalding, Woolram Wygate (SWW02)

Scale: 1:100 | Drawn by: VM | Report No: 47/03

Figure 9 Trenches 19 & 24.



Trench 25

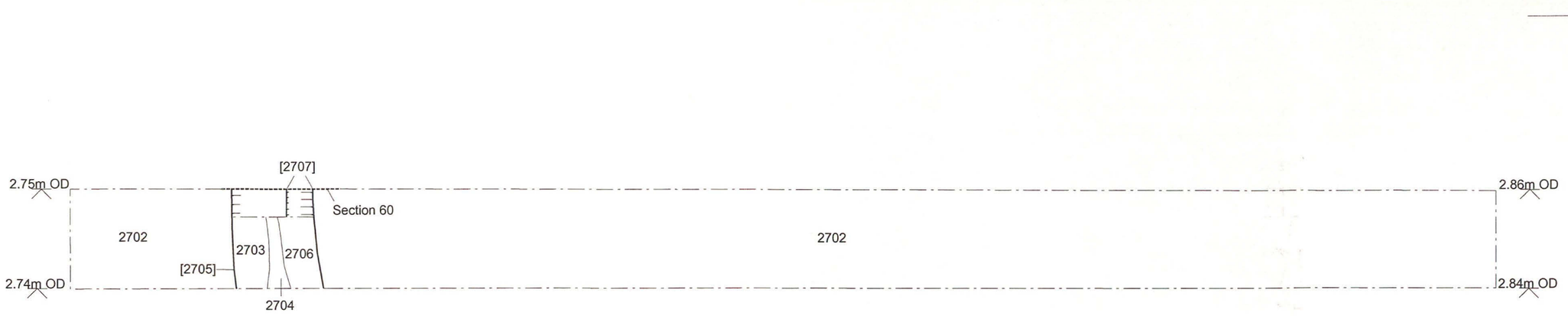


Trench 26

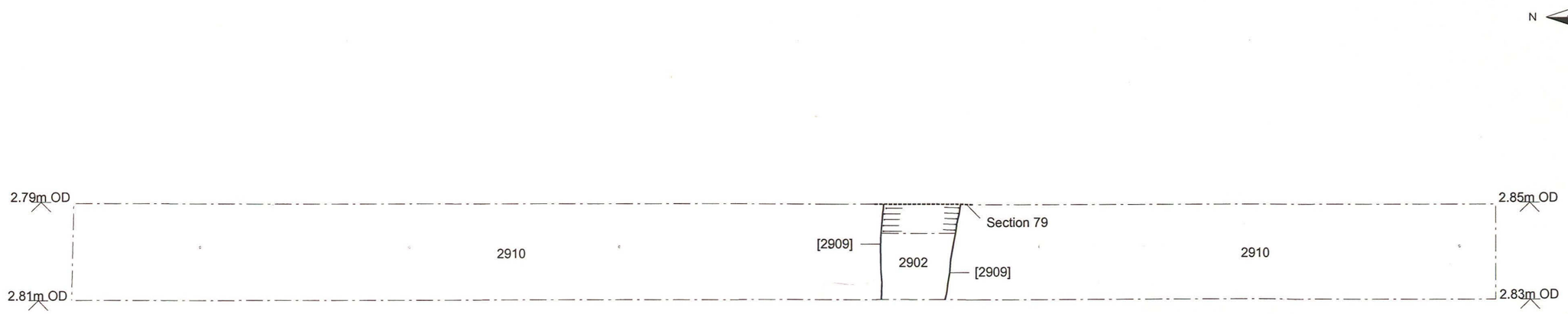
Archaeological Project Services

Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 10 Trenches 25 & 26.



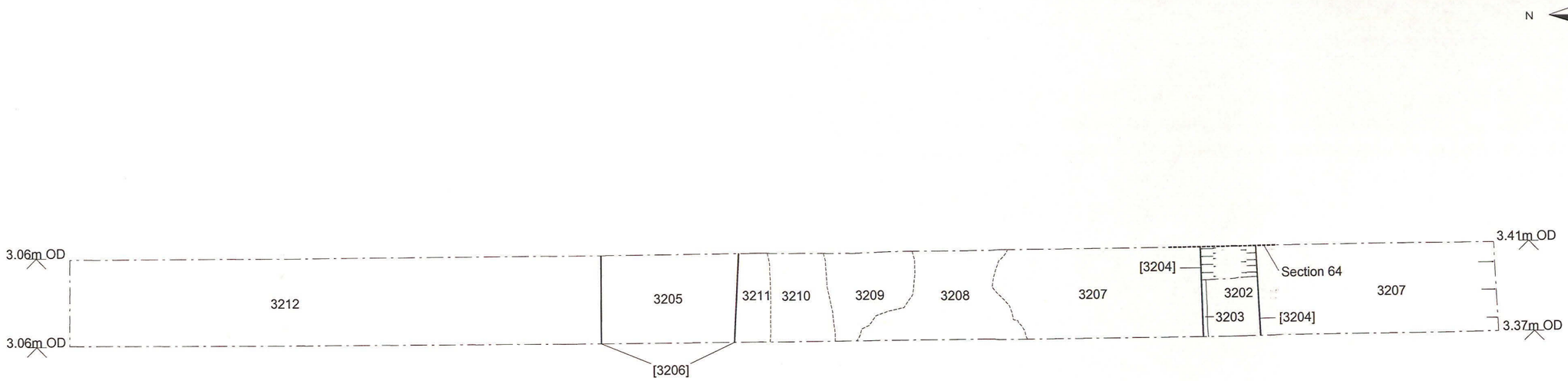
Trench 27



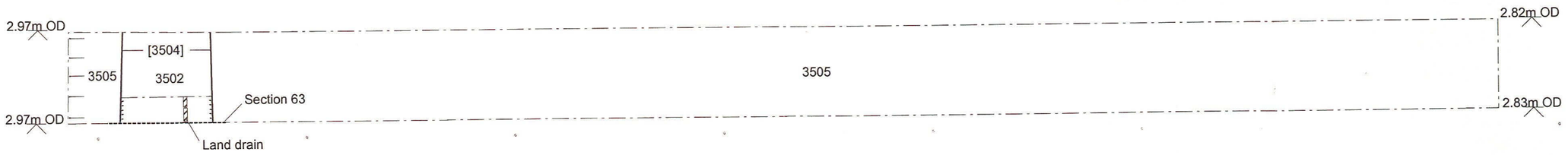
Trench 28

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 11 Trenches 27 & 29.



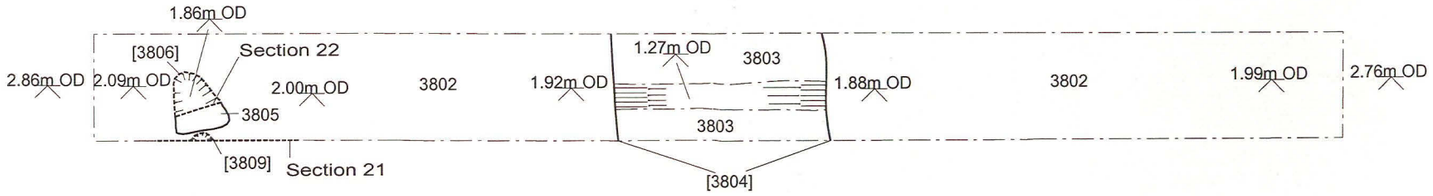
Trench 32



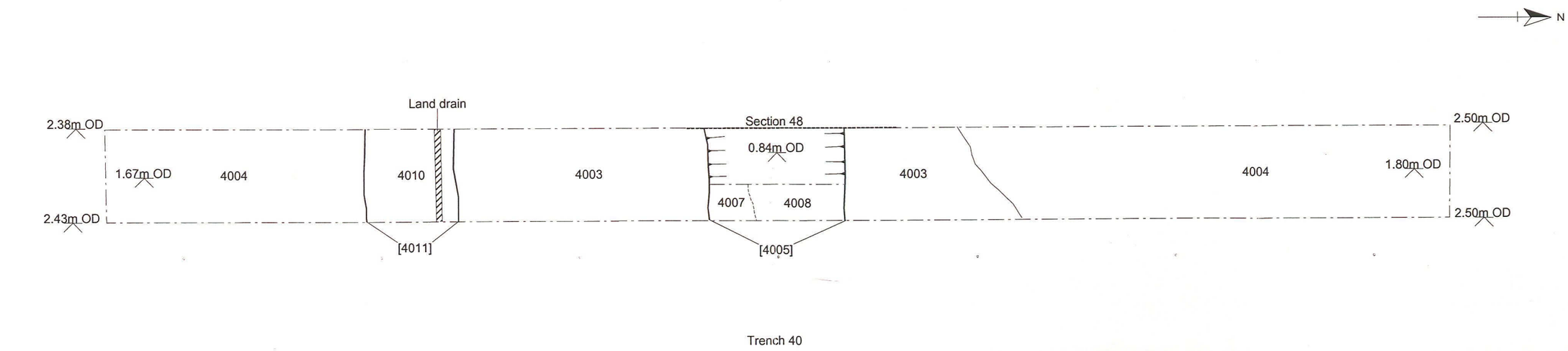
Trench 35

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 12 Trenches 32 & 35.



Trench 38



Trench 40

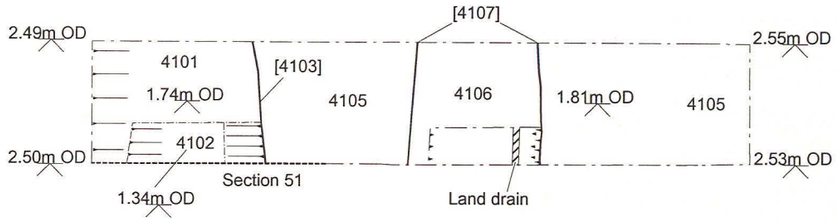
Archaeological Project Services

Project Name: Spalding, Woolram Wygate (SWW02)

Scale: 1:100 | Drawn by: VM | Report No: 47/03

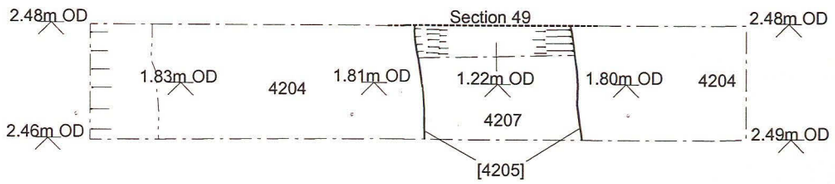
Figure 13 Trenches 38 & 40.

N



Trench 41

N

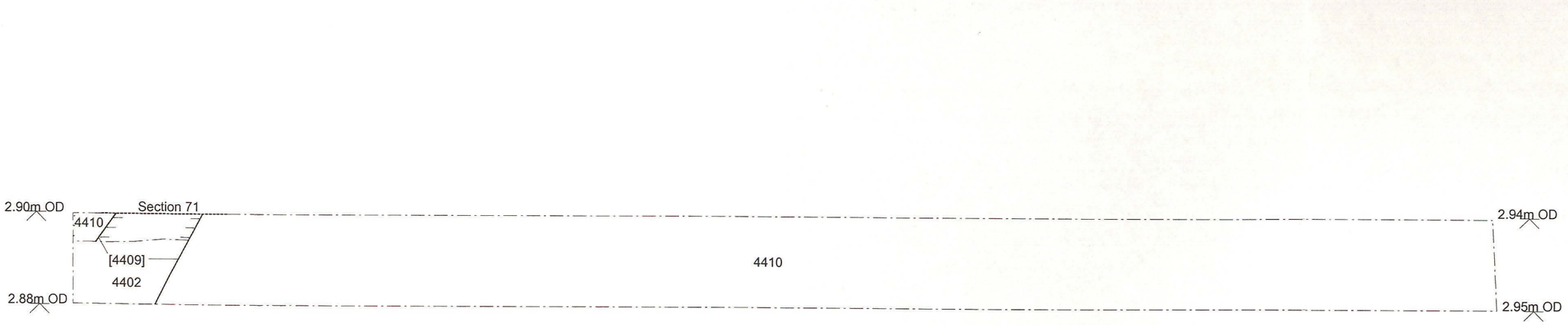


Trench 42

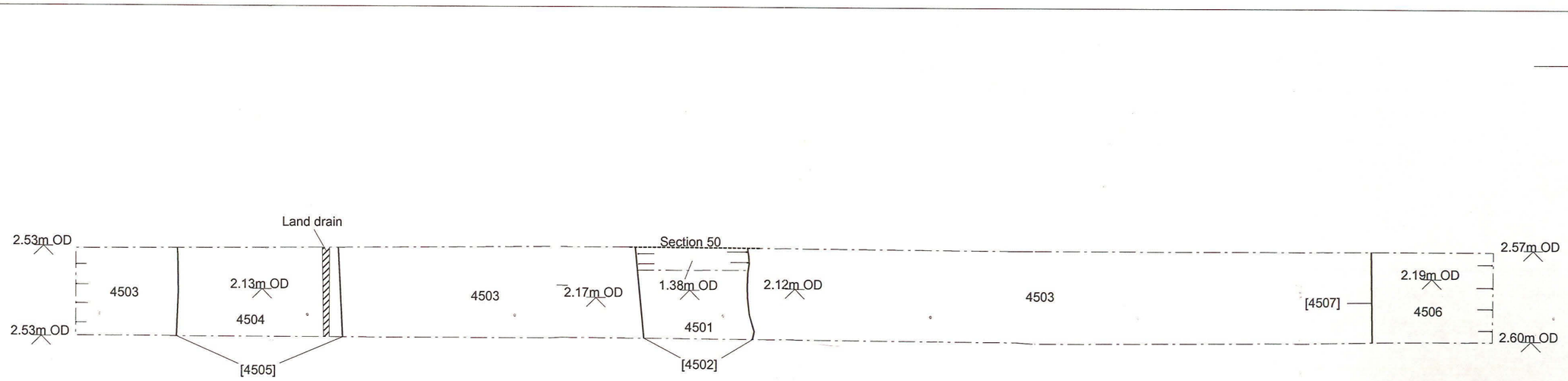
0 5m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 14 Trenches 41 & 42.



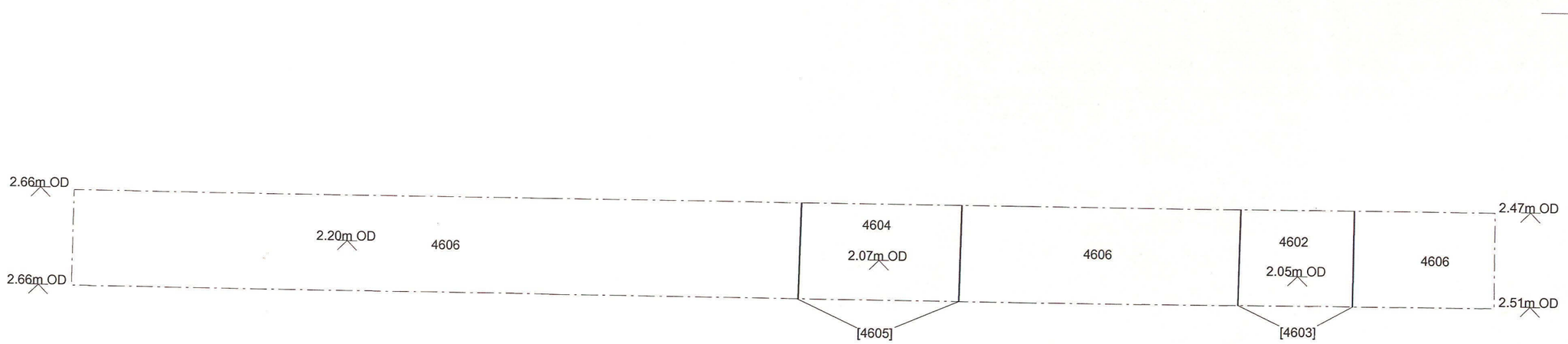
Trench 44



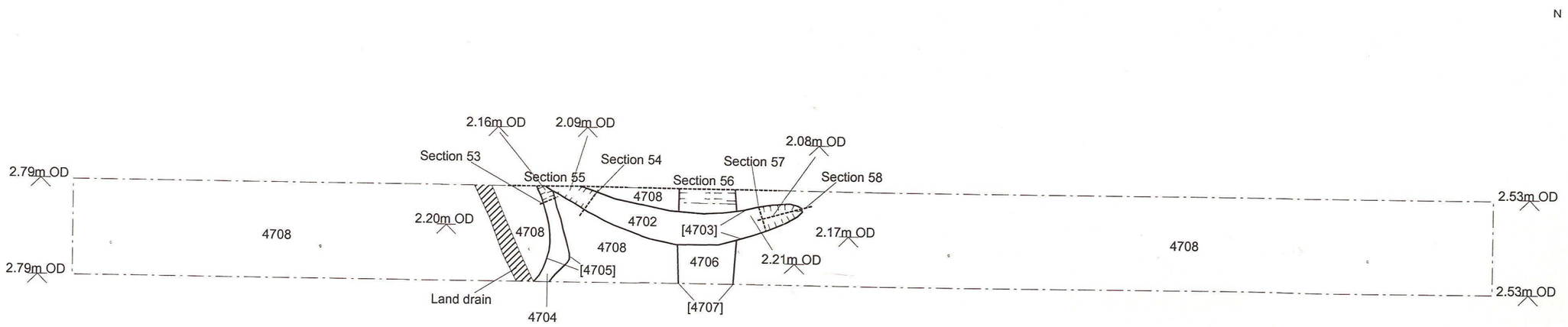
Trench 45

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: VM	Report No: 47/03

Figure 15 Trenches 44 & 45.



Trench 46



Trench 47

0 5m

Archaeological Project Services

Project Name: Spalding, Woolram Wyaget (SWW02)

Scale: 1:100 | Drawn by: VM | Report No: 47/03

Figure 16 Trenches 46 & 47.

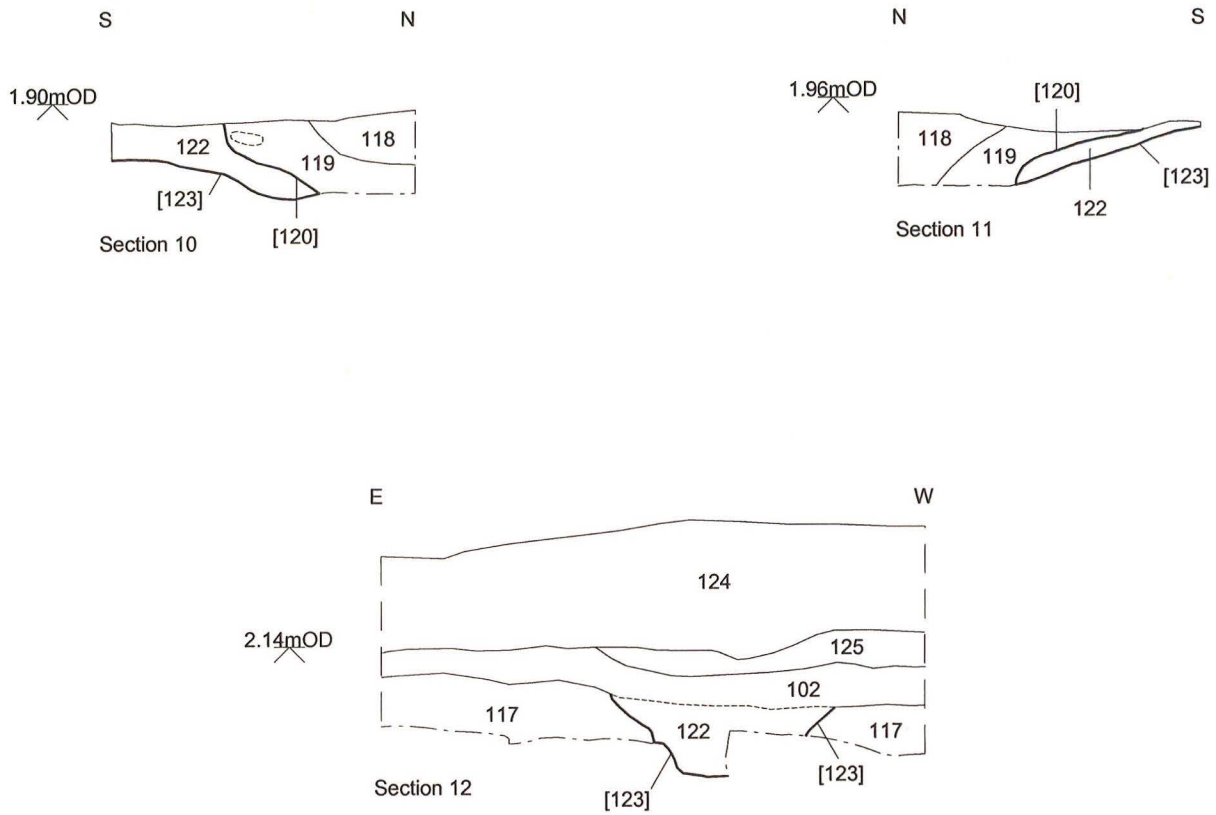
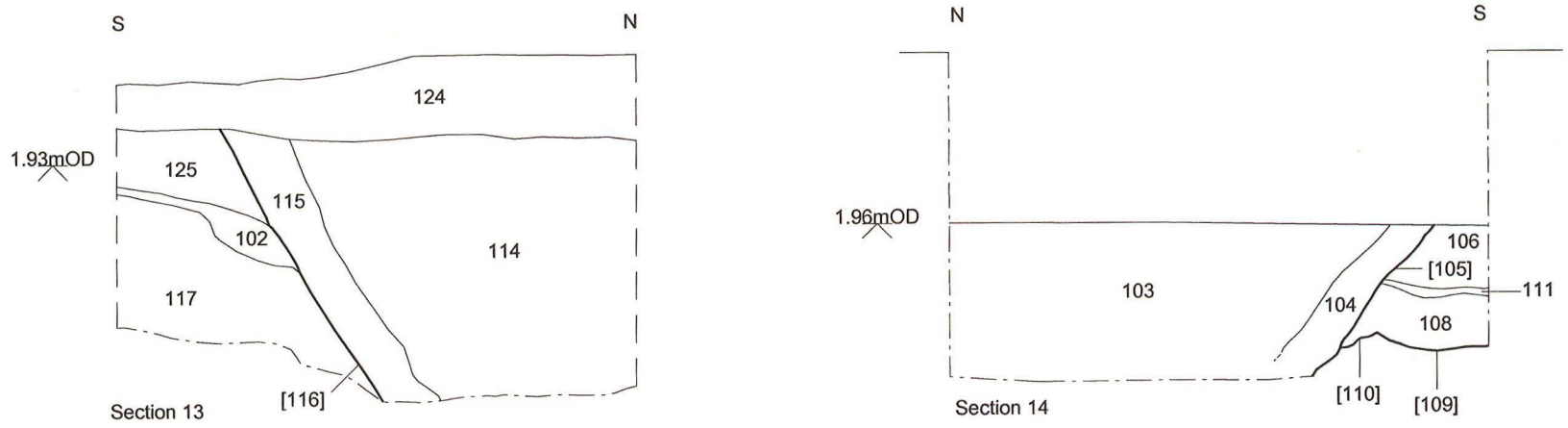
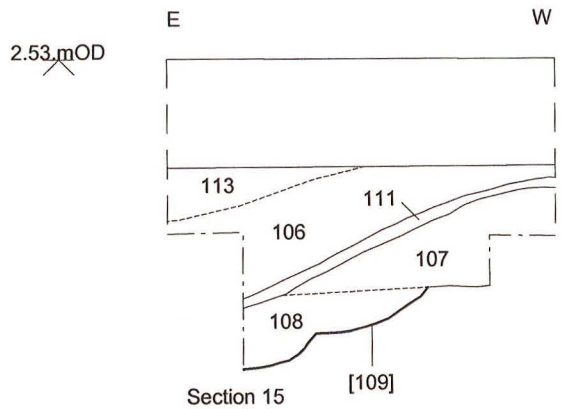


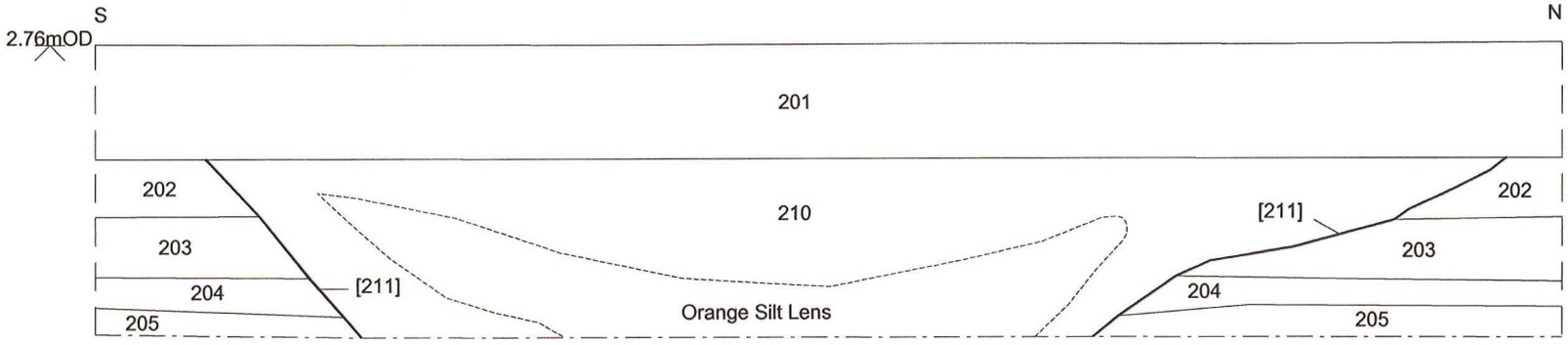
Figure 17 Trench 1, sections 10 to 12.



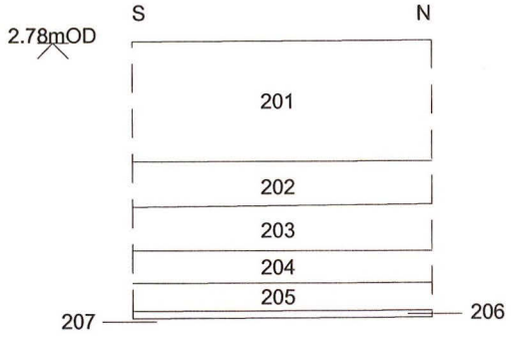


Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

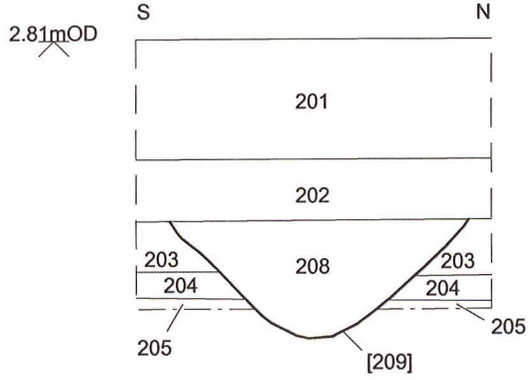
Figure 18 Trench 1, sections 13 to 15.



Section 59



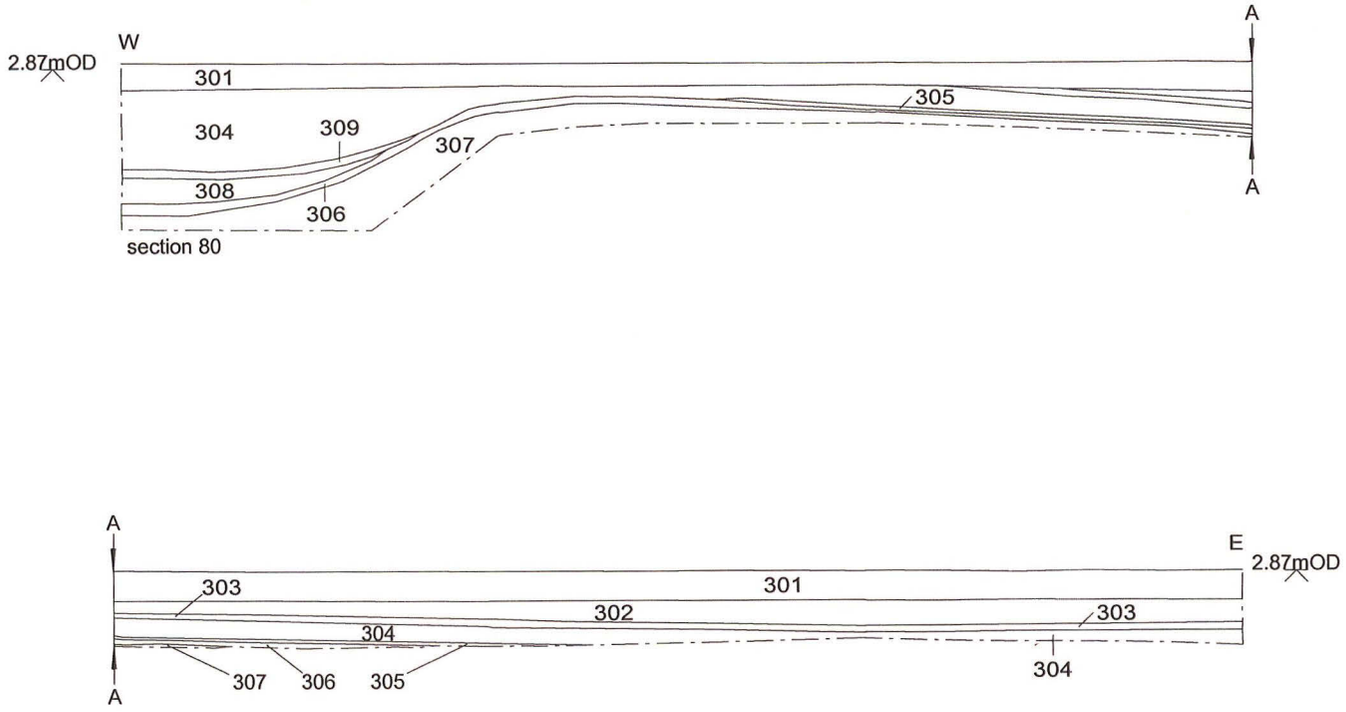
Section 77



Section 78

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

Figure 19 Trench 2, sections 59, 77 and 78.



Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:100	Drawn by: JGS	Report No: 47/03

Figure 20 Trench 3, section 80.

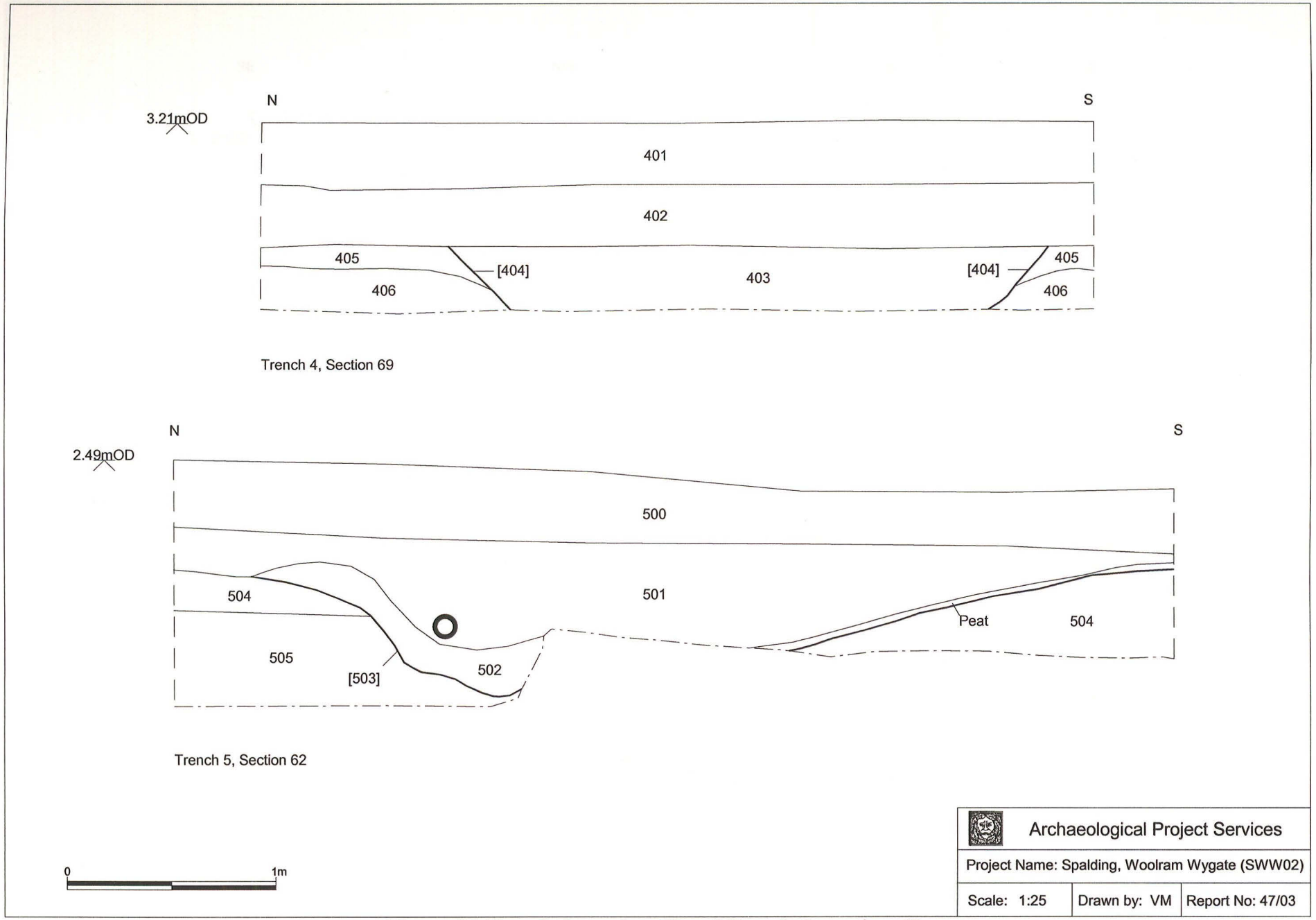


Figure 21 Trench 4, section 69 and Trench 5, section 62.

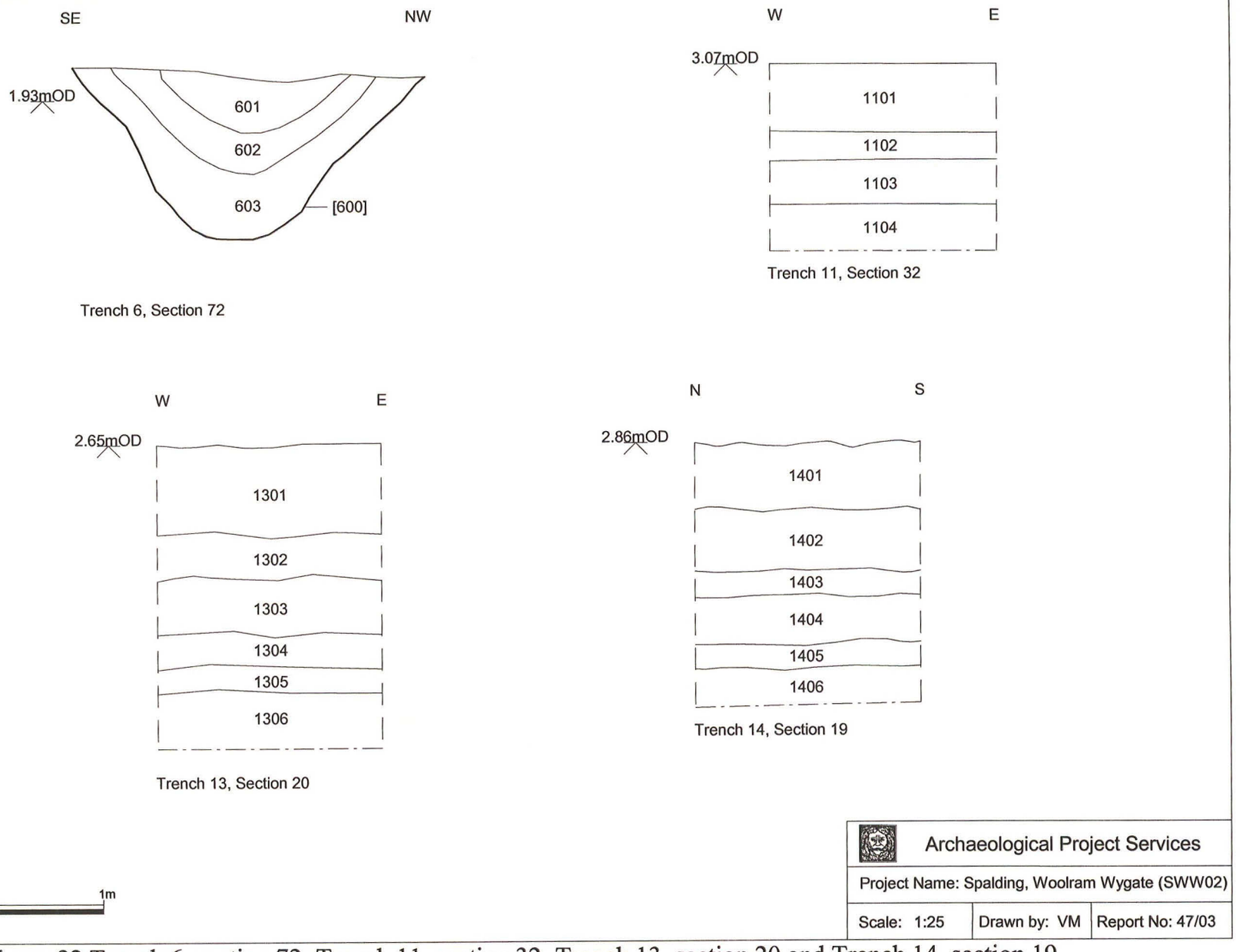


Figure 22 Trench 6, section 72; Trench 11, section 32; Trench 13, section 20 and Trench 14, section 19.

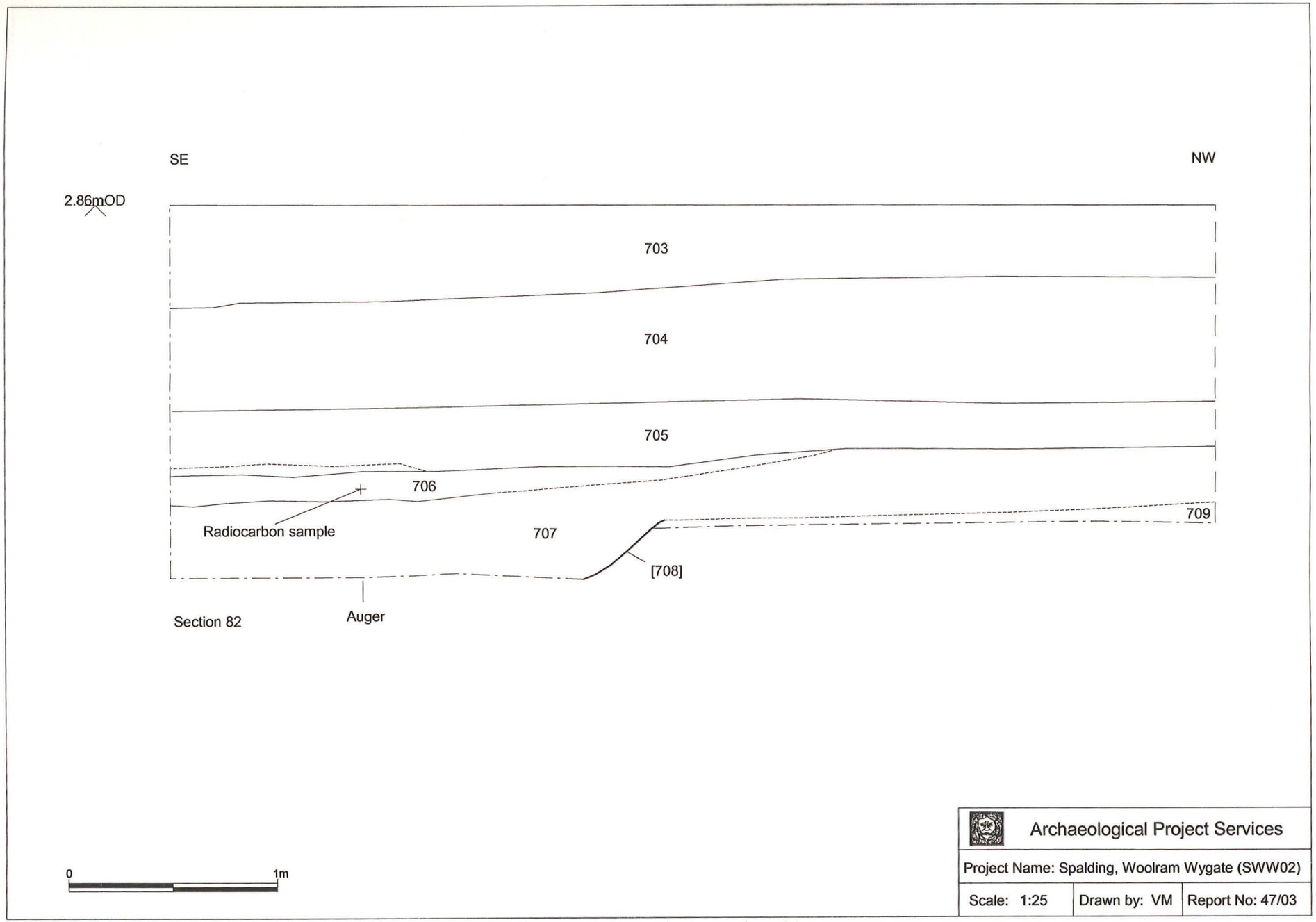


Figure 23 Trench 7, section 82.

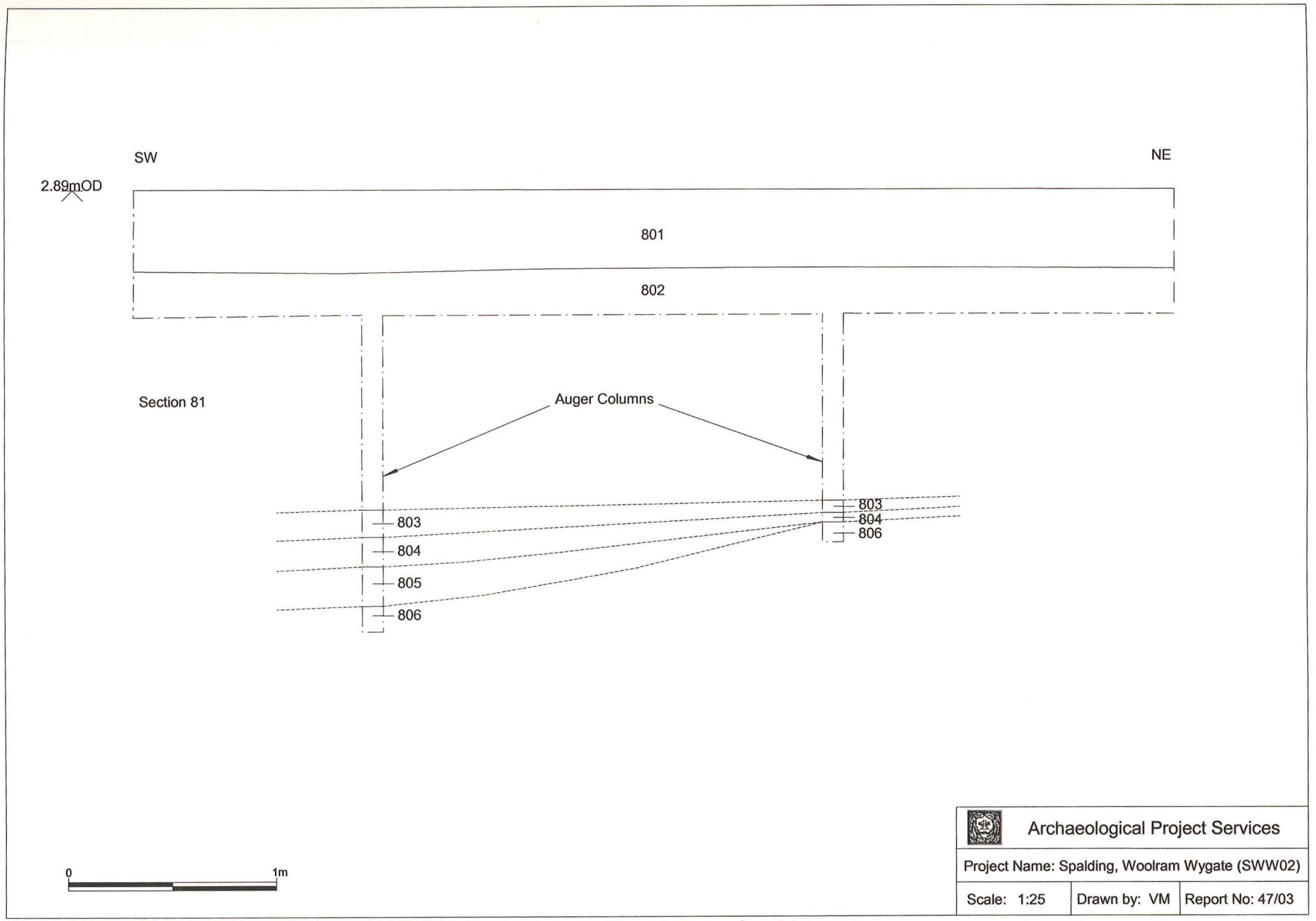
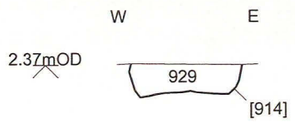
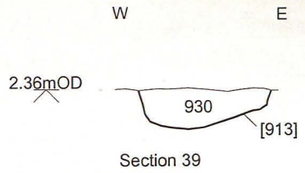


Figure 24 Trench 8, section 81.

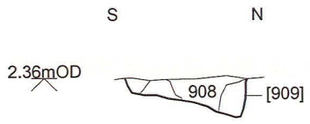
Section 37



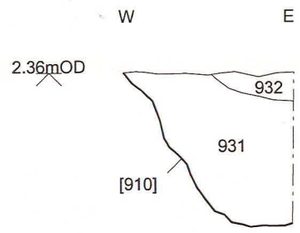
Section 38



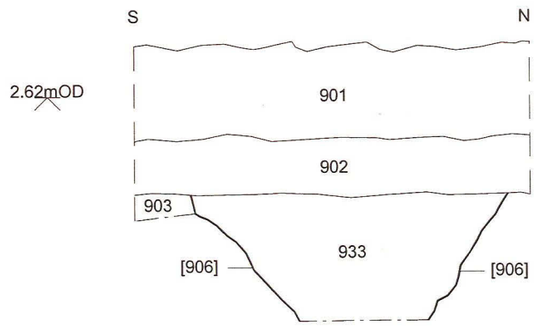
Section 39



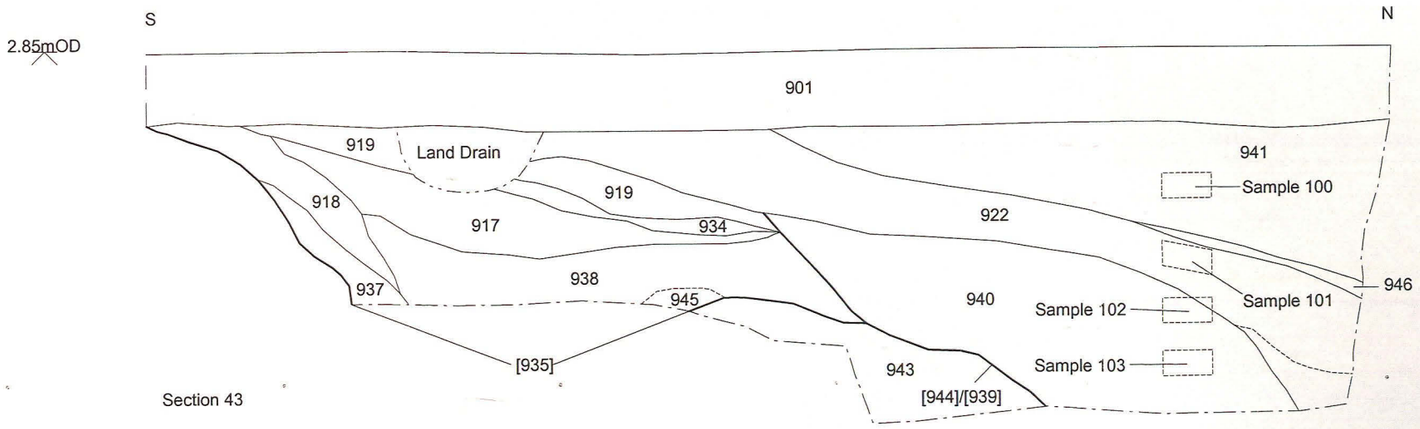
Section 40



Section 41



Section 42



Section 43

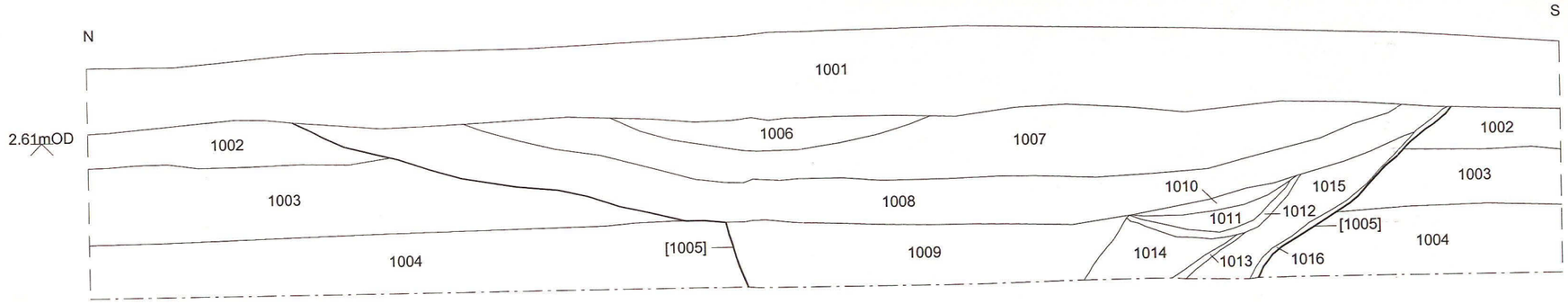
0 1m

Archaeological Project Services

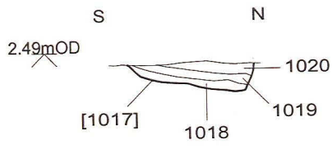
Project Name: Spalding, Woolram Wygate (SWW02)

Scale: 1:25 | Drawn by: VM | Report No: 47/03

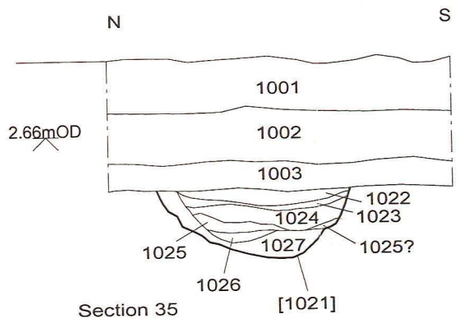
Figure 25 Trench 9, sections 37 to 43.



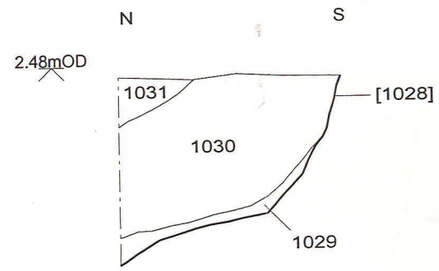
Section 33



Section 34



Section 35



Section 36

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

Figure 26 Trench 10, sections 33 to 36.

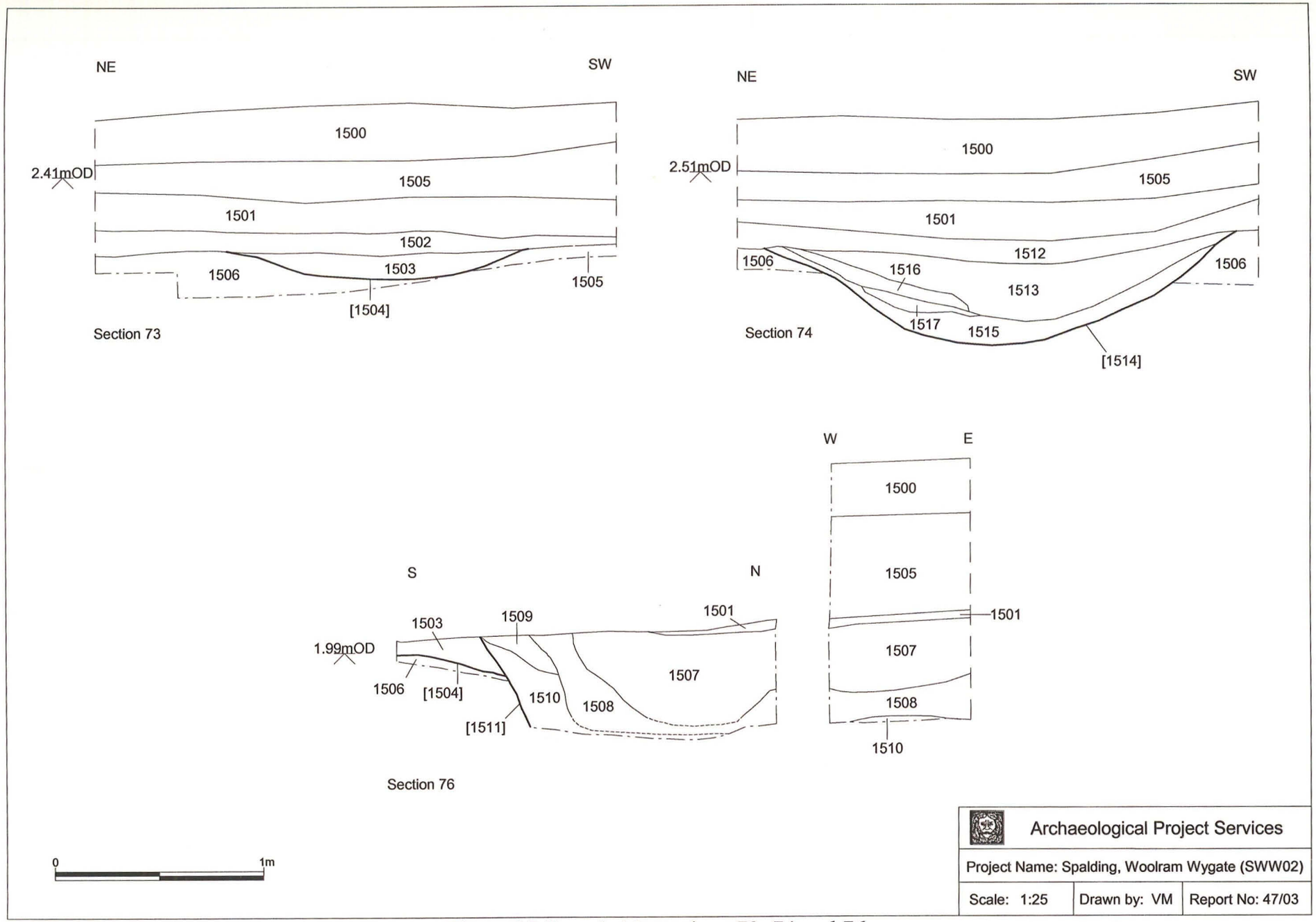
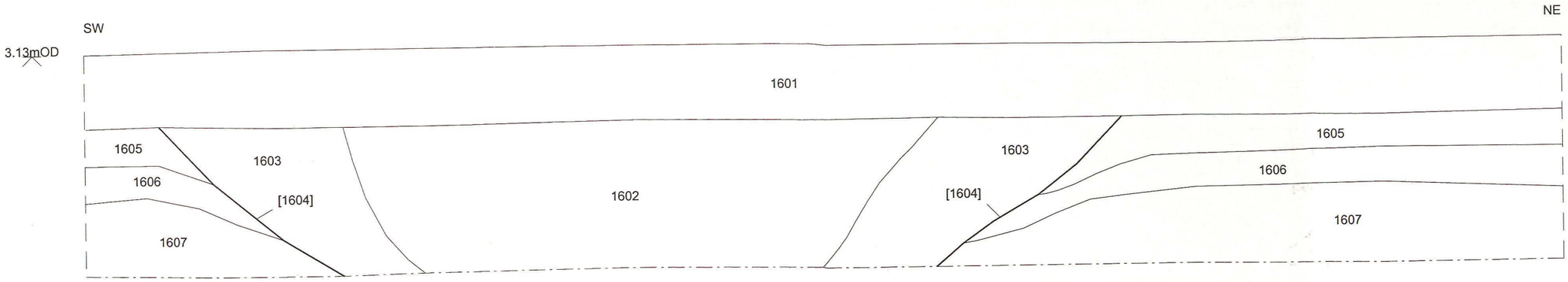
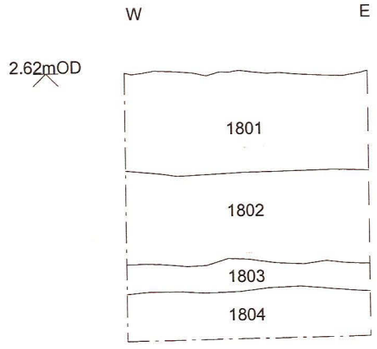


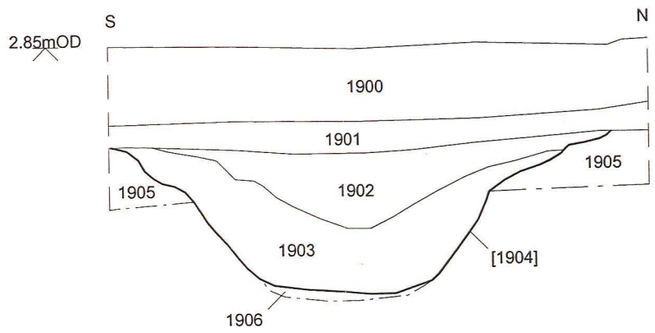
Figure 27 Trench 15, sections 73, 74 and 76.



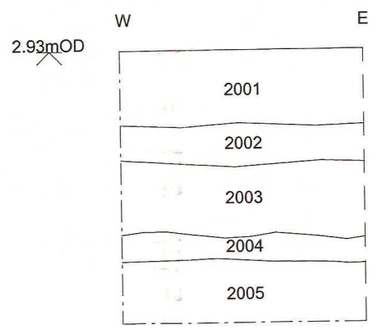
Trench 16, Section 68



Trench 18, Section 18



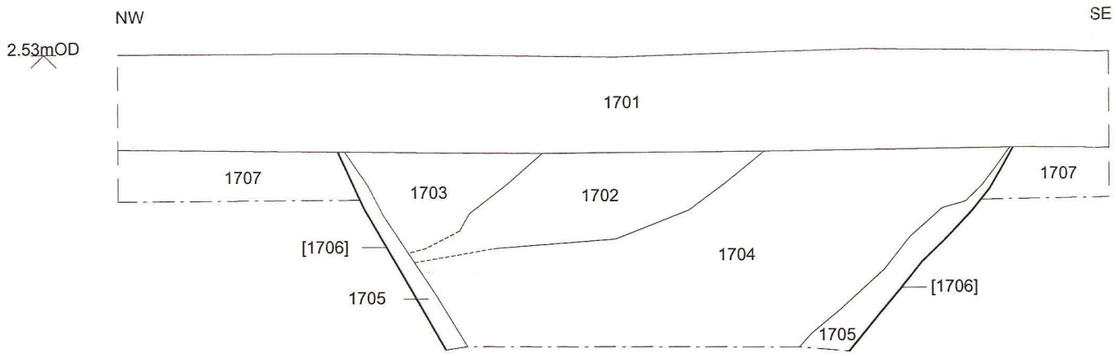
Trench 19, Section 65



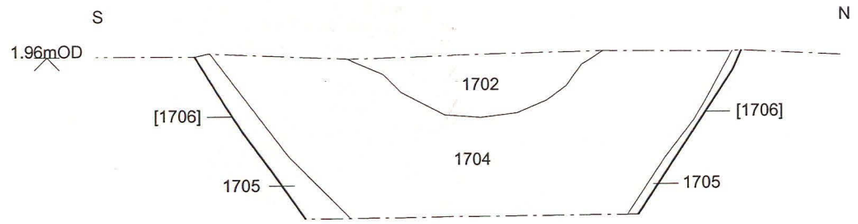
Trench 20, Section 24

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

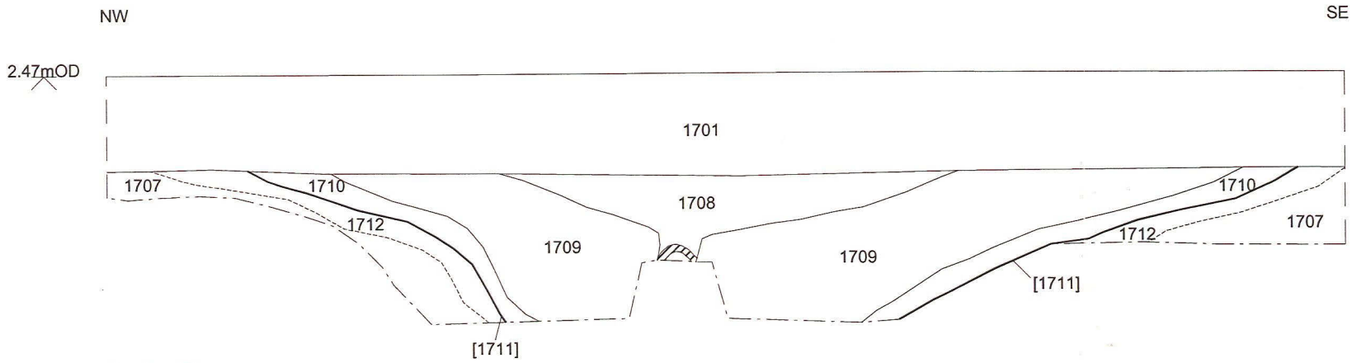
Figure 28 Trench 16, section 68; Trench 18, section 18; Trench 19, section 65 and Trench 20, section 24.



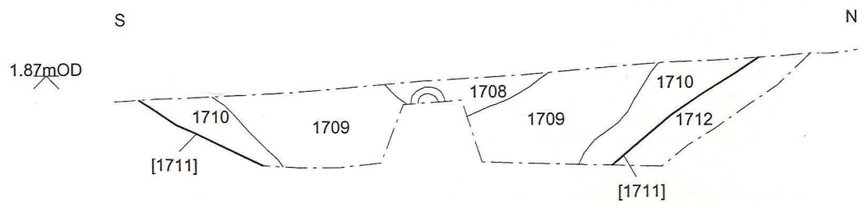
Section 44



Section 45



Section 46



Section 47

0 1m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

Figure 29 Trench 17, sections 44 to 47.

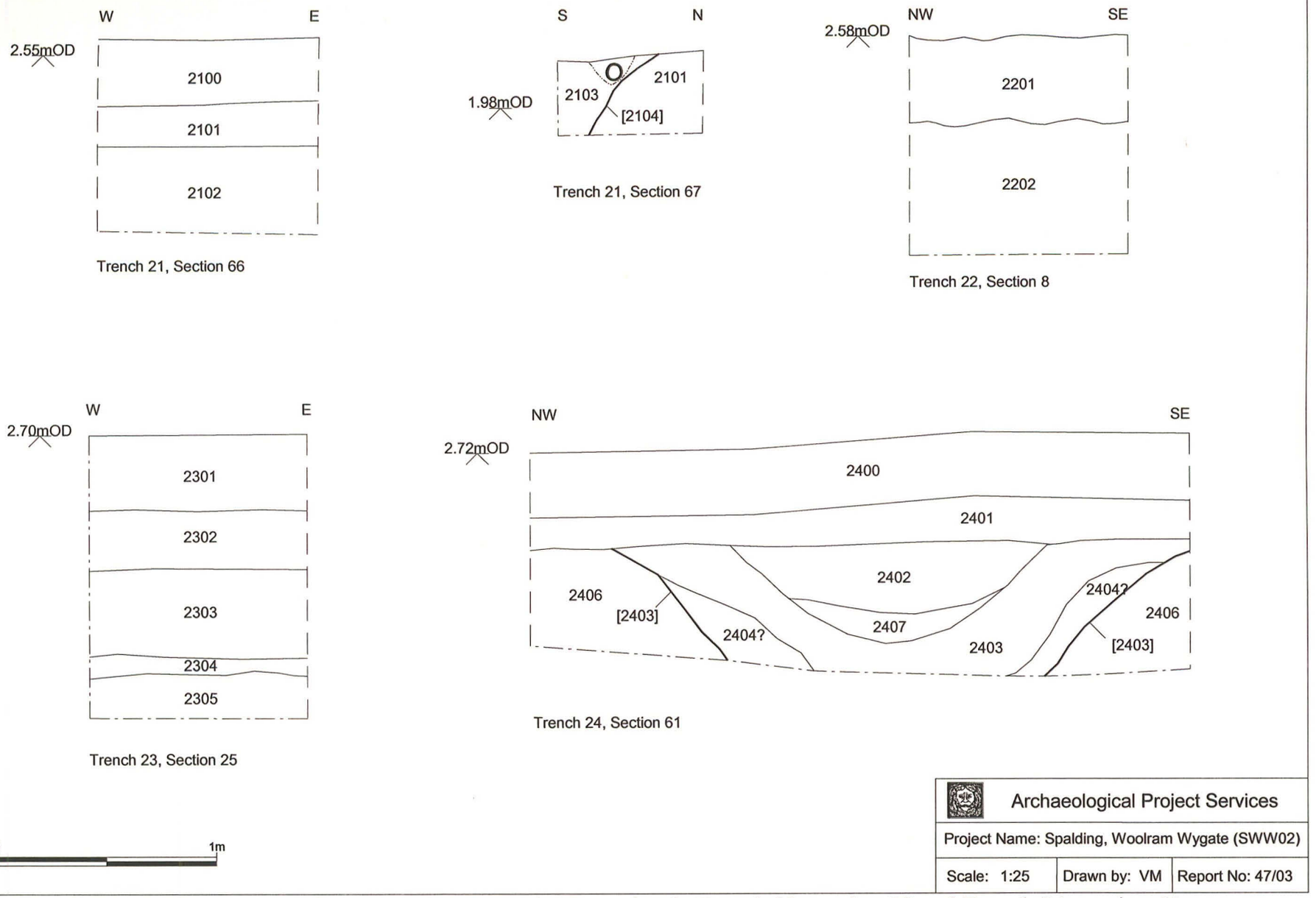


Figure 30 Trench 21, sections 66 and 67; Trench 22, section 8; Trench 23, section 25 and Trench 24, section 61.

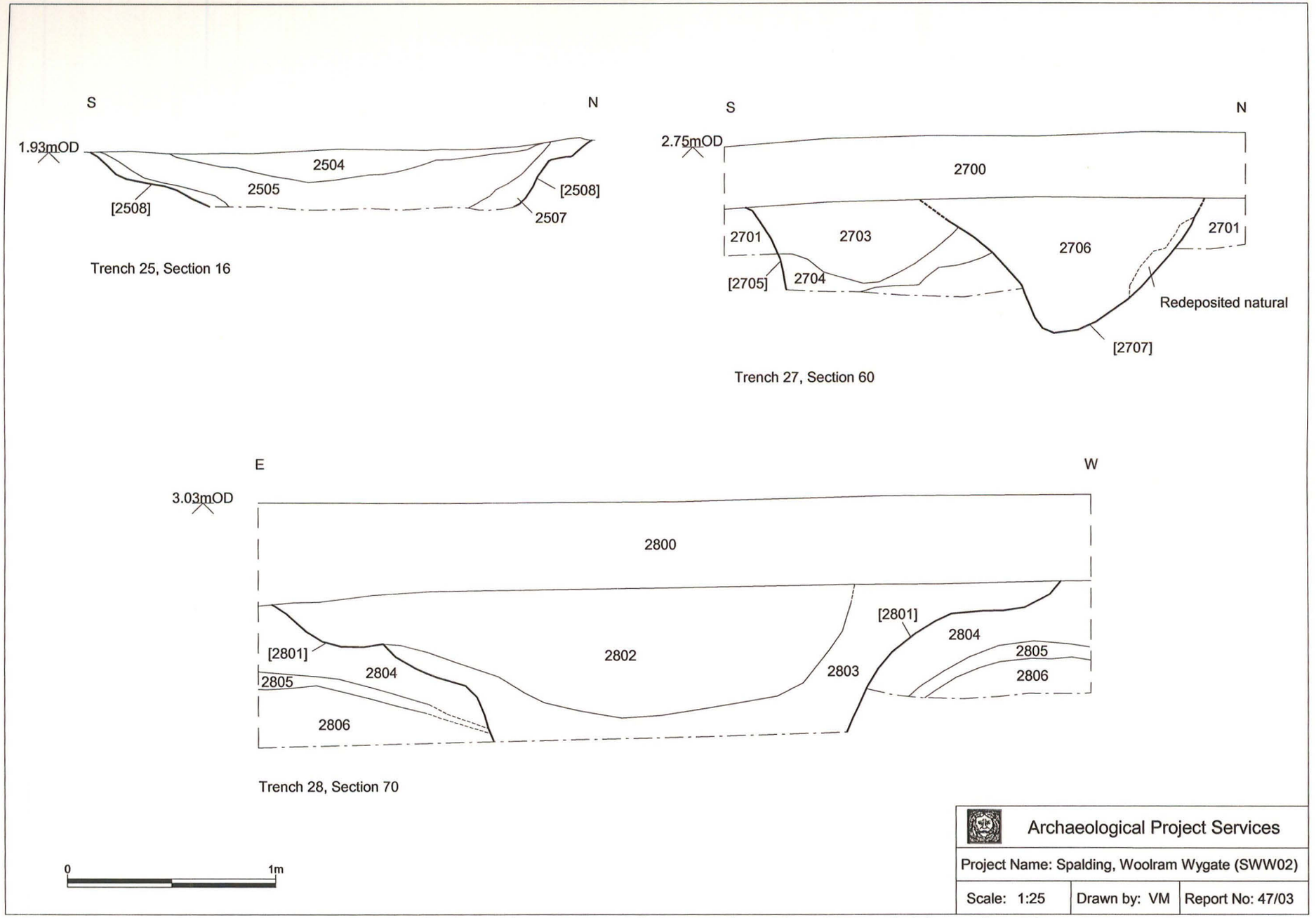
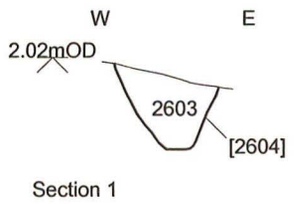
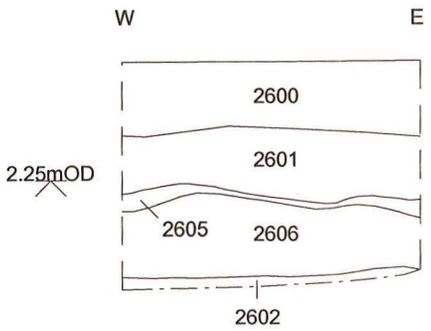


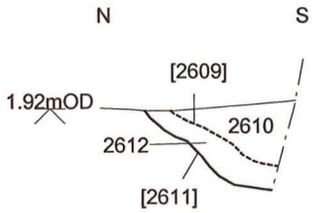
Figure 31 Trench 25, section 16; Trench 27, section 60 and Trench 28, section 70.



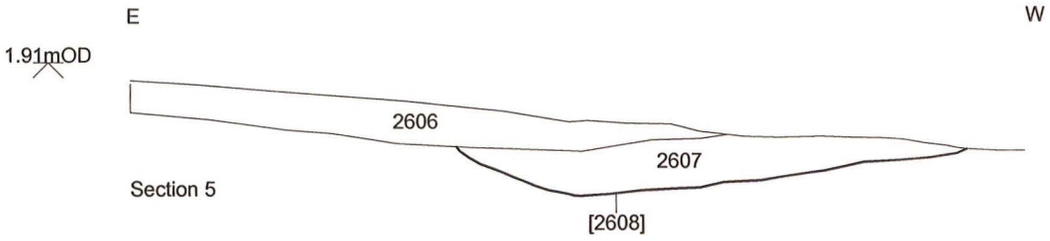
Section 1



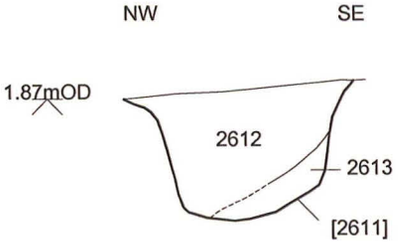
Section 4



Section 6



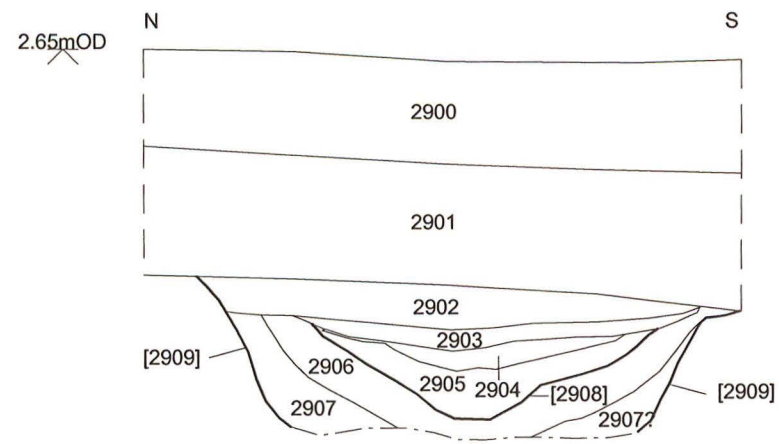
Section 5



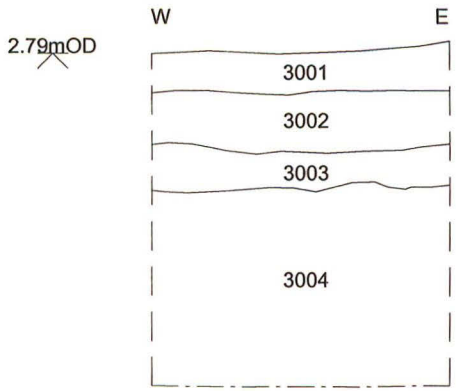
Section 7

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

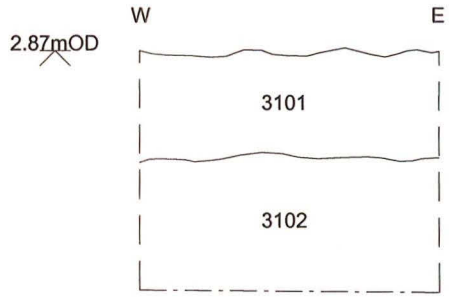
Figure 32 Trench 26, sections 1 to 7.



Section 79



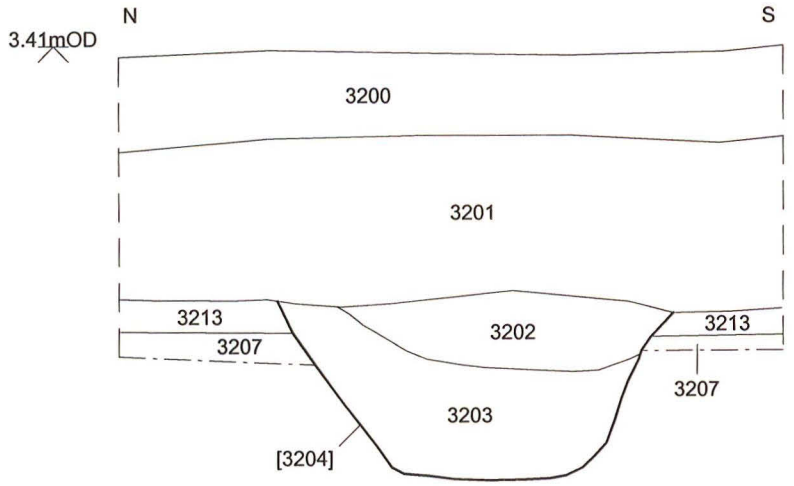
Section 3



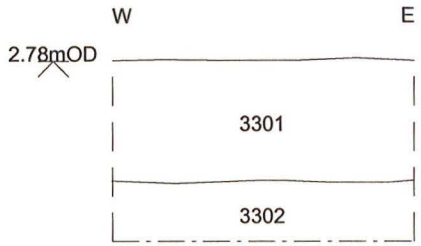
Section 23

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

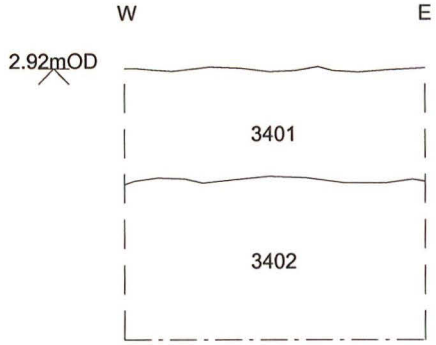
Figure 33 Trench 29, section 79; Trench 30, section 3 and Trench 31, section 23.



Section 64



Section 28



Section 2

0 1m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

Figure 34 Trench 32, section 64; Trench 33, section 28 and Trench 34, section 2.

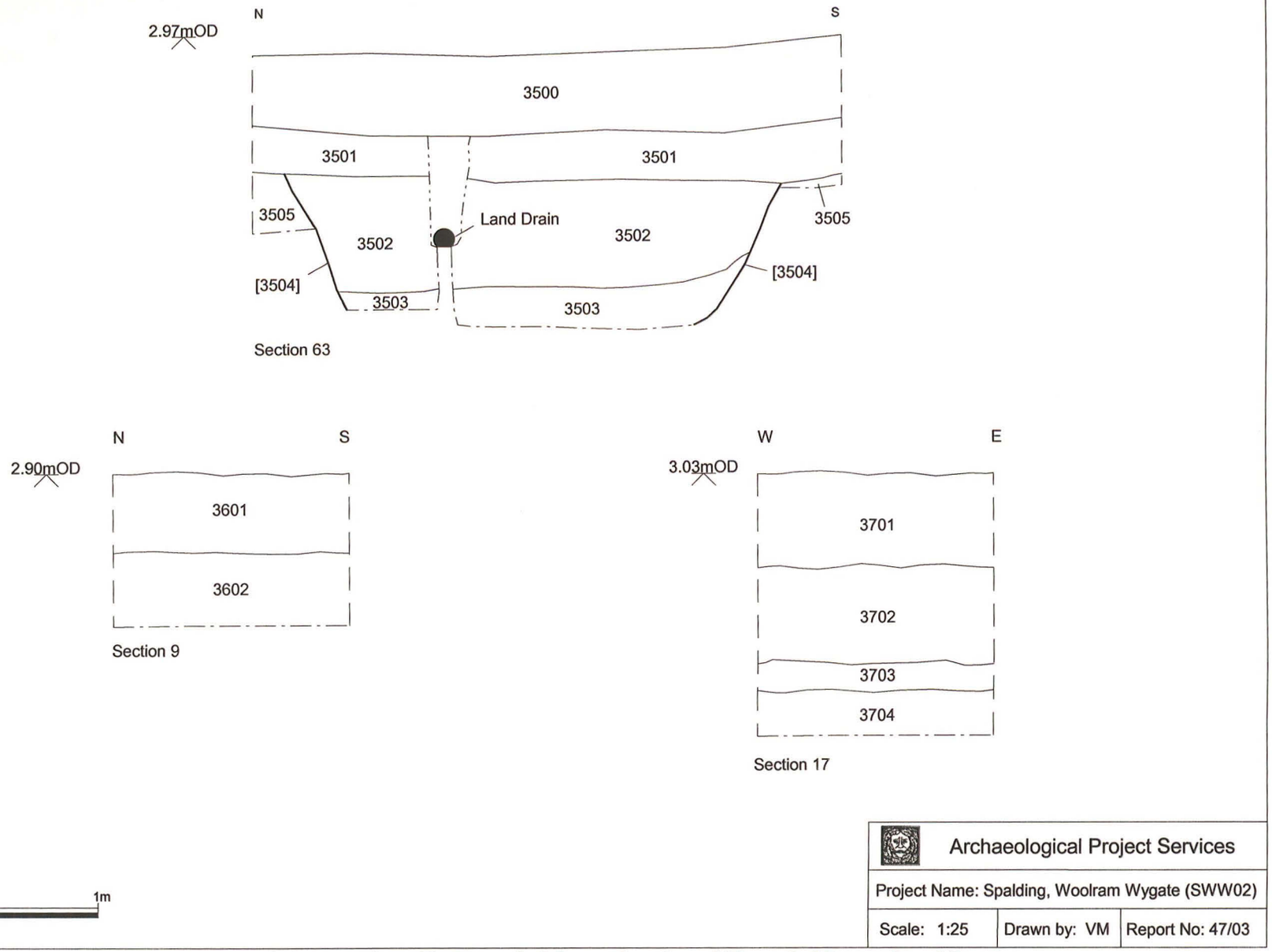


Figure 35 Trench 35, section 63; Trench 36, section 9 and Trench 37, section 17.

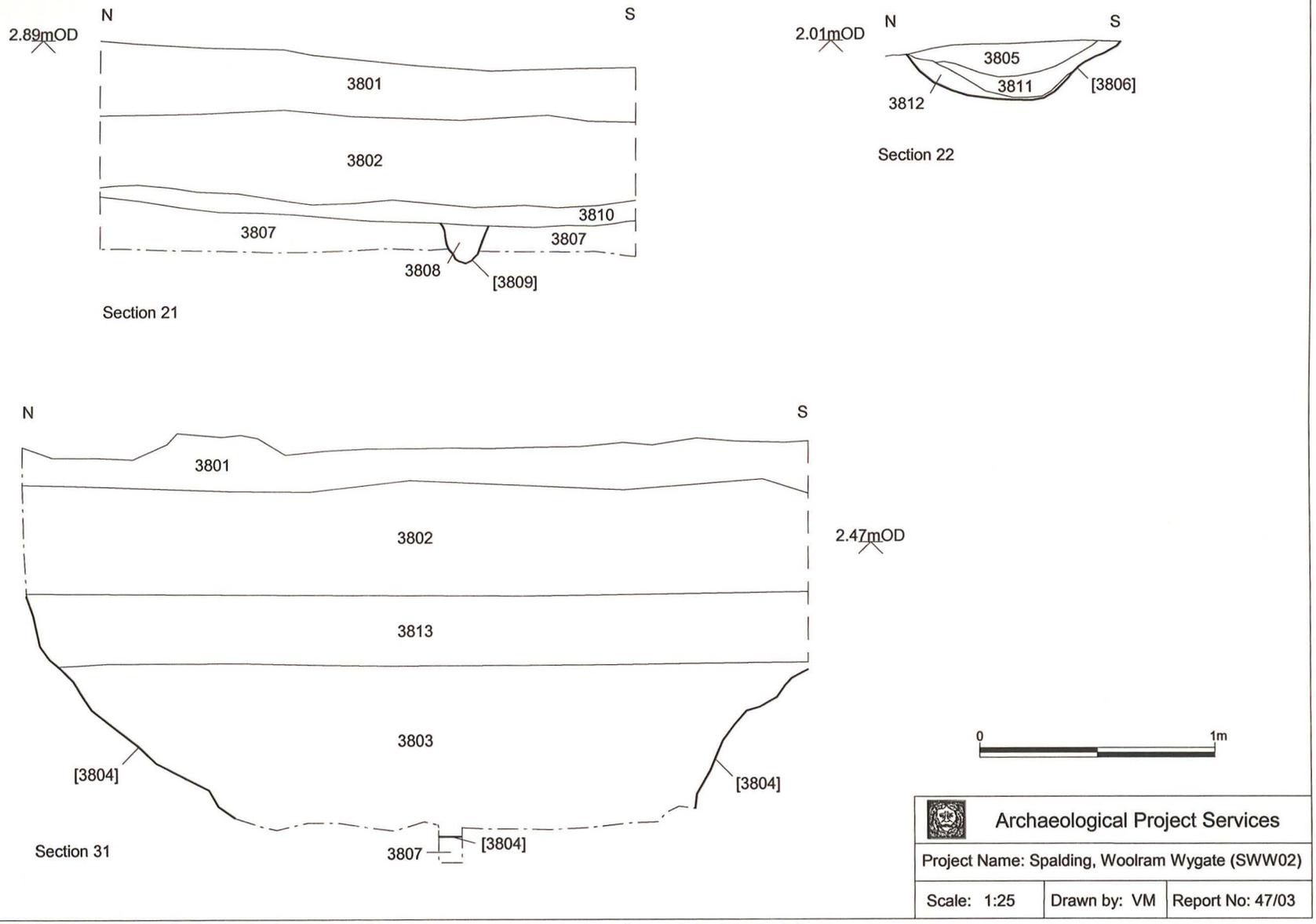


Figure 36, Trench 38, sections 21, 22 & 31.

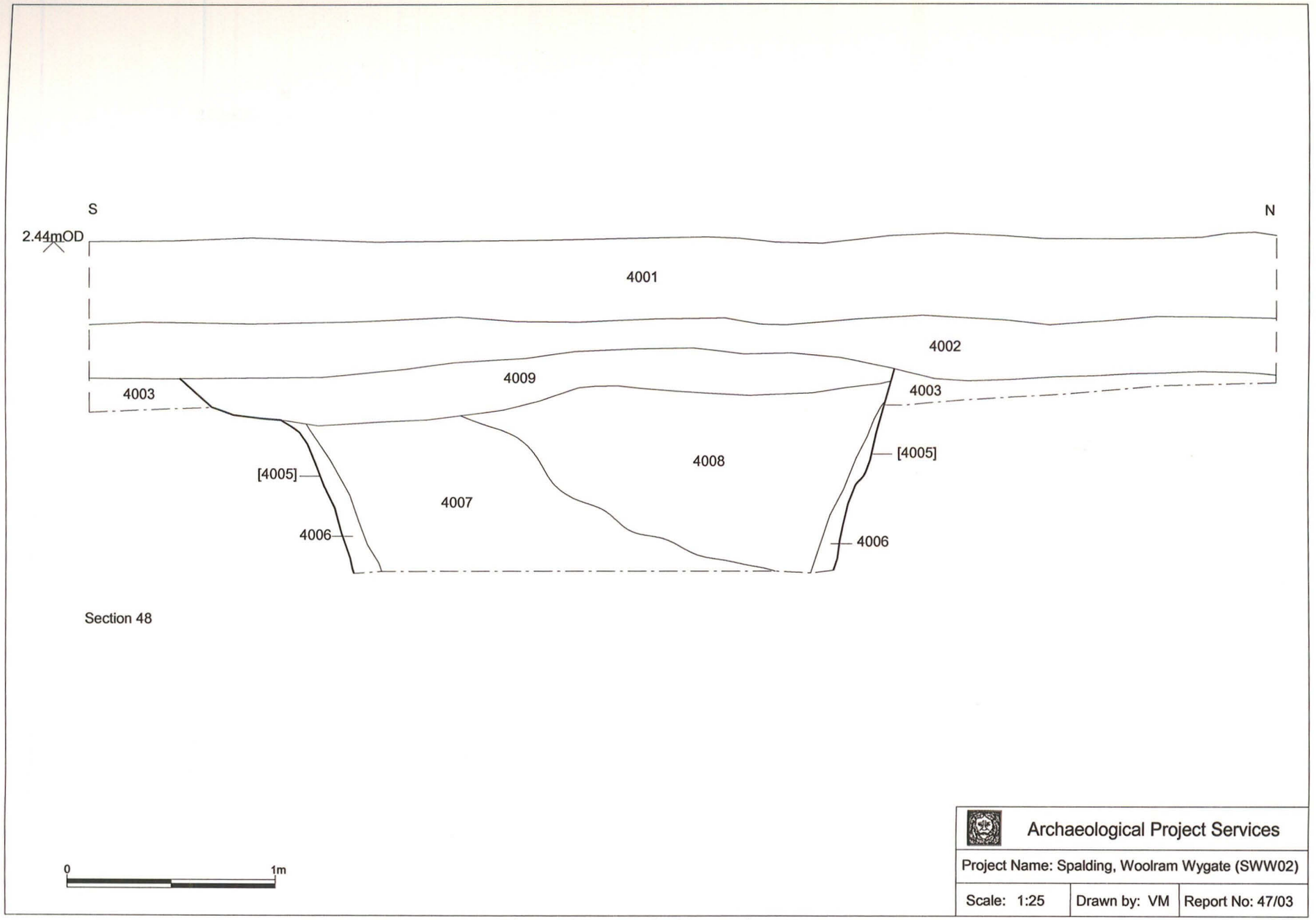
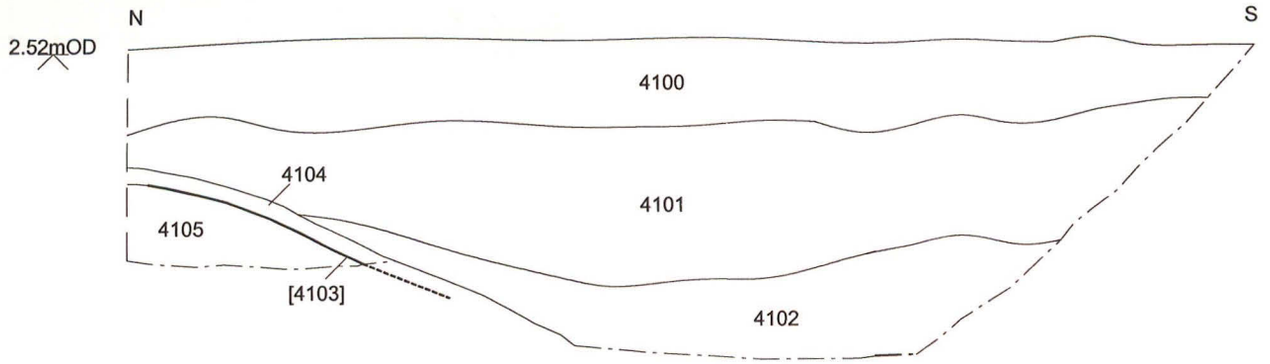
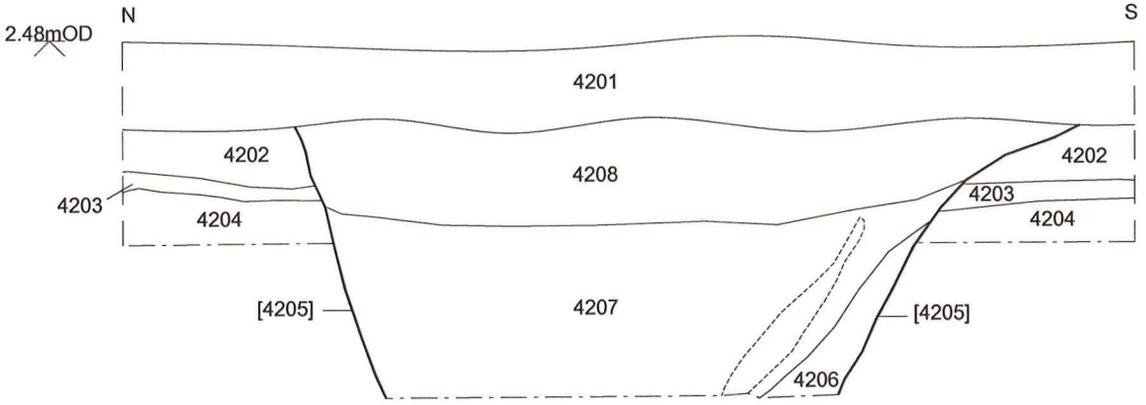


Figure 37 Trench 40, section 48.



Section 51



Section 49

0 1m

Archaeological Project Services		
Project Name: Spalding, Woolram Wygate (SWW02)		
Scale: 1:25	Drawn by: VM	Report No: 47/03

Figure 38 Trench 41, section 51 and Trench 42, section 49.

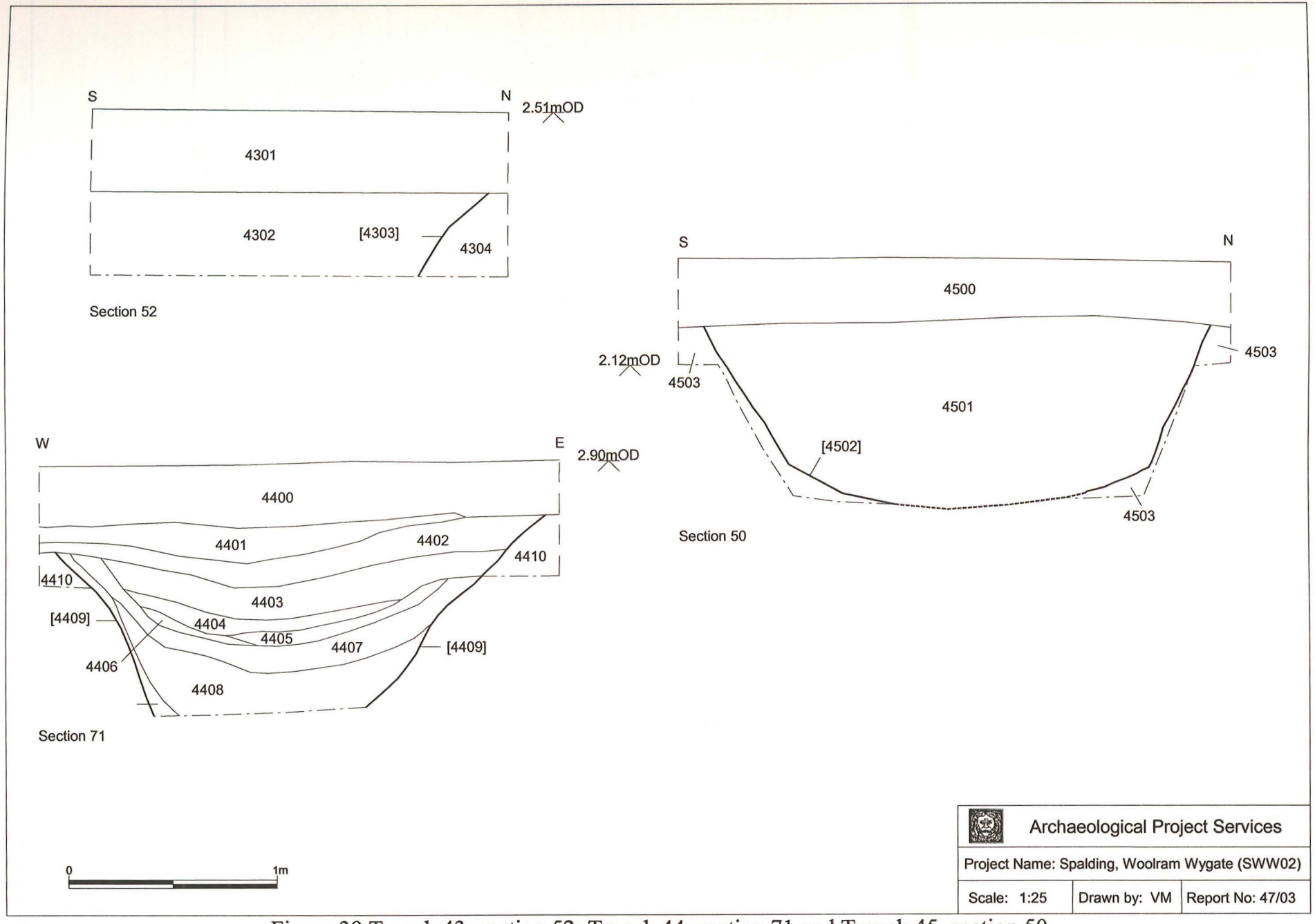


Figure 39 Trench 43, section 52; Trench 44, section 71 and Trench 45, section 50.

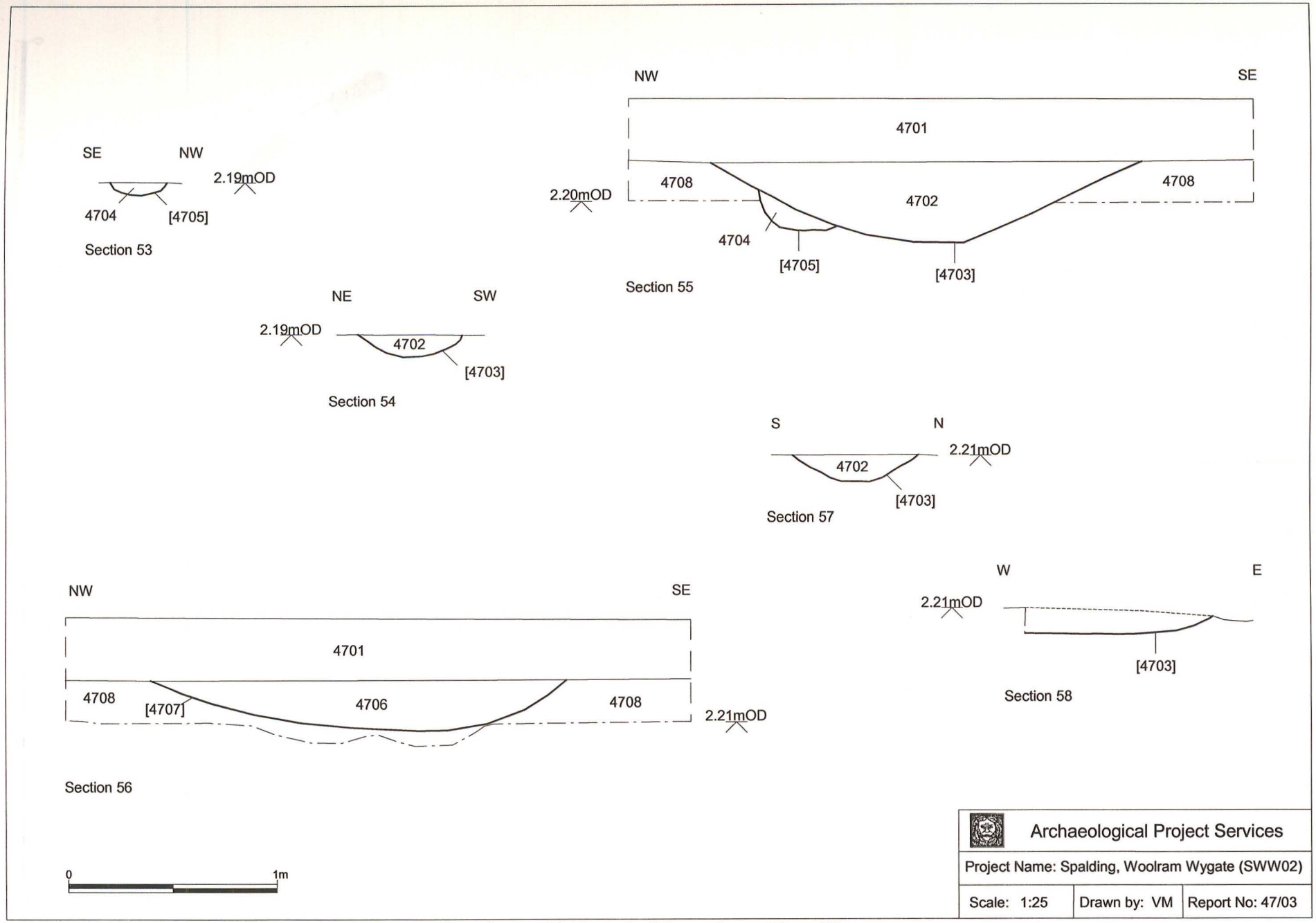


Figure 40 Trench 47, sections 53 to 58.

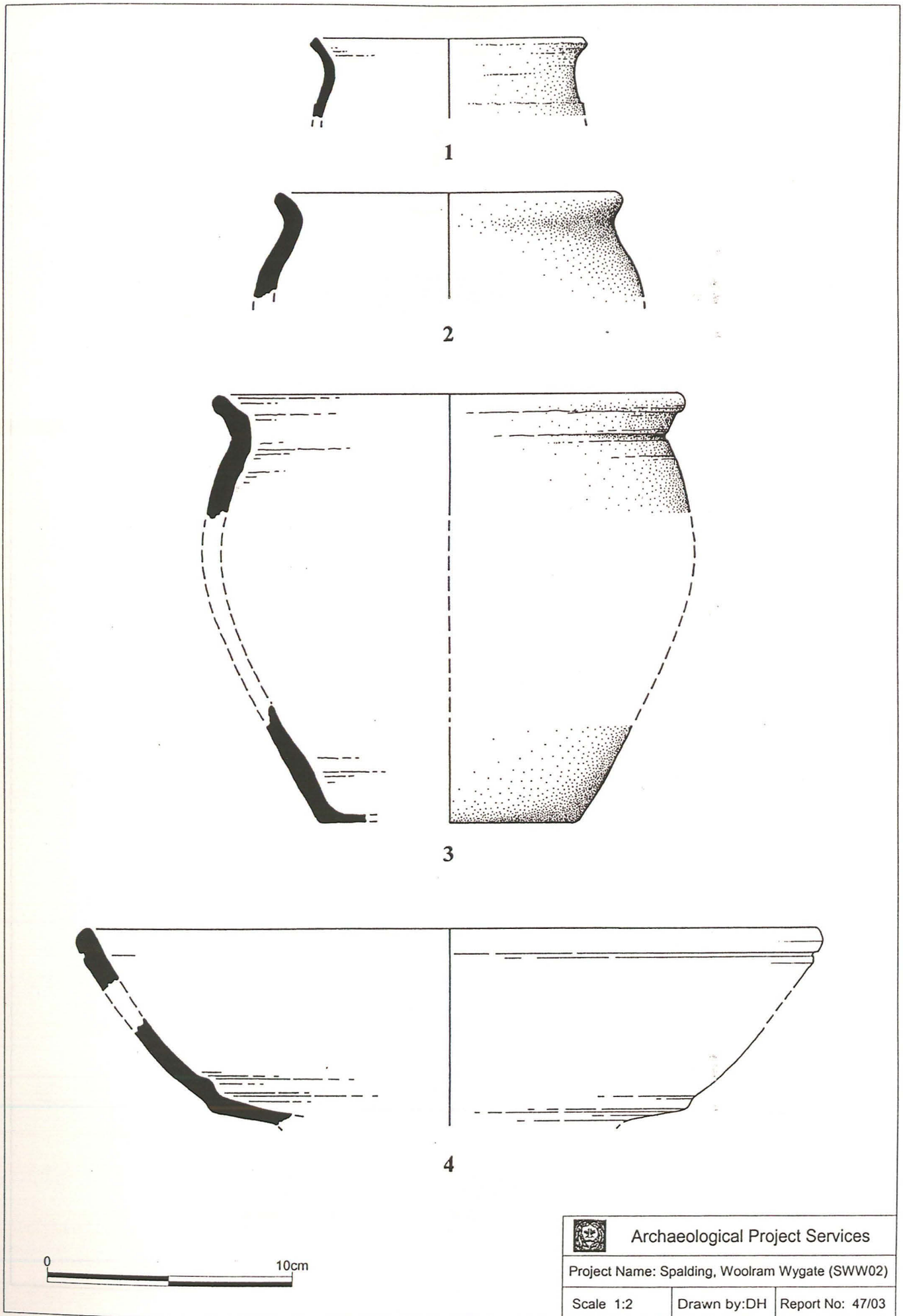


Figure 41 Iron Age sherds from Trench 15 (Nos 1 - 3) and Romano-British plain-rimmed dish (No 4).

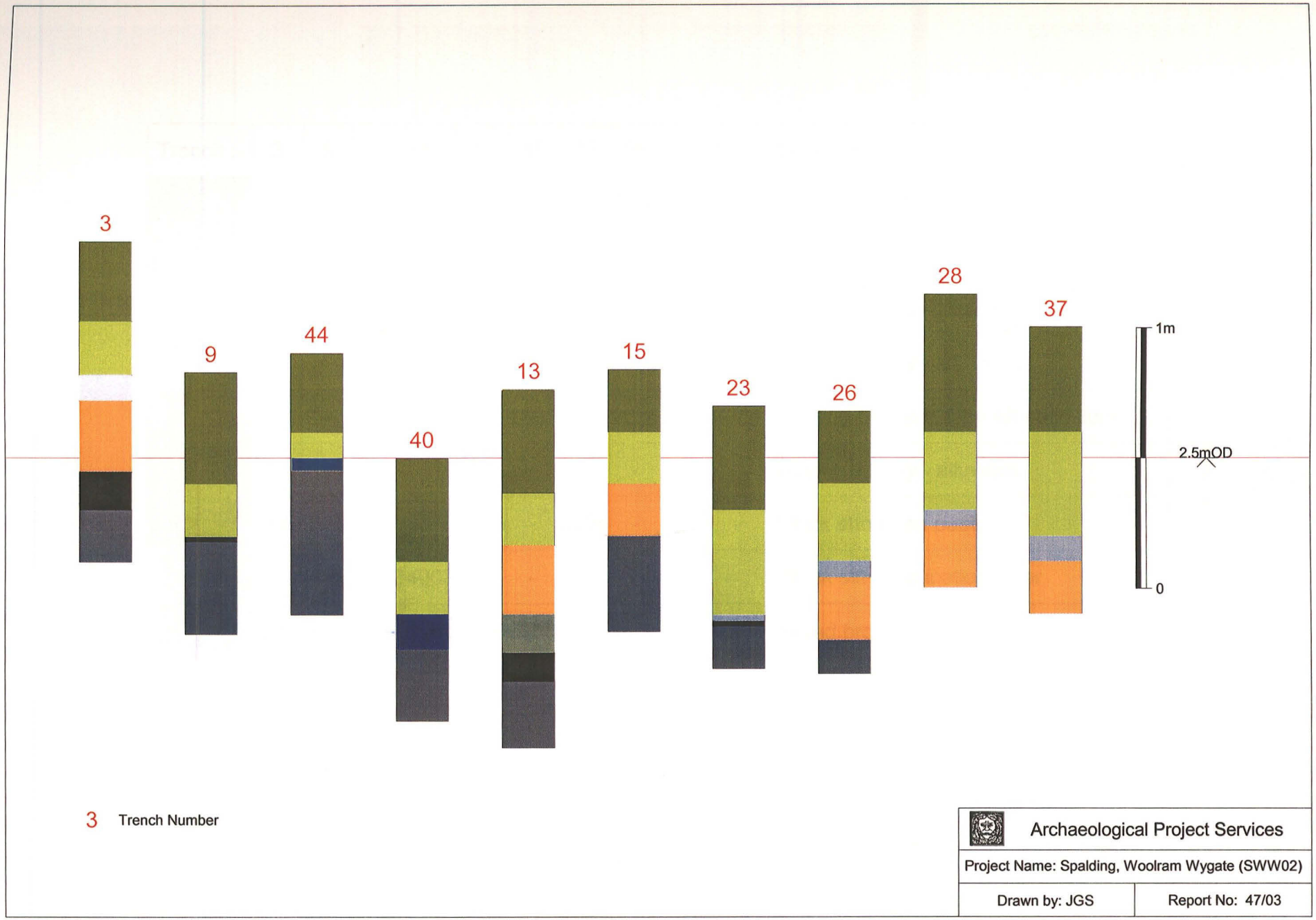


Figure 42 Profile of alluvial deposits and OD hieghts in selected trenches.

Trench :-	3	9	44	40	13	15	23	26	28	37	Description
	301	901	4400	4001	1301	1500	2301	2600	2800	3701	Dark brown clayey silt - topsoil.
	302	902	4401	4002	1302	1501	2302	2601	2804	3702	Brown silt - transformed alluvium.
	303	-	-	-	-	-	-	-	-	-	Blue-grey clay - alluvium.
	-	-	-	-	-	-	2303	2605	2805	3703	Blue-grey clay - alluvium.
	304	-	-	-	1303	1505	-	2606	2806	3704	Mottled brown clayey silt - alluvium.
	-	-	-	-	1304	-	-	-	-	-	Blue-grey clay - alluvium.
	305	946	-	-	1305	-	2304	-	-	-	Black shrunken peat.
	-	-	4402	4003	-	-	-	-	-	-	Black silty occupation layer.
	306	907	4410	4004	1306	1506	2305	2602	-	-	Mixed brown and grey silt - alluvium.

Archaeological Project Services	
Project Name: Spalding, Woolram Wygate (SWW02)	
Drawn by: JGS	Report No: 47/03

Figure 43 Key for Figure 42.

Plate 1 General view of the site, looking east.

Plate 2 General view of the site, looking west.

Plate 3 General view of the site, looking northwest.

Plate 4 Working shot of Trench 9, looking north.

Plate 5 General view of Trench 1, looking east.

Plate 6 General view of Trench 9, looking south.

Plate 7 General view of trench 17, looking northwest.

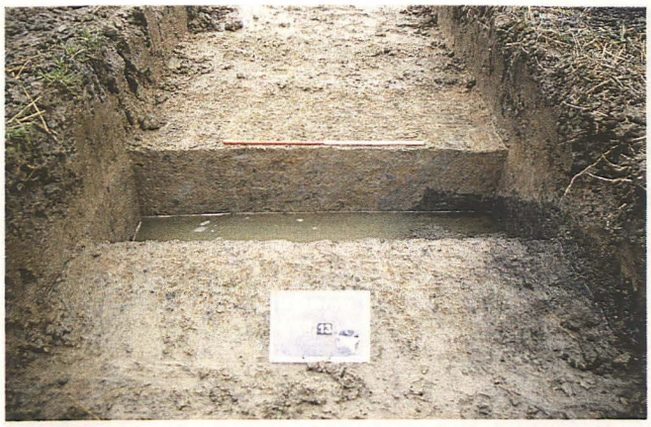


Plate 8 Post-Roman ditch (105), looking east.

Plate 9 Romano-British ditch (109), looking south.

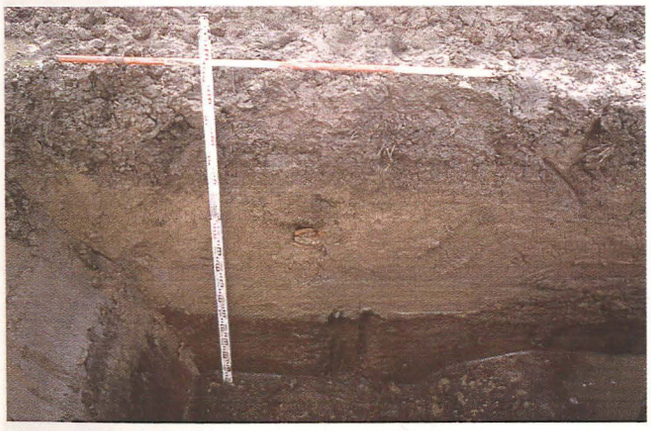


Plate 10 Section through Romano-British palaeochannel (708), looking southwest.

Plate 11 Section through Romano-British palaeochannel (939/944), looking northwest.

Plate 12 Post-medieval ditch (1511), looking west.

Plate 13 Late Iron Age ditch (1514), looking south.

Plate 14 Undated ditch (1904), looking west.

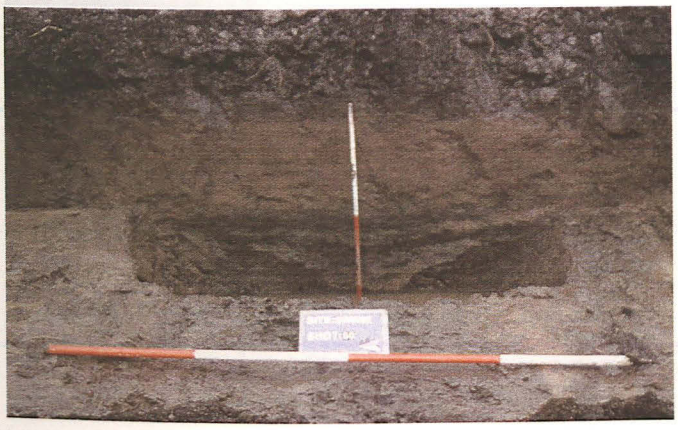


Plate 15 Post-medieval ditch (2909), looking east.

Plate 16 Undated ditch (3204), looking east.

Plate 17 Medieval ditch (4005), looking northwest.

Plate 18 Romano-British ditch (4409), looking north.

Appendix 1

LAND AT WOOLRAM WYGATE SPALDING LINCOLNSHIRE

Specification for archaeological evaluation, prepared for the Robert Doughty consultancy and Allison Homes Ltd.

1 SUMMARY

1.1 *An archaeological evaluation (trial trenching) is required prior to residential development of land at Woolram Wygate, Spalding, Lincolnshire.*

1.2 *The site lies in an area of known archaeological remains. A Romano-British settlement site has been identified to the southwest of the proposed development site and geophysical survey has identified a salt-making site, of probable Roman date, within the application area.*

1.3 *A programme of trial trenching will be undertaken to assist in the determination of the application. The archaeological features exposed will be recorded in writing, graphically and photographically.*

1.4 *On completion of the fieldwork a report will be prepared detailing the results of the investigation. The report will consist of a narrative supported by illustrations and photographs.*

2 INTRODUCTION

2.1 This document comprises a scheme of works for archaeological evaluation (trial trenching) prior to residential development on land at Woolram Wygate, Spalding, Lincolnshire. National Grid Reference TF 2350 2305.

2.2 This document contains the following parts:

2.2.1 Overview.

2.2.2 Stages of work and methodologies.

2.2.3 List of specialists.

2.2.4 Programme of works and staffing structure of the project

3 SITE DESCRIPTION

3.1 Spalding is located 23km southwest of Boston and 30km southeast of Sleaford in the South Holland district of Lincolnshire. The site, about 22ha in extent, occupies a roughly rectangular block of land on the western edge of the town bounded by Woolram Wygate to the east and Monk's House Lane to the west at National Grid Reference TF 2350 2305.

3.2 The majority of the site is under arable cultivation with former allotments in the southwest corner and standing buildings and glasshouses located in the northeast and southeast parts of the site. An overhead powerline, aligned roughly northwest - southeast, crosses the application area.

4 PLANNING BACKGROUND

4.1 A planning application (H16/0578/01)was submitted to South Holland District Council for the residential development at Woolram Wygate, Spalding. An archaeological evaluation is required to assist in the determination of the planning application.

4.2 A desk-based assessment (Archaeological Project Services 2000) of the site has been undertaken, followed by a geophysical survey (Oxford Archaeotechnics 2002).

4.3 Based on the results of the foregoing work a programme of trial trenching is now required to determine the nature and state of preservation of the archaeological remains.

5 SOILS AND TOPOGRAPHY

5.1 The site is on fairly flat level land at approximately 3m OD. Local soils are the calcareous alluvial gleys of the Agney series, while to the east are Wisbech Association, mainly coarse silty calcareous soils developed on marine alluvium (Robson 1990).

6 ARCHAEOLOGICAL OVERVIEW

6.1 A Romano-British settlement has previously been identified *c*300m to the southwest of the proposed development area. The projected line of the Baston Outgang Roman road crosses, or lies close to, the eastern end of the site. These remains form part of a complex pattern of Romano-British landuse extending to the south and west of the site. It is likely that remains of this period lie buried beneath later alluvial deposits. Evidence from the surrounding area suggests that these deposits may be at depths of about 1m below present ground level. (Archaeological Project Services 2000).

6.2 Remains of Romano-British salterns have been identified at *c*0.8m below alluvial deposits in the general vicinity (Archaeological Project Services 2000). Geophysical survey within the application area has identified a salt-making site, probably also Romano-British in date, located in the southwestern part of the site. Other anomalies recorded during the survey may represent features such as hollows, ponds, channels or ditches. (Oxford Archaeotechnics 2002).

7 AIMS AND OBJECTIVES

7.1 The aim of the evaluation will be to gather sufficient information to allow the archaeological curator to be able to formulate a policy for the management of the archaeological resources present in that area.

7.2 The objectives of the evaluation will be to:

7.2.1 Establish the type of archaeological activity that may be present within the site.

7.2.2 Determine the likely extent of archaeological activity present on the site.

7.2.3 Determine the date and function of the archaeological features present on the site.

7.2.4 Determine the state of preservation of the archaeological features present on the site.

7.2.5 Determine the spatial arrangement of the archaeological features present within the site.

7.2.6 Determine the extent to which the surrounding archaeological features extend into the

application area.

7.2.7 Establish the way in which the archaeological features identified fit into the pattern of occupation and land-use in the surrounding landscape.

8 LIAISON WITH ARCHAEOLOGICAL CURATOR

8.1 Prior to commencement of the trial trenching the arrangement of the trial trenches will be agreed with the archaeological curator to ensure that the proposed scheme of works fulfills their requirements.

9 TRIAL TRENCHING

9.1 Reasoning for this technique

9.1.1 Trial trenching enables the *in situ* determination of the sequence, date, nature depth, environmental potential and density of archaeological features present on the site.

9.1.2 It is anticipated that the trial trenching will consist of 38 trenches each measuring 30m by 2m, giving a 1% sample of the application area. The trenches will be arranged to target areas of archaeological potential identified by the geophysical survey, in particular to investigate the area of the saltern, as well as giving coverage across the whole application area.

9.1.3 Trenches may be widened or stepped-in should archaeological deposits extend below 1.2m depth. Augering may be used to determine the depth of the sequence of deposits present.

9.2 General considerations

9.2.1 All work will be undertaken following statutory Health and Safety requirements in operation at the time of the watching brief.

9.2.2 The work will be undertaken according to the relevant codes of practice issued by the Institute of Field Archaeologists (IFA), under the management of a Member of the Institute (MIFA). *Archaeological Project Services* is an IFA Registered Archaeological Organisation (No. 21).

9.2.3 Any and all artefacts found during the investigation and thought to be 'treasure', as defined by the Treasure Act 1996, will be removed from site to a secure store and promptly reported to the appropriate coroner's office.

9.2.4 Excavation of the archaeological features will only be undertaken as far as is required to determine their date, sequence, density and nature. Not all archaeological features exposed will necessarily be excavated. However, the investigation will, as far as is reasonably practicable, determine the level of the natural deposits to ensure that the depth of the archaeological sequence present on the site is established.

9.2.5 Open trenches will be marked by hazard tape attached to road irons or similar poles. Subject to the consent of the archaeological curator, and following the appropriate recording, the trenches, particularly those of excessive depth, will be backfilled as soon as possible to minimise any health and safety risks.

9.3 Methodology

9.3.1 Removal of the topsoil and any other overburden will be undertaken by mechanical excavator using a toothless ditching bucket. To ensure that the correct amount of material is removed and that no archaeological deposits are damaged, this work will be supervised by Archaeological Project Services. On completion of the removal of the overburden, the nature of the underlying deposits will be assessed by hand excavation before any further mechanical excavation that may be required. Thereafter, the trenches will be cleaned by hand to enable the identification and analysis of the archaeological features exposed.

9.3.2 Investigation of the features will be undertaken only as far as required to determine their date, form and function. The work will consist of half- or quarter-sectioning of features as required and, where appropriate, the removal of layers. Should features be located which may be worthy of preservation *in situ*, excavation will be limited to the absolute minimum, (*ie* the minimum disturbance) necessary to interpret the form, function and date of the features.

9.3.3 The archaeological features encountered will be recorded on Archaeological Project Services pro-forma context record sheets. The system used is the single context method by which individual archaeological units of stratigraphy are assigned a unique record number and are individually described and drawn.

9.3.4 Plans of features will be drawn at a scale of 1:20 and sections at a scale of 1:10. Should individual features merit it, they will be drawn at a larger scale.

9.3.5 Throughout the duration of the trial trenching a photographic record consisting of black and white prints (reproduced as contact sheets) and colour slides will be compiled. The photographic record will consist of:

- $ the site before the commencement of field operations.
- $ the site during work to show specific stages of work, and the layout of the archaeology within individual trenches.
- $ individual features and, where appropriate, their sections.
- $ groups of features where their relationship is important.
- $ the site on completion of field work.

9.3.6 Should human remains be encountered, they will be left *in situ* with excavation being limited to the identification and recording of such remains. If removal of the remains is necessary the appropriate Home Office licences will be obtained and the local environmental health department informed. If relevant, the coroner and the police will be notified.

9.3.7 Finds collected during the fieldwork will be bagged and labelled according to the individual deposit from which they were recovered ready for later washing and analysis.

9.3.8 The spoil generated during the investigation will be mounded along the edges of the trial trenches with the top soil being kept separate from the other material excavated for subsequent backfilling.

9.3.9 The precise location of the trenches within the site and the location of site recording grid will be established by an EDM survey.

10 ENVIRONMENTAL ASSESSMENT

10.1 If appropriate, during the investigation specialist advice will be obtained from an environmental archaeologist. The specialist will visit the site and will prepare a report detailing the nature of the environmental material present on the site and its potential for additional analysis should further stages of archaeological work be required. The results of the specialist=s assessment will be incorporated into the final report.

11 POST-EXCAVATION AND REPORT

11.1 Stage 1

11.1.1 On completion of site operations, the records and schedules produced during the trial trenching will be checked and ordered to ensure that they form a uniform sequence constituting a level II archive. A stratigraphic matrix of the archaeological deposits and features present on the site will be prepared. All photographic material will be catalogued: the colour slides will be labelled and mounted on appropriate hangers and the black and white contact prints will be labelled, in both cases the labelling will refer to schedules identifying the subject/s photographed.

11.1.2 All finds recovered during the field work will be washed, marked and packaged according to the deposit from which they were recovered. Any finds requiring specialist treatment and conservation will be sent to the Conservation Laboratory at the City and County Museum, Lincoln.

11.2 Stage 2

11.2.1 Detailed examination of the stratigraphic matrix to enable the determination of the various phases of activity on the site.

11.2.2 Finds will be sent to specialists for identification and dating.

11.3 Stage 3

11.3.1 On completion of stage 2, a report detailing the findings of the investigation will be prepared. This will consist of:

- A non-technical summary of the results of the investigation.
- A description of the archaeological setting of the site.
- Description of the topography and geology of the investigation area.
- Description of the methodologies used during the investigation and discussion of their effectiveness in the light of the results
- A text describing the findings of the investigation.
- Plans of the trenches showing the archaeological features exposed. If a sequence of archaeological deposits is encountered, separate plans for each

phase will be produced.

- $ Sections of the trenches and archaeological features.
- $ Sections of the archaeological features.
- $ Interpretation of the archaeological features exposed and their context within the surrounding landscape.
- $ Specialist reports on the finds from the site.
- $ Appropriate photographs of the site and specific archaeological features or groups of features.
- $ A consideration of the significance of the remains found, in local, regional, national and international terms, using recognised evaluation criteria.

12 REPORT DEPOSITION

12.1 Copies of the investigation report will be sent to: the Clients, the Robert Doughty Consultancy and Allison Homes Ltd; the Senior Built Environment Officer, Lincolnshire County Council; South Holland District Council Planning Department; and the County Sites and Monuments Record.

13 ARCHIVE

13.1 The documentation and records generated during the watching brief will be sorted and ordered into the format acceptable to the City and County Museum, Lincoln. This will be undertaken following the requirements of the document titled *Conditions for the Acceptance of Project Archives* for long term storage and curation.

14 PUBLICATION

14.1 A report of the findings of the investigation will be presented as a condensed article to the editor of the journal *Lincolnshire History and Archaeology*. If appropriate, notes on the findings will be submitted to the appropriate national journals: *Britannia* for discoveries of Roman date, and *Medieval Archaeology* and the *Journal of the Medieval Settlement Research Group* for findings of medieval or later date.

15 CURATORIAL RESPONSIBILITY

15.1 Curatorial responsibility for the archaeological work undertaken on the site lies with the Senior Built Environment Officer, Lincolnshire County Council. They will be given notice in writing of the commencement of the project.

16 VARIATIONS

16.1 Variations to the proposed scheme of works will only be made following written confirmation of acceptance from the archaeological curator.

16.2 Should the archaeological curator require any additional investigation beyond the scope of the brief for works, or this specification, then the cost and duration of those supplementary

examinations will be negotiated between the client and the contractor.-

17 PROGRAMME OF WORKS AND STAFFING LEVELS

17.1 The trial trenching will be undertaken by team of six staff (a supervisor and five assistants experienced in this type of work). It is expected that the fieldwork would take three weeks to complete.

17.2 Post-excavation analysis and report production is expected to take twenty person days. An archaeological supervisor will undertake most of the analysis with assistance from a finds supervisor, illustrator and external specialists. External specialist time has been allocated in the project budget.

18 SPECIALISTS TO BE USED DURING THE PROJECT

18.1 The following organisations/persons will, in principle and if necessary, be used as subcontractors to provide the relevant specialist work and reports in respect of any objects or material recovered during the investigation that require their expert knowledge and input. Engagement of any particular specialist subcontractor is also dependent on their availability and ability to meet programming requirements.

Task	Body to be undertaking the work
Conservation	Conservation Laboratory, City and County Museum, Lincoln
Pottery Analysis	Prehistoric - Trent & Peak Archaeological Trust
	Roman - B Precious, Independent Specialist
	Anglo-Saxon - J Young, Independent Specialist
	Medieval and later - G Taylor, APS in consultation with H Healey, Independent Archaeologist
Non-pottery Artefacts	J Cowgill, Independent Specialist
Animal Bones	Environmental Archaeology Consultancy
Environmental Analysis	J Rackham, Independent Specialist
Human Remains Analysis	R Gowland, Independent Specialist
Radiocarbon dating	Beta Analytic Inc., Florida, USA
Dendrochronology dating	University of Sheffield Dendrochronology Laboratory

19 INSURANCES

19.1 Archaeological Project Services, as part of the Heritage Trust of Lincolnshire, maintains Employers Liability Insurance of ,10,000,000, together with Public and Products Liability insurances, each with indemnity of ,5,000,000. Copies of insurance documentation can be

supplied on request.

20 COPYRIGHT

20.1 Archaeological Project Services shall retain full copyright of any commissioned reports under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

20.2 Licence will also be given to the archaeological curators to use the documentary archive for educational, public and research purposes.

20.3 In the case of non-satisfactory settlement of account then copyright will remain fully and exclusively with Archaeological Project Services. In these circumstances it will be an infringement under the Copyright, Designs and Patents Act 1988 for the client to pass any report, partial report, or copy of same, to any third party. Reports submitted in good faith by Archaeological Project Services to any Planning Authority or archaeological curator will be removed from said planning Authority and/or archaeological curator. The Planning Authority and/or archaeological curator will be notified by Archaeological Project Services that the use of any such information previously supplied constitutes an infringement under the Copyright, Designs and Patents Act 1988 and may result in legal action.

20.4 The author of any report or specialist contribution to a report shall retain intellectual copyright of their work and may make use of their work for educational or research purposes or for further publication.

21 BIBLIOGRAPHY

Archaeological Project Services, 2000 *Desk-based assessment at land west of Woolram Wygate, Spalding, Lincolnshire (SWW00),* unpublished APS report **185/00**

Oxford Archaeotechnics, 2002 *Land west of Woolram Wygate, Spalding, Lincs.: topsoil magnetic susceptibility and magnetometer survey* unpublished report

Robson, JD, 1990 *Soils of the Boston and Spalding district*

Specification: Version 1, 22/10/2002

Appendix 2

CONTEXT SUMMARY

Each trench was allocated a continuous run of 100 contexts, the trench number forming the prefix of the sequence (e.g context numbers for Trench 2 were 200 to 299 and the context numbers for Trench 45 were 4500 to 4599).

Context No	Section No	Description	Interpretation
101	-	Unstratified finds.	-
102	12 & 13	Firm, mid to dark grey clayey silt, with occasional charcoal flecks, 0.20m thick.	Possible Romano-British occupation layer.
103	14	Firm, mixed reddish brown and grey clayey silt, with occasional small fired clay fragments, > 0.60m thick.	Fill of ditch (105).
104	14	Firm, mid - light grey clayey silt, 0.12m thick.	Fill of ditch (105).
105	14	Linear cut, > 0.60m deep and >0.180m wide, with steep sides, oriented east-west.	Ditch.
106	14 & 15	Soft, reddish brown and light grey silt, up to 0.37m thick.	Probable post-Roman alluvium.
107	15	Soft/friable, dark blackish grey clayey silt, with frequent charcoal flecks and small fired clay fragments, 0.30m thick.	Possible Romano-British occupation layer.
108	14 & 15	Firm, dark blackish grey clayey silt, with common charcoal flecks and small fired clay fragments, 0.15m thick.	Possible Romano-British occupation layer.
109	14 & 15	Sub-circular cut, *c.* 0.40m wide and 0.15m deep, with sloping sides and a rounded base.	Pit.
110	14 & 15	Sub-circular cut, *c.* 0.10m wide and 0.15m deep, with sloping sides.	Possible posthole.
111	14 & 15	Firm, light grey clayey silt, 0.03m thick.	Probable post-Roman alluvium.
112	-	Firm, mottled olive grey and red-brown clayey silt.	Pre-Roman alluvium.
113	14 & 15	Soft, mid - light grey clayey silt, 0.28m thick.	Fill of ditch (116).
114	13	Loose, mid to light reddish grey, sandy silt, with occasional small pebbles and charcoal flecks.	Fill of ditch (116).
115	13	Loose, mid to light grey silty clay.	Fill of ditch (116).
116	13	Linear cut, > 0.90m deep and >1.80m wide, with steep sides, oriented east-west.	Ditch.
117	12 &13	Firm, mottled light grey and red-brown clayey silt, > 0.35m thick.	Pre-Roman alluvium.
118	10 & 11	Loose, mid to light reddish grey silty sand, with common charcoal fragments, > 0.20m thick.	Fill of ditch (120)
119	10 & 11	Loose, mid grey to black silty clay, with occasional charcoal fragments and small rounded stones, 0.25m thick.	Fill of ditch (120).
120	10 & 11	Linear cut, > 0.60m deep and >1.80m wide, with steep sides, oriented east-west.	Ditch.
121	-	VOID.	
122	10, 11 & 12	Firm, blackish grey clayey silt, occasional charcoal and fired clay fragments, 0.20m thick.	Fill of ditch (123).
123	10, 11 & 12	Linear cut, 0.46m wide and 0.20m deep, with steep sides and a flattish base, oriented north-south.	Ditch.
124	12 & 13	Linear cut, > 0.60m deep and >1.80m wide, with steep sides, oriented east-west.	Ditch.

Context No	Section No	Description	Interpretation
125	12 & 13	Firm, mid/dark brown clayey silt, with occasional/common small stones, 0.30m thick.	Probable post-Roman alluvium.
201	59, 77 & 78	Soft/friable, dark brown clayey silt, with occasional small CBM fragments, up to 0.40m deep.	Topsoil.
202	59, 77 & 78	Firm, mid orange-brown clayey silt, 0.14m thick.	Transformed or leached alluvium.
203	59, 77 & 78	Firm, mid orange-brown silt, 0.18m thick.	Possible post-Roman alluvial deposit.
204	59, 77 & 78	Firm, mid brown clayey silt, 0.10m thick.	Possible post-Roman alluvial deposit.
205	59, 77 & 78	Firm/stiff, blue-grey clayey silt, 0.10m thick.	Gleyed alluvial deposit, probably post-Roman.
206	77	Soft, black humic silt, 10mm thick.	Shrunken peat from fresh water event, believed to be Romano-British.
207	77	Firm, blue-grey clayey silt.	Gleyed alluvium.
208	78	Soft, dark grey silt.	Fill of ditch (209).
209	78	Linear cut, 0.98m wide and 0.40m deep, with sloping sides and a rounded base, oriented east-west.	Ditch, possible medieval field boundary.
210	59	Friable, dark brown silt, with orange brown silt lenses.	Fill of ditch (211).
211	59	Linear cut, 4.40m wide and >0.60m deep, with sloping south side and a stepped/convex north side, oriented east-west.	Post-medieval field boundary/drain.
301	30 & 80	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
302	30 & 80	Firm, mid yellowish brown fine silt, with occasional small sub-rounded stones, up to 0.30m thick	Transformed alluvium - Probably post-Roman.
303	30 & 80	Firm, blue-grey clay, with rare small sub-rounded stones, up to 0.11m thick.	Probable post-Roman alluvial deposit.
304	30 & 80	Firm, mottled orange-brown fine silt (becomes clayey towards the base), with rare small sub-rounded stones, up to 1.06m thick.	Probable post-Roman alluvial deposit.
305	30 & 80	Firm/friable, dark brown/black organic silt, with rare small sub-rounded stones, *c.* 0.03m thick.	Shrunken peat layer - possibly Romano-British.
306	30 & 80	Firm, mid blue-grey clayey silt, up to 0.15m thick.	Gleyed alluvial deposit.
307	80	Firm, mottled orange-brown fine silt, with rare small sub-rounded stones, more than 1m thick.	Probable marine alluvium.
308	80	Soft, black peat/humic silt, up to 0.35m thick.	Peat layer in palaeochannel.
309	80	Firm, light-mid grey silt, up to 0.10m thick.	Alluvial deposit in palaeochannel.
401	69	Firm, dark grey-brown fine clayey silt, with common sub-rounded stones, 0.30m thick.	Topsoil.
402	69	Firm, dark brown clayey silt, 0.30m thick.	Cultivated subsoil.
403	69	Firm, dark brown clayey silt, > 0.30m thick.	Fill of ditch (404).
404	69	Linear cut, 2.90m wide and > 0.30m deep, with sloping sides, oriented east-west.	Post-medieval ditch.
405	69	Firm, blue-grey clayey silt, 0.10m thick.	Post-Roman alluvium.

Context No	Section No	Description	Interpretation
406	69	Firm, mottled orange-brown clayey silt, > 0.20m thick.	Probable post-Roman alluvium.
500	62	Loose, grey-brown silt, 0.15m thick.	Topsoil.
501	62	Firm, dark yellow-brown clayey silt, up to 0.27m thick.	Fill of (503).
502	62	Firm, very dark grey-brown peaty silt, 0.10m thick.	Fill of (503)
503	62	Linear cut, 4.80m wide and 0.37m deep, with sloping sides and an undulating base, oriented east-west.	Post-medieval field boundary ditch.
504	62	Firm, yellow-brown clayey silt, 0.10m thick.	Alluvial deposit.
505	62	Firm, yellow/grey-brown silty clay, >0.28m thick.	Alluvial deposit.
600	72	Linear cut, 1.58m wide and 0.69m deep, with steep sides and a rounded base, oriented east-west.	Probable post-medieval ditch.
601	72	Firm, mottled brownish grey and orange clayey silt, up to 0.23m thick.	Fill of ditch (600).
602	72	Firm, dark greyish brown clayey silt, up to 0.19m thick.	Fill of ditch (600).
603	72	Firm, light grey clayey silt, up to 0.30m thick.	Fill of ditch (600), or transformation of the ditch edge.
604	-	Firm, light yellowish brown clayey silt, 0.10m thick.	Subsoil – transformed alluvium.
605	-	Firm, dark greyish brown clayey silt, with occasional CBM flecks, 0.30m thick.	Topsoil.
606	-	Loose, grey silt, 0.04m thick.	Possible post-Roman alluvium.
607	-	Loose, light yellowish brown silt, > 0.44m thick.	Natural alluvium.
701	26	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
702	26	Firm, dark brown fine clay silt, with common small stones, 0.20m thick.	Subsoil - post-Saxon alluvium.
703	82	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil
704	82	Firm, light yellowish brown fine sand, up to 0.60m thick.	Probable post-Roman alluvium.
705	82	Firm, mottled light grey and light brown fine silt, up to 0.32m thick.	Probable post-Roman alluvium.
706	82	Friable, dark brown peat, up to 0.16m thick.	Peat layer, possible Romano-British horizon.
707	82	Soft, very dark grey-brown humic silt, up to 0.40m thick.	Fill of channel (708).
708	82	Linear cut, >3.0m wide and 0.60m deep, with concave sloping sides and a flattish base, oriented approximately east-west.	Palaeochannel.
709	82	Firm, mid yellowish brown silt, > 0.10m thick.	Pre-Roman alluvium.
801	27 & 81	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
802	27 & 81	Firm, dark brown fine clayey silt, with common small stones, up to 0.14m thick.	Transformed alluvium - probably post-roman.
803	81	Firm, light grey clayey silt, up to 0.14m thick.	Probable post-Roman alluvial deposit.
804	81	Soft/friable, black organic peaty silt, up to 0.16m thick.	Peat layer dipping into palaeochannel - possibly the Romano-British horizon.

Context No	Section No	Description	Interpretation
805	81	Firm, mid grey clayey silt, with occasional flecks of possible briquetage, up to 0.20m thick.	Possible Roman palaeochannel deposit.
806	81	Firm, light grey silty clay, with occasional organic flecks, > 0.12m thick.	Alluvial deposit - probably fresh water.
901	37, 42 & 43	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
902	37 & 42	Firm, mottled mid to dark brown silt, with occasional small sub-rounded stones, 0.20m thick.	Subsoil - transformed alluvium.
903	37 & 42	Firm, laminated orange-brown silt, with rare - occasional small stones, 0.20m thick.	Alluvial deposit.
904	37	Firm, yellow/orange silt, with occasional small stones, 0.40m thick.	Fill of ditch (905) - natural silting.
905	37	Linear cut, 1.80m wide and 0.90m deep, with sloping sides, oriented east-west.	Ditch.
906	42	Linear cut, 1.22m wide and 0.80m deep, with sloping sides, oriented east-west.	Ditch.
907	-	Firm, laminated orange brown silt, with occasional small stones, possible the same as (903).	Alluvial deposit.
908	40	Firm/friable, mixed orange to dark brown clayey silt, with occasional small stones and possible charcoal flecks, 0.16m thick.	Fill of pit (909).
909	40	Irregular sub-square cut, 0.48m long by 0.40m wide and 0.16m deep, with sloping sides and a flattish base.	Pit.
910	41	Linear cut, > 1.50m long by 0.58m wide and 0.59m deep, with steep sloping sides and a flat base, oriented north-south.	Ditch.
911	-	Circular cut, 2.70m wide, recorded in plan only.	Pit associated with salt making.
912	-	Oval cut, 0.50m long and 0.30m wide, cuts pit (911), recorded in plan only.	Pit.
913	39	Curving linear cut, > 5m long by 0.53m wide and 0.14m deep, with steep sloping sides and a rounded base, oriented north-south.	Ditch/gully.
914	38	Linear cut, > 6m long by 0.48m wide and 0.14m deep, with steep sloping sides and a flat base, oriented north-south.	Ditch/gully.
915	-	Firm, orange-brown fine clayey silt, with common angular briquetage fragments.	Fill (?) of pit (935).
916	-	Firm, dark grey brown fine clay silt, with occasional small stones.	Fill (?) of pit (935).
917	43	Firm/friable, mixed orange-brown burnt fine silt, with common angular briquetage fragments.	Fill of pit (935).
918	43	Firm, dark brown (burnt) fine silt, with occasional small stones, common small flecks of charcoal, and occasional angular briquetage fragments.	Fill of pit (935).
919	43	Firm, orange/red brown fine silt (matrix) with common rounded briquetage fragments.	Fill of pit (935).
920	-	Firm/plastic, mid cream-brown fine silt, with occasional small stones.	Fill of pit (935).
921	-	Firm/friable orange-brown fine silt, with occasional small sub-rounded stones (possibly same as (907).	Alluvial deposit.
922	43	Firm, mottled dark grey brown fine clayey silt, with occasional small rounded stones.	Fill of palaeochannel (939).
923	-	VOID	-

Context No	Section No	Description	Interpretation
924	-	Firm, dark brown fine clayey silt, 0.20mm wide, drops away to the north.	Possible Romano-British land surface.
925	-	Firm/slightly friable, yellow/orange-brown fine clayey silt, with occasional small stones, > 0.40m thick.	Probable post-Roman alluvium.
926	37	Firm, dark brown fine clay silt, with occasional small sub-rounded stones.	Fill of ditch (905).
927	37	Linear cut, > 0.60m wide and > 0.40m deep, with steep sides, oriented east-west.	Northern edge of post-Roman palaeochannel.
928	37	Firm, mid brown fine silt, with rare fine small stones.	Fill of (927).
929	38	Firm, mid yellow/grey-brown clayey silt, with occasional small stones.	Fill of ditch/gully (914).
930	39	Firm, light grey-brown fine clayey silt, with occasional small sub-rounded stones.	Fill of ditch/gully (913).
931	41	Firm, dark grey-brown fine clayey silt, with occasional - common small stones.	Fill of ditch (910).
932	41	Firm, mid ginger/yellow brown, fine clayey silt, with occasional small sub-rounded stones.	Fill of ditch (910).
933	42	Firm, mottled olive grey-brown fine clay silt, with occasional small stones.	Fill of ditch (906).
934	43	Firm, dark grey fine silty clay, with rare small sub-rounded stones.	Fill of pit (935).
935	43	Sub-circular or oval cut, > 2m long by 1.90m wide and >1.20m deep, with sloping sides, eroded by palaeochannel to the north.	Saltern pit.
936	-	VOID.	-
937	43	Firm, mixed dark orange and brown fine silt, with occasional small stones.	Fill of pit (935).
938	43	Firm/friable, orange/red-brown fine silt (matrix) with common sub-angular briquetage.	Fill of pit (935).
939	43	Linear cut, > 0.60m wide and > 0.50m deep, with sloping sides, oriented east-west.	Cut of Roman palaeochannel.
940	43	Firm, mid brown fine silt, with rare small stones.	Fill of palaeochannel (939).
941	43	Firm/slightly friable, yellow/orange-brown fine clayey silt, with occasional small stones, > 0.40m thick.	Probable post-Roamn alluvium.
942	-	Firm, mixed orange-brown fine silt, with frequent briguetage and burnt material.	Fill of pit (911).
943	43	Firm, mottled light grey and light yellowish brown silty clay, > 0.50m thick.	Pre-Roman alluvium.
944	43	Linear cut, > 0.60m wide and > 0.50m deep, with sloping sides, oriented east-west.	Cut of Roman palaeochannel.
945	43	Firm/friable, orange/red-brown fine silt (matrix) with common sub-angular briquetage.	Fill of pit (935).
946	43	Soft/friable, black organic peaty silt, up to 0.16m thick.	Shrunken peat layer, possibly Romano-British horizon.
1001	33 & 35	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
1002	33 & 35	Firm, dark brown fine clayey silt, with occasional/common small sub-rounded stones, 0.23m thick.	Transformed alluvium.
1003	33 & 35	Firm, mottled mid ginger/grey-brown fine silt, with rare – occasional small sub-rounded stones, 0.37m thick.	Alluvial deposit.

Context No	Section No	Description	Interpretation
1004	33	Firm, dark mottled orange/grey-brown fine silt, with rare small sub-rounded stones, > 0.30m thick.	Alluvial deposit.
1005	33	Linear cut, 6.60m wide and > 1.20m deep, with sloping sides, oriented east-west.	Palaeochannel.
1006	33	Firm, mid yellow/orange-brown fine silt, with rare – occasional small stones, 0.20m thick.	Fill of (1005).
1007	33	Firm, dark orange/grey-brown fine clayey silt, with rare – occasional small stones, 0.25m thick.	Fill of (1005).
1008	33	Firm, dark grey/black fine silt, with occasional small sub-rounded stones, 0.23m thick.	Fill of (1005).
1009	33	Firm, dark orange-brown fine clayey silt, with occasional small sub-rounded stones, 0.40m thick.	Fill of (1005).
1010	33	Firm, dark orange/grey fine silt, with occasional small stones, 0.06m thick.	Fill of (1005).
1011	33	Firm, dark orange-brown fine silt, with occasional small stones, 0.10m thick.	Fill of (1005).
1012	33	Firm, dark grey-brown fine silt, with occasional small sub-rounded stones, 0.03m thick.	Fill of (1005).
1013	33	Firm, dark grey-brown fine silt, with rare small sub-rounded stones, 0.03m thick.	Fill of (1005).
1014	33	Firm, dark brown fine silt, with occasional small sub-rounded stones, 0.40m thick.	Fill of (1005).
1015	33	Firm, dark grey-brown fine silt, with occasional small sub-rounded stones, 0.60m thick.	Fill of (1005).
1016	33	Firm/plastic, dark brown/black fine humic clayey silt, with rare small sub-rounded stones, 0.05m thick.	Fill of (1005).
1017	34	Sub-rectangular cut, with rounded corners, 0.70m long by 0.50m wide and 0.07m deep, with sloping sides and a flattish base, oriented east-west.	Pit.
1018	34	Firm/plastic, mottled orange-brown fine silt, with rare small stones, 0.02m thick.	Fill of pit (1017).
1019	34	Firm, black charcoal rich fine silt, with rare small stones, 0.02m thick.	Fill of pit (1017).
1020	34	Firm/plastic, mid orange-brown fine silt, with rare small sub-rounded stones, 0.03m thick.	Fill of pit (1017).
1021	35	Sub-oval cut, 0.77m long by 0.30m wide and 0.30m deep, with sloping sides and a rounded base, oriented north-south.	Pit.
1022	35	Firm, mottled mid grey-brown fine silt, with rare small sub-rounded stones, 0.09m thick.	Fill of pit (1021).
1023	35	Firm, black/slightly grey fine silt, with rare small stones, 0.03m thick.	Fill of pit (1021).
1024	35	Firm, mottled mid grey-brown fine silt, with rare small sub-rounded stones, 0.08m thick.	Fill of pit (1021).
1025	35	Firm, mid orange-brown fine silt (altered by secondary heating), with occasional briquetage and charcoal fragments, 0.06m thick.	Fill of pit (1021).
1026	35	Firm, black charcoal rich silt, with rare small stones and common charcoal fragments, 0.07m thick.	Fill of pit (1021).
1027	35	Firm/friable, mottled mid orange/grey-brown fine silt, with rare small stones, 0.10m thick.	Fill of pit (1021).
1028	36	Irregular cut, 1.80m long by 0.90m wide and 0.75m deep, with steep sides.	Pit.
1029	36	Firm/plastic black fine clayey silt, with occasional small stones, 0.08m thick.	Fill of pit (1028).

Context No	Section No	Description	Interpretation
1030	36	Firm, dark olive grey-brown, fine clayey silt, with occasional small sub-rounded stones, 0.44m thick.	Fill of pit (1028).
1031	36	Firm, dark grey-brown fine clayey silt, with occasional small sub-rounded stones, 0.20m thick.	Fill of pit (1028).
1101	32	Friable, very dark brown slightly sandy silt, 0.30m thick.	Topsoil.
1102	32	Firm, mid orange silt, 0.12m thick.	Alluvial layer.
1103	32	Firm, blue-grey clayey silt, 0.20m thick.	Gleyed alluvial layer.
1104	32	Firm, mid orange-brown clayey silt, > 0.20m thick.	Natural (marine?) alluvium.
1201		Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.30m thick.	Topsoil.
1202		Firm, mid orange-brown sandy silt, *c.* 0.80m thick.	Post-Roman alluvium.
1203		Firm, blue-grey silt, 0.10m thick.	Probable post-Roman alluvium.
1301	20	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
1302	20	Firm, mid yellow-brown fine silt, with rare small sub-rounded stones, 0.25m thick.	Transformed alluvium.
1303	20	Firm, mid/dark brown fine silt, with occasional small sub-rounded stones, 0.35m thick.	Probable post-Roman alluvium.
1304	20	Firm, blue-grey fine clay, with rare small sub-rounded stones, 0.15m thick.	Probable post-Roman alluvium.
1305	20	Compact/friable, dark brown/black fine organic silt, with rare small sub-rounded stones, 0.11m thick.	Shrunken peat – possibly Romano-British horizon.
1306	20	Firm/plastic, mottled olive orange-brown fine silt, with rare-occasional small sub-rounded stones, > 0.20m thick.	Alluvial deposit.
1401	19	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
1402	19	Firm, mid/dark brown fine silt, with occasional small sub-rounded stones, 0.27m thick.	Transformed alluvium.
1403	19	Firm, blue-grey fine clay, with rare small sub-rounded stones, 0.11m thick.	Probable post-Roman alluvium.
1404	19	Firm/plastic, mid/dark brown fine silt, with rare/occasional small sub-rounded stones, 0.20m thick.	Probable post-Roman alluvium.
1405	19	Firm/plastic, blue-grey fine clay, with rare small sub-rounded stones, 0.11m thick.	Probable post-Roman alluvium.
1406	19	Firm/friable, dark brown/black fine organic silt, with occasional small sub-rounded stones, 0.15m thick.	Shrunken peat – possibly the Romano-British horizon.
1407	19	Firm, mid olive-brown fine silt, with rare/occasional small sub-rounded stones, > 0.10m thick.	Alluvial deposit.
1408	19	Linear cut, 1.60m wide, oriented east-west.	Modern ditch.
1409	19	Firm, mid brown fine clayey silt, with occasional small sub-rounded stones, common glass and asbestos fragments, not excavated.	Fill of ditch (1409).
1500	73, 74 & 76	Firm, mid greyish yellow-brown, clayey silt, with occasional small stones, 0.25m thick.	Topsoil.
1501	73, 74 & 76	Firm, mixed mid yellow-brown and grey silty clay, 0.20m thick.	Transformed alluvium.
1502	73, 74 & 76	Firm, mottled light grey and brown fine silt, with occasional charcoal flecks, 0.11m thick.	Alluvial layer.

Context No	Section No	Description	Interpretation
1503	73	Firm, mid – dark grey silt, with moderate charcoal and occasional briquetage flecks, 0.13m thick.	Fill of (1504).
1504	73	Linear cut, 1.20m wide and 1m deep, with sloping sides and a slightly rounded base.	Probable ditch.
1505	73, 74 & 76	Firm, mid yellowish brown clayey silt, 0.22m thick.	Transformed alluvium.
1506	73, 74 & 76	Firm, light – mid reddish brown fine sandy silt, > 0.25m thick.	Natural alluvium.
1507	76	Firm, mixed mid yellow-brown and grey silty clay, 0.45m thick.	Fill of (1511).
1508	76	Firm, dark grey-brown peat, 0.25m thick.	Fill of (1511).
1509	76	Firm, light grey-brown clay, 0.11m thick.	Fill of (1511).
1510	76	Firm, light grey to grey-brown clayey silt, > 0.37m thick.	Fill of (1511).
1511	76	Linear cut, 2m wide, with sloping sides, oriented east-west.	Ditch.
1512	74	Firm, mottled light grey and brown fine sandy silt, 0.10m thick.	Alluvial layer.
1513	74	Firm, mid – dark grey fine clayey silt, with common charcoal and briquetage fragments, and occasional bone fragments (some burnt), 0.27m thick.	Fill of (1514).
1514	74	Linear cut, 1.7m wide and 0.50m deep, with sloping sides and a rounded base, oriented approximately north-south.	Ditch.
1515	74	Firm, light reddish brown-grey fine silt, with common charcoal and briquetage fragments, 0.15m thick.	Fill of (1514).
1516	74	Firm/friable, light - mid reddish pink silt and briquetage, with occasional charcoal fragments, 0.08m thick.	Fill of (1514).
1517	74	Firm, mid – dark grey ashy silt, with common charcoal and occasional briquetage fragments, 0.08m thick.	Fill of (1514).
1601	68	Firm, dark grey-brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
1602	68	Firm, mid orange-brown clayey silt, 0.40m thick.	Fill of ditch (1604).
1603	68	Firm, dark grey-brown fine clayey silt, with common sub-rounded stones, > 0.80m thick.	Fill of ditch (1604).
1604	68	Linear cut, 3.0m wide and > 0.80m deep, with sloping sides, oriented east-west.	Post-medieval ditch.
1605	68	Firm, mid orange-brown clayey silt, 0.20m thick.	Transformed alluvium.
1606	68	Firm, blue-grey clayey silt, 0.10m thick.	Post-Roman alluvium.
1607	68	Firm, mottled orange-brown clayey silt, > 0.40m thick.	Probable post-Roman alluvium.
1701	44 & 46	Soft, dark brown silt, 0.40m thick.	Topsoil.
1702	44 & 45	Firm, mottled blue and brown clay, up to 0.40m thick.	Fill of ditch (1706).
1703	44 & 45	Firm, mottled orange-brown silt, up to 0.40m thick.	Fill of ditch (1706).
1704	44 & 45	Firm, mottled/patchy blue-grey and brown-orange clayey silt, > 0.80m thick.	Fill of ditch (1706).
1705	44 & 45	Firm, blue-grey silt, 0.10m thick.	Fill of ditch (1706)/ transformation of the edge.
1706	44 & 45	Linear cut, 2.20m wide and > 0.80m deep, with steep straight sides, oriented east-west.	Ditch.

Context No	Section No	Description	Interpretation
1707	44, 45, 46 & 47	Firm, mottled orange brown and grey sandy silt, > 0.80m thick.	Natural alluvium.
1708	46 & 47	Soft, dark brown silt, up to 0.40m thick, contains a land drain.	Fill of ditch (1711).
1709	46 & 47	Firm, orange-brown silt, > 0.40m thick.	Infill of ditch (1711).
1710	46 & 47	Soft, dark brown silt, up to 0.10m thick.	Buried soil in ditch (1711).
1711	46 & 47	Linear cut, 2.70m wide and > 0.60m deep, with convex sides, oriented east-west.	Post-medieval ditch.
1712	46 & 47	Firm, blue-grey silt, 0.10m thick.	Stagnogley associated with ditch (1711).
1801	18	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
1802	18	Firm, mid brown fine silt, with rare/occasional small sub-rounded stones, 0.38m thick.	Transformed alluvium.
1803	18	Firm, mid blue-grey fine clay, with rare small sub-rounded stones, 0.20m thick.	Probable post-Roman alluvium.
1804	18	Friable, dark brown/black fine organic silt, with rare/occasional small sub-rounded stones, 0.15m thick.	Shrunken peat – possibly the Romano-British horizon.
1805	18	Firm, mid orange-brown fine silt, with rare small sub-rounded stones, > 0.20m thick.	Alluvial deposit.
1900	65	Firm, mid – dark brown silt, 0.32m thick.	Topsoil.
1901	65	Firm, mid brown – yellow-brown silt, 0.12m thick.	Transformed alluvium.
1902	65	Firm, dark brown/black humic silt, with occasional CBM fragments, 0.33m thick.	Fill of 1904.
1903	65	Firm, mid brownish grey, silt, with occasional charcoal flecks, 0.46m thick.	Fill of (1904).
1904	65	Linear cut, 2.05m wide and 0.55m deep, with steep sides and a flat base, oriented east-west.	Probable post-medieval ditch.
1905	65	Firm, light yellow-brown fine sandy silt, 0.60m thick.	Probable post-Roman alluvium.
1906	65	Firm/plastic light – mid grey clay, > 0.04m thick.	Probable post-Roman alluvium.
2001	24	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
2002	24	Firm, mid yellow-brown fine silt, with rare/occasional small sub-rounded stones, 0.20m thick.	Transformed alluvium.
2003	24	Firm/plastic, mid olive-brown fine silt, with occasional small sub-rounded stones, 0.30m thick.	Probable post-Roman alluvium.
2004	24	Firm, blue-grey fine clay, with rare small sub-rounded stones, 0.11m thick.	Possible post-Roman alluvium.
2005	24	Firm/plastic, mid olive-brown fine silt, with rare/occasional small sub-rounded stones, > 0.20m thick.	Alluvial deposit.
2100	66	Firm, mid grey-brown fine silt, with occasional sub-rounded stones, 0.32m thick.	Topsoil.
2101	66 & 67	Firm, light yellow-brown fine clayey silt, 0.18m thick.	Transformed alluvium.
2102	66	Firm, mid yellow-brown (with grey patches) silty clay, > 0.40m thick.	Possible post-Roman alluvium.
2103	67	Firm, dark reddish brown peaty silt.	Fill of (2104).
2104	67	Linear cut, > 0.45m wide and >0.35m deep, with sloping sides, oriented east-west.	Post-medieval boundary ditch.

Context No	Section No	Description	Interpretation
2201	8	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
2202	8	Firm, mid/dark brown fine silt, with rare/occasional small sub-rounded stones, > 0.50m thick.	Transformed alluvium.
2301	25	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
2302	25	Firm, mottled mid brown and blue-grey clayey silt, up to 0.40m thick.	Probable post-Roman alluvium.
2303	25	Firm, blue-grey silt, 0.02m thick.	Probable post-Roman alluvium.
2304	25	Soft, black humic clayey silt, up to 0.04m thick.	Shrunken peat, possible Romano-British horizon.
2305	25	Firm/plastic, blue-grey fine slightly clayey silt, up to 0.20m thick.	Alluvial deposit.
2306	25	Firm, orange-brown silty clay, > 0.45m thick.	Natural alluvium.
2307	25	Firm, orange sandy silt, up to 0.30m thick.	Probable post-Roman alluvium.
2308	25	Firm, blue-grey silt, 0.02m thick.	Probable post-Roman alluvium.
2400	61	Firm, mid – dark grey-brown clayey silt, 0.32m thick.	Topsoil.
2401	61	Firm, mid yellowish brown silt, 0.20m thick.	Transformed alluvium.
2402	61	Firm, mid yellowish brown silt, 0.34m thick.	Fill of (2405).
2403	61	Firm, dark grey-brown organic (peaty) silt, 0.46m thick.	Fill of (2405).
2404	61	Firm, mixed light brown and grey clayey silt, > 0.26m thick.	Fill of (2405).
2405	61	Linear cut, 1.3m wide and > 0.62m deep, with sloping sides, oriented northwest-southeast.	Ditch.
2406	61	Firm, laminated yellow and yellow-brown fine sands and silts, >0.60m thick.	Natural alluvium.
2407	61	Firm, light to mid yellow-brown silty clay, 0.1m thick.	Fill of (2405).
2501	16	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
2502	16	Firm, mid/dark brown fine clayey silt, with occasional – common small sub-rounded stones, 0.25m – 0.20m thick.	Transformed alluvium.
2503	-	Soft, dappled mid grey and mid orangey brown fine sandy silt.	Natural alluvium – probably post-Roman.
2504	16	Loose, mid grey laminated silts, with occasional rounded stones, 0.30m thick.	Fill of (2508).
2505	16	Firm, mid-light yellowish brown fine silty clay, 0.60m thick.	Fill of (2508).
2506	-	Void.	-
2507	16	Friable, mid/dark greyish black clayey silt, with occasional charcoal fragments and small gravel, > 0.10m thick.	Fill of ditch (2508).
2508	16	Linear cut, 5m wide and > 0.80m deep, with stepped sloping sides, oriented east-west.	Ditch.
2509	-	Linear cut, *c.* 1.90m wide, oriented east-west, recorded in plan.	Ditch.
2510	-	Firm, mottled/patchy blue-grey and brown-orange clayey silt.	Fill of ditch (2509).

Context No	Section No	Description	Interpretation
2511	-	Linear cut, *c.* 1.20m wide, oriented east-west, recorded in plan.	Ditch.
2512	-	Firm, dark reddish brown peaty silt.	Fill of ditch (2511).
2600	4	Firm, mid brown clayey silt, with occasional sub-angular gravel, 0.25m thick.	Topsoil.
2601	4	Soft, mid orangey brown clayey silt, with occasional small sub-rounded and angular gravel, 0.30m thick.	Transformed alluvium.
2602	4	Soft, dappled mid grey and mid orangey brown fine sandy silt.	Natural alluvium – probably post-Roman.
2603	1	Soft, light brownish grey clayey silt, with occasional charcoal flecks, 0.30m thick.	Fill of gully (2604).
2604	1	Linear cut, 0.35m wide and 0.30m deep, with steep sides and a flat base, oriented north-south.	Gully.
2605	4	Soft, mid grey sandy clayey silt, 0.06m thick.	Gleyed alluvium, possibly edge of palaeochannel.
2606	4	Firm, mottled light grey/mid brownish red clayey silt, 0.25m thick.	Alluvium, possibly edge of palaeochannel.
2607	5	Soft, mid grey clayey silt, 0.20m thick.	Fill of pit (2608).
2608	5	Irregular oval pit, 0.90m wide and 0.20m deep, with concave sides and a rounded base.	Pit.
2609	6	Sub-linear cut, 0.35m deep, with sloping sides, oriented east-west.	Possible ditch or elongated pit.
2610	6	Firm, mottled mid – dark brown and light grey-brown clayey silt, 0.13m thick.	Fill of (2609).
2611	6 & 7	Curvi-linear cut, 0.80m wide and 0.45m deep, with steep sides and a slightly rounded base, oriented east-west with a gentle curve to the northeast.	Ditch.
2612	6 & 7	Firm, mottled mid grey and red-brown clayey silt, with occasional charcoal flecks, 0.32m thick.	Fill of (2611).
2613	-	Firm, light – mid bluish grey clayey silt, 0.10m thick.	Fill of (2611).
2700	60	Friable, dark grey-brown fine sandy silt, with occasional sub-rounded stones, 0.32m thick.	Topsoil.
2701	60	Firm, light – mid yellow-brown fine sandy silt, 0.20m thick.	Transformed alluvium.
2702	60	Firm, light – mid reddish yellow-brown fine sandy silt, > 0.40m thick.	Possible post-Roman alluvium.
2703	60	Firm, mid brownish grey silt, 0.40m thick.	Fill of (2705).
2704	60	Firm, mixed light grey and reddish brown clayey silt, 0.17m thick.	Fill of (2705).
2705	60	Linear cut, 0.98m wide and 0.40m deep, with stepped sloping sides and a flat base, oriented east-west.	Probable boundary ditch.
2706	60	Firm, mid – dark greyish brown silt, with occasional small snail shells, 0.60m thick.	Fill of (2707).
2707	60	Linear cut, 1.18m wide and 0.60m deep, with steep sides and a rounded base, oriented east-west.	Probable boundary ditch.
2800	70	Firm, dark grey-brown clayey silt, with occasional flint gravel, up to 0.50m thick.	Topsoil.
2801	70	Linear cut, 3.85m wide and > 0.70m deep, with convex/stepped sides, oriented north-south.	Ditch or channel.
2802	70	Firm, mid brown silt, up to 0.65m thick.	Fill of (2801).
2803	70	Firm, dark brown silt, > 0.20m thick.	Fill of (2801).
2804	70	Firm, yellow-brown silty clay, 0.30m thick.	Subsoil – post-Roman alluvium.

Context No	Section No	Description	Interpretation
2805	70	Firm, pale grey clay, up to 0.06m thick.	Probable post-Roman alluvium.
2806	70	Firm, mixed yellow-brown and brown silty clay, > 0.26m thick.	Natural alluvium.
2900	79	Firm, dark grey-brown silt, 0.35m thick.	Topsoil.
2901	79	Firm, mid yellow-brown slightly clayey silt, 0.40m thick.	Transformed alluvium.
2902	79	Firm, dark grey-brown clayey silt, 0.14m thick.	Fill of ditch (2908).
2903	79	Firm, patchy light grey/yellow and brown clay, 0.08m thick.	Fill of ditch (2908).
2904	79	Firm, dark reddish brown silt, 0.08m thick.	Fill of ditch (2908).
2905	79	Firm, patchy light grey/yellow and brown clay, 0.18m thick.	Fill of ditch (2908).
2906	79	Firm, dark reddish brown silt, 0.15m thick.	Fill of ditch (2909).
2907	79	Firm, patchy light grey/yellow and brown clay, 0.20m thick.	Fill of ditch (2909).
2908	79	Linear cut, 1.30m wide and 0.45m deep, with steep sides and a rounded base, oriented east-west.	Ditch re-cut.
2909	79	Linear cut, 1.30m wide and >0.50m deep, with steep sides, oriented east-west.	Probable post-medieval boundary ditch.
2910	-	Firm, mottled orange brown and grey sandy silt, > 0.80m thick.	Natural alluvium.
3001	3	Friable/compact, dark brown fine clayey silt, with common small sub-rounded stones, 0.11m thick.	Topsoil.
3002	3	Firm, dark grey-brown clayey silt, with occasional small sub-rounded stones, 0.27m thick.	Subsoil.
3003	3	Firm (plastic), mid caramel brown fine silt, with rare – occasional small sub-rounded stones, > 0.20m thick.	Alluvial deposit, probably post-Roman.
3101	23	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
3102	23	Firm, mid brown fine silt, with rare - occasional small sub-rounded stones, up to 0.40m thick	Transformed alluvium - probably post-Roman.
3200	64	Firm, dark brown silt, 0.34m thick.	Topsoil.
3201	64	Firm, mid yellow-brown silt, with occasional charcoal and ash, 0.54m thick.	Transformed alluvium.
3202	64	Firm, mid grey-brown silty clay, with occasional iron pan flecks and mussel shell fragments, 0.25m thick.	Fill of ditch (3204).
3203	64	Firm/plastic, mottled mid yellowish brown-grey clay, with common iron flecks and small snails, 0.58m thick.	Fill of ditch (3204).
3204	64	Linear cut, 1.21m wide and 0.64m deep, with steep (near vertical) sides and a flat base, oriented east-west.	Ditch.
3205	-	Firm, mid yellow-brown silt, with occasional charcoal and ash, recorded in plan only.	Fill of ditch (3206).
3206	-	Linear cut, 2.8m wide, recorded in plan only.	Ditch.
3207	64	Firm, mid red-brown fine sandy silt, > 0.10m thick.	Natural alluvium.
3208	-	Firm, mid greyish reddish brown silt, > 0.10m thick.	Natural alluvium/ palaeochannel deposit.
3209	-	Firm, mottled light reddish brown and grey clayey silt, > 0.1m thick.	Natural alluvium/ palaeochannel deposit.
3210	-	Firm, mottled light grey and reddish brown fine silt, with occasional shell fragments, > 0.10m thick.	Natural alluvium/ palaeochannel deposit.

Context No	Section No	Description	Interpretation
3211	-	Firm, mid red-brown silty clay, > 0.10m thick.	Natural alluvium/ palaeochannel deposit.
3212	-	Firm, light-mid yellowish brown silty clay, > 0.10m thick.	Natural alluvium/ palaeochannel deposit.
3213	64	Firm, mid grey silt and fine sand, 0.12m thick.	Alluvial layer.
3301	28	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
3302	28	Firm, mid/dark brown fine silt, with rare/occasional small sub-rounded stones, >0.20m thick.	Transformed alluvium.
3401	2	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
3402	2	Firm, mid/dark brown fine silt, with rare/occasional small sub-rounded stones, >0.50m thick.	Transformed alluvium.
3500	63	Friable, mid-dark brown silt, with common grit and small stones, 0.35m thick.	Topsoil.
3501	63	Firm, mid yellowish brown silt, with occasional charcoal and occasional small stones, 0.25m thick.	Subsoil/transformed alluvium.
3502	63	Firm, mid greyish yellowish brown silt, with occasional shell and charcoal fragments, 0.50m thick.	Fill of ditch (3504).
3503	63	Firm, mottled mid grey and reddish brown clayey silt, with occasional CBM fragments, > 0.22m thick.	Fill of ditch (3503).
3504	63	Linear, 2.09m wide and > 0.68m deep, with steep sides, oriented east-west.	Post-medieval ditch.
3505	63	Firm, mottled mid reddish brown and grey fine sand and silt, > 0.30m thick.	Probable post-Roman alluvium.
3601	9	Firm/friable, dark brown fine clayey silt, with common sub-rounded stones, 0.34m thick.	Topsoil.
3602	9	Firm/plastic, mid brown (caramel) fine slightly clayey silt, with rare small sub-rounded stones, > 0.30m thick.	Transformed alluvium.
3701	17	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
3702	17	Firm, mid/dark brown fine silt, with occasional/common small sub-rounded stones, 0.40m thick.	Transformed alluvium.
3703	17	Firm, mid blue-grey fine clay, with rare small sub-rounded stones, 0.11m thick.	Gleyed alluvium.
3704	17	Firm, dark orange-brown fine slightly clayey silt, with rare-occasional small sub-rounded stones, > 0.20m thick.	Natural alluvium, probably post-Roman.
3801	21 & 31	Loose, dark grey – black humic peaty silt, with occasional small stones, up to 0.30m thick.	Cultivated topsoil.
3802	21	Firm, mid – light brown fine silty clay, with occasional small stones, up to 0.40m thick, formed by spading machine.	Cultivated subsoil.
3803	31	Loose, mid – dark grey fine silty sand, with occasional shell fragments and small pebbles, 0.70m thick.	Fill of ditch (3804).
3804	31	Linear cut, 2.40m wide and 1.00m deep, with steep concave sides and a flat base, oriented east-west.	Post-medieval ditch.
3805	21 & 22	Loose, mid to dark yellowish brown fine sandy silt.	Fill of pit (3806).
3806	21 & 22	Sub-square cut, 0.90m wide and 0.30m deep, with irregular sides and a rounded base.	Possible medieval refuse pit.
3807	21 & 31	Loose, yellowish brown fine silt, more than 0.30m thick.	Post-Saxon alluvium.

Context No	Section No	Description	Interpretation
3808	21	Loose, mid to light greyish brown fine sandy silt.	Fill of post hole (3809).
3809	21	Sub-circular cut, 0.40m wide and 0.40m deep, with steep sides and a rounded base.	Post hole.
3810	21	Loose, mid to dark grey course silt, with occasional charcoal fragments, 0.10m thick.	Transformed/cultivated alluvium.
3811	22	Loose, mid to light reddish yellow fine silty sand, 0.20m thick, appears to be heat affected.	Fill of pit (3806).
3812	22 & 31	Loose, mid to light reddish yellow sandy silt with frequent iron pan and occasional charcoal fragments, 0.10m thick.	Fill of pit (3806).
3901		Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
3902		Firm, mid/dark brown fine silt, with occasional/common small sub-rounded stones, 0.40m thick.	Transformed alluvium.
3903		Firm, mid blue-grey fine clay, with rare small sub-rounded stones, 0.11m thick.	Gleyed alluvium.
3904		Firm, dark orange-brown fine slightly clayey silt, with rare-occasional small sub-rounded stones, > 0.20m thick.	Natural alluvium, probably post-Roman.
3813	31	Firm, mid grey/light brown silty clay, with occasional rounded gravel, 0.30m thick.	Fill of ditch (3804)
4001	48	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
4002	48	Firm, mid/dark brown fine clayey silt, with occasional/common small sub-rounded stones, 0.22m thick.	Transformed alluvium.
4003	48	Firm, dark grey-brown fine clayey silt, with rare/occasional sub-rounded stones and common charcoal flecks/fragments, up to 0.14m thick.	Possible Roman occupation layer.
4004	48	Firm/plastic, mid orange/brown fine silt, with occasional small sub-rounded stones.	Natural alluvium, possible Roman ground surface.
4005	48	Linear cut, 2.80m wide and > 1.10m deep, with steep straight sides, oriented east-west.	Medieval ditch.
4006	48	Firm, dark grey fine slightly clayey silt, rare/occasional small stones, 0.11m thick.	Transformed edge of ditch (4005).
4007	48	Firm, mixed dark orange and grey fine silt, with rare/occasional small sub-angular stones, > 0.80m thick.	Infill of ditch (4005).
4008	48	Firm, mixed dark grey and orange fine silt, with occasional small sub-rounded stones, > 1.00m thick.	Infill of ditch (4005).
4009	48	Firm, mid yellow-brown fine silt, with rare small stones, up to 0.28m thick.	Final fill of ditch (4005), or transformation of the upper fills.
4010	-	Firm, dark brown fine clayey silt, with common sub-rounded stones.	Fill of ditch (4011).
4011	-	Linear cut, *c.* 2.0m wide, oriented east-west, recorded in plan.	Post-medieval ditch.
4100	51	Firm, dark grey silty clay, 0.30m thick.	Topsoil.
4101	51	Loose, mid yellowish brown gritty silt, up to 0.53m thick.	Transformed alluvium/ post-Saxon alluvium.
4102	51	Loose, pale yellowish grey-brown silt, up to 0.37m thick.	Fill of ditch/channel (4103).

Context No	Section No	Description	Interpretation
4103	51	Linear cut, > 3.78m wide and > 0.45m deep, with sloping sides, oriented approximately east-west.	Ditch or channel.
4104	51	Firm, dark grey silty clay, 0.06m thick.	Possible Roman ground surface.
4105	51	Firm, pale grey clay, with patches of yellow silt, > 0.27m thick.	Natural alluvium.
4106	-	Firm, very dark grey-brown peaty silt, 0.10m thick.	Fill of ditch (4107).
4107	-	Linear cut, *c.* 2.10m wide deep, oriented east-west, recorded in plan.	Post-medieval ditch.
4201	49	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
4202	49	Firm, dark brown fine clayey silt, with occasional/common small sub-rounded stones, 0.20m thick.	Subsoil/transformed alluvium.
4203	49	Firm, black fine organic silt, with occasional small rounded stones, 0.09m thick.	Possible Roman occupation layer.
4204	49	Firm, dark grey fine silt, occasional small sub-rounded stones, 0.20m thick.	Gleyed alluvium, possible Roman ground surface.
4205	49	Linear cut, 2.60m wide and > 1.00m deep, with steep sides, oriented east-west.	Ditch.
4206	49	Firm, dark grey fine silt, with rare small stones, 0.20m thick.	Fill of ditch (4205), natural silting.
4207	49	Firm, mixed dark orange and grey-brown fine silt, with occasional small stones, > 0.70m thick.	Infill of ditch (4205).
4208	49	Firm, mottled dark orange-brown, slightly clayey fine silt, with occasional small stones, 0.35m thick.	Final fill of ditch (4205), or transformation of the upper fills.
4209	-	Unstratified finds.	-
4301	52	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
4302	52	Firm, dark brown fine clayey silt, with common sub-rounded stones, > 0.40m thick.	Fill of ditch (4303).
4303	52	Linear cut, > 1.90m wide and > 0.40m deep, with sloping sides, oriented east-west.	Post-medieval ditch.
4304	52	Firm, pale orange-brown sandy silt > 0.40m thick.	Natural alluvium.
4400	71	Loose, mid brown silty clay, 0.20m thick.	Topsoil.
4401	71	Firm, mid yellow-brown silty clay, 0.15m thick.	Subsoil/transformed alluvium.
4402	71	Firm, mid grey silt, 0.10m thick.	Possible post-Roman alluvium.
4403	71	Firm, mid yellow-brown sandy silt, with common grit, 0.18m deep.	Fill of ditch (4409).
4404	71	Firm, mid grey silty clay, 0.10m thick.	Fill of ditch (4409).
4405	71	Loose, dark grey silt, with occasional/common briquetage fragments, 0.10m thick.	Fill of ditch (4409).
4406	71	Loose, pale yellow silt, 0.05m thick.	Fill of ditch (4409).
4407	71	Firm, mottled mid grey and yellow silty clay, 0.10m thick.	Fill of ditch (4409).
4408	71	Loose, dark grey silt, with occasional/common briquetage fragments, 0.20m thick.	Fill of ditch (4409).
4409	71	Linear cut, 2.30m, wide and > 0.90m deep, with steep sides.	Ditch, probably Roman.
4410	71	Firm, yellow-brown silt.	Natural alluvium.
4500	50	Firm, dark reddish brown clayey silt, 0.30m thick.	Topsoil.

Context No	Section No	Description	Interpretation
4501	50	Firm, mottled light yellowish brown and light grey clayey silt, with occasional snail shells, > 0.92m thick.	Fill of ditch (4502).
4502	50	Linear cut, 2.43m wide and > 0.92m deep, with steep sides, oriented east-west.	Ditch.
4503	50	Firm, light yellowish brown (mottled grey) silt, > 0.20m thick.	Natural alluvium.
4504	-	Firm, dark reddish brown clayey silt, with occasional shell fragments, recorded in plan.	Fill of ditch (4505).
4505	-	Linear cut, 1.90m wide, oriented east-west, recorded on plan.	Post-medieval ditch.
4506	-	Firm, dark reddish brown clayey silt, recorded in plan.	Fill of ditch (4507).
4507	-	Linear cut, 2.25m wide, oriented east-west, recorded in plan.	Post-medieval ditch.
4601	-	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.40m thick.	Topsoil.
4602	-	Firm, mottled/patchy blue and orange-brown, sandy silt, recorded in plan.	Fill of ditch (4603)
4603	-	Linear cut, 2.40m wide, oriented east-west, recorded in plan.	Ditch.
4604	-	Firm, dark brown fine clayey silt, with common sub-rounded stones, recorded in plan.	Fill of ditch (4605).
4605	-	Linear cut, 3.40m wide, oriented east-west, recorded in plan.	Post-medieval ditch.
4606	-	Firm, orange-brown sandy silt.	Natural alluvium.
4701	55 & 56	Firm, dark brown fine clayey silt, with common sub-rounded stones, 0.30m thick.	Topsoil.
4702	54, 55 & 57	Firm, mottled/patchy grey-brown and orange silt, up to 0.40m thick.	Fill of gully (4703).
4703	54, 55, 57 & 58	Curving linear, > 5.5m long by up to 0.7m wide and 0.40m deep, with concave sloping sides and a rounded base, oriented north-south – curves to southeast with a terminus at the southeast end.	Undated gully.
4704	53 & 55	Firm, grey-brown silt, up to 0.12m thick.	Fill of gully (4705).
4705	53 & 55	Curving/angled linear, 0.28m wide and 0.18m deep, with concave sloping sides and a rounded base, oriented northeast-southwest, turns to west at southwest end.	Undated gully.
4706	56	Firm, mottled blue and orange sandy silt, up to 0.24m thick.	Fill of channel (4707).
4707	56	Linear cut, 2m wide and 0.24m deep, with sloping sides and a slightly rounded base, oriented northeast-southwest.	Creek channel.
4708	55 & 56	Firm, orange silty sand, > 0.30m thick.	Natural alluvium.

Abbreviations:

CBM – Ceramic Building Material.

Appendix 3

The Late Iron Age and Roman Pottery from Spalding, Woolram Wygate (SWW02) for - APS

B J Precious Late Iron Age and Roman Pottery Consultant

25/02/03

The pottery has been recorded according to the Study Group for Roman Pottery (SGRP) guidelines, using codes currently in use by the City of Lincoln Archaeology Unit (CLAU), with sherd count and weight as measures. (See also the basic ceramic archive sww02.xls).

Introduction and Dating

The site produced a small amount of pottery from a range of trenches (**1, 7, 9-10, 15, 17 26, 32,40** and **44**) consisting of **188** sherds weighing **2633** grams. The assemblage ranges in date from the late Iron Age to the mid- 4th century (see Table 1, below). Late Iron Age pottery, consisting of hand made, shell-tempered wares with curved and a lid-seated rim was only found in Trench 15. Although sherds from a single vessel in an Iron Age gritty fabric of late Iron Age to early Roman date came form Trench 17.

The largest group came form Trench 1. Most of the contexts produced less than five sherds, and are consequently broadly dated to the 3rd century, although some fabrics are in use from the later 2nd. The largest groups from this trench, **101** and **122,** contained pottery of late 3rd and 4th century date – the latest being lightly rilled sherds of South Midlands shell-tempered ware.

The broad, later 2nd to 3rd and 3rd century dating for Trenches **7-10, 26** and **32** is based on the presence of Nene Valley grey and colour-coated wares. On the other hand, Trenches **40-44**, produced pottery that is clearly 4th century in date, mainly Nene Valley bowls and dishes.

Table 1- The date-range of the Late Iron Age and Roman pottery by trench contexts, sherd count and weight

Date-range	Trench	Context	Sherds	Weight
L3-4C	1	101	42	676
M2-E3	1	102	1	3
L2-3C	1	103	3	22
RO	1	104	1	5
3C	1	107	3	40
3C+	1	108	5	65
ML3C	1	114	6	74
2-3C+	1	115	1	183
L3C+	1	118	14	93
4C	1	122	20	203
STOTAL			**96**	**1364**
L2-3C	7	707	1	30
L2-3C	9	902	2	19
3C+	9	922	1	41
3C	9	926	3	40
L2-3C	9	930	1	13
3C	9	931	9	74
STOTAL			**16**	**187**
L2-3C	10	1030	2	27

L2-3C	10	1031	2	2
STOTAL			**4**	**29**
LIA	15	1503	3	8
LIA	15	1513	9	43
LIA	15	1515	2	34
LIA	15	1516	1	41
STOTAL			**15**	**126**
LIA-EROM	17	1705	5	102
2C	26	2603	1	6
1-3C	32	3210	1	22
4C	40	4003	4	22
4C	43	4209	12	267
L2-3C	44	4402	2	49
L3-M4C		4403	15	183
L2-E3C		4404	16	246
STOTAL			**33**	**478**
TOTAL			**188**	**2633**

Condition

There is little abrasion on the material, but a fair proportion of the shell-tempered wares have leached inclusions, especially the Iron Age sherds from Trench 15. Burning and sooting is noticeable on the exterior of several vessels, including Nene Valley grey and colour-coated wares, as well as shell-tempered pottery, the result of cooking. Three shell-tempered vessels show signs of burning on the interior, a trait more common on Iron Age and Saxon wares, but also occasionally on Roman pottery. A further three vessels from Trench 1 have been burnt over the broken edge - an indication of destruction.

The average sherd weight of 14 grams, is on the lower end of the spectrum suggesting a certain amount of redistribution of the material, but there are no sherd joins from the site.

Statement of Potential

Although the assemblage is small it covers a wide area with a range of dates. Trench 15 is, perhaps, the most significant with its small but homogenous group of Late Iron Age pottery. The forms consist of two curve-rimmed types (Figure 41, Drawings 1 and 2) and one with a lid-seating (Figure 41, Drawing 3). A sherd in Iron Age gritty ware from Trench 17 is similar to that noted at Holmes Grain warehouse in Lincoln. It is somewhat unusual to find this fabric also in Spalding. These wares are usually locally made, but similar pockets of clay could be found throughout the county.

Apart from Trenches 15 and 17, the bulk of the remainder of the assemblage consists of Nene Valley products. There is a range of types with Nene Valley grey wares being the most common followed by colour-coated wares. A rare product of these kilns is a plain-rimmed dish with a heavy micaceous coating (NVMIC – Figure 41, Drawing 4). Other finewares from the site include Parchment ware, also probably produced at the Nene Valley kilns, and samian imported from Central Gaul. The relatively high presence of these wares suggests a site of quite high status.

Table 2 - The Late Iron Age and Roman fabrics by trench, sherd count and weight

Trench	Fabric	Sherds	%	Grams	%
1	GFIN	1	0.53%	2	0.08%
1	GREY	2	1.06%	29	1.10%
1	GRSAN	1	0.53%	3	0.11%
1	NAT	1	0.53%	6	0.23%
1	NVCC	13	6.91%	99	3.76%
1	NVGCC	1	0.53%	2	0.08%
1	NVGW	40	21.28%	603	22.90%
1	NVGWC	1	0.53%	4	0.15%
1	OX	1	0.53%	8	0.30%
1	PARC	1	0.53%	3	0.11%
1	SAMCG	2	1.06%	8	0.30%
1	SAMLM?	1	0.53%	7	0.27%
1	SHEL	2	1.06%	13	0.49%
1	SLSH	21	11.17%	492	18.69%
1	SMSH	8	4.25%	85	3.23%
		.	.	.	.
7	NVGW	1	0.53%	30	1.14%
		.	.	.	.
9	GREY	4	2.13%	42	1.60%
9	NVCC	1	0.53%	41	1.56%
9	NVGW	6	3.19%	52	1.97%
9	PARC	1	0.53%	3	0.11%
9	SLSH	4	2.13%	49	1.86%
10	NVCC	1	0.53%	1	0.04%
10	NVGW	1	0.53%	3	0.11%
10	PARC?	1	0.53%	1	0.04%
10	SLSH	1	0.53%	24	0.91%
		.	.	.	.
15	SHEL	3	1.60%	8	0.30%
15	SHFC	12	6.38%	118	4.48%
		.	.	.	.
17	IAGR	5	2.66%	102	3.87%
		.	.	.	.
26	NVGY	1	0.53%	6	0.23%
		.	.	.	.
32	SLSH	1	0.53%	22	0.84%
		.	.	.	.
40	NVCC	1	0.53%	8	0.30%
40	NVGW	3	1.60%	14	0.53%
		.	.	.	.
42	GREY	1	0.53%	10	0.38%
42	NVCC	4	2.13%	58	2.20%
42	NVCR	1	0.53%	9	0.34%
42	NVGW	4	2.13%	27	1.03%
42	SLSH	2	1.06%	163	6.19%
		.	.	.	.
44	NVCC	2	1.06%	44	1.67%
44	NVCR	1	0.53%	19	0.72%

44	NVGW	7	3.72%	187	7.10%
44	NVGY	1	0.53%	44	1.67%
44	NVMIC	7	3.72%	54	2.05%
44	SLSH	15	7.98%	130	4.94%
TOTAL		188	100.00%	2633	100.00%

Curiously, there are very few locally produced grey wares from the site that may have served as kitchen-to-table wares. Those used at the table are supplied by the afore mentioned Nene Valley products. Shell-tempered cooking pots manufactured in South Lincolnshire, probably at the Bourne kilns, supply the bulk of the kitchenwares. These consist mainly of curve and roll-rimmed jars and bowls together with large jar or bowls and storage vessels.

Table 3 - The Late Iron Age and Roman forms by trench, sherd count and weight in gms

Trench	Form	Sherds	%	Grams	%
1		8	4.26%	30	1.14%
1	B	1	0.53%	7	0.27%
1	B36	1	0.53%	16	0.61%
1	BD	7	3.72%	77	2.92%
1	BEV	1	0.53%	11	0.42%
1	BFL	2	1.06%	77	2.92%
1	BK	8	4.26%	50	1.90%
1	BKCUR	1	0.53%	3	0.11%
1	BTR	1	0.53%	35	1.33%
1	BWM	1	0.53%	13	0.49%
1	C	1	0.53%	4	0.15%
1	CLSD	21	11.17%	156	5.92%
1	D	1	0.53%	4	0.15%
1	DGR	1	0.53%	12	0.46%
1	J	23	12.23%	282	10.71%
1	JB	3	1.60%	39	1.48%
1	JBL	1	0.53%	28	1.06%
1	JCUR	5	2.66%	49	1.86%
1	JS	3	1.60%	327	12.42%
1	JWM	3	1.60%	108	4.10%
1	OPEN	3	1.60%	36	1.37%
		.	.	.	.
7	JCUR	1	0.53%	30	1.14%
		.	.	.	.
9	BWM	1	0.53%	7	0.27%
9	CLSD	4	2.13%	73	2.77%
9	J	6	3.19%	56	2.13%
9	JBK	3	1.60%	24	0.91%
9	JBROL	1	0.53%	14	0.53%
9	JCUR	1	0.53%	13	0.49%
10	BK	1	0.53%	1	0.04%
10	BK?	1	0.53%	1	0.04%
10	CLSD	1	0.53%	3	0.11%
10	JBL	1	0.53%	24	0.91%
		.	.	.	.

15	J	1	0.53%	41	1.56%
15	JCUR	12	6.38%	51	1.94%
15	JLS	2	1.06%	34	1.29%
		.	.	.	.
17	J	5	2.66%	102	3.87%
		.	.	.	.
26	J	1	0.53%	6	0.23%
		.	.	.	.
32	JBL	1	0.53%	22	0.84%
		.	.	.	.
40	B	1	0.53%	8	0.30%
40	BK	2	1.06%	5	0.19%
40	CLSD	1	0.53%	9	0.34%
42		2	1.06%	11	0.42%
42	B	2	1.06%	50	1.90%
42	BK	2	1.06%	11	0.42%
42	BMR	1	0.53%	8	0.30%
42	CLSD	1	0.53%	10	0.38%
42	JBK	2	1.06%	9	0.34%
42	JBL	1	0.53%	160	6.08%
42	JUG	1	0.53%	8	0.30%
44		2	1.06%	2	0.08%
44	B36	1	0.53%	43	1.63%
44	BD	1	0.53%	15	0.57%
44	BTR	2	1.06%	58	2.20%
44	DGR	7	3.72%	54	2.05%
44	F	1	0.53%	19	0.72%
44	J	15	7.98%	165	6.27%
44	JB	2	1.06%	12	0.46%
44	JNN	1	0.53%	101	3.84%
44	JS	1	0.53%	9	0.34%
	TOTAL	188	100.00%	2633	100.00%

Further work

The moderate, but varied shell-tempered wares would benefit from further analysis to isolate the precise sources as part of a larger study of shell-tempered wares in the county of Lincolnshire. Four vessels have been selected for drawing for both dating and intrinsic value.

Storage and Curation

The pottery should be retained for further study, and the friable, probable Iron Age sherds should be stored in acid free tissue.

Archive of the SWW02 Roman pottery.

CONTEXT	FABRIC	FORM	DEC	NO VESS	DWGNO	ALTER	COMMENTS	JOIN	SHERDS	WT
101	GREY	J				LEACH	BS BASAL CLAY PELLETS LEACHED		1	16
101	NAT	J	WM?				BASE SANDY		1	6
101	NVCC	B36				WORNIN	BS BASAL;WHT FAB		1	16
101	NVCC	BK					BS WHT FAB		1	4
101	NVCC	CLSD					BS ORNGE LFAB		1	6
101	NVCC	DGR					RIM GIRTH WH FAB		1	12
101	NVGW	BD					BASE BS		2	16
101	NVGW	BD				VABR	FTRG		1	12
101	NVGW	BEV					RIM NECK; DK GRY		1	11
101	NVGW	BFL					RIM LWR WALL		1	60
101	NVGW	BFL				VBURNT	RIM LWR WALL		1	17
101	NVGW	BK					FTN NARROW		1	34
101	NVGW	BTR					RIM LWR WALL		1	35
101	NVGW	CLSD					BSS		11	104
101	NVGW	JWM					RIM		1	56
101	NVGW	OPEN				BURNTE	BS BASAL		1	9
101	OX	JB				VABR	RIM		1	8
101	SAMCG	C					FTRG PROB 33		1	4
101	SAMCG	D					BASE		1	4
101	SLSH	J		1		BURNT	BASE BSS LEACH		6	76
101	SLSH	JB				LEACH	RIM FRAG		1	4
101	SLSH	JCUR				LEACH	RIM NECK		1	12
101	SLSH	JS		1			RIM BS CF BOURNE		2	144
101	SLSH					LEACH	BSS		2	10
101	ZDATE						L3-4C			
101	ZZZ						FRAG STONE; SOME MIX?			
102	NVCC	BKCUR					RIM		1	3
102	ZDATE						M2-E3			
102	ZZZ						NVCC ONLY			
103	GREY	BWM					BS; EARLY TYPE		1	13
103	GRSAN	J					BS		1	3
103	NVGW	J					BS		1	6
103	ZDATE						L2-3C			
104	SLSH	CLSD				LEACH	BS PUNC		1	5
104	ZDATE						RO			

107	NVGW	JWM					RIM NECK		1	31
107	NVGWC	CLSD	B				BS BURNISH EXT;BODY GROOVE		1	4
107	SHEL	CLSD				LEACH	BS		1	5
107	ZDATE						3C			
108	NVGW	J					BS		1	6
108	NVGW	JB					BS GRY CORE;PITED		1	27
108	NVGW	JCUR		1		BURNTE	RIM FLAKE		3	32
108	ZDATE						3C+			
114	NVCC	BK				ABR	FLAKE;WHT FAB		1	1
114	NVGW	BD					BASE		1	10
114	NVGW	BK					BS		1	2
114	NVGW	J				VABR	BASE; NARROW STRING		1	34
114	NVGW	JWM				ABR	RIM		1	21
115	ZDATE						2-3C+			
115	ZZZ						SLSH JS ONLY;PROB 3C			
118	NVCC	BD					BASE WHT FAB		1	20
118	NVCC	BD					BS;WHT FAB		1	3
118	NVCC	BK					BS;GRY FAB		1	3
118	NVCC	CLSD					FLAKE;WHT FAB		1	2
118	NVGCC	BK					BS		1	2
118	NVGW	CLSD				ABR	BS		1	5
118	NVGW					BURNT	FLAKE		1	2
118	NVGW					ABR	BS GRY FAB		1	2
118	SLSH	J		1		SOOTIN	BSS LEACHED		2	14
118	SLSH	JBL					BS PUNC		1	28
118	SLSH						BSS MISC 1 SOOT IN		3	12
118	ZDATE						L3C+			
122	GFIN	BK					BS CF PART		1	2
122	NVCC	BK					BAS LTBN FAB		1	2
122	NVCC	OPEN					BS CR FAB		1	21
122	NVGW	BD					BASE GRY CORE		1	16
122	NVGW	J	ROUZ				BS		1	31
122	NVGW	J				SOOTEX	BS THINNER		1	15
122	NVGW	JCUR					RIM		1	5
122	NVGW					ABR	FLAKE		1	4
122	PARC	CLSD	PS			ABR	BS FLAKE INT BRN STRIPE		1	3

122	SAMLM?	B					FTRG		1	7
122	SHEL	CLSD				BURNT	BS LEACH		1	8
122	SLSH	CLSD				LEACH	BS LTGRY		1	4
122	SMSH	J	RIL	1		SOOTIN	BSS VFINE RIL;LEACH BURNTEX		7	75
122	SMSH?	CLSD				BURNTIN	BS THICKER; LEACH		1	10
122	ZDATE						4C			
707	NVGW	JCUR				ABR	RIM SHLDR GROOVE;WORN EXT		1	30
707	ZDATE						L2-3C			
902	NVGW	JBK					BS		1	5
902	SLSH	JBROL					RIM NECK;SHLDR GROOVE CF BOURNE		1	14
902	ZDATE						L2-3C			
922	NVCC	CLSD					BS;WHT FAB; LARGISH VESS		1	41
922	ZDATE						3C+			
922	ZZZ						NVCC ONLY			
926	GREY	J				ABR	BS		1	10
926	NVGW	CLSD					FTM;STRING		1	14
926	NVGW	JBK					BS;THIN GRYISH		1	16
926	ZDATE						3C			
930	GREY	JCUR					RIM NECK		1	13
930	ZDATE						L2-3C			
931	GREY	CLSD				ABR	BS PITTED		1	15
931	GREY	J					BS PITTED		1	4
931	NVGW	BWM					RIM FRAG		1	7
931	NVGW	J					BS		1	7
931	NVGW	JBK					BS		1	3
931	PARC	CLSD					BS		1	3
931	SLSH	J		1		SOOTEX	BASE BSS		3	35
931	ZDATE						3C			
1030	NVGW	CLSD				VABR	BS		1	3
1030	SLSH	JBL				LEACH	BS;PUNC		1	24
1030	ZDATE						L2-3C			
1031	NVCC	BK					BS WHT FAB		1	1
1031	PARC?	BK?					BS WHT FAB POS NVCR		1	1
1031	ZDATE						L2-3C			
1503	SHEL	JCUR	HM	1	D1	LEACH	RIM PLAIN BSS;POSS FINE SHELL		3	8
1503	ZDATE						LIA			

1513	SHFC	JCUR	HM	1	D2	LEACH	RIMS BSS;PUNC		9	43
1513	ZDATE						LIA			
1515	SHFC	JLS	WF?	1	D3	LEACH	RIMS SHLDR;PUNC; AS IN	1516	2	34
1515	ZDATE						LIA			
1516	SHFC	J	WF?		D3		BASE;PUNC;AS IN	1515	1	41
1516	ZDATE						LIA			
1705	IAGR	J	WF	1			BASES;BURNT COOK; GRITTY FAB		5	102
1705	ZDATE						LIA-EROM			
2603	NVGY	J					BS		1	6
2603	ZDATE						2C			
3210	SLSH	JBL	RIL			LEACH	BS		1	22
3210	ZDATE						1-3C			
4003	NVCC	B				BURNTE	BS ABR		1	8
4003	NVGW	BK		1			BSS FRESH;ML2C?		2	5
4003	NVGW	CLSD	ROUZ			ABR	BS		1	9
4003	ZDATE						4C			
4003	ZZZ						MIX?			
4209	GREY	CLSD					BS		1	10
4209	NVCC	B					BS CR FAB		1	41
4209	NVCC	BK					BS WHT FAB		1	1
4209	NVCC	JUG					RIM TREFOIL;WHT FAB		1	8
4209	NVCC					VABR	BS CC LOST		1	8
4209	NVCR	B					RIM FRAG		1	9
4209	NVGW	BK					BASE NARROW STRING;TRIMMED?		1	10
4209	NVGW	BMR					RIM		1	8
4209	NVGW	JBK				ABR	BSS		2	9
4209	SLSH	JBL				LEACH	BASE VABR INT		1	160
4209	SLSH					LEACH	BS		1	3
4209	ZDATE						4C			
4402	NVGW	JB				ABR	BS BODY GROOVE PITTED		1	5
4402	NVGY	J				VABR	BS		1	44
4402	ZDATE						L2-3C			
4403	NVCC	B36					RIM PITTED CR FAB		1	43
4403	NVGW	BTR					RIM GIRTH		1	21
4403	SLSH	J		1		BURNT	BASES BSS BURNT COOK		13	119
4403	ZDATE						L3-M4C			

4404	NVCC						FLAKE CR FAB		1	1
4404	NVCR	F					BS BASAL		1	19
4404	NVGW	BD				BURNTE	BASE		1	15
4404	NVGW	BTR					RIM LWR WALL		1	37
4404	NVGW	JB				VABR	BS BODY GROOVES PITTED		1	7
4404	NVGW	JNN					RIM NECK CORDON		1	101
4404	NVGW						BS		1	1
4404	NVMIC	DGR		1	D4		RIMS BSS BASE		7	54
4404	SLSH	J				ABR	BS LEACH		1	2
4404	SLSH	JS				LEACH	BS		1	9
4404	ZDATE						L2-E3C			
4404	ZZZ						NICE GROUP			

Archive of theSWW02 Roman pottery recovered from the environmental samples.

CONTEXT	FABRIC	FORM	DEC	NO VESS	DWGNO	ALTER	COMMENTS	JOIN	SHERDS	WT
929	SLSH						FRAG PUNC		1	1
929	ZZZ						FROM SAMPLES <4>			
929	ZDATE						RO			
937	GREY	J					BS		1	3
937	NVGW	CLSD				ABR	BS EXT SURF PITTED		1	5
937	ZZZ						FROM SAMPLES <16>;FRAG BONE			
937	ZDATE						M2-3			
930	GREY	CLSD				SAMPLE	BSS <5>		2	3
931	GREY	CLSD				SAMPLE	BS <7>		1	1
931	NVGW	CLSD				SAMPLE	BS CHIP<7>		2	1
931	SLSH					SAMPLE	BS CHIP <7>;PUNC		2	1
1513	SHEL?		HM			SAMPLE	BSS CHIPS <11>;LEACHED		4	5
1513	NAT		HM			SAMPLE	BS <11>;ABR LEACHED		1	2
4003	NVGW	CLSD				SAMPLE	BSS <20>		2	2

Appendix 4

The Briquetage

by Elaine L. Morris

A total of 192 pieces of briquetage, weighing 2302 grammes, was recovered during the evaluation. This ceramic material, resulting from the processes involved in obtaining salt from sea water through heating, consists of sherds from containers and fragments of supports (pedestals, platforms, bars, and bricks), oven structures (floor covering slabs), and undiagnostic miscellaneous pieces (Table Briq. 1). The condition of the material is moderately good but there are no complete objects such as pedestals in the assemblage which suggests significant destruction of the remains prior to deposition in features. The container sherds are in good condition with both surfaces present on all but four sherds. The briquetage was recovered principally from pits and ditches in Trenches 9, 10, 15 and 44 (Table Briq. 2).

Method of Analysis

Each piece of briquetage was examined macroscopically and assigned to a briquetage class, general form category and broad fabric group as defined by previous research on briquetage from the Fenland area (Morris 2001, 33-63; Crosby 2001, 106-133). For the container class, the thickness of each sherd was also measured and grouped by thickness code (3, 7-9.9 mm; 4, 10-12.9 mm; 5, 13-15.9 mm); no pieces thicker or thinner than this were observed.

Fabric Groups

A rapid recording of the fabric group identified for each piece was based on the presence mainly of quartz grains, sand-sized or silt-sized, or the presence of these also with quantities of burnt out organic matter added as a tempering agent. This resulted in the identification of two broad fabric groups, Q (quartz) and V (organic temper). Amongst these two groups there were observable variations which suggest that at least three sub-types are present in the Q group (sandy, silty and silty with iron oxides) and two sub-types in the V group (commonly tempered and sparsely tempered). Petrological analysis of these sub-types is suggested for any detailed analysis of this assemblage or new material recovered from future work on the project. Correlation of confirmed sub-types to specific classes or forms of the briquetage could provide important information about the nature of the developing salt production systems in the Roman period.

For this assessment, however, only the correlation to broad fabric groups is provided here (Table Briq. 3). There is a strong distinction apparent that the structural material is dominated by the quartz fabrics group, while the containers and the supports are primarily made from organic-tempered fabrics. It is important to emphasise that there are no pieces of limestone-bearing briquetage in the assemblage, and therefore from the fabric analysis alone it is clear that the material belongs to the Fenland Briquetage Phase 2 period or later (mid-second century BC onwards) (Morris and Percival 2001, 326-7).

Classes

Four main classes of briquetage were identified in this assemblage.

Containers

There are two flat base sherds (B1), one tiny cut rim sherd (R1) and 65 body sherds (BS1/2) in this assemblage. All appear to be from trough-shaped vessels. Other than a single sherd made from a sandy fabric, the sherds are uniformly organic-tempered. The vessel walls of these containers are mainly code 4 in thickness (35 sherds), with occasional examples of code 3 (15) and code 5 (4). Because there are so few examples to measure (less than 100 sherds), it is inappropriate to use this data in comparison to the large assemblages recovered from the region.

What is most significant about the container sherds is the intensity of their use. This is apparent by the bleaching effect from the chlorine in salt. The clays used to make the fabrics of the containers normally fire to an orange-red colour in an oxidising atmosphere. However, in this assemblage and assemblages from the Early Roman period elsewhere, it has been noticed that the container sherds appear buff-white to white in colour not only on the surfaces of the sherds but also throughout the full thickness of walls of the broken sherds. It is suggested that this very striking effect indicates that the same containers were used repeatedly and that an intensity of production can be inferred from this evidence. This contrasts significantly with the occasional thin white skin or dribbles of white noticed on container sherds from salt production sites of earlier date (Briquetage Phases 1 and 1/2) (Morris 2001, 41, plate 4a; Morris and Percival 2001, 325-6).

Supports

The most distinctive aspects amongst the supports class are the infrequency of fragments of pedestals and the complete absence of stabilising spacer-clips. There are only six pieces which could be positively identified as having originated from pedestals. In contrast there are twice as many fragments of platforms, and amongst such a small assemblage it is interesting to note that both one bar and 12 fragments from a brick were identified.

This range and ratio of supports suggests that the assemblage is most likely to be similar to Briquetage Phase 3, Early Roman (Morris and Percival 2001, 327). The range of support types present is most similar to the material recovered from Morton Saltern (Crosby 2001). A much greater number of pedestals would have been expected if the salt production had been taking place during the late Iron Age period, from the second century BC to the mid-first century AD (Briquetage Phase 2).

Structural Material

More than 25% of the assemblage was identified as fragments from at least one or more saltern ovens. These ovens are a method of indirect heating of the brine in the containers placed on pedestals or most likely on platforms above the oven flues and surrounded by clay walls and clay floors. The pieces are distinctive due to either the intensity of heat which were experienced or the deluge of salt water and subsequent bleaching on their flat surfaces, as well as their thickness of structure and presence of only a single flat surface with a rough underside surface reflecting the shape of the oven pit depression.

Miscellaneous

A quarter of the assemblage consists of undiagnostic fragments which display evidence of having been associated with salt production, or as in the case of the three pieces from Trench 1 are not likely to have been associated but lie just outside a salt-working area. These may be fragments of pedestals, particularly those which are made from organic-tempered fabrics but they are so fragmented that this is very uncertain. Other fragments may well be from structures.

Distribution

The distribution of briquetage across the evaluated landscape indicates that salt production was only taking place in the western side, within an area defined by Trenches 44, 9, 10 and 15 (Table Briq. 2). The infrequency of fragments in Trench 10 and Trench 44 suggest that these locations are likely to be on the edge of a salt production zone while the density of material from Trenches 9 and 15 are likely to be in the core area of activity.

Dating

All of the evidence points to salt production taking place at this location during the Early Roman period (Briquetage Phase 3). The absence of limestone fabric material, the presence of organic-tempered material, the infrequency of pedestal supports and the presence of bars and bricks, as well as the dominance of structural material in the assemblage all favour this period of production.

Discussion

Production at this time was clearly geared towards an intensity of work, undoubtedly making far more salt than could have been consumed by local people at that time. The saltmakers at this site were engaged in production for trade or for use in a major industry requiring salt - either way they were making a great deal of salt.

Salt production at Spalding, Woolram Wygate provides an excellent opportunity to examine the development of the industry during the Roman period. To date, very few salt production sites have been carefully excavated under modern controlled conditions rather than salvage observations. This site is a vital addition to the accumulation of evidence about such a major industry in the Fenland area of Lincolnshire.

References

Crosby, A. 2001, Briquetage, in Lane and Morris (eds), 106-133.

Lane, T. and Morris, E. L. (eds) 2001, *A Millennium of Saltmaking: Prehistoric and Romano-British Salt Production in the Fenland* (Sleaford: Lincolnshire Archeology and Heritage Reports Series No 4).

Morris, E. L. 2001, Briquetage, in Lane and Morris (eds), 33-63.

Morris, E. L. and Percival, S. 2001, Briquetage, in Lane and Morris (eds), 323-341.

Table Briq. 1: Quantification of briquetage fragments by general class

CLASS	Number of pieces	Percentage by number of pieces	Weight (g) of pieces	Percentage by weight of pieces
Containers	58	30.2	259	11.3
Supports	34	17.7	734	31.9
Structural Material	51	26.6	1015	44.1
Miscellaneous	49	25.5	294	12.8
TOTAL	**192**	**100.0**	**2302**	**100.1**

Table Briq. 2: Quantification of briquetage by type and context

Trench/	CONTAINERS						SUPPORTS								STRUCTUI		MISC.		Comment
Context	Rims		Bases		Body Sherd		Pedestals		Platforms		Bars		Bricks		Slabs		Fired Clay		
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	
Trench 1																			
101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	10	no saltwork
102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	6	no saltwork
108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	5	no saltwork
Trench 9																			
902	-	-	-	-	18	79	-	-	-	-	-	-	-	-	1	16	4	33	saltern
919	-	-	-	-	9	48	3	17	14	451	-	-	1	25	-	-	6	51	saltern
926	-	-	-	-	4	17	2	10	-	-	-	-	-	-	-	-	1	3	saltern
930	-	-	-	-	1	4	-	-	-	-	-	-	-	-	-	-	-	-	saltern
931	-	-	1	16	2	9	-	-	-	-	-	-	-	-	11	92	8	52	saltern
938	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	629	-	-	saltern
Trench 10																			
1020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	edge/saltern
1025	-	-	-	-	1	6	-	-	-	-	-	-	-	-	-	-	-	-	edge/saltern
1030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	edge/saltern
Trench 15																			
1503	-	-	-	-	2	4	-	-	-	-	-	-	12	105	-	-	1	6	saltern
1510	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	-	saltern
1513	-	-	-	-	2	6	-	-	-	-	-	-	-	-	1	12	18	87	saltern
1515	-	-	1	4	1	3	-	-	-	-	-	-	-	-	-	-	2	28	saltern
1516	-	-	-	-	4	25	1	10	1	16	-	-	-	-	34	180	-	-	saltern
1517	1	2	-	-	10	34	-	-	-	-	-	-	-	-	-	-	3	9	saltern
Trench 44																			
4407	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	86	-	-	edge/saltern

Table Briq. 3: Quantification by number of briquetage fragments by class, form and fabric group

CLASS	FORM TYPE	FABRIC GROUP		TOTAL
		Q	V	
Containers				
Bases	B1	-	2	2
Rims	R1	-	1	1
Body sherds	BS1/2	1	54	55
class sub-total		**1**	**57**	**58**
Supports				
Pedestals	PD	-	6	6
Platforms	PL	1	14	15
Bars	BR	-	1	1
Bricks	BK	-	12	12
class sub-total		**1**	**33**	**34**
Structural Material				
Floor covering slabs	SLB	45	6	51
class sub-total		**45**	**6**	**51**
Miscellaneous				
Undiagnostic	FC/UC	15	24	39
class sub-total		**11**	**38**	**49**
GRAND TOTAL		**58**	**124**	**192**

Appendix 5

The Medieval Pottery Archive *by Jane Young*

Context	Cname	Sub fabric	Full name	Form type	Sherds	Vessels	Weight	Decoration	Part	Ref no	Description	Date
2704	NOTGE		Early Nottingham Green Glazed Ware	jug	1	1	14		BS		abraded; only a few spots of glaze, one cu specks	early 13th
2706	SIEG		Siegburg-type Ware	horn?	1	1	9		neck		? ID or vitrified Saintonge; ash glaze	14th to 15th
3803	TOY		Tynton Medieval Ware	jug	1	1	2		BS			late 13th to 14th
3806	SLST		South Lincolnshire Shell Tempered Ware	jar/bowl	1	1	8	incised wavy dec on int rim	rim			12th to 13th
3806	BOUA	A/B	Bourne-type Fabrics A, B and C	jug	1	1	8		BS		? ID	13th
3806	MISC		Unidentified Types	?	1	1	2		rim		possible intrusive plant pot frag	Early modern
3806	EMHM		Early Medieval Handmade Ware	globular jar	1	1	10		BS		soot int & ext	12th to 13th
3806	EMHM	Bourne	Early Medieval Handmade Ware	globular jar	2	1	29		BS		soot int & ext	12th to 13th
3806	EMHM	Bourne	Early Medieval Handmade Ware	globular jar	5	1	83		BS	vessel 1	soot ext and part int	12th to 13th
3811	EMHM	Bourne	Early Medieval Handmade Ware	globular jar	4	1	109		rim & BS	vessel 1	soot; abundant fine-med subrounded quartz	12th to 13th
4007	TOY		Tynton Medieval Ware	jug	1	1	26		LHJ			late 13th to 14th

Appendix 6

Post-medieval Pottery and Other Artefacts.
by James Albone and Gary Taylor

Recording of the pottery was undertaken with reference to guidelines prepared by the Medieval Pottery Research Group (Slowikowski *et al.* 2001) and the pottery was quantified using the chronology and coding system of the Lincolnshire ceramic type series. A total of 6 fragments of post-Roman pottery weighing 146g was recovered from 3 separate contexts. In addition to the pottery, a moderate quantity of other objects, clay pipe, brick/tile, metal and stone, comprising 14 items weighing a total of 1471g, was retrieved. Faunal remains were also collected.

Provenance
The material was recovered from a range of features including pits, ditches and spreads of occupation debris.

Most of the pottery was probably made in Staffordshire, though the black glazed earthenwares may be more local to Spalding. The clay pipes and ceramic building materials were probably also manufacture in or near Spalding.

Range
The range of material is detailed in the tables.

Table 1: Pottery

Context	Fabric Code	Description	No.	Wt (g)	Context Date
1902	BL	Red painted earthenware, black glazed	1	116	18th-early 19th century
3502	BL	Red painted earthenware, black glazed, 18th century	2	23	Early 19th century
	CRMWARE	Late creamware, early 19th century	2	5	
3503	TPW	Blue and white transfer printed tableware	1	2	19th century

All the pottery could have entered the area as manuring scatter.

Table 2: Clay pipe

Context	Description	No.	Wt (g)	Context Date
3503	Stem, bore 4/64"	1	2	19th century
3803	Bowl, Lincoln type B, bore 6/64", 1660-90	1	14	17th century
	Bowl fragment, 17th century	1	4	
4209	Stem, bore 6/64"	1	2	17th century

The complete pipe bowl from (3803) is a Lincoln type B bowl of later 17th century date (Mann 1977, 17-8).

Table 3: Ceramic building materials

Context	Description	No.	Wt (g)	Context Date
1508	Pantile	1	163	Late post-medieval
1710	Handmade brick	1	136	Post-medieval
1902	Handmade brick, 102mm wide, 57mm thick	1	393	Post-medieval
3502	Handmade brick, post-medieval	1	56	Post-medieval
	Tile, oxidized throughout, post-medieval	1	25	

Table 4: Stone

Context	Description	No.	Wt (g)	Context Date
101	Stone, encrusted with slag/metal?	1	20	
102	Fragment of quernstone Lower stone, diameter 400mm, thickness. 70mm, Approx 45% present	1	*c.*5000	Romano-British
2706	Hone	1	37	Medieval
4407	Stone cobble, burnt	1	396	

The coarse sandstone quernstone recovered from (102) was probably Spilsby sandstone. This rock type outcrops along the western foot of the Lincolnshire Wolds, although the production site for the querns is not known. The nearest outcrops to Spalding are in the Spilsby area 26km to the northeast. However, this was probably the most local source of quernstone material available to the fenland Roman sites. The quern is similar to another lower stone found at Pinchbeck Road, Spalding, which had a diameter of 480mm and was also of Spilsby type sandstone.

Part of a hone in a mica schist was retrieved from (2706). The stone for this hone is found in southern Norway and previous work on such tools has indicated they were probably used from the 11th to 13th century and, sporadically, as late as the 15th century (Tweddle 1986, 186).

Table 5: Metal

Context	Description	No.	Wt (g)	Context Date
3803	Iron horseshoe, appears to have toe clip	1	218	19th century
3805	Iron nail, square-sectioned	2(link)	5	

A section of a horseshoe was recovered from (3803) and appears to have a toeclip. This adaptation was invented in the mid 19th century (Hume 1991, 239).

Table 6: Mollusc shell

Context	Description	No.	Wt (g)	Comments
1710	Oyster shell	1	108	Complete
3502	Oyster shell	1	2	Fragment

The mollusc shells are probably food waste.

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

Documentation
There have been numerous previous archaeological investigations at Spalding, and there has been research and geophysical survey at the current investigation site. Details of archaeological sites and discoveries in the area are maintained in the Lincolnshire County Council Sites and Monuments Record.

Potential
As a moderate collection of predominantly late post-medieval to early modern material the assemblage is of limited local significance. Much of the assemblage could have entered the area in manuring scatter, which in turn suggests the land had an agricultural function in later post-medieval times.

References

Hume, I.N., 1991 *A Guide to Artifacts of Colonial America*, Vintage Books

Mann, J. E, 1977 *Finds from Parliament Street and Other Sites in the City Centre, The Archaeology of York, The Small Finds* **17/4**, CBA and York Archaeological Trust

Slowikowski, A., Nenk, B. and Pearce, J., 2001 *Minimum Standards for the Processing, Recording, Analysis and Publication of Post-Roman Ceramics*, Medieval Pottery Research Group Occasional Paper **2**

Tweddle, D., 1986 *Clay Pipes from Excavations in Lincoln 1970-74*, Lincoln Archaeological Trust Monograph Series **XV-1**, CBA and Lincoln Archaeological Trust

Appendix 7

Woolram Wygate, Spalding – SWW02
Environmental Archaeology Assessment

Introduction

Evaluation excavations conducted by Archaeological Project Services on a proposed development at Woolram Wygate, Spalding, uncovered evidence of Iron Age and Roman saltern activity and medieval activity. Twenty environmental soil samples were taken, of which 15 were submitted (Table 1), with a small collection of animal bone, for assessment.

Table 1: Samples submitted for environmental assessment

site	sample	context	volume in l.	description	Date
SWW02	1	3805	10	Pit fill	13/14th C AD
SWW02	3	926	7	Fill	3rd C AD
SWW02	4	929	18	Fill	RB c. 3rd C
SWW02	5	930	18	Fill	Late 2-3rd C
SWW02	6	908	8	Fill	RB c. 3rd C
SWW02	7	931	18	Fill	3rd C AD
SWW02	8	933	8	Fill	RB c. 3rd C
SWW02	11	1513	10	Fill	Late Iron Age
SWW02	12	919	15	Fill	RB pre 3rd C
SWW02	13	934	8	Fill	RB pre 3rd C
SWW02	14	917	17	Fill	RB c. 3rd C
SWW02	15	918	16	Fill	RB pre 3rd C
SWW02	16	937	8	Fill	RB pre 3rd C
SWW02	17	938	16	Fill	RB c. 3rd C
SWW02	20	4003	15	Layer	RB c. 4th C

Methods

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 residue and float were dried. The residues were then refloated for the efficient recovery of charred material. The dry volume of the flots was measured, and the volume and weight of the residue 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 hammerscale and prill. The residue has been retained for all samples except samples 1 and 20 because most of the residue was composed of briquetage and fired earth. The float of each sample was studied under a low power binocular microscope. The presence of environmental finds (ie snails, charcoal, carbonised seeds, bones etc) was noted and their abundance and species diversity recorded on the assessment sheet. The float was then bagged. The float and finds from the sorted residue constitute the material archive of the samples.

The individual components of the samples were then preliminarily identified and the results are summarised below in Tables 2 and 3.

Results

A number of uncharred seeds were present in three of the samples. These included seeds of *Chenopodium* sp (goosefoot/orache), *Sambucus* sp. (elder) and *Rubus* sp. (blackberry/raspberry). Other contaminants included some modern chaff and cereal debris, a splinter of glass in one sample and a little coal (all small fragments). A few modern rootlets and worm egg capsules were also present in several of the samples.

The majority of the processed samples derive from 2nd and 3rd century Romano-British contexts in Trench 9 where the archaeological evidence suggested a saltern site adjacent to a creek. The Iron Age, 4th century AD and medieval period are represented by single samples each from different evaluation trenches.

Late Iron Age

The single sample from the Iron Age was recovered from a feature in Trench 15. Archaeological finds were limited to six sherds of pottery, a little fuel ash slag and animal bone. The residue of the sample was composed almost entirely of fired earth or briquetage.

The animal bones include several fragments of sheep/goat, cattle size rib and vertebra fragments and a wood mouse. The flot is the largest from the site and in contrast to many of the other samples is composed almost entirely of wood charcoal. A single unidentifiable charred grain and one or two charred weed seeds are the only other finds.

Table 2: Archaeological finds from the samples

sample no.	context	sample vol. l.	pot no/wt g.	fired clay/ briquetage wt. g.	Fe object no.	fuel ash slag	mag-netic wt g.	hamm' rscale no.	bone wt. g.	fish bone wt. g.	marine shell wt. g.	
1	3805	10		1	2		1		13	1	<1	
3	926	7		118		+	-		7			
4	929	18	1/2	713		+	<1	1	2	<1		
5	930	18	2/3	406			<1	1	6	<1		
6	908	8		363		++	<1		<1			
7	931	18	4/4	526		++	<1	2	3			
8	933	8		174			<1		4			Splinter of glass (mod?)
11	1513	10	6/8	119		+	<1		82			
12	919	15		2787		++	1		2			
13	934	8		122		+	<1		<1			
14	917	17		2946		+	2	2	7	<1		
15	918	16		3109		+	30	1	2			
16	937	8	3/10	480			1		1	<1		
17	938	16		3077		++	7		2			
20	4003	15	2/2				<1		7			

(* frequency: 1=1-10; 2=11-50; 3=51-150 items
+ present; ++ present in abundance)

Late 2nd-3rd century Romano-British

Twelve of the samples derive from the Romano-British saltmaking activity in Trench 9. These samples all produced very similar assemblages. Sherds of Romano-British pottery were recovered from four, while small quantities of animal bone were recorded from all samples. Four of these included small fragments of fish bone. A total of seven flakes of hammerscale, recovered from five samples indicates that iron smithing may have been undertaken somewhere on the site, although not in the immediate vicinity of this trench. The residue of all twelve samples was composed almost entirely of briquetage and fired earth, while the flots of most produced some fuel ash slag. The proportion of briquetage relative to the sample size was variable with a group

of contexts (917, 918, 919, 938) producing between 170 and 200 grammes per litre of sample, whilst the remainder all produced less than 60 grammes/litre. This seems likely to reflect the type of context, with the former group perhaps being primary dumping of briquetage waste. A large magnetic component in context 918 perhaps indicates that this deposit includes debris from a hearth.

Table 3: Environmental finds from the samples

sample	context	sample vol. l.	flot vol.	char-coal $	charr'd grain *	charr'd chaff *	charr'd seed *	egg-shell wt.g.	snail *	
1	3805	10	22	1/5	4	1	3	4	3/2	Wheat, barley, rye?, mussel, legume, pea/bean, corn gromwell, grasses, hazelnut, sheep, rodent, house mouse, frog/toad, small fish
3	926	7	1	1/1	1	1	1		1/1	Wheat, cattle
4	929	18	1	2/1	1		2		1/1	Frog/toad, indet fish
5	930	18	2	2/1	1		2		1/1	Wheat, sheep, field vole, frog/toad, eel
6	908	8	5	-/2			2			
7	931	18	3	1/3	1	2	2		1/1	Wheat?, sheep, field vole, frog/toad
8	933	8	1	1/2	1	1	2		1/1	Vole, frog/toad
11	1513	10	25	3/5	1		1			Sheep, wood mouse
12	919	15	17	1/3	1	1	2		1/1	Sheep, field vole, water vole
13	934	8	1	-/2					1/1	
14	917	17	2	1/2	1		1		2/1	Sheep, small fish
15	918	16	5	-/3			2		2/1	
16	937	8	3	1/2	1	1	1		1/1	Wheat, frog/toad, indet fish
17	938	16	22	1/3			2		1/1	Water vole
20	4003	15	1	1/3	2	1	2			Wheat, barley?, legume

(* frequency: 1=1-10; 2=11-50; 3=51-150 items . $ frequency of >2mm/<2mm fractions of charcoal)

The environmental assemblages from these samples are poor. The flots are generally small but where they are larger, for instance contexts 919 and 938, this is due the presence of a large fuel ash slag component and not charred material. The quantities of charcoal in the flots are very small. A number of the samples have produced a few charred cereal grains, but never in any abundance. Chaff fragments are present in small numbers in five of the samples, while charred weed seeds occur generally in numbers above two figures, but in no samples are they abundant. A number of the samples have what appears to be small quantities of charred organic crumb suggesting that peat rather than wood may have been the fuel source for the site, or at least one of them.

The environmental finds include bones of cattle, sheep, eel, other small fish, field vole, water vole and frog or toad. Preliminary identification of the charred cereals indicates the presence of wheat, but preservation is poor and only a small number of the grains is likely to be identifiable.

4th century Roman-British

A single sample from Trench 40 has been dated to the 4th century, although a considerable quantity of residual 2nd-3rd century pottery is also present. The presence of this residual material indicates that the environmental material can only be classified as Romano-British. Archaeological finds in the sample are restricted to two sherds of pottery and a few grammes of animal bone.

The flot is very small but includes a few charred cereal grains, a little chaff and a number of weed seeds, and includes grain and seeds of wheat, barley? and a legume. The absence of any briquetage or fired earth in this layer contrasts with the other Romano-British samples from the

site, perhaps suggesting that the deposit is associated with occupation rather than salt-making activities.

13-14th century

A single sample, from context 3805 in Trench 38, has been identified as medieval in date. This is by far the richest sample from the site and includes a characteristic suite of material fairly typical of medieval fenland sites. Archaeological finds are limited including only a piece of corroded iron, a gramme of fired earth, and a few fragments of mammal and fish bone and marine shell.

The flot is however fairly rich, with large numbers of charred cereal grains and weed seeds, and a few chaff fragments. The charred botanical assemblage includes wheat, barley, possibly rye, pea/bean, legume, corn gromwell, grasses and hazelnut shell among others. Preliminary study of the bones has identified sheep, house mouse, frog/toad and small fish. The presence of house mouse is suggestive of a domestic context nearby, and the whole assemblage is consistent with a context receiving domestic rubbish.

Several of the samples produced small numbers of terrestrial snail shells. The bulk of these have been identified as *Cecilioides acicula*, a small blind snail that can burrow up to 2m depth in the soil. It is unlikely that these shells are contemporary with any of the archaeology. The next most abundant shell is *Vallonia excentrica*, a taxa typical of dry grassland habitats. This has been identified from six of the samples. The richest sample is the medieval pit fill which produced shells of *Vallonia pulchella*, *Vallonia excentrica*, *Cochlicopa* sp., *Vertigo pygmaea*, *Carychium* sp., *Lymnaea truncatula* and the aquatic snail *Anisus leucostoma*. This assemblage is characteristic of an open country/grassland habitat, although a damp or wet ground element is indicated by the presence of *Carychium*, *L. truncatula* and *A. leucostoma*. There are no estuarine species in any of the samples.

During a field visit to the site and observation of the deposits in Trench 9, and the adjoining Trenches 7 and 8, a decision was made to sample the creeks abutting the Romano-British saltern site. An initial series of samples, including a monolith sample, was taken from the creek/channel feature at the north end of Trench 9, cut 944/939, and their locations are illustrated on Fig. 25 of the archaeological report (Snee 2003). A machine was brought in to excavate a channel at the south end of Trench 7. This large machine dug sondage (Fig. 23 of the archaeological report), revealed a channel over two metres in depth and at least 5-6 metres wide, although the southern edge was not uncovered in the sondage. It is assumed that this channel was the same feature as that sampled in Trench 9, although no direct stratigraphic relationship could be drawn because the trenches were not linked.

A single monolith was used to sample the upper organic fills of this channel, layers 706 and 707. The lower fills were unexcavated but were explored using a gouge auger and the metre of deposits beneath the floor of the trench were sampled from the auger. Each 5cm unit of the core was individually sampled and the top and bottom of each 5cm unit marked so that more detailed pollen sampling could be undertaken at a future date. Two radiocarbon samples were collected, one from an upper very humified peat layer at the top of the organic sequence (706) which was overlain by intertidal sandy sediments (704 and 705) and a second from the base of the auger column. The upper sample was submitted for radiocarbon analysis for this stage of the project. A single piece of relatively unabraded Roman pottery dated to the late 2nd-3rd century AD was recovered from the floor of the trench in the base of layer 707.

The following stratigraphy was recorded within the channel fills in Trench 7.

The upper sediments in the sequence comprise light yellowish brown and mottled light brown fine silty sands (704 and 705) of marine origin overlain with a dark brown clayey silt topsoil (703) probably developed *in situ* from fine grained saltmarsh sediments subsequently reclaimed. These cover both the channel fills and surrounding sediments. The channel sequence is as follows:

Monolith – Column 2:

45-50 cm	slightly clayey dark grey (Gley N4) silt with some iron mottling
41-45	black (10YR 2/1) humified peaty silt (706) – pollen sample assessed from this level
25-45	dark grey (10YR 4/1) slightly sandy soft silt with iron stained root holes (707)
15-25	very dark brown (10YR 2/2) slightly sandy humified organic silt, a bit mixed with patches of fine sand (707)
5-15	dark grey (2.5Y 4/1) wavy laminated and compacted organic slightly sandy silt, with iron staining and some visible organics (707)
0-5	grey (2.5Y 5/1) patchy slightly sandy silts, with a sharp boundary below onto dark grey organic silts

Auger column:

97-100cm	slightly laminated dark grey organic rich silts – sherd of late 2nd-3rd century pottery
94-97	as above but becoming siltier downwards
82-94	fine grey silt with 'swirls' of organics
65-82	dark grey mixed, slightly organic silt
57-65	grey silt with organics and rootlets
49-57	dark grey somewhat mixed organic silt
47-49	sand lens
45-47	dark grey mixed organic silt
27-45	black organic silt with 'swirls' of paler grey brown silts – pollen sample assessed from this level
0-27	grey brown fine silts, with visible organics and rootlets

A single sample, 105 – the black organic silt at the top of the channel sequence, was submitted for radiocarbon dating and two samples for pollen analysis, 41-42 in the monolith and 30-31cm in the auger column. These two samples are therefore approximately 1.1 metre apart in the sequence and are referred to below as M41 and A30.

Pollen and Diatom Assessment

Rob Scaife

Introduction

Two pollen samples have been examined to assess their sub-fossil pollen and spore content, and preservation. If present, further aims were to provide a preliminary view of the local habitat of deposition and the potential of the site for a broader vegetation and environmental reconstruction. Diatom presence was also assessed since these microfossils may provide information on the freshwater or saline status of the sediments.

Method.

Standard techniques were used on samples of 2ml volume (Moore and Webb 1978; Moore *et al.* 1992). Absolute pollen frequencies were calculated using added exotics to known volumes of sample (Stockmarr 1971). Pollen was identified and counted using an Olympus biological research microscope fitted with Leitz optics. A total pollen sum/count of 150 and 400 total grains was made for sample A30 and M41 respectively.

Pollen count data are given in Table 4 with percentages calculated as follows:

Sum =	% total dry land pollen (tdlp)
Marsh/aquatic =	% tdlp+sum of marsh/aquatics
Spores=	% tdlp+sum of spores
Misc.=	% tdlp+sum of misc. taxa.

Taxonomy in general follows that of Moore and Webb (1978) modified according to Bennett *et al.* (1994) for pollen types and Stace (1992) for plant descriptions. These procedures were carried out in the Palaeoecology Laboratory of the Department of Geography, University of Southampton.

The Pollen Data

Pollen was abundant and well preserved especially in the more organic higher sample. Absolute pollen frequencies were calculated at 712,000 grains/ml for M41and 23,000 grains/ml for A30. The two samples (pollen spectra) have some differences and are characterised as follows.

Sample M41: Tree and shrub pollen are few (2% of total dry land pollen). Of these, there are only a small number of *Alnus* (alder; 1.5%) with sporadic *Pinus* (pine), and *Quercus* (oak). Herbs are dominant with Poaceae (especially important at 91% of total pollen). There is a single cereal type grain with a range of other herbs which include Chenopodiaceae (goosefoots and oraches; 4%) and Asteraceae type (daisy family).

Marsh and aquatic types comprise Cyperaceae with some, small numbers of marsh and aquatic taxa. These include *Lemna* (duckweed) and *Typha/Sparganium* type (lesser bulrush and bur reed). There were no spores of ferns present.

Sample A30: In this lower sample there are slightly larger numbers of trees and shrub pollen (5.4%) which include *Quercus* (5%) and *Corylus avellana* type (hazel; 5%). Herbs, however, remain dominant with Poaceae (62%) most important with higher values of Chenopodiaceae (16%) and *Plantago lanceolata* (ribwort plantain; 9%). Possible halophytes are present including the Chenopodiaceae noted above, plus *Aster* type (sea aster?), *Plantago maritima* (sea plantain) and possibly, large Poaceae (non-cereal types from certain salt marsh grasses). *Plantago coronopus* (hoary plantain) may be from coastal grassland.

Marsh and aquatic types include *Potamogeton* type (possibly *Triglochin*/sea arrow grass or pond weed) and Cyperaceae (sedges). This sample contrasts with M41 in having spores of *Pteridium aquilinum* (bracken), *Dryopteris* type (typical ferns) and *Sphagnum* (bog moss). Derived, pre-Quaternary palynomorphs are also present.

Discussion

Both samples show an open, locally tree-less habitat. Grass dominated communities were clearly dominant at the time both samples/sediments were deposited. Only a single grain of cereal type pollen was noted in M41. The higher sample (M41) has a greater organic content and preliminary examination of the diatoms present suggest that this was laid down in a freshwater habitat. Small numbers of Chenopodiaceae (goosefoots, oraches and glassworts) also in this sample may come from halophytic/salt marsh plants in the near region, that is, prior to later marine/brackish water transgression. However, no brackish water or marine diatoms were observed in the diatom samples suggesting that any halophytic pollen are wind transported.

Table 4. Pollen counts and percentages from the two samples

Depth cm.	A30		M41	
	Count	%	Count	%
TREES & SHRUBS				
Pinus	1	0.7	1	0.3
Quercus	7	4.8	1	0.3
Alnus	0	0	6	1.5
Corylus avellana type	7	4.8	0	0
HERBS				
Dianthus type	1	0.7	1	0.3
Chenopodiaceae	24	16.3	14	3.6
Polygonaceae undiff.	1	0.7	0	0
Polygonum aviculare type	3	2	0	0
Scrophulariaceae undiff.	1	0.7	0	0
Plantago media/major type	2	1.4	1	0.3
Plantago lanceolata	14	9.5	0	0
Plantago maritima	2	1.4	0	0
Plantago coronopus type	7	4.8	1	0.3
Galium	0	0	1	0.3
Bidens type	1	0.7	0	0
Aster type	1	0.7	0	0
Anthemis type	0	0	1	0.3
Artemisia	1	0.7	1	0.3
Cirsium type	0	0	1	0.3
Lactucoideae	7	4.8	7	1.8
Poaceae	62	42.2	354	90.5
Cereal type	0	0	1	0.3
Large Poaceae (>45u)	1	0.7	0	0
unidentified/degraded	4	2.7	0	0
MARSH/AQUATIC				
Lemna	0	0	1	0.3
Potamogeton type	1	0.7	0	0
Typha/Sparganium type	0	0	3	0.8
Cyperaceae	4	2.6	0	0
SPORES				
Pteridium aquilinum	8	5	0	0
Dryopteris type	3	1.9	0	0
Sphagnum	1	0.6	0	0

MISC.				
Pre-Quaternary/derived	17	10.4	0	0
TOTALS				
Trees		5.4		2
Shrubs		4.8		0
Herbs		89.8		98
Marsh		3.3		1
Spores		7.5		0
Misc.		10.4		0

The lowermost sample at A30 has similarly few trees with a dominance of grasses. However, the sediments are of minerogenic character and the pollen assemblages contrast with that described above with strong evidence for halophytes (goosefoots, oraches and glassworts and sea plantain and possibly sea aster). The sedimentological change from mineral sediment in A30 to organic in M41 also marks a substantial environmental change from brackish water/salt marsh sediments or alluvium to a freshwater fen or lacustrine habitat. Pre-Quaternary spores in A30 are also a function of this stratigraphical change and associated taphonomic changes giving reworked geological sediments in the more mineral lower sample. Diatoms are also present in this sample but with less abundance and diversity than the upper level. However, preliminary examination showed the importance of *Nitzschia* sp. and *Diploneis didyma*, the latter typical of brackish water conditions.

Summary and Conclusions

The following points can be made.

* Pollen, spores and diatoms are present in both samples.

* The highest sample at M41 is organic and was deposited in a freshwater habitat, possibly grass/sedge fen.

* The lower sample at A30 is minerogenic and represents a possible saline/brackish water system preceding the freshwater phase above. There is evidence of salt marsh plants and diatoms.

* Although local pollen input clearly suppresses the values of more regional elements, it is clear that there were few trees growing in the vicinity of this site.

* The change from mineral sediments to organic sediments is typical of marine/brackish water regression and changes in the pollen taphonomy.

* The upper sample (M41) contains abundant diatoms which appear to be typical freshwater taxa. The lower sample (A30) has fewer diatoms but has indications of some saline conditions.

* Given the abundance of pollen and diatoms, this site has the potential for a more detailed analysis. This would provide information on the vegetation, environment and sea level changes which occurred during the late Iron Age and Romano-British periods.

* Further analysis should be at a standard interval of 4 cm throughout the 1.5m profile with pollen counts of 400 or more grains per level (where preservation permits).

* Diatoms are present in the two samples examined, Additional samples should be analysed to provide clearer evidence of salinity changes.

* An assessment of foraminifera content may also prove useful in establishing the character of any halophyte environments.

Radiocarbon dating

The upper organic silt (706), broadly contemporary with the upper pollen sample at 41-42cm has given a date of 1810±60 BP, which when calibrated gives a Romano-British date.

Lab.no.	Measured age	Sample
Beta - 175054	1810 +/- 60 BP	SWW02-TR7-105

ANALYSIS : Radiometric-Standard delivery (bulk low carbon analysis on sediment)
MATERIAL/PRETREATMENT : (peat): acid washes
2 SIGMA CALIBRATION : Cal AD 70 to 380 (Cal BP 1880 to 1570)

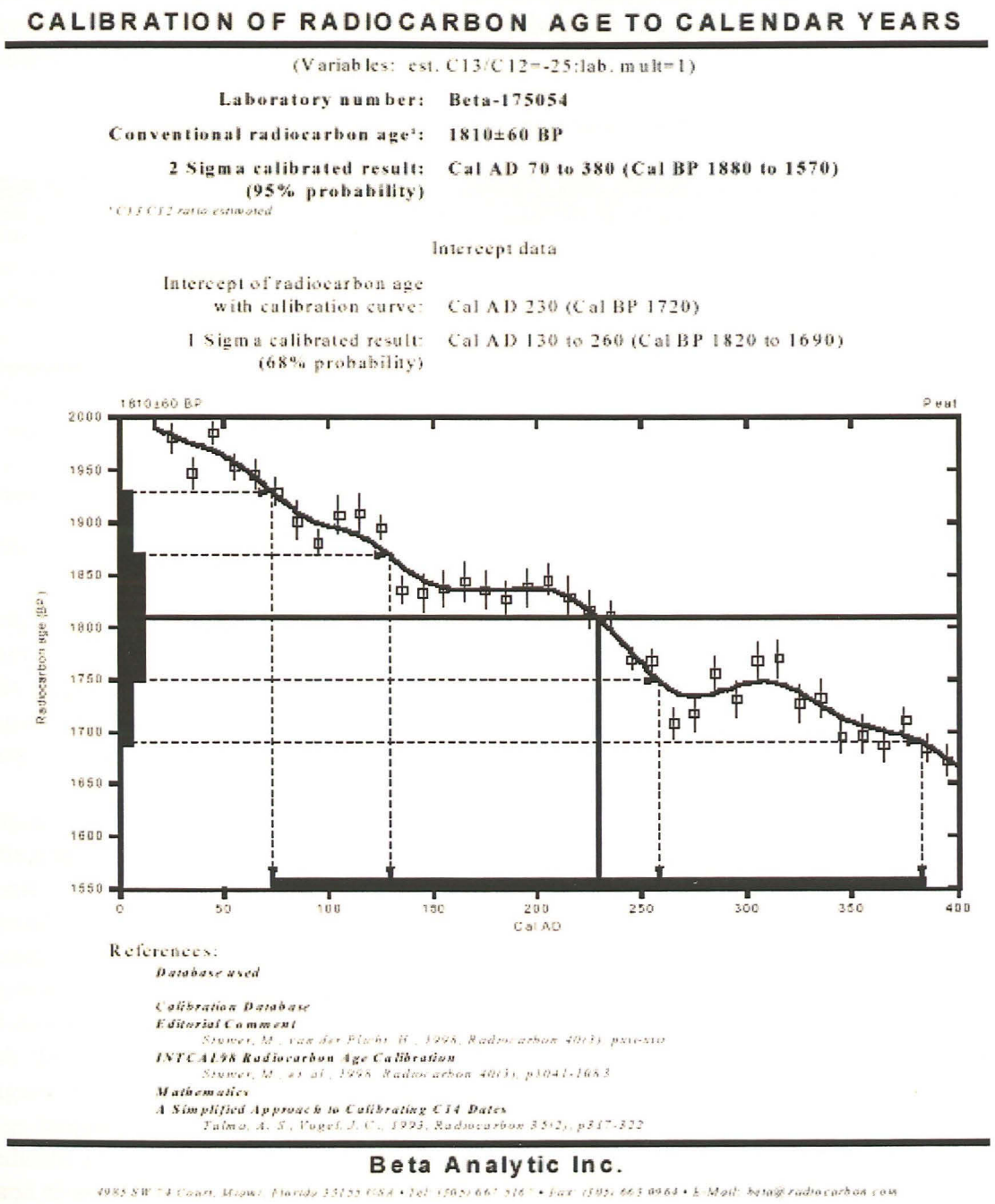


Figure 1. Calibration curve for the radiocarbon date.

Excavated Animal bone

A small collection of 151 bone fragments were recovered from the excavations at Woolram Wygate, Spalding. The bones have been identified and recorded following the procedures of the Environmental Archaeology Consultancy (see key attached to archive catalogue) and an archive catalogue produced (see Appendix). The bone is in good condition with no more than five of the fragments showing evidence for surface erosion. Eight of the bones carry evidence of dog gnawing and several have been butchered. An significant number (89 fragments) have been burnt and calcined or charred.

The fragments are summarised by date in Table 5. Bones of horse, cattle, sheep, pig and red deer have been identified. The largest group derives from the late Iron Age deposits in Trench 15, with context 1513 being the most productive.

Table 5: Frequency of fragments of different taxa in the hand recovered bone by date

species	LIA	pre L2-3rd	L2-3rd	3rd	3rd+	4th	12-13th	13-14th	Med?+rom+LIA	Med+rom	post-med	und
Cattle	5	1	2	1		3	1			1	1	2
Red deer												1
Cattle size	44		2		1	3	6					
Horse				1				2				
Sheep/goat	5			1					1	2		
Sheep	1											
Sheep size	15		2									
Pig	1		2			1						
Unidentified	37		1			2		1		2		
TOTALS	108	1	9	3	1	9	7	3	1	5	1	3

Fragmentation is very high with no more than eighteen of the fragments carrying an anatomical zone (see the key in Appendix 2). Very little comment can be made on the collection because of this fragmentation and the lack of data on the age at death of the animals. The most interesting aspect of the assemblage is the very high proportion of burnt bones. This suggests that the bones may have been habitually thrown onto the fires, perhaps even used as a fuel.

Discussion

The material in the samples reflects the saltern activities identified at the late Iron Age and 2-3rd century Romano-British sites in Trenches 15 and 9 respectively, although the briquetage in Trench 9 has been dated a little earlier (1st-2nd C AD) than the ceramics from the Trench. The quantity of briquetage and fired earth in several of the samples is very high and suggests the primary dumping of briquetage waste, while the other samples probably reflect the incorporation of this material in some quantity into most of the contemporary deposits. An abundance of fuel ash slag in many flots, combined with the presence of small amounts of amorphous charred organic crumb might indicate that peats were being used as a fuel at the saltern. The Late Iron Age sample, however, produced charcoal rather than charred organic crumb, which might either indicate a more domestic origin for the material in this sample or, perhaps, a change in the fuel used or available. The pollen sample from the lower part of the channel fill in Trench 7, perhaps contemporary with the Iron Age activity at the site, certainly shows a higher proportion of tree pollen, but this does not necessarily indicate a greater availability of local wood resources in the Late Iron Age.

The consistent evidence of a few charred cereal grains, some chaff and weed seeds suggests that the salt making activities are also associated with domestic occupation at the site, and perhaps even some agricultural activity, although Murphy (2001) considers that cereal waste may have been used as a fuel for the saltern hearths. At Woolram Wygate the densities of cereal crop processing waste are low, very much lower than Murphy found at Morton Saltern and the Bourne–Morton Canal site. The presence of wheat grains, sheep, pig and cattle bones, and possibly the smaller fish and eel bones, indicate that food was consumed at the site, but only five

bones were hand excavated from the features in Trench 9, and the charred cereal densities are very low, so it seems probable that any domestic occupation at the site was located well beyond the limits of this trench. One other industrial activity is suggested in Trench 9 by the presence of very small quantities of hammerscale which might imply iron smithing elsewhere on this site, but with only one or two flakes being present in each of the five samples it occurs in there is some possibility that these small flakes could be a more recent intrusion.

The sample of 4th century date from Trench 40 has no evidence for salt making, despite the presence of residual pottery apparently contemporary with the activity in Trench 9. This may be a contemporary occupation zone rather than an industrial area. The few bones, including cattle, and charred wheat, barley(?) and legumes indicates a broadly similar level of input of probable domestic rubbish as the Trench 9 deposits.

The one sample that is convincingly domestic in character is that from the medieval pit fill in Trench 38. It is rich in charred cereals, with wheat and barley present, has charred pea or bean and several arable weeds and hazelnut shell fragments. Bones of house mouse are present suggesting buildings nearby, while mussel shell, chicken eggshell, sheep and small fish bones reflect dietary waste. At the time this pit was dug the landscape would appear to have been habitable.

Consideration of the creek adjacent to the saltern activity in Trench 9 gives us some further clues about the landscape and the chronology. A pot sherd contemporary with the ceramics in Trench 9 was recovered from the fill of the channel at 1.06m OD, perhaps some 1.5m lower than the deposits with the ceramics in Trench 9. Although the organic fill at this level has not been analysed as yet the deposits 70 cm below at best indicate brackish water conditions, rather than saline, and those 40cm above in the channel are indicative of freshwater. A radiocarbon date of 130-260 AD (at 1 sigma), probably broadly contemporary with the ceramics on the site, from the same strata as the upper pollen sample suggests that this creek was probably not saline or tidal at the time the ceramics were deposited. However the water conditions in the creek between the deposition of the two horizons assessed for pollen, approximately 1.1m apart, may have undergone a change from brackish to saline and back to freshwater conditions so without further study this remains only a hypothesis.

There is a further complication associated with the fact that the creek edge in Trench 9 (Section 43) cuts the briquetage deposits, which are then washed into some of the creek fills. While there is no direct stratigraphic link between the fills in the channel in this section and those in the Trench 7 channel (Section 82) this does raise the possibility that the briquetage rich deposits predate the creek fills and are not perhaps directly associated with the 2nd-3rd century pottery from the excavations. Could they perhaps be earlier in date and contemporary with a time when the creek carried saline tidal water. The upper fills in the cuts (935 and 944/939) in Trench 9 are at an appreciably higher level than those sampled in the channel in Trench 7 which suggests that this cut and its associated creek, could be much later than the deposits with briquetage, and also those in the channel in Trench 7, although there has been a broad assumption that the black organic horizon revealed in several trenches, represented by layers 946 and 706 in Trenches 9 and 7, is contemporary across the site. Without the resolution of the stratigraphic relationship between the cuts in Trench 9 and the channel in Trench 7 an interpretation of the limited palaeoenvironmental evidence so far collected from Trench 7 in terms of the archaeology of Trench 9 is not possible although a sequence can be suggested. This is as follows:

The briquetage may be contemporary with the basal sediments of the creek sampled in Trench 7 at a time when this creek was tidal, and if the dating of the briquetage is correct this would be 1st-2nd century AD. The creek then re-cut its bank, cutting into the briquetage deposits and re-working some of the briquetage into the creek fills. This occurred in the 2-3rd century AD at a time when the creek had ceased to be tidal but Romano-British activity was still occurring on the site. The creek continued to infill in freshwater conditions and finally an organic peat formed in the hollow of the infilled creek. The time period for this seems short since the organic horizon suggests a C14 date no later than the 4th century, a period when Romano-British activity is attested elsewhere on the site. The deposits are then covered by marine silty sands indicating a marine transgression in the late Roman or post-Roman period. A stratigraphically similar organic horizon at Holland Park, one and a half kilometres south of Woolram Wygate has been dated to cal. AD 530- 680 at 2 sigma (Beta 143278) (Rackham *et al* 2000) suggesting that the marine transgression may have occurred after the 7th century. Finally 13-14th century 'domestic' rubbish in a pit at the east end of the site clearly indicates that by this period the landscape was again habitable and free from the sea. The Late Iron Age ceramics and briquetage from Trench 15, a little east of Trench 9, represents activity pre-dating the Romano-British sequence and indicates that the whole site includes archaeological sites that reflect the saltmarsh and terrestrial environments on the site during a period of over 1300 hundred years during which there is evidence for two marine transgressions and two regressions, although the latest regression may result from the construction of artificial sea defences.

While this interpretation appears to be sustained by the information from the evaluation, and the detailed study of the samples collected from both Trenches 9 and 7 and their radiocarbon dating may further assist and support it, the linking of these two areas by physical excavation is the only reliable way of resolving the chronological sequence and the relative contemporaneity of the deposits in each trench.

While this assessment indicates that the detailed analysis of the palaeoenvironmental samples will be of importance for understanding local changes in the environment of the site, the impact or otherwise of saline and tidal waters up the creeks, and a radiocarbon chronology for these deposits and their associated landscape changes, without the physical excavation and stratigraphic linking of the sampled deposits in Trenches 7 and 9 the important and informative sequence in Trench 7 cannot be used to help interpret the archaeology excavated in Trench 9 with absolute confidence.

Recommendations

Detailed palaeoenvironmental analysis of the samples collected from Trenches 7 and 9 can make an important contribution to our understanding of the local environment and changes to the saline and freshwater regimes in the creeks on the site. However if this is to be useful archaeologically then the site will require re-excavation and the deposits in Trenches 7 and 9 must be stratigraphically linked.

The sequence of archaeological evidence from the late Iron Age to the medieval period on the site, combined with the probable direct association of archaeological debris with natural sediments infilling a tidal saltmarsh creek, that becomes freshwater and finally a marsh within a terrestrial environment before being inundated by the sea once more, makes this an very important local site. Its further investigation will allow the determination of a very precise chronology for marine trans- and regressions in this area between the late Iron Age and medieval period, definition of the local coastline in the late Iron Age and Roman period, as well as the

characterisation of the archaeological sites within it and their economies. The site clearly has the potential to test aspects of the model proposed by Lane and Morris concerning the 'permanent settlement phase' of salt production in the fens in the Late Iron Age and Roman-British periods.

Acknowledgments
We should like to thank Trude Maynard for the sample processing and sorting.

Bibliography

Bennett, K.D., Whittington, G. and Edwards, K.J. 1994 'Recent plant nomenclatural changes and pollen morphology in the British Isles'. *Quaternary Newsletter* 73,1-6

Lane, T. and Morris, E.L. (eds) 2001 *A millennium of saltmaking: prehistoric and Romano-British salt production in the Fenland*. Lincolnshire Archaeology and Heritage Reports Series No. 4

Moore, P.D. and Webb, J.A. 1978 *An illustrated guide to pollen analysis*. London: Hodder and Stoughton.

Moore, P.D., Webb, J.A. and Collinson, M.E. 1991 *Pollen analysis* Second edition. Oxford: Blackwell Scientific.

Murphy, P. 2001 Environmental Studies: a general discussion. In Lane and Morris.

Rackham, D.J., Giorgi, J.A., Godwin, M. and Scaife, R.G. 2000 Holland Park, Spalding HPS99. Environmental Archaeology Report. Unpublished report for John Samuels Archaeology Consultancy.

Stockmarr, J. 1971 'Tablets with spores used in absolute pollen analysis'. *Pollen et Spores* 13,614-621.

Williams, D.1973 Flotation at Siraf, *Antiquity*, 47, 198-202

Appendix 1

The following samples were collected for palaeoenvironmental analysis.

Trench 9
Monolith 1 – 50cm monolith of dark grey and peaty sediments at the base of the north face (marked on section)

100 0-10 cm below datum, west face
101 15-25 cm below datum, west face
102 40-50 cm below datum, west face
103 60-70 cm below datum, west face
104 dark grey layer for C14, north face

Trench 7
105 upper dark black peaty layer for C14, overlain by marine sediments

Monolith 2 – 50cm monolith of upper part of organic sediments infilling the palaeochannel at the south end of Trench 7. The base of the monolith is on the floor of the trench at 1.06m OD

0 to –10 cm dark grey humified silt layer within channel for C14 analysis. This sample is equivalent to 90-100 cm in the auger column and was collected from the floor of the trench. This is the same horizon that produced the Roman pottery sherd, dated to the late 2nd-3rd C.

Auger column. Samples taken from the floor of the trench downwards with 0cm at 1m metre below the base of the trench.

95-100 - top of sequence
90-95
85-90
80-85
75-80
70-75
65-70
60-65
55-60
50-55
45-50
40-45
35-40
30-35
25-30
20-25
15-20
10-15
5-10
0-5 - bottom of sequence at 0.06m OD

25-40 cm sample taken from the lower organic horizon in the channel fills for C14 analysis

Appendix 2:

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 ldpm2/dupm2	F lpm2/upm2
g ldpm3/dupm3	G lpm3/upm4
h ldpm4/dupm4	H lpm4/upm4
	I lm1/um1
	J lm2/um2
	K lm3/um3

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 measurments 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 acsending 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 epiphysis		2. trochanter major
	3. posterior 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 artciulation, MT3.
	9.		2. lateral facet of proximal articulation, MT4
	0.		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 hand collected animal bone from Woolram Wygate, Spalding – SWW02

site	cont.	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
SWW02	101	BOS	CPI	1	F		1						BROKEN	4
SWW02	101	BOS	PH1	1	L	PF	12		DG				SPLIT-DISTAL END CHEWED	4
SWW02	101	CSZ	LBF	1	F								SHAFT FRAGMENT	3
SWW02	101	UNI	UNI	1	F								INDET	4
SWW02	107	BOS	UPM3	1	L					G12			COMPLETE	4
SWW02	108	CSZ	RIB	1	F								MIDSHAFT FRAGMENT	4
SWW02	114	OVCA	MAN	1	F								LATERAL FRAGMENT HORI RAMUS	4
SWW02	118	BOS	ULN	1	R		3		DG				DISTAL HALF PROX ARTIC-PROX END CHEWED	4
SWW02	118	OVCA	HUM	1	L								DISTAL SHAFT FRAGMENT	4
SWW02	118	UNI	UNI	2	F			C					INDET-CALCINED	4
SWW02	122	BOS	HUM	1	R		9		DG				DISTAL SHAFT FRAGMENT-DISTAL END CHEWED	4
SWW02	122	SUS	HUM	1	F								MIDSHAFT FRAGMENT-POROUS	4
SWW02	902	CSZ	UNI	1	F			C					INDET-CALCINED	4
SWW02	902	SUS	RIB	1	F								SHAFT FRAGMENT-POROUS	4
SWW02	926	EQU	ATL	1	F		1234						CENTRUM- 2 PIECES	4
SWW02	926	OVCA	TIB	1	L								SHAFT	3
SWW02	930	SSZ	FEM	1	F								MIDSHAFT FRAGMENT	4
SWW02	1029	SUS	PH2	1	R	PF	12						COMPLETE	4
SWW02	1030	SSZ	TIB	1	F				DG				SHAFT FRAGMENT-SL CHEWED	4
SWW02	1031	BOS	UM	1	R					7			M2 OR 3-BROKEN	4
SWW02	1031	UNI	LBF	1	F								SHAFT FRAGMENT	4
SWW02	1503	BOS	PH3	1	L		1						DAMAGED TOE	4
SWW02	1513	CSZ	LBF	1	F								SHAFT FRAGAMENT	3
SWW02	1513	CSZ	LBF	15	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1513	CSZ	LBF	1	F			B					SHAFT FRAGMENT-CHARRED	4
SWW02	1513	CSZ	LBF	1	F			B					PROX EPI FRAG-CHARRED- 2 PIECES	4
SWW02	1513	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1513	CSZ	RIB	1	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1513	CSZ	RIB	1	F								SHAFT FRAGMENT	4
SWW02	1513	CSZ	RIB	1	R								PROX SHAFT FRAGMENT	4
SWW02	1513	CSZ	UNI	1	F								INDET	4
SWW02	1513	CSZ	UNI	5	F			C					INDET-CALCINED	4
SWW02	1513	OVCA	AST	1	L		1	C					CALCINED-COMPLETE	4
SWW02	1513	OVCA	AST	1	L		1	C					CALCINED-COMPLETE	4
SWW02	1513	OVCA	HUM	1	L	DF	679	C					CALCINED DISTAL END- 2 PIECES	4
SWW02	1513	OVCA	RAD	1	F								MIDSHAFT	3
SWW02	1513	SSZ	LBF	10	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1513	SSZ	LBF	2	F								SHAFT FRAGMENT	4
SWW02	1513	SSZ	RIB	1	F			C					CALCINED SHAFT FRAGMENT	4

site	cont.	species	bone	no.	side	fusion	zone	butchery	gnawing	toothwear	measurement	path	comment	preservation
SWW02	1513	UNI	UNI	4	F			B					INDET-CHARRED	4
SWW02	1513	UNI	UNI	29	F			C					INDET-CALCINED	4
SWW02	1515	BOS	DUP3	1	R					g5			COMPLETE-NO WEAR	4
SWW02	1515	BOS	MTT	1	L		12						PROX END AND SHAFT	4
SWW02	1515	OVCA	SKL	1	L		8						TEMPORAL FACET	4
SWW02	1515	OVI	HC	1	F								TWO PIECES	4
SWW02	1515	SSZ	SCP	1	L		2	C					CALCINED GLENOID	4
SWW02	1515	SUS	HUM	1	F	DF	8	C					CALCINED FRAG CONDYLE	4
SWW02	1515	UNI	UNI	1	F			C					INDET-CALCINED	4
SWW02	1515	UNI	UNI	2	F								INDET	4
SWW02	1516	CSZ	LBF	3	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1516	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT- 3 PIECES	4
SWW02	1516	CSZ	SKL	2	F								FRAGMENT	4
SWW02	1516	CSZ	UNI	4	F			C					INDET-CALCINED	4
SWW02	1517	BOS	SKL	1	L								POST ZYGOMATIC ARCH- 2 PIECES	3
SWW02	1517	BOS	ULN	1	F			C					PROX MIDSHAFT-CALCINED	4
SWW02	1517	CSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1517	CSZ	SKL	1	F								FRAGMENT	4
SWW02	1517	CSZ	UNI	4	F			C					INDET-CALCINED	4
SWW02	1517	SSZ	LBF	1	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	1517	UNI	UNI	1	F			C					INDET-CALCINED	4
SWW02	1705	OVCA	RAD	1	L			CH					MIDSHAFT-CHOPP OUT OF SHAFT	4
SWW02	1709	BOS	INN	1	L		2	SW					SCARAL SCAR-LARGE-SAWN THROUGH ILIAL SHAFT	4
SWW02	2603	BOS	INN	1	L								DISTAL PART OF ISCHIAL SHAFT	4
SWW02	2607	BOS	ULN	1	F								PROX MIDSHAFT	4
SWW02	2607	CER	SKL	1	F			SW					FRONTAL FRAG WITH PEDICLE SAWN OFF	4
SWW02	3803	EQU	INN	1	L		36	CH					ILIAL SHAFT AND ANT PUBIS- 2 PIECES	4
SWW02	3803	EQU	TIB	1	L	PF	34	CH	DG				SHAFT WITH PART PROX ARTIC-SHAFT CHOPPED-PROX CHEWED	4
SWW02	3803	UNI	UNI	1	F								EPIPHYSEAL FRAGMENT	4
SWW02	3806	BOS	FEM	1	L			B					CHARRED DISTAL SHAFT FRAGMENT	4
SWW02	3806	CSZ	FEM	1	F								SHAFT FRAGMENT- 2 PIECES	4
SWW02	3806	CSZ	FEM	1	F			B					CHARRED DISTAL SHAFT FRAGMENT	4
SWW02	3806	CSZ	LBF	2	F			C					CALCINED SHAFT FRAGMENT	4
SWW02	3806	CSZ	RIB	1	F			B					SHAFT FRAGMENT-CHARRED- 2 PIECES	4
SWW02	3811	CSZ	RIB	1	F								1ST 0R 2ND RIB-MIDSHAFT	4
SWW02	4209	CSZ	LBF	1	F				DG				DISTAL SHAFT FRAGMENT-HORSE?-DISTAL CHEWED	3
SWW02	4209	CSZ	LBF	1	F								SHAFT FRAGMENT	4
SWW02	4209	UNI	UNI	1	F								INDET	4
SWW02	4404	BOS	ULN	1	F				DG				PROX MIDSHAFT FRAGMENT-2 PIECES-SL CHEWED	4
SWW02	4404	CSZ	SCP	1	F								BLADE FRAGMENT- 6 PIECES	4
SWW02	4408	BOS	HUM	1	L	DF	67890		DG		SD-37.3 BT-86 HT-50		DISTAL END AND SHAFT-DISTAL SL CHEWED	4

Appendix 8

GLOSSARY

Anglo-Saxon — Pertaining to the period when Britain was occupied by peoples from northern Germany, Denmark and adjacent areas. The period dates from approximately AD 450-1066.

Briquetage — A distinctive fired clay material associated with saltmaking, either in the form of ceramic equipment (troughs, supports *etc.*) or fragmented debris of hearths and ovens.

Context — 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 interpretation of the context (the context sheet) is created and placed in the site archive. Context numbers are identified within the report text by brackets, *e.g.* [004].

Cropmark — A mark that is produced by the effect of underlying archaeological or geological features influencing the growth of a particular crop.

Cut — A cut refers to the physical action of digging a posthole, pit, ditch, foundation trench, *etc*. Once the fills of these features are removed during an archaeological investigation the original 'cut' is therefore exposed and subsequently recorded.

Domesday Survey — A survey of property ownership in England compiled on the instruction of William I for taxation purposes in 1086 AD.

Fill — 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) that become contained by the 'cut' are referred to as its fill(s).

Iron Age — A period characterised by the introduction of Iron into the country for tools, between 800 BC and AD 50.

Layer — A layer is a term used to describe an accumulation of soil or other material that is not contained within a cut.

Manuring Scatter — A distribution of artefacts, usually pottery, created by the spreading of manure and domestic refuse from settlements onto arable fields. Such scatters can provide an indication of the extent and period of arable agriculture in the landscape.

Medieval — The Middle Ages, dating from approximately AD 1066-1500.

Old English — The language used by the Saxon (*q.v.*) occupants of Britain.

Palaeochannel — A defunct watercourse that has become filled with sediments and buried.

Posthole — The hole cut to take a timber post, usually in an upright position. The hole may have been dug larger than the post and contain soil or stones to support the post. Alternatively, the posthole may have been formed through the process of driving the post into the ground.

Post-medieval — The period following the Middle Ages, dating from approximately AD 1500-1800.

Prehistoric — 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 1st century AD.
Roddon	Silt ridges formed from deposition at the sides of old watercourses. The watercourses often show as dark channels between two roddons.
Romano-British	Pertaining to the period dating from AD 43-410 when the Romans occupied Britain.
Saltern	A site where salt is produced by the evaporation of brine, usually identified by the dumps of waste material, although salterns often include a range of buried features associated with the collection and evaporation processes.
Saxon	Pertaining to the period dating from AD 410-1066 when England was largely settled by tribes from northern Germany
Transformed	Soil deposits that have been changed. The agencies of such changes include natural processes, such as fluctuating water tables, worm or root action, and human activities such as gardening or agriculture. This transformation process serves to homogenise soil, erasing evidence of layering or features.

Appendix 9

THE ARCHIVE

The archive consists of:

49	Context register sheets
425	Context records
41	Sheets of plans
50	Sheets of section drawings
16	Daily Record sheets
2	Plan record sheet
3	Section record sheet
6	Photographic record sheets
47	Stratigraphic matrices
2	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:

Lincolnshire City and County Museum
12 Friars Lane
Lincoln
LN2 1HQ

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.

Lincolnshire City and County Museum Accession Number: LCNCC: 2001.454

Archaeological Project Services Site Code: SWW02

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.