

ARCHAEOLOGICAL  
EVALUATION AT  
MORETON-ON-LUGG,  
HERFORDSHIRE

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## Evaluation at Moreton-on-Lugg, Herefordshire

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**with contributions by Ian Baxter, Erica B Darch, James Greig, Andrew Mann,  
David Jordan and Elizabeth Pearson**

### Part 1 Project summary

An archaeological evaluation was undertaken at Moreton-on-Lugg, Herefordshire (centred on NGR SO 5030 4730; Fig 1). The project was undertaken at the request of Entec UK Ltd (consultant archaeologists) on behalf of Tarmac Western Ltd (client), who intend to develop the site for mineral extraction. The project aimed to determine if any significant archaeological deposits were present and if so to assess their location, date and character.

The most important discovery was a large pit of Bronze Age date. This is tentatively interpreted as representing the central burial within a funerary monument, although a non-funerary function should not be excluded. Pottery, a worked wooden structure, animal bone and well preserved environmental material were recovered from the pit, which appears to have been truncated or robbed in antiquity. Radiocarbon dating of a charred residue from the internal surface of the pottery indicated that this dated from the first half of the Middle Bronze Age (*c* 1600-1400 BC). A further radiocarbon date has demonstrated that a series of postholes identified in the vicinity were contemporaneous. These possibly encircled the pit. Two poorly preserved cremation deposits were also tentatively identified and strengthen the case for a funerary function.

A well preserved mature female horse skeleton was also recovered at this location, however, analysis suggests that this dates to the medieval or post-medieval period and therefore that its location near the pit is entirely coincidental. A small, shallow pit lying in an adjacent trench also produced prehistoric pottery and allied to evidence from the alluvial sequence in this part of the site indicates an area of well preserved former activity.

To the south and south-west of the area in which the pit was encountered, further evidence of former activity was identified. The earliest activity represented was a pit which contained a small flint assemblage including a reworked polished stone axe fragment. A single radiocarbon determination based on a wood charcoal fragment suggests that this can probably be dated to the early 3<sup>rd</sup> or possibly the very end of the 4<sup>th</sup> millennium BC. Although only an isolated feature, further similar features are liable to be present reflecting temporary episodes of utilisation of the area during the earlier prehistoric period. Support for this suggestion derives from the presence of flint artefacts dating to the Mesolithic and Neolithic periods recovered from organic deposits present in former watercourses in this area of the quarry. Abraded fragments of possible Bronze Age pottery recovered from what is thought to have been a former stream or pond margin (subsequently alluviated) attest to continuing prehistoric activity in this vicinity.

Later activity associated with a former watercourse was also represented in this area. Radiocarbon dating of organic material from a former watercourse indicated that the watercourse had silted up, probably during the 3<sup>rd</sup> or 4<sup>th</sup> century AD. A ditch excavated along the line of the silted up channel indicated that attempts had been made to maintain drainage, possibly reflecting Roman land reclamation or at least land management possibly associated with the estate of a nearby villa maintenance. However, subsequently this ditch also silted up and organic deposits and silts spread broadly across the area once again. A 5<sup>th</sup> to 6<sup>th</sup> century AD date has been obtained for this latter event.

In contrast to the two areas discussed above, the northern part of the evaluated area produced only limited evidence and poorly preserved areas of former activity.

These results support those from work at the adjacent Wellington Quarry site and extend the understanding of the overall sequence of deposits in this part of the Lugg Valley. Although early prehistoric deposits have been widely recorded within the adjacent Wellington Quarry, deposits of this period have rarely been recorded in Herefordshire or indeed the region as a whole. The remains of a worked wooden structure towards the base of the Middle Bronze Age pit are a particularly rare and significant find. Consequently, these deposits are considered to be of regional and potential national significance. This significance is enhanced by the waterlogged nature of the basal fills of the Bronze Age (?funerary) pit, the presence of other areas of earlier prehistoric activity and the survival of associated palaeoenvironmental remains which provide a broader landscape context for the site.

The later activity, represented by the probable late Roman drainage feature, is also of considerable interest. Since only very limited evidence of Roman land management practice survives this has important implications for our understanding of the nature of activity of this date, indicating formal land drainage, potentially associated with the Roman villa known from the adjacent Wellington Quarry. As such this is considered to be a locally and potentially regionally significant find.

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## Part 2 Detailed report

### 1. Background

#### 1.1 Reasons for the project

An archaeological evaluation was undertaken at Moreton-on-Lugg, Herefordshire (NGR SO 5030 4730; Fig 1), on behalf of Entec UK Limited, consultant archaeologists to Tarmac Western Limited (the client). The client intends to develop the site for mineral extraction and following consultation with Herefordshire Archaeology (the curator), the development is considered to have the potential to affect an archaeological site.

#### 1.2 Project parameters

The project conforms to the *Standard and guidance for archaeological field evaluation* (IFA 1999).

The project conforms to a brief prepared by Herefordshire Council (dated 13 May 2002), an invitation to tender prepared by Entec UK (dated 24 June 2002) and a project proposal (including detailed specification) produced by the Service (AS 2002).

#### 1.3 Aims

The aims of the evaluation were to locate archaeological deposits and determine, if present, their extent, state of preservation, date, type, vulnerability and documentation. The purpose of this was to establish their significance, since this would make it possible to recommend an appropriate treatment, which may then be integrated with the proposed development programme.

### 2. Methods

#### 2.1 Fieldwork

##### 2.1.1 Fieldwork strategy

A detailed specification has been prepared by the Service (AS 2002).

Fieldwork was undertaken between 16 September 2002 and 16 October 2002.

Thirty-three trenches, amounting to just over 6050m<sup>2</sup> in area, were excavated over the site area of 33ha (Fig 2). Trench locations were determined by Entec, although minor adjustments were made where ground cover was impenetrable. Three trenches (Trenches 15, 18 and 22) were not completed due to on-site obstructions and below ground hazards which were encountered.

The location of the trenches is indicated in Figure 2. Following discussions with the consultant and curator, three extra trenches (Trenches 34, 35 and 36) were located around areas of significant archaeology to support determination of extents.

The site was divided into 3 evaluation zones (Fig 2).

- Zone A comprised 11ha of low lying land. Ten trenches, measuring 50 x 4m were excavated amounting to 2404m<sup>2</sup>, representing a sample of 2%;

- Zone B comprised 10ha of unoccupied waste ground within a former military depot. Nine trenches, measuring 50 x 4m were excavated amounting to 2108m<sup>2</sup>, representing a sample of 2%; and
- Zone C comprised 12ha of ground occupied by Romney huts and disused railway sidings. Eleven trenches, measuring 20 x 4m were excavated amounting to 880m<sup>2</sup> (the three abandoned trenches were located in this zone), representing a sample of slightly under 1%. Three additional trenches were subsequently located in this zone and one trench (Trench 23) was extended to further investigate significant deposits.

Deposits were removed in stages (identifying significant horizons within the alluvial sequence) using a 360° tracked excavator, employing a toothless bucket and under archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Service practice (CAS 1995). The depth of natural sand and gravel deposits was established in all trenches thus enabling recording of the full sequence of post-glacial deposits at the site.

#### 2.1.2 Structural analysis

All fieldwork records were checked and cross-referenced. These are summarised in Appendix 1. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from the geoarchaeological analysis undertaken by Terra Nova (Appendix 2).

### 2.2 Artefacts (Erica B Darch and Robin Jackson)

#### 2.2.1 Artefact recovery policy

The artefact recovery policy conformed to standard Service practice (CAS 1995; appendix 2). This determines that in principle all artefacts shall be retained although where large quantities of a particular category of material are present that following consultation with the Finds Officer an appropriate sampling strategy might be employed. In this case quantities of recent material relating to use of the site as a military base were not retained due to their recent nature and in some cases uncertainty regarding the potential Health and Safety risk that they may have posed.

#### 2.2.2 Method of analysis

All hand-retrieved finds were examined. Artefacts were identified, quantified, dated and recorded on a Microsoft Access 97 database. A terminus post quem (TPQ) date was assigned to each stratified context. The pottery was examined and recorded by fabric type according to the fabric reference series maintained by the Service (Hurst and Rees 1992).

Prehistoric pottery was recorded using Service *pro forma* (AS38 Prehistoric pottery record; AS39 Pottery form record) and according to the Prehistoric Ceramics Research Group guidelines (PCRG 1995). A summary of the prehistoric pottery is presented in Table 1.

All flint was examined and recorded following standard Service practice (CAS 1995 as amended; *pro forma* AS20, flint finds record). Terminology used broadly follows that provided in Inizan *et al* (1992). A summary of the flint is presented in Table 2.

A summary of the Romano-British and later pottery is presented in Table 3.



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## 2.3 **Environment (Elizabeth Pearson)**

### 2.4 **Fieldwork and sampling policy**

The environmental sampling policy was according to standard Service practice (CAS 1995 as amended). Large animal bone was hand-collected during excavation and bulk soil samples of 10-40 litres taken from 53 contexts of late Neolithic/Bronze Age date or later. Two monolith and corresponding column samples were taken through peaty channel deposits in Zone A, and spot samples for pollen analysis from a deep pit in Trench 23.

### 2.5 **Processing and analysis**

For the purposes of assessment, a total of 14 bulk samples were selected for analysis of macrofossil environmental remains (Table 4), 3 spot samples for pollen analysis and 5 samples for radiocarbon dating. A sample has also been submitted for assessment of insect remains. Radiocarbon samples were submitted to the Dating Laboratory at The University of Waikato, New Zealand. The results are included in the text with detailed information included as Appendix 3.

#### *Wet-sieved samples*

Sub-samples were taken from contexts in which organic remains may have survived as a result of waterlogging (contexts 3006, 3010, 3012, 3304 and 2310). From each sample, 1 litre was processed by the wash-over technique as follows. The sub-sample was broken up in a bowl of water to separate the light organic remains from the mineral fraction and heavier residue. The water, with the light organic fraction was decanted onto a 300µm sieve and the residue washed through a 1mm sieve. The remainder of the bulk sample was retained for further analysis.

The remaining samples were processed by flotation followed by wet-sieving using a Siraf tank. The flots were collected on a 300µm sieve and the residues retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were fully sorted by eye and the abundance of each category of environmental remains estimated. The flots were scanned using a low power EMT stereo light microscope and plant remains identified (Tables 5 and 6) using modern reference collections maintained by the Service, and seed identification manual (Beijerinck 1947). Nomenclature for the plant remains follows the Flora of the British Isles, 3<sup>rd</sup> edition (Clapham, Tutin and Moore 1989).

#### *Animal bone (Ian Baxter)*

Following consultation (with Elizabeth Pearson), all of the bone recovered from the site has been fully recorded and formed the basis for assessment. All identifiable bones have been recorded on an Access database. Numbers of "countable" bones are tabulated in Table 7. The counting system was based on a modified version of the system suggested by Davis (1992) and used by Albarella and Davis (1994).

#### *Molluscs (Andrew Mann)*

Samples of 10 litres, primarily for mollusc analysis (Tables 8, 9 and 10), were processed following Evans (1972), with identification being aided by Kerney and Cameron (1979), Evans (1972) and Macan (1977).

#### *Pollen (James Greig)*

Pollen samples were processed using the standard method; about 1 cm<sup>3</sup> subsamples were dispersed in dilute NaOH and filtered through a 70µm mesh to remove coarser material, which was then scanned under a stereo microscope. The finer organic part of the sample was concentrated by swirl separation on a shallow dish. Fine material was removed by filtration on a 10µm mesh. The material was acetolysed to remove cellulose, stained with safranin and mounted on microscope slides in glycerol jelly. Counting was done with a Leitz HM-Lux 3

microscope. The pollen types have been listed in taxonomic order according to Kent (1992), in Table 11.

#### *Insect remains (David Smith)*

A single sample (from context 3012) of material from Morton on Lugg, Herefordshire was assessed to examine the potential of these deposits for insect analysis.

It was hoped that an examination of the insects preserved would provide the following information:

- Are insects preserved in this material?
- Are these faunas interpretable?
- Do the insects suggest the nature of the surrounding environment and how this may have changed through time?
- Are there any signs of human land use or occupation nearby?

The weight and volume of the sample is listed at the top of Table 12 which presents the insects recorded from the sample. The sample was processed using the standard method of paraffin flotation as outlined in Kenward *et al* (1980).

The faunas present were assessed using the system for "scanning" faunas as outlined by Kenward *et al* (1985). On average the time taken to scan each sample was around 20 minutes. All the species present have been identified as far as was possible given these constraints.

The insect taxa recovered are listed in Table 12. The taxonomy used follows that of Lucht (1987). The numbers of individuals present are estimated in the following way \* = 1-2 individuals \*\* = 2-5 individuals \*\*\* = 5-10 individuals \*\*\*\* = 10+ individuals.

### 3. **Topographical and archaeological context**

#### 3.1 **The proposed development area**

The proposed development area lies within the Brooks Industrial Estate and parts of a former military base to the north of Moreton-on-Lugg. The site comprises of areas of low lying agricultural land currently used as pasture, and areas of rough ground in and around the military base. The landscape is predominantly flat and features numerous roadways and trackways associated with a disused railway system which served the base.

In terms of relief and drainage, the area lies on the floodplain of the River Lugg, 200m to the west of its tributary stream, the Wellington Brook, and is generally level at around 55.50m AOD.

As part of the overall programme of investigation for the proposed Moreton-on-Lugg quarry, an evaluation has already been undertaken in an area proposed as a railhead (Miller and Griffin 2002). This indicated that this was an area of limited potential and preservation.

Across the wider development area, cartographic sources provide evidence of past landuse from the mid 19<sup>th</sup> century to the present. For the earlier part of this period, the main sources are a Tithe Map apportionment of 1843 (Makin and Gwatkin 1988), and the first edition Ordnance Survey map of 1890 (surveyed 1886). On the Field Plan, the evaluation area is largely contained within a single field called "Old Lands" (Makin and Gwatkin 1988, field 443); the same name is also given to the two fields to the south (fields 439 and 442),

suggesting the later sub-division of a larger field or meadow. The field immediately to the east is termed "Ox Pasture" (field 444), while the field-names in the surrounding area indicate a mixture of arable, pasture, meadow and marshland. On the 1890 Ordnance Survey map, the field pattern is largely unchanged, but more topographical detail is shown, including a track and a line of trees forming the southern boundary of the main field in approximately the same position as the present road. Thereafter, the area is thought to have continued as agricultural land until the establishment of the army depot in 1942 (WS Atkins 1995), and the construction of the railway tracks and access road (either during the original phase of construction, or as part of a later redevelopment).

Some direct information on the character of deposits in the area was available from ground investigations undertaken by Wimpey Environmental Limited. Twenty-eight test pits were excavated within the proposed development area. These indicated the presence of *c* 1.0m of alluvial deposits, and areas of made ground associated with former buildings and landscaping, and the construction of the railway lines (WS Atkins 1995, Test Pits 8, 10 and 12).

Finally, during fieldwork a number of earthwork features were noted in Zone A. These appear to relate to former channels and drainage features present within this area. Formal recording of these did not form part of the evaluation design, however, is liable to prove beneficial in the event of future work in this zone to support interpretation of below ground features and the development of an overall understanding of former landuse in this area.

### 3.2 **The surrounding area**

The archaeological background of the area is dominated by the results of over 15 years of investigations at the adjacent Wellington quarry. This has produced a wide range of evidence of past landuse and activity over several millennia, as well as important information on alluvial environments from the Late Glacial period to the present.

Of these investigations, those closest and most pertinent to the proposed development area are those running along its eastern side. These comprise salvage recording along the western side of Wellington Quarry (Brown 1992; Napthan *et al* 1997; Harrison *et al* 1999), evaluation of the southern part of the quarry in 1996 (Jackson, Pearson and Ratkai 1996) and subsequent salvage recording in this area (Griffin 2001, Miller 2002).

#### *The western side of Wellington Quarry*

The western margins of Wellington Quarry have produced earlier prehistoric remains including a nationally significant Bell Beaker grave with a rich assemblage of grave goods (Harrison *et al* 1999). Other late Neolithic activity was attested in the area (Brown 1992; Napthan *et al* 1997), while to the north a group of medieval ovens has produced a significant assemblage of charred cereal remains (Brown 1992).

#### *The southern extension*

Here sixteen sample trenches were excavated during the evaluation (Jackson, Pearson and Ratkai 1996). This produced evidence of Neolithic and Bronze Age activity (in the form of irregular features and flint artefacts), several undated, though potentially Roman or medieval features (including ditches, postholes, a pit and a metalled surface), and post-medieval remains (drainage ditches and a glider trap). On the basis of these results, the area was divided into zones representing high, moderate and low archaeological potential (Jackson, Pearson and Ratkai 1996, fig 10). The northernmost zone (closest to the present evaluation area) was considered to have a high potential for further remains, as was a narrower block of land to the south. Between these two zones the potential for further remains was considered to be moderate, except for a strip of land to the east of the Wellington brook; which was thought to represent a former channel of the River Lugg.

During subsequent quarrying operations on the eastern side of the Wellington Brook, a watching brief was maintained on the removal of the alluvial deposits prior to gravel extraction, and further evidence was obtained which largely confirmed the assessments made

in the evaluation. Further remains of prehistoric to post-medieval activity were recovered as excavation proceeded from north to south, and in 2000, the well-preserved remains of a timber mill of middle Saxon date were found on the west side of the main palaeochannel (Griffin 2001). Less activity was identified as excavation continued southwards in 2001, although more of the area was occupied by the palaeochannel than before (Miller 2002).

#### *Other results from Wellington Quarry and the immediate area*

In addition to the evidence relating to phases of occupation and other activity, Wellington Quarry has produced a considerable amount of significant palaeoenvironmental evidence from analysis of alluvial deposits (mostly by Terra Nova) and associated pollen and faunal assemblages. The evidence suggests a dynamic alluvial environment including episodes of aggradation and erosion, periods of relative stasis, and a long sequence of channel formation (Dinn and Roseff 1992; Jackson and Edwards 2002; Jackson, Pearson and Ratkai 1996). The remains of one or more soil horizons dating to the Windermere interstadial have also been recovered at several locations in the quarry, including the three sample trenches closest to the current evaluation area (Jackson, Pearson and Ratkai 1996, 23).

Evidence from the east of the Wellington Brook also provides a wider context for past human activity within the area. Substantial archaeological deposits and features have been uncovered in the quarry including evidence of Neolithic activity, Iron Age and Romano-British occupation activity including a villa, located within the main quarry complex and recorded in 1988 (Jackson and Edwards 2002).

Beyond Wellington Quarry, remains of prehistoric and Roman date were identified in an evaluation 1.5km to the south-west (HSM 15268), and Roman finds were recovered from a site 2km to the north-west (HSM 6997). In addition, aerial photographs of the Wellington area show extensive traces of medieval ridge and furrow earthworks, and post-medieval drainage ditches. Neither is shown to extend into the area of the current evaluation. However, ridge and furrow is recorded within a few hundred metres to the east and south, while a system of drainage ditches (perhaps forming a water meadow) have been observed immediately to the south (Miller and Griffin 2002, fig 4).

#### *Summary*

Taken together, the evidence from these various sources indicated a significant potential for archaeological remains of prehistoric to post-medieval date in the proposed development area. In particular, the sample trenching and salvage excavation to the east suggested the likely continuation westwards of Neolithic, Bronze Age and Roman remains. A significant potential for complex alluvial deposits of Devensian and Holocene date was also identified from recent geoarchaeological investigations in the area, and preliminary analysis of geological maps (e-mail from David Jordan, dated 8<sup>th</sup> November 2001).

## 4. Description

The results of the structural analysis are presented in Appendix 1.

### 4.1 Phase 1 Natural deposits

Details of the unaltered fluvio-glacial and alluvial deposits encountered in the evaluation are contained within the report by Terra Nova (Appendix 2). In Zone A natural deposits are represented by areas of peat (Trenches 30 and 31) and natural sands and gravels at a depth of between 1.0m and 1.45m below ground surface (bgs). Alluvial deposits covered the area, with distinctive blue-grey clays forming over the peaty, wetter areas. Within Zones B and C natural deposits consisted of natural sands and gravels occurring at a depth of between 0.75m and 1.00m (bgs). Toward the south of Zone C, in the centre of the development area, there was a thicker build up of alluvium over archaeological and natural deposits. Natural gravels were recorded at a depth of 1.30m. A broad contour model and cross site profile of the surface of the sand and gravel deposits has been developed from the trench data (Figures 3a and 3b). Although the sand and gravel surface will have a much more complex topography

than can be developed from the available data, this mapping shows that these deposits shelf gently from north to south in line with the modern topography.

Alluvial deposits were recorded in all trenches, their date of deposition ranging from early post-glacial to at least the post-Roman period. Within the area of the former military base there were areas where the alluvium may have been landscaped and re-worked by ploughing. Within this area the alluvium was generally reddish brown in colour, lying directly over the sand and gravel. In places it appeared as a 'dirty' layer of dark brown silty clays. It is likely this represents contamination from material above – probably associated with levelling and consolidation of the ground surface for roads and railway tracks. In the south of Zone C the alluvium has a more reddish-green hue and has a more laminar structure, suggesting either a different depositional activity (rapid alluviation) or less modern disturbance.

#### 4.2 **Phase 2 Neolithic**

##### *Zone A: Trench 24*

This phase is represented by a single pit in Trench 24 (context 2407; Figs 4 and 5). The fill of the pit (context 2406) contained a small assemblage of worked flint, a reworked fragment of a Neolithic polished stone axe and a small quantity of undiagnostic pottery. A sample of wood charcoal recovered from an environmental sample from this pit was submitted for radiocarbon dating and produced a date of 4050–3700 cal BC (WK-12257, 5100 ±79 BP; see Appendix 3 for details). Although the nature of the sample (ie charred wood) means that caution should be exercised in using this date, this indicates an Early Neolithic date for the feature.

##### *Other activity*

Elements of the alluvial sequence described above and in Appendix 2 are undoubtedly of Neolithic date. These are occasionally associated with flint finds (eg contexts 2503 and 3302) but since these deposits have long sequences of development and are undifferentiated to the naked eye, further information on the context or accurate dating of their deposition is unavailable.

#### 4.3 **Phase 3 Bronze Age**

##### *Zone C, Trench 23 (Figs 6–10)*

This phase is represented by a number of finds and features within this trench, the most important of which was a large sub-rectangular pit and associated recut or 'robber' (contexts 2331 and 2338; Figs 6, 8 and 9) containing worked wood and Bronze Age pottery. This has been tentatively interpreted as the central pit and 'robber' pit of a burial feature such as a barrow or other funerary monument. The precise dimensions remain unknown as only a narrow slot was cut through the feature. However, a dark deposit (context 2306) which formed the uppermost fill of the pit and spread a little way beyond it was exposed in plan. This measured 6m by 6m, the excavated slot was 1.5m deep from the base of the sealing alluvium and 2.5m in depth (bgs).

The pit sequence consists of several phases. The rectangular pit (cut 2331) was excavated through a thin layer of alluvium (context 2335) and into natural gravel (context 2311). This contained pieces of worked wood (context 2334), in the form of one or more planks set on edge and which formed what appeared to be the corner of a wooden structure/box. This was associated with the primary fills of the pit (contexts 2309 and 2310) which included a substantial proportion of a Bronze Age vessel (see below). An upper fill (context 2307) may represent part of the original backfilling of the pit. The pit had subsequently been disturbed, probably in antiquity, by a substantial recut or 'robber' (context 2338). This had truncated the whole central area of the earlier pit. Some of the excavated material from this recut or 'robber' had clearly been redeposited into the pit, pieces of pottery from a single vessel having been recovered from both a primary pit fill (context 2309) and the lowest fill (context 2337) of the recut or 'robber'. Other finds included cow bones and some organic material. The pottery vessel had a thick internal residue from which a radiocarbon sample was taken.



This has produced a date of 1610–1400 cal BC (Wk-12255, 3220 $\pm$ 41 BP) which is consistent with dating of the vessel form (see below).

The whole area over the infilled primary pit cut and the recut or ‘robber’ was filled with clearly defined clay fills, often heavily mottled with patches of natural sands and gravel. There was some evidence for deliberate tipping or slumping into the centre of the pit, however, the most interesting evidence from the upper fills came from the uppermost part of the sequence (context 2306). This occupied the top of the pit and appeared to have been formed or deposited in a depression (?formed by slumping). The surrounding area was characterised by a thin layer of ‘dirty’ alluvial silty clays which merged with and included upper elements of this pit fill. This deposit contained a relatively large amount of sub rounded cobbles – some of which show signs of having been heated. Molluscan evidence allied to that from the geoarchaeological work suggested that this was a wet area which may have been trampled by animals (Section 6.3; Appendix 2). This indicates that whatever the earlier function and significance of the pit, by the time this deposit formed the area was probably used as pasture and that the pit (and any associated structure – see below) survived as little more than a boggy hollow. The whole sequence was sealed by a series of alluvial deposits (contexts 2301-2305; Fig 9).

To the east of the pit, a series of post or stakeholes appears to respect the location of the pit (Figs 6 and 10). In section postpipes were clearly visible in two of the postholes (2316 and 2321). It seems likely that these postholes were related to the large pit and may have formed a ring of posts around it, perhaps shielding or delineating a central area including the pit. Radiocarbon dating of fine charcoal fragments from one of the postholes (context 2327; 1690–1650 cal BC and 1640–1430 cal BC; Wk-3269 $\pm$ 42 BP) supports the contemporaneity of the pit and postholes indicating that together these formed a single ‘monument’.

Other features were also present and are considered to be of broadly similar date. These included a shallow depression with a dark silty clay deposit and angular pebbles (context 2330). Further to the east two possible cremations (contexts 2343 and 2345) were observed in the baulk edges of the trench. These only became visible after a period of weathering of the exposed section. They comprised two small pits containing a dark organic fill and tiny fragments of unidentifiable burnt bone. These features were cut into an alluvial layer (context 2305) which also sealed the main pit (2311) indicating that these post-date the main pit.

#### *Zone C, Trench 34 (Fig 12)*

Additional trenching was carried out in an attempt to delimit the extent and possibly a better picture of the nature of prehistoric activity around Trench 23. One of these trenches, Trench 34 was situated 50m to the north of Trench 23 and revealed a similar sequence of greenish-brown alluvium, sealing a shallow pit (context 3402) cut into the natural gravels. This pit was a roughly circular, flat-bottomed feature approximately 2m in width and 0.20m in depth. Within the fill (context 3401) pottery of prehistoric date, animal bone and burnt bone were recovered.

#### *Zone A, Trench 27 (Fig 13)*

No clearly defined features were present in this trench, however, pottery of probable Late Bronze Age date was recovered along with flint, bone and charcoal. These finds derived from a number of thin layers (contexts 2703, 2705 and 2706) associated with a deposit of calcareous material (probably tufa). These deposits occupied a shallow depression running along the east side of the trench and clearly extended beyond it. Similar features have been recorded at the adjacent Wellington Quarry site and clearly represent areas of former channels and ponds, which have either formed a discrete focus for former activity or created conditions in which such deposits survive. In this instance the formation of tufa suggests that these probably formed during a prolonged period when a pool, perhaps recharged by calcareous groundwater, was gradually evaporating in a stable valley floor environment (Appendix 2, page 8 – The Southern Trenches).

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#### 4.4 **Phase 4 Romano-British and early post-Roman**

Activity during this period is limited to boundary and drainage ditches along with a thin scatter of artefacts.

A linear feature identified in Trenches 30 and 31 has been interpreted as representing a ditch or artificial channel (see Trench 30, context 3017; Fig 14). This had a distinct profile, which on the south side showed clear indications of having been cut with a spade or similar tool. It had been excavated along the line of an earlier, flat-based, natural depression to improve drainage where the depression had become filled up with silt and organic material (Trench 30, fills 3003, 3010, 3011 and 3012; Fig 14). This ditch/channel subsequently also silted up and wet marshy conditions appear to have returned (represented by context 3006). In one of these trenches (Trench 30), Romano-British pottery was recovered during machining and probably derived from the uppermost peat (context 3013) in the ditch/channel cut (context 3017). Dating is supported by two radiocarbon determinations, which bracket this period of activity. The first from a base fill (context 3012) in the flat-based depression provides a mid to late Romano-British date, 240–430 cal AD (Wk-12259, 1700±40 BP). The second date, 420–600 cal AD (Wk-12258, 1554± 40 BP), derives from the organic rich, silty clay deposits representing a return to marshy conditions when the drain/channel (3017) had silted up.

These deposits were recorded in the lowest lying part of the site (Fig 3) and it is likely that wet area was predominately used for pasture during this period. However, the drainage ditch or channel indicates either that attempts were made to improve the land in the immediate vicinity or possibly that they were trying to drain (?reclaim) the area known as Wellington Marsh which lies to the west.

A further ditch (context 3305; Fig 15) dating to this period was uncovered in Trench 33, at the far southern edge of the site. The alignment is consistent with other Roman boundary and drainage ditches found on the nearby Wellington Quarry site, suggesting that this formed part of the field systems surrounding settlement in this area.

Stray finds of this date were also recovered during topsoil stripping and from within the alluvial sequence. There is considerable evidence for Roman activity in the vicinity so it is not surprising that material has become incorporated into the ploughsoil and other deposits.

#### 4.5 **Phase 5 Medieval**

This phase is represented by finds within ploughsoil and alluvium, which probably represent casual discard and manuring. It is possible that some of the ephemeral linear features observed within the former barracks may represent field boundaries that could conceivably date to this period. In Trench 16 a single fragment of medieval pottery was recovered from what appears to be an area of made ground (context 1607).

#### 4.6 **Phase 6 Post-medieval and modern**

Activity during this period is associated with agriculture and the barracks and army base. Within Zone A there is very little evidence of heavy ploughing and it seems likely that this area has remained as pasture for a considerable period of time. In Trench 1 at the northern edge of the site (Fig 16), a series of linear features were recorded cut into the interface between the alluvium and a disturbed ('dirty') natural layer. These contained no artefacts or dating material and their fills were very similar to the surrounding natural.

In Trench 17 there was evidence for a linear feature crossing the trench, this had a distinctive 'V' shaped profile (context 1710; Fig 17). Again, it was difficult to establish the level from which the feature had been cut. It seems likely that there had been some landscaping which involved removing material and then significant amounts of hardcore was laid across the top

(contexts 1706 and 1707). This process may have ‘sliced’ the top of potential features and removed any sealing layers of alluvium.

In general, deposit profiles in the trenches excavated in Zones B and C were shallower than in Zone A or around the edges of the barracks. Allied to the modern, flat topography of the site in this area, this suggests it seems highly probable that the site has been subject to varying degrees of landscaping prior to the construction of the military base.

## 5. **Artefactual Analysis**

### 5.1 **Prehistoric pottery (Robin Jackson and Derek Hurst)**

#### 5.1.1 **Introduction**

A total of 165 sherds weighing 0.939kg were recovered (Table 1). Most of the pottery derived from a large pit in Trench 23. Other material was recovered from a range of deposits including ditches and shallow hollows.

#### 5.1.2 **Fabrics**

Four fabrics have been identified and are described below.

*Fabric MoL 1 (approximates to WCC fabric type 5.3 (earlier prehistoric))*

The fabric is soft but well fired with a very dark grey inner surface and a reddish brown outer surface. The texture is smooth and soapy. Abundant fine quartz, occasional larger quartz (0.5-1.0mm), and rare grog (up to 3mm) inclusions are present.

*Fabric MoL 2 (WCC fabric type 5.8 (formerly regarded as late Neolithic, but this may be revised to ‘earlier prehistoric’ in the light of fresh finds from Wellington Quarry))*

The fabric is hard, dense and well fired with a dark grey core and inner surface and a reddish brown outer surface. Moderate, angular quartz and quartz sand inclusions up to 6mm across are present. These occasionally slightly break through the outer surface of the fabric giving a rough sandy feel (though some surface abrasion accentuates this). The inclusions break more readily through the inner surface and are prominently visible against the dark fabric. Sparse dark mica is also present.

*Fabric MoL 3 (WCC fabric type 5.8 (formerly regarded as late Neolithic, but this may be revised to ‘earlier prehistoric’ in the light of fresh finds from Wellington Quarry))*

The fabric is hard, dense and well fired with a dark grey core and inner surface and an orange brown outer surface. Sparse to moderate angular quartz inclusions up to 3mm across break the internal surfaces readily. The external surface is smooth and rarely broken by inclusions. Rare white mica is also present.

*Fabric MoL 4 (WCC fabric type 4.1 Palaeozoic limestone tempered ware (Iron Age))*

The fabric is very dark grey to black throughout with smooth, slightly soapy surfaces and sparse small vesicles and rare quartz sand.

#### 5.1.3 **The vessel from the pit (Fig 18: 1–5)**

Thirty-five sherds (of fabric MoL 1), many conjoining and all apparently deriving from the same vessel were recovered from one of the primary fills (fill 2309) of a large pit (cut 2331). A single rim from the fill (context 2337) of an intrusive cut, a putative ‘robber’, appears to derive from the same vessel, although unfortunately no cross-fit could be established. Since the majority of the sherds refitted it seems likely that the vessel had been deposited complete or at least is mostly in its primary context. The breaks were largely not fresh indicating that it had been broken in antiquity, and this is suggested to probably result from disturbance by the putative ‘robber’ cut.



The sherds derived from a flat-based urn with a simple rim (Fig 18, nos 1–5). The base was externally expanded and has a diameter of 150mm from which the vessel flared outwards. The rim diameter was 220mm, nearly a third of which was present. Although conjoining sherds were not present a full profile has been reconstructed from base and rim/body sherds present. These indicate that the vessel was *c* 170mm in height.

The vessel had unevenly applied decoration running in a band between 35mm and 65mm below its rim. This comprised a row of fingernail impressions with a second partial row immediately below it on one part of the vessel wall. A lightly scored line is present immediately below the rim at one point but does not extend around the vessel. A further shallow scored line might represent additional decoration but could reflect accidental damage incurred prior to firing.

An internal charred residue was present on sherds from both the upper and lower portions of the vessel, though this was thicker on the base and was not present on or immediately below the rim. A sample of this material submitted for radiocarbon dating has produced a date of 1610–1400 cal BC (Wk-12255, 3220±41 BP).

#### 5.1.4 Other prehistoric pottery

Although pottery was recovered from eight other contexts in six trenches across the remainder of the site, there was little diagnostic material present. The exception was a flat-topped, T-shaped rim with a diameter of 200mm (from context 2706; Fig 17, no 6). A lug may also have present on this vessel which had a rim diameter of 200mm. This and associated contexts in Trench 27 (contexts 2703 and 2705) produced a significant quantity of angular quartz tempered pottery (fabric MoL 3; 61 sherds, weighing 183g). Although dating of this fabric is problematic (see below) the context and the presence of a T-shaped rim are possibly indicative of a Late Bronze Age date.

A further concentration of pottery was recovered from context 3401, from which 45 sherds, weighing 218g. Although some body sherds were present, many fragments were little more than crumbs. Three fabrics (MoL 2, 3 and 4) and several vessels were clearly represented. No base or rim forms were recovered, however, three sherds (two conjoining) had fine incised linear decoration. This assemblage may be assigned an Iron Age *terminus post quem* date on the basis of a small amount of Palaeozoic limestone tempered ware. However, given the association with a quantity of quartz tempered sherds (a fabric associated with Late Bronze Age or Neolithic activity at Wellington) in this feature, this may represent contamination or possibly indicate that the use of that this fabric extended in date back into the Bronze Age.

The remaining material (from contexts 1200, 2100, 2406 and 3302) was restricted to tiny fragments and crumbs of poorly preserved material. Of this the material from context 2406 (?fabric MoL 3) can be dated to the Early Neolithic period on the basis of a radiocarbon determination derived from charred material within the pit fill (see above).

#### 5.1.5 Discussion

On the basis of form and fabric the vessel from the pit can be dated to the Middle Bronze Age (1600–1200 BC). This is confirmed by the radiocarbon sample taken from the internal residue, which indicates a date falling within the first half of this period.

Strong parallels for the vessel are represented in the Middle Bronze Age assemblage from Glanfeinion, Powys where a range of vessels from the cordoned, bucket and barrelled urn traditions were identified, associated with a roundhouse (Gibson 1997, 188–93). In particular, parallels exist for the simple rounded rim form, bucket-shaped profile and expanded base (fig 3.1, 3.8 and 3.9) while the decorative scheme of a horizontal row of fingertip impressions is also mirrored on one vessel (fig 3.7). These vessels were dated *c* 1400–1170 cal BC (at 95% level of confidence) suggesting a slightly later date than the Moreton vessel. On a wider basis

the vessel finds numerous parallels within the Deverel-Rimbury ware tradition common across southern England.

Of the remaining material from the evaluation, the only potentially diagnostic material is the T-shaped rim from Trench 27 for which a Late Bronze Age date can be suggested. Material from Trench 24 (context 2406) may be dated to the Early Neolithic through association with a polished axe fragment, small flint assemblage (see below) and a radiocarbon date.

For the remainder of the prehistoric assemblage, dating is problematic. The adjacent Wellington Quarry has produced a range of early prehistoric material dating from the Neolithic, Beaker and Late Bronze Age periods. Early Neolithic open and carinated bowl traditions are represented predominantly in a quartz tempered fabric though a quartz sand fabric with possible mica is also present (Gibson 2002). Peterborough Ware vessels have been identified in three different fabrics, with a grog tempered vessel of the Fengate sub-style, a mud- or sandstone tempered vessel possibly of the Mortlake tradition and one or possibly two vessels with large quartz temper present (Gibson 2002). Later Bronze Age vessels have also been recorded in a quartz tempered fabric and including carinated and furrowed bowls. In the absence of diagnostic forms, the remaining material from this current evaluation, although almost certainly of Neolithic or Bronze Age date, is not sufficiently distinctive to allow more refined dating due to the long tradition of use of quartz tempering recognised at Wellington.

## 5.2 The flint (Robin Jackson)

A total of 46 flint items were recovered from fifteen contexts across the site and in eleven of the trenches excavated (Table 2). The majority of this material comprised waste products from flint working (unutilised flakes and blades, spalls and miscellaneous debitage), however, seven tools were also present.

Raw material used was variable, ranging from low quality flint with heavily abraded buff cortex through to quite good quality material with thick white cortex. Colour varied from pale to mid grey flawed material through to dark grey, almost black flint. Some honey coloured material was also present. This variability probably reflects the lack of good raw material sources in the area leading to use of good quality imported flint from a variety of sources allied to use of gravel derived flint which tends to be of mixed quality but could have been collected locally. Assessment of the flint from the neighbouring site at Wellington Quarry, Marden indicated that both imported and gravel derived materials were used (Bellamy 2002). Use of local pebble flint as a raw material has been commonly observed at sites in surrounding counties as at Lightmarsh Farm (Jackson *et al* 1996) and Aston Mill, Kemerton (Saville 1990).

The resultant variable, but often small, size of flint pebbles and the unpredictable quality of the flint are likely to have influenced tool size and reduction strategies in any given area. In addition the suitability of locally available material may have varied according to the dominant technology in use at any time. In particular its use for a blade-based technology may have been limited and it has been suggested that during the Mesolithic and Neolithic imported chalk flint might have been preferred (Dalwood 1992). Again tool size may have been affected by the restricted availability of raw materials and the consequent working of raw materials to exhaustion. Despite this evidence from Lightmarsh Farm (Jackson *et al*), Kinver (Bevan 1993) and Aston Mill (Saville 1990) suggests that higher quality pebble flint was used from the Mesolithic through to the Bronze Age.

The current assemblage was too small for any firm statements to be made regarding predominant technology, although evidence of both hard and soft-hammer flaking was present as were indications of both small narrow blade production as well as less specific flake technology. This probably reflects a wide date range for the assemblage, an impression confirmed by the few diagnostic items present. These included the tip of a Mesolithic

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microlith point and a serrated flake of probable Neolithic date (context 3302). Unfortunately the most common tools present were typically scrapers which are generally less chronologically diagnostic. The only dateable material is therefore the assemblage from pit fill 2406 which is dated by association with a radiocarbon date on charcoal to the Early Neolithic.

*Catalogue of illustrated pieces (Fig 19)*

- 1 Context 3104. End scraper. Fine retouch on distal end
- 2 Context 3105. Scraper on a large blank. Steep retouch on right edge and distal end.
- 3 Context 3202. Burnt and broken scraper. Neatly retouched on one side.
- 4 Context 3302. Serrated flake. Fine serration on right edge.
- 5 Context 2406. End and side scraper on a thick blank. Steeply angled retouch on distal end and right edge. Shallow retouch on proximal end and left edge. Ventral face also has some retouch. The extent and variability of retouch may indicate that this may have been worked on a disused core.
- 6 Context 2406. Scraper on a thick blank with proximal end removed. Thick white cortex. Steep retouch on right edge and end.

### 5.3 **Other worked stone (Robin Jackson)**

Apart from the flint, other flaked stone products were present in the assemblage. The most important of these was a fragment of a Neolithic polished stone axe (Fig 20) recovered from a pit fill (context 2406). Only the broken blade end was present. Elements of both faces and one flat edge facet survived, however, the axe had been quite heavily flaked with one edge of the break having been blunted suggesting reuse of the item. Two flakes were recovered from the same context and appear to derive from the same axe. One of these retained an area of polish on its proximal end, the slightly curving polished surface having effectively provided the striking platform. A radiocarbon date on charcoal from the pit from which this was recovered indicates an early Neolithic date for this item.

A further flaked stone fragment from an alluvial layer in Trench 27 (context 2703) may also derive from a polished stone tool. Although no polished surfaces were present, the very fine grained stone appeared comparable to several examples of flaked axes recovered from the adjacent Wellington Quarry.

### 5.4 **Other artefacts (Erica B Darch)**

The remainder of the artefact assemblage from the site dated to the Roman, medieval, post-medieval and modern periods. It included pottery, stone, slag, brick, iron and clay pipe.

The pottery fabrics are quantified in Table 3. Most of the sherds were small and abraded, and as a result quite difficult to identify by fabric. The identified fabrics were all of types either widely traded or locally produced, and therefore commonly found throughout the region.

The largest group of material was Roman pottery (14 sherds, 107g), followed by slag (6 pieces, 191g). The other material occurred in small quantities.

#### 5.4.1 **Roman**

The Roman material consisted entirely of pottery. This included one sherd of micaceous Samian, which probably dated to the 2nd century (Derek Hurst, pers comm), and one highly

abraded black burnished ware rim sherd, which could not be dated more closely than the general date for this type of pottery (AD 120 to 4th century). The remaining sherds were all Severn Valley ware (mid 1st to 4th century), and contained no diagnostic sherds.

#### 5.4.2 **Medieval, Post-medieval and modern**

The three medieval sherds recovered could not be identified by fabric. Two pieces of slag were recovered (148g; context 2304). They were probably medieval or later and the result of a highly fired ceramic substance (Derek Hurst, pers comm).

Post-medieval and modern pottery included a sherd of Deerfold/Lingen ware (recorded as fabric 100) which was produced during the early post-medieval period in North Herefordshire (Hurst 2002, 24), one sherd of red ware and one sherd of modern stone china. There was also clay pipe stem and a small piece of brick could not be more closely dated than post-medieval.

All other material remained undated.

#### 5.4.3 **Discussion**

Fifteen contexts produced material which dated to periods later than prehistoric.

The post-medieval and modern material was largely recovered as unstratified material during machining. Of the remainder a *terminus post quem* of Roman was assigned to contexts 2305, 3105 and 3303. The other contexts did not contain material which could be dated.

The assemblage is not large and none of the material present is unusual for the area. Salvage recording and excavation at the adjacent site at Wellington Quarry has revealed extensive Roman and medieval remains, and evaluation at nearby St Donats Farm has produced evidence of Romano-British settlement (Jackson *et al* 1999) indicating extensive use of this landscape in the past.

## 6. **Environment**

### 6.1 **Hand-collected animal bone (Ian Baxter)**

#### *Recovery*

Most of the bones forming the basis of this assessment were collected by hand. It is possible, therefore, that there is a recovery bias against bones of the smaller species.

#### *Residuality and contamination*

At the time of writing this report there is no information regarding residuality and contamination. However, the condition of the bone suggests that residuality is not a problem at this site.

#### *Context*

The bones mostly originate from ditches, pits and alluvial layers.

#### *Preservation*

The preservation of the bone varies between good to poor, with bones from waterlogged deposits particularly well preserved.

#### *Storage and quantity*

The animal bones are stored in 5 cardboard boxes of the following size: 44.5x27.5x18.5cm. Most of the boxes are full. The bones are washed and bagged by context.

The total weight of the hand-collected bone is approximately 22kg. This assessment is based on examination of the total assemblage.

### *Variety*

The identified animal bones belong to domestic species (Table 7). Of particular note is the skeleton of a horse found in one context (2333). This was found in an undated alluvial layer stratigraphically above contexts of prehistoric (Bronze Age) date. The animal was a senile mare (there is no evidence of canine teeth), aged up to forty years old and standing around 15 hands at the shoulder. It was very robust with prominent muscle attachments and fused lumbar vertebrae indicative of spinal arthritis (spondylosis deformans), suggesting that it was a pack animal habituated to carrying heavy, most probably excessively heavy, loads. The size of the animal indicates that it is very unlikely to be any earlier in date than post-medieval since even English medieval horses were on the small size.

### *Potential*

This is a tiny assemblage, and considered by itself of very limited potential. However, if combined with the other assemblages from the Wellington Quarry it could provide a significant addition. No further work is required on the animal bone assemblage, which has been fully recorded.

## 6.2 **Plant macrofossil remains (Elizabeth Pearson)**

### *Trench 23: contexts 2306, 2308, 2309, 2310, 2327, 2329, 2342 and 2344*

The lowest fill of the large Middle Bronze Age pit (context 2310) was slightly waterlogged, and as a result organic matter survived (Tables 5 and 6). This was predominantly made up of unidentifiable fine vegetative matter, although seeds of a rush, probably soft rush (*Juncus effusus* type) were moderately abundant, a plant which is locally abundant in wet pastures, bogs and damp woods especially in acid soils. Occasional seeds of mint (*Mentha* sp), which are mostly likely to be corn or water mint (*M. arvensis/aquatica*), were also recorded. The deposits overlying this contained only small fragments of charcoal and animal bone.

This was also the case for the contemporary posthole fills 2327 and 2239 (although the latter also contained fine vegetative matter), and two deposits (2342 and 2344) surrounding burnt, possibly cremated bone.

### *Trench 24: context 2406*

Only unidentifiable fine vegetative matter and small charcoal fragments were recovered from the Early Neolithic pit fill 2406 (Table 5).

### *Trench 30: contexts 3006, 3010, 3012, and 3015*

Macrofossil plant remains were preserved by waterlogging in organic clay deposits infilling a broad palaeochannel (contexts 3012 and 3010), and within a later intercutting drain or channel (context 3015; Tables 5 and 6). An extensive organic layer (context 3006) may be the final infilling of the channel or have formed in an area of marsh around it. These assemblages were dominated by plants which are common in or at the edges of ponds, water-filled ditches and marshes, as expected. These included, for example, sedges, (*Carex* spp), spike-rush (*Eleocharis* sp), celery-leaved crowfoot (*Ranunculus sceleratus*), crowfoot (*Ranunculus* sbgcn *Batrachium*) and possibly bulrush (*Schoenoplectus lacustris*), showing that the channels were well vegetated by the time the deposits formed.

However, in the lowest fill of the early broad palaeochannel (context 3012), a greater variety of species were recorded, several of which were dry ground species. For example, small nettle (*Urtica urens*) is common on cultivated or disturbed ground, and common nettle (*Urtica dioica*), bramble/raspberry (*Rubus* sp) in neglected and overgrown or wooded areas. Other species, such as fumitory (*Fumaria* sp), grasses (Gramineae sp) and thistle (*Carduus/Cirsium* sp) can be found growing in various habitats.

Other complementary environmental analysis was carried out on deposits from this sequence. Context 3015 was processed for analysis of mollusc remains (see Section 6.3 below) while contexts 3006 and 3012 were assessed for pollen remains (see Section 6.4 below). Insect



remains were noted in contexts 3010 and 3012, the latter of which were submitted for assessment (see Section 6.5 below).

Dating indicates that this sequence of deposits spanned the later half of the Roman period through to the post-Roman period

#### *Trench 33: context 3304*

Macrofossil plant remains survived as a result of waterlogging in an organic primary fill of a Roman ditch (Tables 5 and 6). This assemblage was dominated by seeds of crowfoot (*Ranunculus* sbgen *Batrachium*) and sedge (*Carex* sp) which would have grown at the wet, muddy margins, and grasses (Gramineae spp). Occasional cherry/sloe (*Prunus avium/cerasus/spinosa*) and bramble (*Rubus fruticosus* agg) suggest scrub or woodland in the near vicinity.

### 6.3 Molluscan remains (Andrew Mann)

Of the 56 samples taken during the evaluation three, three 10 litre samples, were selected for molluscan assessment. These were taken from deposits associated with the two main features discovered, the Middle Bronze Age pit in Trench 23 and the palaeochannel and associated ditch in Trench 30. Two contexts (3002 and 3006) were selected from above and in the palaeochannel respectively, while a further context (2306) was sampled from the upper fill of the Middle Bronze Age pit. A list of the other samples taken, which visibly contain molluscs, is shown in Table 8.

#### *Trench 23*

Context 2306, the uppermost fill over the Middle Bronze Age pit and its recut or 'robber' produced a small molluscan assemblage, (Table 9). The few species identified suggest the upper fill was deposited or formed in a damp area prone to seasonal desiccation surrounded by open grassland. However using such a small assemblage raises questions about accuracy and contamination. If the final fill (context 2306) represents a period of animal trample surrounding a boggy area, then the limited numbers of molluscs may have been transported in mud adhering to the legs of these animals from other habitats.

#### *Trench 30*

A sample was taken from a widespread organic deposit (context 3006), below the red alluvium and above a blue grey clay alluvium. This large spread is believed to be the final deposition of organic material associated with the channel and has been dated to the post-Roman period. A sample was taken towards the edge of this material in order to increase the chance that the molluscan remains would derive from the surrounding environment and would not only reflect the palaeochannel conditions. The molluscan assemblage was dominated by *Bithynia tentaculata*, *Pisidium* sp and *Lymnaea truncatula*. This small assemblage suggests that the channel contained slow moving well-oxygenated water. While the large numbers of *Bithynia tentaculata* suggests that the channel was densely colonised by aquatic plants in hard water. Unfortunately these were all aquatic in nature (Table 10) and although they can provide some insight in to the palaeochannel they are less useful in interpreting the local surrounding environment.

A second sample was taken from across thin bands of organic matter within the red alluvium overlying the palaeochannel context (3002). During excavation it was thought that these might have formed as a result of increased stabilisation and soil formation through the growth of *in situ* plants. Therefore it would be likely that the molluscs inhabiting these soils would be contemporary with the surrounding habitat. However no molluscs were discovered and it is now believed that these organic bands actually result from redeposited material (Jordan 2002). This increases the risk that any molluscan remains which might be present in any of these deposits will be contaminated.

#### *Other samples*

The remaining samples, which contain molluscs (Table 8), are mostly associated with the palaeochannel. As seen with context 3006, the faunas from here are most likely to reflect the channel and not the surrounding environment.

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Further samples from Trench 23 may however be of use. During a period of stability pre- and post- yellow/brown alluviation, soil formation became better established (Jordan 2002). This may be useful as it is more likely that any molluscan faunas discovered here will be contemporary with the surrounding site and not derive from redeposited material.

#### *Conclusions*

The molluscan fauna is clearly very limited considering assemblages are taken from 10 litre bulk samples. This was also visible on site, with molluscs appearing to be very localised in small concentrations. Preservation of molluscs around the site appears to be affected by their proximity to palaeochannels. Although the molluscan remains are present in low numbers preservation of those shells closer to the channel appears to be good. Assemblages from contexts around the Bronze Age pit appear to be less well preserved, and not only was the fauna from context 2306 small, but individuals were also more fragmentary.

Of the remaining samples, those from the palaeochannel region in Trenches 30 and 31 will probably be of little use in describing the surrounding environment, as they are from deposits deeper in the channel than that selected for assessment (context 3006). However, they may be able to provide some insight into the speed of water flow and vegetation within the channel. Those samples from Trench 23, which are believed to be from localised soils and not rapidly redeposited material, may prove to be the most useful if preservation is good. Nevertheless it is important to establish throughout the site how quickly material was deposited and whether it was formed through localised *in situ* processes or from redeposited material.

#### 6.4 **Pollen analysis (James Greig)**

All the samples contained reasonable amounts of well-preserved pollen (Table 11), so that good results should be possible from any future work related to this material.

Context 2310 (primary fill of deep Middle Bronze Age pit in Trench 23) contained mainly grass pollen with a range of other grassland plants such as plantain (*Plantago lanceolata*) and knapweed (*Centaurea nigra*). Charcoal was also present in the slide. Cereal pollen is present, and a possible grain of the weed *Spergula*, so it appears that landscape was mainly of meadow with some arable farming at the time in question. Tree pollen is low.

Context 3012 (lower fill of broad palaeochannel in Trench 30) contained mainly *Corylus* pollen, with some Lactuceae from composites such as dandelions, and some sedge. *Pteridium* (bracken) was quite abundant.

Context 3006 (upper organic deposit in Trench 30) contained mainly sedge pollen, together with grasses and a range of possible grassland plants. *Corylus* (hazel) was present, but tree pollen is not abundant.

On this basis, further pollen analysis work on these and other samples would be productive, and would provide useful information on the occupied landscape of this area, and its development. The results would be comparable with those from the adjoining Wellington quarry, Marden, analysis of which is in progress.

#### 6.5 **Insect analysis (David Smith)**

The insect fauna recovered from a lower deposit of Roman date within the silted up watercourse in Trench 30 (context 3012) consisted of moderate numbers of Coleoptera (beetles). These showed some erosion but in the main were quite well preserved. The quantity of remains present suggests that full analysis has the potential to yield an interpretable fauna. Mainly this will inform us of the local conditions at the time of the deposition of this material. The single sample produced a fauna that was dominated by water beetles, such as the *Octhebius* species, *Hydreana* species, *Colymbetes fuscus*, *Laccobius* and *Chaetarthria seminulum* that are normally found in slow-flowing and still water. Other

species such as the *Dryops* and the *Lesteva* "rove beetle" are usually associated with vegetated and muddy margins of bodies of water.

Also present are numbers of *Bembidion*, *Nebria* and *Agonum* species of "ground beetle". These can be sensitive indicators of sediment and ground conditions in an area and will warrant full identification. Equally, the *Notaris* species suggests that patches of water reed and other emergent vegetation may have boarded the water body.

In terms of the wider environment there is a suggestion that pasture may have been adjacent or at least present in the landscape. This is typified by the presence of some numbers of *Aphodius* dung beetles and species such as the *Apion* that feed on pasture and grassland plants.

It is clear from this single sample, and the small fauna that it produced, that the deposits at Morton-on-Lugg have a strong potential for insect analysis. However, this individual fauna has a limited interpretative potential since it seems to be mainly derived from the watercourse in which it was deposited rather than the surrounding environment.

The insect remains from Morton-on-Lugg should form a complimentary study to any pollen and plant macrofossil analysis from these deposits. Fuller analysis identifying the insects present in this single sample would be of value and should other fieldwork occur in this area, extensive sampling for insect remains would be warranted.

## 6.6 Environmental discussion (Elizabeth Pearson)

### 6.6.1 Site environment

The former channels, areas of peat development, and alluvial accumulations in the low lying areas of zone A were considered likely to form the main focus for investigation of the surrounding environment as a greater range of remains were expected to survive as a result of waterlogging. On-site evaluation of the sedimentary sequence showed that the microstratigraphy of the upper alluvial unit is better preserved here than elsewhere on site, although the peat and organic clay deposits below appear to have suffered from some dessication and decay, probably recent (see Appendix 2). Organic remains were nevertheless, relatively well preserved in the palaeochannel and later ditch in Trench 30, although it is the pollen from this location which showed the greatest potential to provide information on the wider environment. The plant macrofossil, mollusc and insect remains mainly reflect the conditions within the channel or marshy area itself, or in the near vicinity. Elsewhere on the site, environmental remains from the base of a deep pit provide also some information on the site environment.

#### *Zone A: southern area*

Samples have been submitted for radiocarbon dating from the organic deposits in Trench 30 indicate that the deposition of these organic silts commenced during the Roman period and extended possibly to the start of the 7<sup>th</sup> century AD. On account of their stratigraphic position, the channel and later ditch had been considered likely to date to the later Holocene (Appendix 2) and this dating has confirmed that impression.

The pollen evidence from the earlier part of the sequence (the broad palaeochannel, context 3012) suggests the presence of some woodland (mainly hazel, with some elm and oak) in the local area and otherwise grassy vegetation, although pollen values are relatively low in this sample. The pollen from the later organic deposit (context 3006) overlying the ditch is more dominated by pollen from wet, marshy or aquatic vegetation, presumably growing *in situ*.

Both plant, insect and mollusc remains suggest that the earlier and later channel or marshy areas were well vegetated (with for example, bulrush, spike-rush and sedges) and carried slow-flowing or standing water by the time the deposits formed. The predominance of



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herbaceous rather than woody vegetative remains suggests open rather than woody or scrubby conditions in the immediate vicinity of the channels in all samples. Although the macrofossil remains are generally dominated by flora and fauna within the channels, an element of the environment in the near vicinity is evident. For example, plant remains in the lower fill (context 3012) of the early broad palaeochannel provide evidence of weedy disturbed or cultivated ground which is absent in other samples. This corresponds to some degree with the pollen results from this deposit (which equally appear to reflect the wider environment) although scrub or woodland is more dominant, but probably further afield. The insect remains, however, indicate an element of pasture (in the form of dung beetles) which is not discernible from the other types of evidence. The pollen, plant macrofossil, and insect analyses therefore emphasise slightly different aspects of the environment. The widespread upper peaty deposit (3006) of sub-Roman date, which overlies the cut channel, may indicate the abandonment of water management, and a return to a more natural flooding regime. Any further work on both micro- and macrofossil remains may therefore have the potential to illustrate changes in environmental conditions and land management over time on both a smaller and larger scale.

The survival of organic bands within the upper red alluvium may be useful for radiocarbon (AMS) dating of the upper alluvial deposits, an analysis which has not been possible elsewhere in this area, particularly at Wellington Quarry. This is important as dating alluvial sequences is problematic, being generally restricted to parts of the sequence where organic remains survive, normally in the form of palaeochannels.

#### *Zone C: Trench 23*

Pollen remains suggest an open grassy environment, with perhaps some arable land nearby, or the presence of imported cereals. Both plant and molluscan macrofossil remains surviving in the Middle Bronze Age pit (primary and later fills), also indicate open grassland conditions, although this interpretation is based on limited diversity of flora and fauna. Further samples from this part of the site, in areas where there has been soil formation, have potential use for molluscan analysis. For both types of remains, processing larger volumes of material than possible at assessment level would increase the potential for recovery of a broader range of species and greater abundance of individuals.

#### 6.6.2 **Human activity on the site**

Few environmental remains were recovered which directly provide information on human activity. A mature female horse skeleton in Trench 23 appears to have been buried deeply in the alluvium, but is likely to be relatively late in date, probably being of post-medieval date. The small quantity of remaining animal bone of prehistoric date has low potential for providing information on animal husbandry techniques and food waste disposal, although preservation was good and thus any substantial assemblages from the site are liable to have good potential.

Pollen remains have provided some indication of either cereal cultivation or processing of imported cereals in the vicinity of the site, while the environmental evidence overall indicates a predominantly open, probably pastoral landscape.

### 7. **Discussion**

#### 7.1 **The landscape environment and depositional sequence**

The topography of the natural deposits plays an important role in defining the nature of human involvement and interaction with the environment of this part of the Lugg Valley. Soil analysis and magnetic susceptibility recordings have enabled a clearer picture of the nature and range of deposits across the site.

In Zone A, the picture is very similar to that at the adjacent site at Wellington Quarry. Here distinctive bands of alluvium overlie the natural gravels to a depth of up to 1.5m. In contrast, in Zones B and C, to the north, the deposit sequence has been altered in recent history. It is clear that the area has been levelled and in some places excavated material has been redeposited across depressions in the ground surface as seen in Trenches 16, 17, and 19. However, features and deposits cutting into the natural gravels do remain sealed beneath truncated alluvium which is much sandier than in Zone A, perhaps as a result of arable farming and mixing by ploughing. Thicker bands of alluvium do exist around the edges of Zones B and C particularly at the southern boundary of zone C where significant Bronze Age deposits were discovered in Trench 23. Profiles recorded across the site show that there is a considerable drop in the level of natural gravel from Zone B through C and down into Zone A (Figures 3a and 3b). This clearly demonstrates that the topography of the site is based around drainage to the south, ultimately feeding the River Lugg.

In Trench 27 a blue grey alluvium, mottled with concentrations of calcareous concretions or tufa was identified. This material occurs within shallow irregular depressions in the natural gravel surface and may represent parts of former watercourses or ponds, perhaps recharged with calcareous groundwater and gradually evaporating within a stable valley floor environment. Similar deposits have been widely observed in Wellington Quarry especially in its northern extension.

More significant evidence for channels occurs in Trenches 30 and 31. Here the peat deposits within channels clearly represent seasonal drainage across this part of the site.

There is evidence for human activity around these deposits, prehistoric pottery and flint was recovered in Trench 27 and there was some evidence for re-working of the channel in Trenches 30 and 31. As the land is low lying and prone to significant seasonal flooding, it is unlikely to have supported permanent occupation or extensive activity. However, the activity recorded clearly indicates former activity and the area was probably used on a seasonal basis and for pasture. The latter is well attested in the environmental record from the evaluation. The geoarchaeological record supports this in the form of evidence for animal trample over and around the infilled Middle Bronze Age pit.

Flooding was clearly a problem across the area as indicated by drainage features, environmental evidence and the extensive accumulation of alluvial deposits. This has been supported by the recording of similar deposits and numerous features associated with water management in the adjacent Wellington Quarry (Jackson *et al* 1996).

## 7.2 Early prehistoric

Early prehistoric evidence consists of scattered fragments of pottery and a single Early Neolithic pit (2406) containing flint artefacts and pottery recorded in Trench 24. Further flint artefacts were recovered from alluvium layers and from the fill of the palaeochannel (context 3105). The possibility that some of the flint may date to the Mesolithic period (context 3302) is significant as this infers that seasonal landuse may have begun earlier than previously thought in this area.

The Neolithic evidence further supports the findings from Wellington Quarry where similar features and artefacts have been discovered, including a discrete group of 12 pits containing Early Neolithic material (Fagan *et al* 1993). The evidence from these pits appears to reflect the seasonal use of this part of the valley, perhaps associated with hunting, fishing and use of the more open environments of the floodplain during drier periods of the year. Such features may be expected across the whole of the area in general, and there appears to be little or no pattern for their distribution, as might be expected from seasonal and varied usage of a floodplain environment by a mobile population.

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### 7.3 **Bronze Age**

The large pit (2331) and associated features in Trench 23 have been dated through pottery analysis and radiocarbon dating to the first half of the Middle Bronze Age (*c* 1600-1400 BC). These represent significant activity in an area where activity of this date is not common.

It seems likely that the pit (2331) provided either a funerary or ritual context since it appears to have been 'robbed', an unlikely fate for a domestic feature or waterhole. Furthermore its scale and profile argue against either of the latter interpretations, being rather large for a domestic pit and not having the weathered Y-shaped profile or basal silt deposits typical of Bronze Age waterholes. The posts are interpreted representing a structure surrounding or partly surrounding a central pit and forming a screen or barrier or marking it in the landscape.

One possibility is that the pit represents the principal burial within a funerary monument. Pieces of pottery from a single vessel were recorded from the primary fill and from the robber cut, showing that excavated material was replaced back into the pit after the central area was plundered. The practice of inserting further burials into funerary monuments is common and associated robbing often disturbed the primary inhumation or removed it entirely (Woodward 2000). The latter may explain the absence of human remains, although only a small area of the pit was excavated and these may survive within the remainder.

The argument in favour of a funerary context is supported by the probable presence of a timber structure (?coffin) in its base and the identification of possible cremation deposits surrounding the pit, secondary burial activity being commonly encountered in such contexts (Woodward 2000). The presence of animal bones within the fills of the pit, associated with the wooden structure may also testify to a burial ritual or practice and may represent offerings (Woodward, 2000).

The form of the monument is less evident. Although a mound may have been present and been reduced or slighted by the robbing event, there was no evidence for such a structure. Similarly there was no evidence for a ditch surrounding the monument. One suggestion is that the nature of alluviation and post-depositional processes has masked this, another is that the feature represents a pond barrow and never had a significant mound or ditch (Grinsell, 1979, 21). Alternatively some other form of funerary context might be represented, there being 'an extraordinary diversity' within funerary monuments of this period (Parker Pearson 1999, 86–90).

Lastly, it is important not to exclude the possibility that some other form of ritual deposition is represented, such as a timber lined well or shaft.

In general terms, taking into account the available information, it is possible to conclude that the southern part of Zone C potentially forming part of a Middle Bronze Age funerary or ritual landscape. The environmental conditions at this time would have been consistent with known funerary landscapes, which are characterised as being relatively open and suitable for pasture, either downland or in river meadows (Parker Pearson 1999). The presence of possible cremations would be consistent with the dating, as this practice became more prevalent at this time. The exact form of the features uncovered is difficult to establish and the lack of mound or ditch is a concern, while the potential for the postholes to form a palisade or fence around the pit may indicate an alternative ritual function.

Apart from the pit, further but later Bronze Age activity is testified in Trench 27 where pottery, flint and bone were recorded within a shallow irregular depression. Similar deposits have been widely recorded within Wellington Quarry (especially within the northern extension) and are believed to represent fragments of former watercourses or ponds. These appear to have either attracted, or secured preservation of, human activity, possibly related to seasonal (summer) occupation during the Later Bronze Age.

#### 7.4 **Romano-British and early post-Roman**

Activity in this phase is restricted to artefactual evidence largely recovered from alluvial and unstratified layers and the deposits associated with a watercourse and ditch in Trench 30. Dating indicates that during the Roman period a watercourse (possibly of earlier date) became clogged with silt and organic material. A ditch with a distinctive profile running along the length of this silted up watercourse indicates that efforts were made to maintain this watercourse and improve drainage of the area. It can be suggested that this may specifically relate to attempt to drain (?land reclamation) Wellington Marsh during the Roman period. One possibility is that this type of improvement or reclamation could relate to land management associated with the nearby villa recorded in Wellington Quarry. This ditch subsequently silted up and during the post-Roman period (probably by 600 AD) widespread organic silt deposits indicate that the area had once again reverted to a wet and marshy.

It is likely that much of the site area was under pasture during this period as it was clearly too low lying to have supported settlement activity on any large scale. Evidence from Wellington Quarry generally relates to water management, with numerous undated ditches assigned to Roman, post-Roman or medieval periods of activity (Jackson 1996) and showing repeated efforts to maintain drainage and control water flow.

#### 7.5 **Medieval – modern**

This period is represented by possible field boundaries and unstratified artefactual evidence. Whilst Zone A appears to have remained as pasture throughout this period and is still liable to flooding, the slightly higher ground of Zones B and C may have been subject to arable cultivation. There is evidence of disturbance to the subsoil, possibly indicative of ploughing.

Several linear features have been identified both as buried remains (Trenches 17 and 19) and surviving as earthworks across Zone A. These probably represent medieval or later field divisions or water management features.

More recently the development of the army base has dominated the landscape. Significant levelling and landscaping was carried out prior to the establishment of the base, and this appears to have involved both scalping and infilling of hollows and depressions. Profiles recorded in Zones B and C show significant layers of made ground and there is indications of truncation of features such as the possible field boundary in Trench 17.

### 8. **Significance**

In considering significance, the Secretary of State's criteria for the scheduling of ancient monuments (DoE 1990, annex 4), have been used as a guide.

These nationally accepted criteria are used to assess the importance of an ancient monument and considering whether scheduling is appropriate. Though scheduling is not being considered in this case they form an appropriate and consistent framework for the assessment of any archaeological site. The criteria should not, however, be regarded as definitive; rather they are indicators which contribute to a wider judgement based on the individual circumstances of a case.

For the purposes of assessment, the site has been divided into Areas based on the potential archaeological importance of the deposits and/or features found during the evaluation (Fig 20). No closely defined areas of deposits were recorded which are considered to be of great national significance. However, in the overall context of the site within the known archaeological and palaeoenvironmental landscape, areas of deposits can be considered to be at least of regional significance while other may be considered to be of local importance.

The three Areas are considered in turn below.

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### Area A (Fig 21)

This coincides with the evaluation Zone A and is considered to have high archaeological potential. The Mesolithic, Neolithic, Late Bronze Age, Romano-British and post-Roman *periods* are represented by activity based on flint artefacts, pottery and possible drainage features widely dispersed across the low lying floodplain. Evidence of later field boundaries or water management features (of medieval or later date) is provided by earthworks visible in this area.

The single, Early Neolithic pit in this area (in Trench 24) containing pottery, flint and polished stone artefacts is unlikely to be in isolation as both discrete clusters and widely dispersed isolated examples of such pits have been found at Wellington Quarry. Similarly the use of a low lying and wet hollow, probably during the Late Bronze Age (Trench 27) is unlikely to be isolated, comparable deposits having been widely recorded in the adjacent quarry. As a whole, this floodplain environment appears to have been seasonally utilised on a regular basis by mobile groups throughout the early prehistoric period. Subsequent activity is represented in this area by Romano-British (or immediately post-Roman) drainage and boundary features indicative of a managed, farmed landscape.

The early prehistoric features and artefacts are considered to be of high archaeological importance. Such deposits, although well attested at the adjacent quarry, have *rarely* been found and studied in the County or the region as whole. Their *group value* when studied alongside deposits found at Wellington Quarry is high, whilst they contribute to the considerable *diversity* of archaeological deposits which have been recorded in the vicinity. Their potential association with waterlogged remains and well preserved palaeoenvironmental and other landscape evidence increases their *group value* and *diversity* elevating their importance to at least regional significance and potentially to national importance.

Features of a later date such as the Roman drainage ditch are of local significance and have a high *group value* when considered in association with other Roman activity in the vicinity and the long period of human activity and landscape adaptation and exploitation surviving in the area. Evidence of Roman land management and potentially of land reclamation would be of regional importance since little is known of such practice in this area.

The *survival* and *condition* of deposits in Area A is good. Alluvial deposits seal and protect the archaeological deposits and there is no evidence for ploughing. Preservation of artefacts, bone and other environmental material is good. All deposits are highly *vulnerable* to the effects of overburden removal while the effects of de-watering within the proposed quarry are also a threat to the survival of deposits. The effects of de-watering within the valley as a whole have already had some detrimental effect on the deposits with cracks forming in the upper layers (David Jordan pers com). The *potential* survival of organic bands within the upper red alluvium may be useful for radiocarbon (AMS) dating of the upper alluvial deposits, an analysis which has not been possible elsewhere in this area, particularly at Wellington Quarry. This is important as dating alluvial sequences is problematic, being generally restricted to parts of the sequence where organic remains survive, normally in the form of palaeochannels.

### Area B (Fig 21)

Area B coincides with Evaluation Zone B and the northern two thirds of Evaluation Zone C. It can also be extended southwards to cover the area of the earlier evaluation (Miller and Griffin 2002). Deposits within this area consist of possible field boundaries, confined to the medieval and later *periods* and are considered to be of low archaeological importance. This type of feature is not considered to be *rare*. The effects of ploughing and landscaping have affected the *survival* of deposits within this area with evidence for the truncation of features.



Despite this paucity of deposits and their poor survival, it is considered that there is a low to moderate *potential* for important deposits to occur considering the proximity to known significant archaeological and palaeoenvironmental deposits and the wider spread of important deposits across much of this area.

### Area C (Fig 21)

This occupies the southern third of Evaluation Zone C. The limits of this area are defined by the position of trenches and test pits which encountered significant archaeological deposits and features or indicated their potential survival (Trenches 23, 34, 35 and 36).

Deposits within this area date to the Middle Bronze Age *period*. Deposits directly relating to human activity were recorded in Trenches 23 and 34, while the alluvial sequences in the limited areas of both Trenches 35 and 36 indicated the presence of similar conditions for human activity and the survival of related deposits in these areas.

The potential funerary or ritual feature, post settings and cremation deposits in Trench 23 suggest the survival of a possible funerary landscape. This is a *rare* discovery in the region, and these deposits can be considered of at least of regional significance. The *group value* when considered in association with other deposits of a prehistoric date in the vicinity is high, thus elevating the deposits to potential national importance. This importance is enhanced by the *survival* and *condition* of deposits which is good with alluvial deposits sealing and protecting the features and contributing to the survival of worked timber and associated palaeoenvironmental remains. Such good survival of organic remains is rare in the Midlands and also allows the wider landscape context of these deposits to be considered, raising them to potential national significance.

The *vulnerability* of these deposits is high since the proposed quarrying will necessitate removal of all overburden to sand and gravel. Also the effects of de-watering in the area are considered to threaten the *survival* of the deposits, especially of the waterlogged wood and palaeoenvironmental material in the base of the pit and for which even a slight and temporary lowering of the watertable is liable to have detrimental effects.

## 9. Publication summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

*An archaeological evaluation was undertaken on behalf of Entec UK Ltd, consultant archaeologists for Tarmac Western Ltd, client at Moreton-on-Lugg, Herefordshire (NGR ref SO 5030 4730; SMR ref HSM 32268). Deposits and artefacts dating from the Mesolithic through to the Romano-British period were discovered, with activity of Early Neolithic, Middle and Late Bronze Age date recorded within the evaluation site limits. Palaeoenvironmental remains included a former stream channel and drainage features, seemingly modified by human agency during the Romano-British period were also recorded and are also considered of importance.*

*The most important discovery was of a probable pond barrow or ritual feature dating to the first half of the Middle Bronze Age (c 1600-1400BC). This comprised a large pit which had been 'robbed' and which contained pottery, animal bone and worked wood, along with well preserved environmental remains. Postholes, two potential cremation deposits and a further pit appear to be contemporary and provide indications of a well preserved 'ritual' landscape.*

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## 10. **The archive**

The archive consists of:

- 25 Fieldwork progress records AS2
- 6 Photographic records AS3
- 2 Colour transparency films
- 2 Black and white photographic films
- 3 Sample index records AS18
- 57 Abbreviated context records AS40
- 11 Trench record (AS41)
- 3 Alluvium record sheets (AS42)
- 102 Scale drawings
- 1 Box of finds
- 1 Computer disk

The project archive is intended to be deposited with:

Herefordshire Heritage Service, Herefordshire Museum and Art Gallery, Broad Street, Hereford, HR4 9AU.

## 11. **Acknowledgements**

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## 12. **Personnel**

The fieldwork and report preparation was led by Simon Griffin. The project manager responsible for the quality of the project was Robin Jackson.

Fieldwork was undertaken by Simon Griffin, Adam Mindykowski, Marc Steinmetzer, Andrew Mann, James Goad and Dave Wychbold. Finds analysis was undertaken by Erica B Darch and Robin Jackson with fabric identification supported by Derek Hurst. Environmental analysis was undertaken by Elizabeth Pearson, Ian Baxter, James Greig, David Smith and Andrew Mann. Illustrations were produced by Carolyn Hunt, Steve Rigby, Laura Templeton and Simon Griffin. David Jordan of Terra Nova contributed the Geoarchaeological analysis.

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14. **Abbreviations**

HSM Numbers prefixed with 'HSM' are the primary reference numbers used by the Herefordshire County Sites and Monuments Record.

SMR Sites and Monuments Record.

## **Appendix 1 Trench descriptions**

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	1
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
101	Loose mid brown sandy clay. Topsoil	<0.1m d	
102	Friable md brown orange sandy clay. Pea Gravel (5%) Subsoil.	0.38-0.50m d	0.1m
103	Alluvium. Friable light to mid yellow sandy clay. Pea gravel (2-3%), gravel (5%).	0.2-0.26m d	0.48m-0.60m
104	Natural Interface layer. Friable mid red brown sandy clay. Pea gravel (2-3%), gravel (5%)	0.24m d	0.72-0.84m
105	Natural Gravels. Compact light to mid pink-red sandy clay. Large pebbles (5-10%), pea gravel (15-20%) and gravel (35-40%).		1.1m
106	Cut. Linear, gradually breaking sides/ concave base. Filled by 107. Cut of linear gully running roughly NW-SE. Overlain by 103. Cuts 104.	0.54m w 0.20m d	
107	Compact mid brown grey sandy clay. Gravel (5%), charcoal flecks (1%). Fill of 106	<0.40m w <0.20m d	0.70m
108	L shaped linear feature, gradually breaking sides, concave base. Runs in a NW-SE direction before turning to a NE-SW direction. Sealed by alluvium 103. Probable remnant field boundary - possibly roman.	1.85m w 0.47m d	
109	Compact mid brown/ purple sandy clay. Gravel (2-3%). Fill of 108/113 secondary/ upper fill.	0.5m d	0.75 - 1.2m
114			
116			
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>

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110	Compact mid brown/ purple	0.47m d	0.75m
117	sandy clay. Gravel (2-3%), sandstone fragments (5-0%). Primary fill/ silting of 108/113.		
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
111	Cut for shallow oval feature, truncating field boundary ditch (113/114). Gradual BOS on sides with a concave base. Probable tree bole on edge of boundary ditch.	1.1m w 0.27m d	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
112	Fill of 111. Compact mid brown/ purple sandy clay. Gravel (2-3%).		0.70m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	2
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.8-2.0m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
201	Loose mid brown sandy clay. Topsoil	0.1 to 0.17m d	
202	Made ground. Redeposited natural silts and furnace waste.	0.2-0.6m d	0.1-0.17m
203	Light to mid yellow brown compact sandy clay. Gravel (2-3%). Alluvium - probably landscped or maybe redeposited.	0.18-0.20m d	0.2-0.7m
204	Compact mid red-brown sandy clay. Gravel (35-40%). Interface layer above gravels.	0.30m-0.44m d	0.38-0.9m
205	Compact light to mid pinkish red sandy clay. Pea gravel (55-60%). Gravel ( 15-20%).		0.68-1.38m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	3
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.82-1.38m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
301	Loose mid-brown sandy clay. Topsoil.	0.04-0.10m d	
302	Layer of pink sandy gravel, and furnace by-product. Subsoil.	0.28-0.38m d	0.04-0.10m
303	Layer of compact mid- yellowish brown sandy clay. Gravel (2-3%).	0.30-0.46m d	0.32-0.48m
304	Layer of compact mid-reddish brown sandy clay. Gravel (20- 25%).	0.20-0.44m d	0.62-0.94m
305	Layer of compact mid-pinkish red sandy clay. Pea gravel (55-60%). Gravel (15-20%). Natural.		0.82-1.38m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	4
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.25m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
401	Topsoil. Loose mid brown clayey sand, 5% gravel	0.06-0.12m d	
402	Layer of made ground compact light to mid pink sand. 15-20% gravel; 10-15% large pebbles; 10-15% pea gravel.	0.2-0.3m d	0.1m
403	Layer of made ground levelling deposits. Friable mid to dark brown sandy clay. 2-3% gravel; 1% charcoal.	0.13-0.16m d	0.3-0.4m
404	Layer of friable light to mid grey/ brown sandy clay. 5% gravel; 1% charcoal flecks	0.16-0.22m d	0.8m
405	Natural Interface layer. Compact mid to dark red/ brown clay. 15-20% gravel; 1% charcoal flecks.	0.27-0.36m d	1m
406	Natural Gravels. Compact light to mid pink/ red clay matrix. 10-15% pea gravel; 45-50% gravel.		1.25m
407	Layer of alluvial deposit. Friable light to mid yellow/ brown sandy clay. 5% gravel.	0.08-0.3m d	0.58m
408	Layer of subsoil. Friable mid red/ orange sandy clay. 2-3% gravel.	0.15m d	0.36m



<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	5
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	1.27-1.41m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
501	Layer of dark brown/black silty sand. Thin layer of topsoil below turf layer. Very loose and uncohesive. Appears to contain frequent amounts of ash and slag from the upper layers of levelling [502]. Occasional roots. Between 0.02-0.05 m deep.	0.15-0.20m d	
502	Numerous layers of levelling by the M.O.D. Contains three distinct bands. A layer of furnace waste (ash etc). A light brown sandy clay, moderatley compact. A light brown/pink sandy clay, very loose. All contain frequent amounts of small to large stones. Between 0.55-0.63 m deep.	0.55-0.63m d	0.15-0.20 m
503	Layer of dark/mid brown sandy clay, very compact and cohesive. Interpreted as the old topsoil/plough soil, buried by the levelling [502]. Appears very sterile. Between 0.31-0.38 m deep	0.31-0.38m d	0.60-0.77 m
504	Layer of mid brown/red clay, very compact, friable. Contains moderate amounts of small - moderate stones. Believed to be the interface between [503] and [504]. Between 0.35-0.45m deep.	0.35-0.40m d	0.94-1.07 m
505	light red/pink clay/gravel. Very compact and cohesive. Frequent angular and rounded stones, small-moderate in size. Interpreted as natural. Depth not established		1.27-1.41 m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	6
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
600	Machine cut and unstratified finds		
601	Layer of mid brown clayey sand, directly beneath turf mat. Interpreted as modern topsoil. Recorded to a depth of between 0.16m and 0.27m. Moderately loose and cohesive. Includes frequent roots and occasional small rounded stones	0.16-0.27m d	
602	Layer of mid red orange clayey sand. Interpreted as subsoil. Less active roots than 601, slightly more compact. Occasional moderately sized rounded stones	0.41-0.48 d	0.16 to 0.27m
603	Layer of light yellow -mid brown alluvial deposit. Very compact and cohesive. Occasional small rounded stones.	0.21-0.31m d	0.41 to 0.48m
604	Layer of mid red brown stoney clay deposit mixed with gravels and clumps of clay and alluvial material. Seen as an interface layer between the alluvium and natural gravel. Frequent rounded stones, small-moderate.	0.24-0.30m d	0.62 to 0.76m
605	Light red/pink clay/gravel, interpreted as the natural. Very compact and cohesive. Includes frequent small-large stones. Contained patches of cleaner clay material thought to be natural features[involution hollows].		0.86 to 1.05m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	7
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.7m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
701	Thin layer of topsoil below turf mat. Mid/ light brown sandy clay, loose and friable, occasional small stones, occasional molluscs (cepaea), moderate roots.		0-0.13m
702	Multiple layers of modern levelling material. 3 Distinct bands - furnace waste, large blocks of ash/ slag; Red clay gravel - compact and fine furnace waste - black and loose.	0.1-0.5m d	0.03m
703	Buried topsoil. Dark - mid brown sandy clay, compact and cohesive. Occasional small stones and charcoal, appears very sterile	0.2m d	0.39m
704	Very thin layer of sand overlying buried subsoil (705). Mid orangey brown, moderately compact.	<0.03m d	0.55m
705	Buried subsoil. Mid -light brown sandy clay, compact and coheive. Occasional small stone inclusions and charcoal.	<0.2m d	0.57m
706	Interface layer. Mid - dark reddy brown sandy clay, compact and cohesive. Frequent stone inclusions small to medium sized.	0.3 - 0.4m d	0.86m
707	Natural gravel. Light red/ pink clay/ gravel		1.2m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	8
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.0m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
801	Modern turf and ashy rubble. Very friable, mixed modern deposit. Heavy root matting and modern debris. Interpreted as a make up layer.		<0.20m
802	Original Topsoil. Mid brownish grey silty clay. Very compact, containing occasional rounded igneous pebbles and fragments of sandstone. Some evidence of sandier patches - slightly variable texture.	0.10-0.15m d	<0.20m
803	Subsoil. Well developed compact silty clay, mid brown/yellow in colour. Occurs across most of the trench. Frequent sub angular SST and gravels - small to medium sized. Seen elsewhere overlying the red alluvium	<0.30m d	<0.35m
804	Interface layer between natural gravels and overlying deposits. Reddy clay matrix containing 50%+ gravels, igneous pebbles - sub rounded and angular. Loosely compacted	<0.30m d	0.60m
805	Natural Gravels		0.90-1.0m
806	Layer of reddy clay alluvium. Noticed at south end of trench underlying buried subsoils (803) and overlying natural.	<0.2m d	0.8m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	9
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.24m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
901	Loose mid-brown sandy clay. Topsoil.	0.05-0.08m d	
902	Layer of furnace by-product. Made Ground.	0.13-0.16m d	0.05-0.08m
903	Layer of compact mid- yellowish brown sandy clay. Gravel (2-3%).	0.30-0.38m d	0.18-0.24m
904	Layer of compact mid-reddish brown sandy clay. Gravel (25- 30%).	0.27-0.43m d	0.57-0.81m
905	Compact mid-pinkish red sandy clay. Pea gravel (45- 50%). Gravel (15-20%). Natural.		0.84-1.24m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	10
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1001	Loose mid-brown sandy clay. Topsoil.	0.04-0.06m	
1002	Layer of loose light to mid-grey sand.Gravel (55-60%). Made ground.	0.16-0.19m	0.20-0.25m
1003	Layer of compact mid-orange yellow sandy clay. Gravel (2.3%). Pea gravel (1%). Subsoil.	0.16-0.23m	0.36-0.48m
1004	Layer of compact mid-yellowish brown sandy clay. Gravel (2-3%).	0.26-0.43m	0.62-0.91m
1005	Layer of compact mid-brownish orange sandy clay. Gravel (2-3%).	0.06-0.40m	0.88-1.34m
1006	Layer of compact mid-reddish brown sandy clay. Gravel (25-30%).	0.20-0.22m	0.94-1.74m
1007	Compact mid-pinkish red sandy clay. Pea gravel (45-50%). Gravel (15-20%). Natural.		1.14-1.96m
1008	Cut of gully aligned roughly NE-SW. Linear, gradually breaking sides, concave base. Truncates pit 1010. Filled by 1009.	0.74m wide 0.24m deep	
1009	Compact mid-brownish grey sandy clay. Gravel (2-3%). Sandstone fragments (2-3%). Fill of 1008.	0.24m deep	
1010	Cut roughly oval pit. Truncated by 1008, gradually breaking sides, flat base. Filled by 1011.	0.74m wide 0.40m deep	
1011	Compact mid-brownish orange sandy clay. Pea gravel (1%). Sandstone fragments (2-3%). No finds recovered. Fill of 1010.	0.40m deep	

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	11
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.36m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1101	Loose mid-brown sandy clay. Topsoil.	0.08-0.10m	
1102	Layer of friable mid-greyish brown sandy clay. Pea gravel (1%). Coal (2-3%). Subsoil.	0.27-0.44m	0.34-0.54m
1103	Layer of compact mid- yellowish brown sandy clay. Gravel (2-3%). Sandstone flecks (1%). Charcoal flecks (1%).	0.31-0.41m	0.65-0.95m
1104	Layer of compact mid-reddish brown sandy clay. Gravel (25- 30%).		0.96-1.36m
1105	Compact mid-pinkish red sandy clay. Pea gravel (55- 60%). Gravel (5-10%). Natural.		
1106	Linear cut ditch aligned NE-	0.10-0.20m	
1108	SW. Uniform sides, slightly concave. Concave base. Filled by 1107 which equals 1109.	deep 0.44-0.50m wide	
1107	Mid-brownish orange sandy	0.10-0.20m	
1109	clay. Compact and cohesive. Small stones (2%). Sandstone fragments (1%).	deep	



<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	12
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	
<b>Project Number:</b>	P2250	<b>Length:</b>	
		<b>Width:</b>	
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
	ABANDONED DUE TO POWER CABLE.		

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	13
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	40m
		<b>Width:</b>	4-5m
		<b>Depth:</b>	<1.5m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1301	Topsoil. Mid to dark brown silty clay Thin layer beneath turf mat, very loose and uncohesive, occasional small stone inclusions.	<0.1m	
1302	Modern levelling. Mixed layers including furnace waste, ash and tap slag. Very loose and uncohesive.	0.2-0.4m d	0.1m
1303	Buried topsoil. Friable mid to dark brown sandy clay. Occasional charcoal incusions.	<0.1m d	0.3-0.4m
1304	Buried subsoil. Compact mid brown/ orange sandy clay.Moderate stone inclusions towards the base of the context. Moderate amounts of Iron pan noted towards the base of this layer.	<0.6m d	0.4m
1305	Interface layer. Moderately compactdark brown/ red sandy clay. Frequent small stones, sandstone fragments.	<0.25m d	1m
1306	Sandy layer (modern levelling). Thin layer of orange sand. Overlies buried topsoil (1303).	0.02m d	0.25-0.6m
1307	Alluvium deposit. Mid brown/ light orange silty clay with high sand content. Moderate amounts of Iron Panning.Occasional patches of charcoal.Layer appears in the southern 8-9m of the trench, replacing 1303, 1304, 1305 and sits directly onto natural.	<0.7m d	0.5-0.6m
1308	Natural gravels		1.2-1.4m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	15
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<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.51

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1501	Losse mid-brown sandy clay. Topsoil.	0.06-0.09m	
1502	Layer of furnace by-product and gravel. Made ground.	0.32-0.46m	0.06-0.09m
1503	Layer of compact mid- yellowish brown sandy clay. Charcoal flecks (1%). Possible levelling layer.	c.0.04m	0.38-0.55m
1504	Layer of compact mid- brownish grey sandy clay. Gravel (2-3%). Subsoil.	0.06-0.14m d	0.42-0.59m
1505	Layer of compact mid- yellowish brown sandy clay. Gravel (2-3%).	0.30-0.38m d	0.48-0.73m
1506	Compact mid-reddish brown sandy clay. Gravel (30-35%)	0.20-0.40m d	0.78-1.11m
1507	Compact mid-pinkish red sandy clay. Pea gravel (55- 60%). Gravel (5-10%). Natural.		0.98-1.51m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	16
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.33m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1601	Loose mid-brown sandy clay. Topsoil.	0.08-0.10m d	
1602	Made ground including various layers of pea gravel, gravel, sandstone and furnace by-products.	0.36-0.40m d	0.08-0.10m
1603	Layer of compact mid-yellowish brown sandy clay. Gravel (5%).	0.22-0.40m d	0.44-0.50m
1604	Layer of compact mid-reddish brown sandy clay. Gravel (25-30%).	0.20-0.43m d	0.66-0.90m
1605	Compact light to mid-pinkish red sandy clay. Pea gravel (55-60%). Gravel (5-10%). Natural.		0.86-1.33m
1606	Layer of compact mid-brown sandy clay. Gravel (2-3%). Made Ground; landscaping.	0.15-0.28m d	0.45m
1607	Layer of compact mid-greyish brown sandy clay. Gravel (2-3%). Made ground; landscaping.	0.45m d	0.45m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	17
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1701	Very loose mid-brown sandy clay. Contains furnace by-product. Topsoil.	0.09-0.10m d	
1702	3 distinctive layers making-up one leveling event. Very loose black furnace by-product. Light pink sandy clay with frequent gravel. Loose and friable. Light brownish white moderately compact sandy clay. Frequent gravel.	0.40-0.45m d	0.09-0.10m
1703	Layer of moderately compact mid-brownish red sandy clay. Occasional small stones. Buried Topsoil.	0.50-0.62m d	0.15-0.20m
1704	Layer of very compact mid brownish orange sandy clay. Occasional small rounded stones. Buried subsoil.	0.38m d	0.80m
1705	Layer of very compact dark brown / red slightly sandy clay. Containing a band of aquatic molluscs at the base of the deposit in a slight hollow.	0.58m d	0.70m
1706	Fill of moderately compact mid to dark brown sandy clay. Occasional small stones. Occasional charcoal fragments. Tertiary fill of 1709.	0.09-0.15m d	0.55-0.65m
1707	Fill of moderately compact mid to light brown sandy clay. Occasional small rounded stones. Occasional sandstone fragments. Secondary fill of 1709.	0.17-0.33m d	0.68-0.70m
1708	Fill; very similar to 1707 although slightly darker and more compact and cohesive. Primary Fill of 1709.	0.8-0.20m d	0.55-0.65m

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
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1709	Very steep sided, flat bottomed linear. Running N-S. Eastern edge is clearly visible although the western edge is un-clear. Cuts 1710.	0.68m d	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1710	Very steep sided "V" shaped linear running N-S. Filled by 1711, 1712.	0.70-1.0m wide	0.37m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1711	Fill of very compact dark brown / grey sandy clay. Occasional small rounded stones and charcoal. Secondary fill of 1710.	0.30m deep	1.28m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1712	Fill of moderatly compact dark red sandy clay. Occasional small stones. Primary fill of 1710.	0.05m deep	1.58m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1713	Interface of natural. Compact mid-reddish brown sandy clay with frequent sandstone gravel.	0.10m d	1.20m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1714	Shallow modern cut. Presumably the result of modern levelling. Cuts 1706, 1707.	0.20m d	0.42m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1715	Fill of moderatly compact mid-orange very sandy clay. Very sterile. Fill of 1714.	0.20m d	0.52m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	19
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.86-1.06m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
1901	Very loose mid-brown sandy clay. Heavily modified by modern levelling activity. Topsoil.	0.08-0.28m d	
1902	Layer of modern levelling made-up of 2 distinct layers. One very loose and uncohesive fine black ash layer, and one of large broken road stone.	0.33m d	0.08-0.28m
1903	Layer of very compact and cohesive mid to dark brown sandy clay. Occasional small to moderate sandstone. Occasional charcoal fragments. Buried topsoil.	0.18-0.49m d	0.04-0.41m
1904	Layer of very compact and cohesive mid brown / orange sandy clay. Buried subsoil.	0.49-0.50m d	0.30-0.59m
1905	Layer of very compact and cohesive dark brown / red sandy clay. Moderate small stones and sandstone fragments. Interface with natural and fill of 1906.	0.13-0.39m d	0.90-0.91m
1906	Cut of N-S linear. Uniform sides (45 degrees). Slightly concave Depper and wider at southern end of trench. Appears to be filled by 1905. Visible throughout length of trench.	0.40-0.65m wide 0.08-0.30m deep	1.10m
1907	Natural Gravels.		0.86-1.06m



<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	20
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.75-1.17m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2001	Loose mid-brown sandy clay. Topsoil.	0.04-0.09m d	
2002	Layer of loose furnace by-product. Made ground.	0.13-0.20m d	0.04-0.09m
2003	Layer of compact mid-yellowish brown sandy clay. Gravel (2-3%).	0.30-0.37m d	0.17-0.29m
2004	Layer of compact mid-brown / yellow / red sandy clay. Gravel (2-3%).	0.14-0.30m d	0.47-0.66m
2005	Layer of compact mid-reddish brown sandy clay. Gravel (5-10%). Sandstone (5-10%).	0.14-0.21m d	0.61-0.96m
2006	Compact mid-pinkish red sandy clay. Pea gravel (55-60%). Gravel (5-10%). Natural.		0.75-1.17m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	21
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	20m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.83-1.21m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2101	Loose mid-brown sandy clay. Topsoil.	0.08-0.16m d	
2102	Layer of furnace by-product and crushed pink sandstone. Made ground.	0.12-0.16m d	0.08-0.16m
2103	Layer of compact mid- yellowish brown sandy clay. Gravel (2-3%). Charcoal flecks (1%).	0.36-0.62m d	0.20-0.32m
2104	Layer of compact mid-reddish brown sandy clay. Gravel (25- 30%).	0.27m d	0.56-0.94m
2105	Compact mid-pinkish red sandy clay. Pea gravel (55- 60%). Gravel (5-10%). Natural.		0.83-1.21m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	22
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	
<b>Project Number:</b>	P2250	<b>Length:</b>	
		<b>Width:</b>	
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
	ABANDONED DUE TO EXTREME WOODLAND COVER!		

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	23
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4-10m
		<b>Depth:</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2301	Mid to light brown silty clay. Loose and friable. Frequent rooting. Topsoil.	0.08m d	
2302	Light brown orange silty sand. Compact and cohesive. Occasional iron pan. Subsoil.	0.16-0.26m d	0.08m
2303	Mid brown / red silty alluvial clay. Compact and cohesive. Occasional iron pan and magnesium.	0.45-0.62m d	0.24-0.34m
2304	Light grey / green silty alluvial clay. Very compact and cohesive. Occasional small stones. Occasional iron pan and magnesium flecks.	0.16-0.20m d	0.69-0.96m
2305	Yellow / light green silty alluvial clay. Moderate magnesium with patches of greater density.	0.02-0.30m d	0.85-1.16m
2306	Upper fill of pit 2331. Dark brown / grey compact and cohesive silty clay. Occasional small to moderate angular burnt stones. Larger stones appear towards the surface, especially around the edges of the cut. Occasional small sandstone. Moderate iron pan / magnesium modeling. Occasional charcoal flecks. Some contamination from 2305.	<0.47m d	1.08-1.20m
2307	Possibly a mix of 2305, 2306. Compact and cohesive mid brown / greyish orange silty clay. Occasional sandstone. Occasional small stones. Occasional charcoal flecks.	<0.24m d	1.23m
2308	Third fill of pit 2331. Compact and cohesive mid-grey silty clay. Frequent stones and mineral inclusions.	<0.28m d	1.20-1.62m

CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)
2309	Appearance is similar to natural gravel make-up. Occasional charcoal flecks. Occasional iron pan mottling. Secondary fill of pit 2331. Moderately compact and cohesive dark grey brown silty clay gravel. Occasional charcoal flecks. Contains Bronze Age pottery and fragments of worked wood 2334.	<0.14m d	1.70-2.10m
2310	Primary fill of pit 2331. Moderately compact and cohesive light brown / red silty clay gravel. Proportionately less gravel compared with 2309.	<0.20m d	1.84-2.24m
2311	Compact mid-pinkish red sandy clay gravel. Natural.		<1.30m
2312	Compact and cohesive mixed red / green alluvial silty clay. Occasional Iron pan mottling. Occasional charcoal flecks.	0.34-0.40m d	0.84-0.78m
2313	Compact and cohesive dark to mid-brown silty clay. Occasional small stones. Occasional magnesium mottling.	0.11-0.26m d	1.08-1.20m
2314	Moderately loose light to mid-brown / pink layer similar to natural gravels. Contains frequent small stones.	0.20m d	0.74m
2315	Compact and cohesive light to mid-brownish green alluvial silty clay. Occasional iron pan and magnesium mottling. Occasional sandstone fragments.	0.22m deep	0.62-64m
2316	Cut of posthole. Roughly circular. Sharp break of surface. Vertical sides. Shallow. concave base. Filled by postpipe 2318 and backfill 2317. Cuts 2305.	0.42m wide 0.38m deep	
CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)

2317	Fill of 2316. Compact light to mid-yellowish green silty clay. Occasional gravel. Occasional charcoal flecks. Occasional natural inclusions.	0.16m wide 0.11m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2318	Postpipe fill. Compact mid to dark grey silty clay. Occasional gravel. Occasional charcoal flecks. Occasional natural inclusions.	0.16-0.42m wide 0.38m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2319	Cut of posthole. Roughly circular. Sharp break of surface. Near vertical sides. Shallow. concave base. Truncated by machining Filled by 2320. Cuts 2305.	0.34m wide
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2320	Fill of 2319. Compact dark greish black silty clay. Occasional sandstone gravel. Occasional charcoal flecks. Occasional natural inclusions.	0.08-0.19m deep 0.34m wide
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2321	Cut of posthole. Roughly circular. Sharp break of slope. Near vertical sides. Flat base. Filled by postpipe 2323, and backfill 2322. Cuts 2305.	0.08-0.19m deep 0.26m wide 0.22m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2322	Backfill of 2321. Compact mid-brwnish orange silty clay. Occasional sandstone gravel.	0.26m wide 0.07m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2323	Postpipe fill. Compact dark greyish black silty clay. Occasional charcoal flecks.	0.15m wide 0.22m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2324	Cut of posthole. Roughly circular. Sharp break of surface. Vertical sides. Shallow concave base. Filled by 2325. Cuts 2305.	0.15m wide 0.10m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>
2325	Fill of 2324. Mid-brownish orange silty clay with patches of dark grey to black silty clay.	0.15m wide 0.10m deep
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS DEPTH (BGS)</b>

2326	Cut of posthole. Roughly circular. Sharp break of surface. Vertical sides. Concave base. Filled by 2327. Cuts 2305.	0.20m wide 0.24m deep	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2327	Fill of 2326. Dark greyish black silty clay. Occasional charcoal flecks. Occasional small stones. Occasional iron pan.	0.20m wide 0.24m deep	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2328	Cut of posthole. Roughly circular. Sharp break of surface. Near vertical sides. N-S sloping base. Filled by 2329. Cuts 2305.	0.27m wide 0.24m deep	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2329	Fill of 2328. Compact dark greyish black silty clay mixed with mid-brownish orange silty clay. Occasional charcoal flecks. Occasional gravel. Occasional iron pan.	0.27m wide 0.24m deep	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2330	Layer within a depression in 2305. Black /dark brown silty clay. Occasional small to moderate angular stones. Occasional charcoal flecks. Occasional sandstone fragments.	0.88m wide 0.18m deep	1.10m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2331	Cut of large Bronze Age pit. Rectilinear in plan. Break of surface irregular. Sides, complex sloping. Break to base imperceptible. Base irregular concave.	5.86m dia 1.30m deep	1.20m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2332	Upper fill of re-cut pit 2238. Compact and cohesive mid to dark silty clay. Occasional charcoal flecks. Occasional small stones. Occasional sandstone fragments. Contains 2336.	2.40m wide 0.22m deep	1.80m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2333	Articulated skeleton of an old horse apparently within 2305. Associated with burnt stones from below its neck and an iron nail. Rear half truncated by machining.	1.35m wide 1.35m long	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>



2334	Length of well preserved worked wooden plank. Has a rebated upper edge and visible adze marks. May be the remains of a coffin. Contains a set of apparently discrete deposits to its south: 2339, 2340, 2341.	0.90m long 0.30m wide 0.07m thick	1.08m
<b>CONTEXT NO.</b> 2335	<b>DESCRIPTION</b> Layer of compact and cohesive yellowish green silty clay. Occasional small stones. Occasional magnesium mottling.	<b>DIMS</b> 0.24m deep	<b>DEPTH (BGS)</b> 1.10m
<b>CONTEXT NO.</b> 2336	<b>DESCRIPTION</b> Visible in section of 2331 as a circular brownish orange silty clay deposit. May be post depositional iron staining. Within 2308, 2332.	<b>DIMS</b> 0.40m dia 0.03m wide	<b>DEPTH (BGS)</b> 1.60m
<b>CONTEXT NO.</b> 2337	<b>DESCRIPTION</b> Primary fill of re-cut pit 2338. Moderately compact drak greyish brown silty clay. Abundant flecks of gravel. Moderate small chunks of charcoal. Occasional medium sub-round and irregular sandstone. Contains one sherd of Bronze Age pot (possibly from the same vessel recovered from 2309), and a cow's right humerus.	<b>DIMS</b> 0.20-0.84m wide 0.52m deep	<b>DEPTH (BGS)</b> 0.86m
<b>CONTEXT NO.</b> 2338	<b>DESCRIPTION</b> Bi-partite cut of re-cut pit visible in the widend section of 2331. Not visible in plan. Imperceptible break of surface. Sides are straight sloping changing to vertical. Sharp break to base. Flat botttom. Cuts 2309, 2310, 2339, 2340, 2341.	<b>DIMS</b> 0.20-1.30m wide 0.60m deep	<b>DEPTH (BGS)</b> 0.60m
<b>CONTEXT NO.</b> 2339	<b>DESCRIPTION</b> Upper fill, or deposit associated with wood 2334. Compact light orange brown gritty sandy clay. Abundant gravel. Occasional charcoal flecks. Rare small sub-round stones.	<b>DIMS</b> 0.28m wide 0.09m deep	<b>DEPTH (BGS)</b> 1.06-1.23m

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
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2340	Secondary fill or deposit associated with wood 2334. Soft dark greyish brown silty clay. Frequent small gravel. Moderate charcoal flecks. Appears more organic than 2339.	0.35m wide 0.05-0.12m deep	1.25m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2341	Primary fill or deposit associated with wood 2334. Moderately compact light grey silty clay. Frequent gravel. Occasional charcoal flecks.	0.35m wide 0.03-0.05m deep	1.30m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2342	Fill of cremation cut 2343. Light to mid-grey clay. Moderate charcoal flecks and lumps. Occasional flecks of burnt bone. Some rooting.	0.21m wide 0.15m deep	0.75m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2343	Cut of small cremation pit. Sharp break of surface. Concave near vertical sides. Break to base imperceptible. Base concave. Cut into 2305. Filled by 2342.	0.21m wide 0.15m deep	0.75m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2344	Fill of cremation cut 2345. Light to mid-grey sticky clay. Moderate charcoal lumps. Occasional light rooting.	0.40m wide 0.12m deep	0.79m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2345	Cut of small cremation pit. Sharp break of surface. Concave gently sloping sides. Break to base imperceptible. Base concave. Cut into 2305. Filled by 2344.	0.40m wide 0.12m deep	0.79m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	24
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.82-1.30m
<b>CONTEXT DESCRIPTIONS</b>		<b>Area (m)</b>	215

CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)
2401	Layer of moderately compact mid-yellowish brown silty clay loam. Heavy rooting. Topsoil.	0.15m d	
2402	Layer of compact light yellowish brown silty clay. Some worming and rooting. Occasional charcoal flecks. Subsoil.	0.18-0.20m d	0.15m
2403	Layer of compact orange to yellow brown silty clay. Occasional iron oxide staining. Occasional flecks of degraded sandstone. Rare small sub-round sandstone pebbles. Some contamination from worming and rooting. Buried subsoil.	0.40m d	0.35m
2404	Layer of compact mid-reddish brown silty clay. Frequent small well sorted sandstone gravel. Interface to natural.	0.15m d	0.75m
2405	Compact pinkish red glacial gravel. Natural.		0.90m
2406	Fill of compact mid-yellowish grey silty clay loam. Frequent manganese staining. Moderate charcoal flecks. Rare medium irregular stones. Contains fragments of worked flint and sherds of course Dolerite tempered pottery. Fill of 2407.	1.15m wide 0.05-0.20m deep	0.50m
2407	Cut of sub round pit. Sharp break of surface. Irregular steep sloping to shallow sides. Break to base imperceptible. Base offset concave. Filled by 2406. Neolithic pit.	1.15m wide 0.05-0.20m deep	0.50m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	25
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	1.0m
		<b>Area</b>	214

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2501	Layer of loose, friable mid-brown / grey silty clay. Heavy rooting. Occasional charcoal flecks. Occasional small pebbles. Topsoil.	0.25m d	
2502	Layer of compact alluvial silty clay. Some rooting. Occasional charcoal flecks. Merges into 2503.	0.20m d	0.25m
2503	Layer of compact mid yellow / beige alluvial silty clay. Some rooting. Bright yellow flecks of iron pan moving within the deposit.	0.24m d	0.45m
2504	Layer of compact reddish yellow alluvium. Concentrations of iron pan and occasional small feagments of manganese. Becomes redder and more compact towards base.	0.27m d	0.69m
2505	Layer of very compact red silty alluvial clay. Overlying natural gravels.		1.0m
2506	Natural gravels.		

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	26
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	1.20m
		<b>Area</b>	211

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2601	Layer of loose light yellowish brown silty loam. Heavy rooting. Topsoil.	0.07m d	
2602	Layer of compact light yellow to orange brown silty alluvial clay. Occasional small irregular stones. Heavy worming and rooting.	0.17m d	0.07m
2603	Layer of compact light orange brown silty sandy alluvial clay. Frequent iron staining. Rare flecks of degraded sandstone gravel.	0.38-0.43m d	0.24m
2604	Layer of compact mid orange brown silty alluvial clay. Similar to 2603 but slightly more course in texture. Occasional flecks of degraded sandstone. Rare medium sub-rounded stones.	0.30-0.38m d	0.62-0.67m
2605	Layer of compact mid reddish brown compact silty alluvial clay. Moderate flecks of degraded sandstone gravel. Moderate iron staining.	0.20m d	0.97-1.0m
2606	Natural gravels.		1.20m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	27
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	1.20m
		<b>Area</b>	264

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2701	Compact reddish clay. Topsoil.	0.15m d	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2702	Compact mid yellowish brown silty alluvial clay.	0.30m d	0.35m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2703	Layer of pale grey silty alluvial clay with yellow brown staining. Occasional manganese flecks. Rare charcoal flecks. Rare pebbles. Contains prehistoric pot and flint.	0.28m d	0.65m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2704	Layer of whit "tufa" or calcified material embedded in the top of 2705.	0.04m d	0.93m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2705	Layer of pale grey silty clay. Occasional snail shells. Rare pebbles. Rare charcoal. Sherds of Bronze Age pottery and flint. Part of a paleochannel.	0.12m d	0.75m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2706	Layer of mixed yellowish brown silty clay and pale grey silty clay. Occasional charcoal. Occasional pebbles. Occasional decayed stone. Difficult to tell apart from 2705 and may be the result of a mix of 2705 and natural.	0.05m d	0.85m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2707	Natural gravels.		1.20m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	28
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.90-1.0m
		<b>Area</b>	229

**CONTEXT DESCRIPTIONS**

CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)
2801	Loose and friable mid brownish grey silty clay. Occasional charcoal fragments. Heavy worming and rooting. Topsoil.	0.25m d	
2802	Layer of compact red silty alluvial clay. Blocky structure to ped. Some Fe fragments working their way up and down the sequence. Merges into 2803 below becoming more oxidised.	0.22m d	0.25m
2803	Layer of blue / grey to biege alluvial clay. Slightly more Fe particles compared with 2802, and the Ped structure is not quite as well developed. Colour suggests a reduced watery environment.	0.10m d	0.50m
2804	Layer of biege to yellow brown alluvium. Becomes more red and slightly more sandy towards the base. Heavy manganese (Fe <sub>3</sub> ) mottling. Some Fe <sub>2</sub> mottling, but not as much as 2803. Some managanese movement up from 2805. Occasional gravel.	0.35m d	0.60m
2805	Layer of manganese rich grey / brown alluvium. Seemingly overlying natural gravels.		0.90-1.0m
2806	Natural gravels.		Not recorded



<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	29
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	210
		<b>Area</b>	

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2901	Topsoil.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2902	Layer of compact red alluvial silty clay.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2903	Layer of compact mid grey alluvial silty clay.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2904	Layer of compact yellow alluvial silty clay.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2905	Layer of compact reddish yellow alluvial silty clay.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2906	Moderate gravel. Natural gravels.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2907	Fill of compact mid brownish grey silty clay. One piece of flint. Fill of 2908.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2908	Cut of N-S linear. Gentle break of slope. Straight sloping sides. Gentle break to base. Concave base. Filled by 2907.	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2909	Fill of moderately compact light to mid grey silty clay. Fill of 2910	N/A	N/A
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
2910	Cut of N-S curvilinear. Gentle break of slope. Straight sloping sides. Gentle break to base. Concave base. Filled by 2909.	N/A	N/A

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	30
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4-25m
		<b>Depth:</b>	1.0-1.45m
		<b>Area</b>	397
<b>CONTEXT DESCRIPTIONS</b>			
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3001	Layer of loose and friable mid brown silty clay. Occasional small stones. Heavy rooting. Topsoil.	0.02-0.12m	d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3002	Layer of large blocky, prismatic, very compact and cohesive dark brown / red silty clay alluvium. Occasional small stone inclusions. Occasional rooting.	0.15-0.52m	0.02-0.12m d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3003	Layer of large blocky, prismatic, very compact and cohesive blue / grey silty clay alluvium. Occasional rooting.	0.05-0.20m	0.17-0.20, d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3004	Layer of large blocky, prismatic, very compact and cohesive yellow / orange silty clay alluvium. Frequent magnesium staining. Occasional mixed at the top with 3003. Same as 3114.	0.15-0.45m	0.25-0.80m d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3005	Layer of silty clay. Appears to be a layer of weathered natural overlying the natural gravels.	0.15-0.55m	0.75-1.25m d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3006	Layer of moderately compact and cohesive dark brown silty clay / peat. Moderate sized prisms. Occasional crumbly preserved wood and roots.	0.05-0.65m	0.20-0.45m d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3007	Layer of moderately compact and cohesive mid brown / grey silty clay. Formed as an interface layer between 3006 and 3004.	0.05-0.20m	0.35-0.50m d
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3008	Natural gravels.		1.0-1.45m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3009	Layer of blocky and prismatic, compact and cohesive light blue / grey silty clay. Very sterile. May be the result of a post depositional modification	0.05m d	0.22m

CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)
3010	of part of 3002. Layer of compact and cohesive light brown / grey silty clay. Occasional small stone inclusions. Probably part of 3003 which has been modified or mixed with 3006.	0.12-0.22m d	0.35-0.62m
3011	Deposit of moderately compact and cohesive light grey silty clay. Appears as clear bands within 3010. Possibly the result of periods of stabilisation during early paleochannel use. Very sterile.	0.02-0.06m d	0.48-0.57m
3012	Fill of early paleochannel. Moderately compact and cohesive dark brown to grey silty clay / peat. Blocky prismatic. Moderate organic inclusions. Occasional small stones. Appears to be a mixture between the blue / grey silty clay alluvium 3003 and a peaty organic layer / fill.	0.08-0.17m d	0.77-0.94m
3013	Upper fill of later re-cut of paleochannel 3017. Moderately compact light brown peat. Very organic. Moderately prismatic. Occasional wood fragments. Occasional rooting.	0.02-0.15m d	0.43-0.62m
3014	Third fill of re-cut paleochannel 3017. Compact and cohesive grey / blue/ black silty clay. Moderately organic. Occasional wooden fragments.	0.02-0.42m d	0.42-0.73m
3015	Secondary fill of paleochannel 3017. Moderately compact and cohesive light grey / dark brown silty clay / peat mix. Moderate organic material. Occasional small stones.	0.03-0.32m d	0.93m
3016	Primary fill of re-cut paleochannel 3017. Moderately compact mix of blue / grey silty clay and dark brown organic mix. Occasional small stones. Occasional aquatic molluscs.	0.01-0.12m d	1.10m
CONTEXT NO.	DESCRIPTION	DIMS	DEPTH (BGS)

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CONTEXT NO.	DESCRIPTION	DIMS DEPTH (BGS)
3017	Re-cut of paleochannel. Northern edge: steep and straight to base. Southern edge: steep cut but has a small step in it half way down. Base is flat. Cut through fills of original paleochannel 3018.	1.10m wide 0.72m deep
3018	Cut of early paleochannel. Only northern edge is visible with a moderately steep, slightly concave side. Cut in to natural gravels. The fills of this feature are spread over a wide area indicative of flood deposition.	0.45m d

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	31
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.16m
		<b>Area</b>	213

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3101	Compact reddish clay alluvium. Below topsoil.	0.30m	0.14m
3102	Layer of soft dark brown silty clay loam. Fills channels 3106 and 3107.	0.10m	0.44m
3103	VOID: NO RECORD.		
3104	A mixed deposit of pale grey silty clay and dark brown silty clay. Flecked with tufa. Occasional pebbles. Occasional charcoal.	0.10m	0.80m
3105	Primary fill of paleochannel 3107. Pale brownish grey silty clay. A cleaner pale grey silty clay, slightly mixed with gravel lower down. Occasional calcerous lumps. Occasional charcoal. Preserved wood. Sealed by 3102.	0.10m	0.68m
3106	Cut of paleochannel adjacent to, and to the NE of 3107. Filled by 3104, 3102.	0.36m d	0.44m
3107	Cut of paleochannel adjacent to, and to the SW of 3106. Filled by 3105, 3102.	0.42m d	0.44m
3108	Topsoil.	0.14m d	
3109	THE SAME AS 3101	0.42m d	0.14m
3110	THE SAME AS 3102	0.09m d	0.56m
3111	Fill of paleochannel. Moderatly compact mid brown silty clay / peat. Moderatly organic. Blocky prizmatic. Very sterile.	0.11-0.16m d	0.65m
3112	Fill of paleochannel. Moderatly compact very dark brown silty clay / peat. Very organic. Frequent wood and plant remains. Occasional charcoal.	0.14-0.35m d	0.76-0.81m
	<b>CONTEXT NO. DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>

3113	Fill of paleochannel. Moderatly compact light brown silty clay / peat mixed with very dark brown silty clay peat. Blocky prismatic. Moderatly organic. Occasional small stones.	0.14-0.29m d	0.90-1.16m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3114	Layer of large blocky, prismatic, very compact and cohesive lellow / orange silty clay alluvium. Frequent magnesium staining. Occasional mixed at the top with 3003.		
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3115	Pale grey silty clay alluvium. Rare grit, and gravel. Rare pebbles. Rare charcoal. Occasional rooting. Seals 3116. Cut by 3106, 3107.	0.28m d	0.65m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3116	Pale brown silty clay mixed with gravel. Occasional rooting. Sealed by 3115.	0.20m d	0.80m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3117	Layer of pale yellow brown alluvium. A disturbed layer of natural.	0.30m d	0.64m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	32
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	<1.10m
		<b>Area</b>	248

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3201	Loose / friable mid brown / grey silty clay. Same as elsewhere in area A. Topsoil.	0.15m d	
3202	Layer of very compact red silty clay alluvium. Blocky structure to ped.	0.20m d	0.15m
3203	Layer of very compact biege / yellow to light brown alluvium. Exists as the lower level of 3202. Merges below with with manganese rich layer 3104.	0.15m d	0.35m
3204	Layer of manganese rich brown alluvium. Same as 2805.	0.15m d	0.50m
3205	Layer of red alluvium mixed with natural gravels.	0.20-0.25m d	0.65-0.70m
3206	Natural gravels.		3

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	33
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	50m
		<b>Width:</b>	4m
		<b>Depth:</b>	0.85-0.95m
		<b>Area</b>	203

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3301	Layer of compact reddish clay alluvium.	0.35m d	0.15m
3302	Layer of compact mid yellowish brown silty clay alluvium. Mottled with grey silty clay. Rare charcoal. Rare pebbles. Rare flint.	0.20m d	0.50m
3303	Upper fill of 3305. of compact pale grey silty clay. Slightly mottled with yellowish brown silty clay. Rare to occasional grit / gravel. Rare charcoal. One sherd of Roman pot plus 2 sherds of earlier pot.	0.15m d	0.70m
3304	Fill of 3305. Mid grey silty clay. Occasional gravel / grit. Moderate preserved roots and small pieces of wood. Rare charcoal. Rare bone.	0.28m d	0.70m
3305	Cut of Ditch / gully. Aligned NE / SW. Steep sided with a concave bottom. Filled by 3304, 3303.	1.60m wide 0.53m deep	0.90m
3306	Layer of loose / friable mid brown silty clay. Heavy rooting. Topsoil.	0.15m d	



<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	34
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	10m
		<b>Width:</b>	4m
		<b>Depth:</b>	<0.90m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3401	Fill of 3402. Firm to compact mid grey brown silty clay. Occasional angular sandstone fragments. Occasional charcoal flecks, and some larger chunks. Occasional igneous pebbles. Contains Bronze Age pottery, animal bone and burnt bone.	0.15m d	0.75m
3402	Cut of shallow feature filled by 3401. Shallow concave sided with a flat bottom. Cut into 3409, 3408.	0.20m d	0.75m
3403	Topsoil.	0.10m d	
3404	Made ground. Ash material.	0.15m d	0.10m
3405	Layer of biege / reddy silty clay.	0.20m d	0.25m
3406	Layer of red silty clay alluvium.	0.30m d	0.45m
3407	Primary fill of 3402 below 3401.	0.05m d	0.85m
3408	Natural Gravels.		0.90m
3409	Natural Interface. Layer of red silty clay overlying natural.		0.75m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	35
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	N-S
<b>Project Number:</b>	P2250	<b>Length:</b>	5m
		<b>Width:</b>	5m
		<b>Depth:</b>	1.36m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3501	Layer of Topsoil.	0.15m d	
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3502	Layer of ashy aggregate. Made ground.	0.03m d	0.15m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3503	Layer of compact red alluvial silty clay.	0.66m d	0.18m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3504	Layer of Light greyish brown clay. Mottled with yellow and orange in the upper 0.10m.	0.44m d	0.84m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3505	Layer of reddish brown clay with heavy manganese flecking.	0.08m d	1.28m
<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3506	Natural gravels.		1.36m

<b>SITE CODE:</b>	HSM 32268	<b>TRENCH NO.:</b>	36
<b>Project Name:</b>	Moreton - on - Lugg Evaluation	<b>Orientation:</b>	E-W
<b>Project Number:</b>	P2250	<b>Length:</b>	5m
		<b>Width:</b>	5m
		<b>Depth:</b>	1.18m

**CONTEXT DESCRIPTIONS**

<b>CONTEXT NO.</b>	<b>DESCRIPTION</b>	<b>DIMS</b>	<b>DEPTH (BGS)</b>
3601	Layer of friable mid brown sandy silt. Occasional angular medium stones. Topsoil.	0.35m d	
3602	Layer of compact red alluvial clay.	0.36m d	0.35m
3603	Layer of light grey clay.	0.09m d	0.71m
3604	Layer of light yellowish brown clay. Occasional manganese flecks.	0.22m d	0.80m
3605	Layer of reddish sandy clay. Moderate maganese flecks.	0.16m d	1.02m
3606	Natural Gravels.		1.18m



## **Appendix 2: Geoarchaeology**

# A Geoarchaeological evaluation of deposits from Moreton on Lugg

8 October 2002

## Summary

Deposits, studied in field section and laboratory samples, revealed a number of variations on the lower Lugg depositional sequence which has been described in earlier studies. A boggy depression towards the south of the study area contained peat and other deposits which may represent deposition during the middle and later Holocene, thus allowing us to obtain good palaeoenvironmental evidence for a period where it is currently sparse. Archaeological features and natural deposits near the centre of the site (trench 23) may similarly allow us to study the Holocene development of the valley in greater detail and with more finely resolved dating than has hitherto been possible. They may also allow us to relate this environmental history directly to the archaeological activities represented by the site and to obtain rare evidence for the animals which may have left their hoof marks around a boggy pool sometime in prehistory.

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## **Aims of the study**

This study aimed to evaluate the geoarchaeology of the site at Moreton on Lugg. This was intended to clarify the way in which the landscape around the site had developed during the Holocene and to identify the potential for the preservation of archaeological and palaeoenvironmental evidence.

It addresses, in particular, questions concerning

- 1 The development of the alluvial sequence found over the whole of the site
- 2 The origins of natural and archaeological deposits identified in excavation (trench 23)
- 3 The geoarchaeological potential of deposits found within a depression in the southern area of the site (trenches 30 and 31)



## Background and method

The site lies at about 55m above OD on the eastern side of the Lugg valley floor between the villages of Marden and Wellington. The surface is mostly level but the natural, gentle south-east slope into the Lugg valley has been complicated by dumps of industrial and building waste which have been used to level the ground over much of the northern part of the evaluation area. The bedrock consists of early Devonian calcareous mudstone of the Raglan Mudstone formation which is overlain, to the west of the Lugg valley, by an extensive sheet of till derived largely from rocks of the same formation (British Geological Survey, 1989).

The site is mapped as lying on Typical Alluvial Gley soils of the Hollington Association (Soil Survey of England and Wales, 1983) which are poorly drained valley soils which suffer prolonged waterlogging due to high ground water levels.

The Holocene alluvia which fill the valley cover a broad area, more than 1km wide at this point but it is possible that the site lay nearer the margin of the valley, in an area which was more complex than it now appears, through much of the Holocene. To the north the Devensian delta of the Wellington Brook may extend a gravel tongue eastwards beneath shallower Holocene alluvia.

This and the modern drainage near the site suggests that the alluvia here may overlies a shallower and more complex gravel surface than is found in the centre and east of the valley where the river has had its course through much of the Holocene. Thus the site may have retained a more complex distribution of wetter and drier areas, drained by small natural palaeochannels, than has been found in the adjacent Wellington Quarry.

The southern part of this evaluation area lies within the drainage of Wellington Marsh.

The Holocene deposits in the area of Wellington are of interest to archaeologists because they contain buried archaeological remains. The natural and archaeological deposits are intimately associated and their joint study is therefore a prerequisite for an understanding of the way in which the archaeological remains were deposited.





Fieldwork at Wellington has explicitly combined the study of archaeological deposits and of the sediments in which they are found. Previous work by Roseff (1992) and others has shown that the sediments are largely overbank flood alluvia laid down away from the main Lugg channel.

Previous studies have provided us with a model of the valleys development. In this model the late glacial Lugg basin was crossed by a pattern of braided streams which laid down deep gravel beds. The end of glacial conditions and the growth of the early Holocene forest caused the overland flow of water to be reduced because more water was able to infiltrate into the ground. The River Lugg gradually rationalised into fewer channels and, finally, into a single main channel which runs to the east of the Wellington quarry. This seems to have remained stable ever since because early Holocene deposits, at least in the centre and west of the valley floor, have not been reworked by movements of the river.

At least one other major channel and numerous smaller channels survived, on the main valley floor, as sinuous depressions. The deepest of these may have remained as seasonal streams and all were gradually filled by silt and clay which was carried over the main river banks during floods.

Some of these depressions continued as watercourses because smaller channels were recut within them as a part of active water management during the Roman and later periods. Thus we find ditches and leats lying within much earlier, natural channels – the most obvious place to keep the water flowing.

The Wellington alluvia consist of four units. At the base are the deep gravels above which is usually found a band of red-brown material, which varies greatly in texture and depth – although thicknesses greater than 30cm are not common. Above this is a silty clay deposit which varies from yellow to grey, usually fairly light in colour and often more than 1 metre in depth. At the top is another red-brown layer, containing silt and clay, which can be up to a further metre thick though it is usually less than this.



Roseff's study (1992) discusses the origins and properties of these materials as found in one section in the northern central area of the quarry. Subsequent quarrying has revealed sections with a similar pattern of deposits but with variations in texture, depth and other details. The upper and lower Holocene units are sometimes missing and this usually relates to the underlying topography of the gravel.

Rises in the gravel are overlain by deposits which may entirely lack the uppermost unit while depressions may have an anomalous and altogether more complex sequence of units. Recent studies very close to the current evaluation area (Terra Nova, 2002) have shown that the shallower deposits here may likewise lack the uppermost unit.

This may indicate that, by the time the upper unit was deposited, the alluvium had already become deep enough that such higher points stood above most of the floods.

Darker bands are commonly found in the lower half of the section on the valley floor and have been interpreted as former soil surfaces – the dark colour being the remains of humified organic matter. Fine sedimentary laminae have also been noted in patches over much of the valley floor.

The normal stratigraphic sequence is occasionally interrupted by quite different deposits which lie within former channels. These are usually coarser and may contain bone, shell and pot fragments. Roman and later ditches, cut down into the middle depositional unit, are filled with deposits of the uppermost, red-brown, unit.

The sections of Holocene alluvium revealed by gravel extraction in the central and northern areas of the Wellington quarry were recorded stratigraphically using a scheme similar to those used to record archaeological strata. It is very likely that the basic colour changes do reflect differences in the material being deposited at different times. The sharp boundary between the middle and upper units indicates an abrupt change in the material being deposited. However, a purely stratigraphic recording scheme implies that the differences in colour and texture represent strata and this is unlikely to be the case at Wellington.

Depositional units develop their characteristics in three different ways – from their parent materials, from the processes by which they were deposited and by the processes which have acted on them since. Only the second of these produces strata.



Changes in parent materials may result in significant changes in the nature (for example, colour) of deposits without any change in the way in which deposition occurred. Similarly, post-depositional change may impose colour and texture variations associated only with the movement of water within the soil and unrelated to the structure of the deposits themselves.

The Lugg alluvia seem particularly ill-suited to producing natural depositional strata which can be seen in the field – and particularly good at producing other unrelated effects which make such strata as do form difficult to see. Firstly, the limited range of particle sizes and mineralogies found within the boulder clay and rock parent materials of the Lugg catchment has imposed a very limited range of deposit types in the alluvia which have built up downstream.

This means that, while colour changes in the parent materials being eroded upstream may be faithfully recorded in the downstream alluvia, the processes of deposition themselves, which normally show up as subtle changes in deposit texture, are formed only very weakly. Secondly – and of great importance – these deposits are subject to several very powerful and destructive forms of post-depositional change which has removed much of such stratigraphy as does survive.

The upshot of these effects is that purely stratigraphic recording, which assumes that colour and texture changes in the section represent changes in depositional process – and thus environment – should be accompanied, at Wellington, by objective section recording which allows us to separate the parent material, depositional and post-depositional characteristics of the deposits.

## Method

The site was visited on three days. The key similarities and differences between the deposit sequences within the trenches were noted and a selection of representative trenches were studied in greater detail.

Deposit profiles in trenches 17 and 19 were considered to be representative of those to the northern half of the site (from trench 23 northwards). The profile in trench 32 was considered representative of those in the southern half of the site (to the south-east of trench 23).



Trenches 23 and 31 were studied separately and in greater detail since they (and trench 30, which was similar to 31) were found to be quite different from the others.

In each trench examined we cleaned one or more sections, as required, so that as much fine detail as possible was visible. We then recorded the broad sequence of deposits and took monolith samples for laboratory study. We then compared the sections with each other and with earlier observations to arrive at a preliminary interpretation of the sequence of events which had produced them.



## Observations

The sequence of deposits described above was found in all of the trenches, except for those which contained either organic or archaeological deposits. The deposit sequence corresponded closely with that found during an earlier evaluation of an adjacent site (Terra Nova, 2002). We found, in particular, an apparent correlation between the height of the gravel surface and the depth of the alluvia above – since the higher the gravel, the thinner the alluvia and the lower the proportion of red (upper) to yellow (middle) alluvium. This provides further support for our earlier conclusion that the depth of the alluvia which are deposited is related to the depth of sediment-bearing water overlying the ground surface during a flood.

### The Northern Trenches

The sequence in the northern trenches consisted of dark brown granular Ah horizon, becoming medium angular blocky by 10cm. This overlay a stratum of clayey silt alluvium to between 60 and 110 cm, gradually changing from mid red-brown at the top to mid yellow grey-brown at the base. The stratum contained a few stones throughout. Below was weathered gravel becoming hardened (probably by periglacial induration) by 50cm.

The cuts of archaeological features within the middle, red to yellow, stratum were impossible to define towards the top and only became very vaguely visible by 50cm from the surface.

Magnetic susceptibility values measured within the natural profile and through a ditch in trench 17 were all between 2 and 4 SI units – very low values which are similar to those found in the alluvia elsewhere in the Lower Lugg alluvia (Terra Nova 2002).

This depositional sequence is as expected and probably formed by the gradual accumulation of fine yellow alluvium over the Devensian gravel surface. This gave way to the accumulation of the red alluvium up to the modern surface. The presence of stones within the normally stone-free alluvia may indicate that some vigorous process of mixing has taken place throughout the profile (perhaps indicating that cultivation took place in prehistory, when the alluvia were thin enough for the cultivating implement to lift stones up into the alluvia). Further mixing, through biological and, perhaps, archaeological activity has continued to mix the profile and thus neither the boundary between the two alluvial units nor sedimentary detail within them is preserved.



The loss of the cuts of archaeological features is typical of deposits of this texture and is probably due to a combination of lessivage (the downward movement of fine particles within coarser mineral material) and biological mixing.

We note, however, that there was considerably less overprinting and loss of sedimentary detail within the profile by redox colours and textures (those, such as iron oxide mottling, which are due to varying water levels within the soil). This may be due to the relatively good drainage of the site and the degree to which the higher gravels act to promote drainage rather than ground-water recharge.

The low magnetic susceptibility values suggest that the ditches identified in trench 17 and 19 are not associated with sites of occupation, since debris from these might be expected to raise the soil susceptibility around them. Thus these ditches are more likely to be part of a system of field boundaries.

We would expect the preservation of palaeoenvironmental evidence to be poor in these northern profiles, both because of the degree of mixing and the good drainage. Some downward displacement of artefacts may also have taken place due to worm casting.

### The Southern Trenches

The sequence of deposits within the southern trenches was found to be similar but slightly deeper. Thus the boundary between the lower, yellow-brown and upper, red-brown alluvia was much clearer (2 to 5cm thick) than to the north. No sedimentary detail survived within the deposits, however, indicating that the accumulation of alluvia had been sufficiently slow for soil formation to have destroyed any alluvial laminae.

An area of tufa was found between the lower and upper alluvia in trench 27. This may indicate a prolonged period when a pool, perhaps recharged by calcareous groundwater, was gradually evaporating in a stable valley floor environment. The tufa does not appear to incorporate alluvial silt or clay and may therefore have formed when flooding from the river was rare.



## Trenches 30 and 31

These two trenches, in the south-western corner of the southern area, cross an area of lower-lying land containing deposits of peat and a peat-filled former drain. The sequence here has similarities to that within the other southern trenches but is distinct in four significant ways:

- 1 the lower part of the sequence includes a grey unit which overlies the lower, yellow alluvium
- 2 a peat, grading out into an organic clay towards the edges of the deposit, is found above the grey unit and below the upper red-brown alluvium. The peat lies within a linear depression, perhaps a former channel draining the lower lands to the west, and has been cut by a later drain, now filled with peat
- 3 thin bands of organic matter are found within the red alluvium above the peat. These show no sign of contemporaneous soil formation which probably indicates that they represent the sedimentary accumulation of organic matter on a surface rather than the growth of plants *in situ*
- 4 the red-brown alluvium above these organic bands is very silty and contains well-defined silty and fine sandy laminae, which have been disrupted by later cracking, rooting and faunal mixing.

The alluvial history recorded in this sequence is of wider significance because it is the result of the interplay of changing landuse and precipitation upstream. The lower Lugg alluvia are thus an important record of climate and social change – into which these specific deposits may allow us a particularly valuable insight.

The grey unit (1) was seen to be “printed” over sedimentary structures within the alluvium below (and very occasionally above) the peat. This suggests that it is the result of post-depositional change and that it does not represent a separate alluvial stratum. The grey colour contains a few yellow mottles along former pores which indicates that the unit is reduced and, in particular, that Iron oxides within it are present in their FeII form. The reduction is most likely to be associated with the peat above and indicates where the metabolism of organisms within the peat has removed oxygen from the minerals.



Acidification, caused by the further decay of the peat, may also have released organic acids which have dissolved the FeII and allowed it to migrate down the profile.

The peat itself clearly represents the accumulation of plant matter under anaerobic conditions. The depression in which it is found is not deep and the strong prismatic structure which extends from the surface through the peat into the deposits below is certainly allowing air to circulate downwards under dry conditions when the soil fissures are fully open. Thus it seems very likely that the deep prisms and broad fissures have formed fairly recently since the aerobic decay which they are producing in the peat would probably have destroyed it within a century – and thus cannot have been in progress for so long.

We note also that surface soil granules can be seen incorporated into the lower strata where they have dropped down the prism fissures. This process, common in soils with such deep, wide fissures, has also begun relatively recently since it has not yet produced much disruption in the lower strata.

We conclude that a relatively recent fall in the normal levels of water in the soil is now causing changes which are destructive both to organic material and to mineral strata (including any archaeological remains) in the upper soil profile. We cannot say whether this soil drying is due to 20<sup>th</sup> Century (probably post-war) drainage or to down-draw from the adjacent quarries. If the drying is due to down-draw, however, we must be concerned for the preservation of other archaeological and palaeoenvironmental evidence in mineral and peat strata in the area, since the destruction which we have observed must have taken place within the past 15 years.

We note, also, that the destruction of the peat bed is all the more significant because this peat appears, from its stratigraphic position, to date to the later Holocene whereas almost all other peats in the Lugg Valley found to date have formed within the lower, late Devensian and early Holocene fills of palaeochannels. The peat within the depression and the ditch may thus be a very significant source of palaeoenvironmental evidence and deserve further analysis. We should be cautious about drawing conclusions from evidence within the peat, however, until we can demonstrate, through analysis, that it does not contain much redeposited organic contaminant – a problem, especially, within the peat of the ditch since this may have formed partly from the erosion of the peat bed upstream.





The formation of the peat suggests that there was a period, between the lower and upper alluviation episodes, when the valley floor was very wet but not subject to regular floods which could deposit silt and clay. It may be that, elsewhere, this hiatus has been obscured by later bioturbation and lessivage.

The organic bands in the lower red-brown alluvium (3) may also be of much wider significance as palaeoenvironmental and dating evidence because they may allow us to clarify the way in which, and the rate at which, the upper alluvium accumulated. We have little evidence for this elsewhere in the lower Lugg valley, although we have sites and finds which constrain the whole period of alluviation. As with the peat beneath, we may find that these bands consist (or cannot be proven not to consist -) of redeposited organic matter. Thus, as with the peat, it will be very helpful to carry out detailed sedimentary studies to find out more about how the organic bands and upper alluvium have formed. It may be possible to date the organic matter within the bands although the necessary coordination of organic matter extraction and sedimentary analysis will require close cooperation with a radiocarbon accelerator laboratory.

The coarser silty and fine sandy laminae within the upper alluvium (4) indicate a period of more rapid and more energetic alluvial deposition across the valley. They show, in particular, that they accumulated to sufficient depth over a short period that they were not destroyed by further soil formation.

The sequence of deposits and units change gradually, as the silty laminae, the peat, and the grey unit beneath become less well developed away from the centre of the depression. The gravel surface, however, deepens and other peaty deposits are found towards the southern end of trench 31, about 50m south of the depression centre, and perhaps elsewhere nearby.



## Trench 23

The profile in this trench is similar to that found elsewhere nearby but includes both archaeological deposits and apparently natural deposits altered by archaeological activity. The most prominent feature of the trench was a patch of dark, organic-stained clayey material overlying a pit more than 1 metre deep and 3 metres across. The natural depositional sequence altered gradually towards this feature.

The simplest depositional sequence was seen in section to the east and west of the archaeological features. Here 10cm of granular, dark brown clayey silt Ah horizon overlay fairly uniform mid red-brown silt to a depth of 90cm. At 90cm there was a thin surface of iron oxide accumulation, too soft to form a true “iron pan”, above about 18cm of yellow-brown clayey silt. In the upper part of this stratum there were well-defined former root pores and fissures, now filled with redder clayey silt from above. Below this the yellow-brown stratum changed gradually into a red-brown clayey silt with stones, merging into gravel at 115cm.

Three metres further west, about 10 metres east of the pit, was a similar sequence in which the lower half of the red-brown alluvium was replaced by a mid brown-grey silty clay at a depth of between 55 and 90 cm. There was a sharply defined depositional boundary at 55cm. Below 90cm was a yellow-brown clay silt, as before but lacking the clearly defined filled root pores and cracks.

Immediately to the west of the pit, 1 metre beyond the apparent cut, the sequence consisted of 1 metre of red-brown clayey silt, with a well-defined band of silty and fine sandy laminations at between 70 and 85 cm. Below this was about 30cm of silty clay varying from mid pinky grey at the top to mid grey at the bottom. This had a convoluted interface to a yellow-grey silty clay at about 130cm and this passed into the underlying gravel at 140cm.

The lower half of the laminae had been mixed, most probably by bioturbation (since they are penetrated by a few, poorly-defined pores) while the clay between 100 and 130cm contained swirling patterns of red and grey suggesting that some energetic and large-scale mixing had taken place. The convoluted surface of the yellow-grey silty clay beneath also appeared to have been mixed by some similar process but it appeared that there was an undisturbed layer of fine alluvium between the two.



The yellow-grey silty clay also contained angular and heavily weathered stones, some of which were highly magnetically susceptible. All the other deposits in this profile were of low susceptibility.

The deposits overlying the edge of the pit were similar, in some ways to those close by. They consisted of 100cm of silty clay becoming siltier between 70 and 80cm. No intact laminae were found although we may guess that they were once present and have now been completely mixed into the deposits. At 100cm there was an abrupt and convoluted boundary between the red-brown silty clay and a dark grey organic clay speckled by weathered angular stones. These were found to be of high magnetic susceptibility (more than 100 SI) while the deposit around them showed occasional areas of higher susceptibility (up to 20 SI) in a matrix of much lower values (3 to 5 SI).

The stones in this and the previous section are almost certainly burnt and occasional flecks of charcoal and of what appeared to be burnt clay suggests that a great deal of burning had taken place around the deposits. The low susceptibility of the dark-grey clay matrix, however, suggests that this deposit incorporates hardly any susceptible material, such as domestic debris. It seems more likely, therefore, that the deposit formed by some process of organic clay accumulation and that the burnt materials have been introduced into it through later mixing.

The convoluted surfaces and internal mixing of this grey deposit and of the lower strata of the previous section are interesting. The mixing which they represent is on too small a scale to be due to freezing and does not resemble that caused by roots, soil fauna or normal soil physical processes. It does appear similar in scale, however, to the “poaching” compaction caused by the hooves of farm animals or the larger wild mammals. Such animal trampling might have occurred around the central pit if this formed a watering hole and, we might therefore expect the grey, organic clay deposit to be due to the accumulation of organic matter around a small boggy pool.

The pit itself is almost certainly artificial since a piece of apparently Bronze-Age pottery was found low down within its coarse fills. These fills are likely to have been deposited soon after it was first dug out – although it is possible that that pit is natural and was completely cleaned out and deepened.



This seems very unlikely, however, since the gravel within which it is found is not orientated with the pit edge, which tends to be the case where a pit has a natural periglacial origin.

Other sections nearby show variations on the normal deposit profile, including one containing gravel at 40cm which may be upcast from a nearby pit which was used to consolidate a soft surface.

The sequence of profiles towards the pit, described above, appears to represent the depositional and post-depositional results of a consistent set of processes, varying across the landscape. We may speculate that, at the end of the Devensian glaciation, the site lay on a gravel surface, slightly above the valley floor. Reducing stream energy had resulted in a thin, red-brown clayey layer over the gravel surface which developed into an early Holocene soil and which was then buried by a yellow-brown clayey silt laid down in overbank floods from the river Lugg. A period of stability, when alluviation slowed and soil formation became better established, may have preceded and succeeded the yellow-brown alluviation (the iron staining, structure formation and rooting in the first profile may represent a soil formed on the surface of the yellow-brown alluvium from which all organic matter has been lost).

The site probably had an undulating surface which caused slightly different profiles to form. A slight depression allowed water to accumulate and organic matter to enrich a clayey soil. Here people dug a pit, stones and other materials were burnt and the remains of these and other processes were spread across and trampled into the boggy, organic soil surface. The resumption of alluviation led to the accumulation of the overlying red-brown deposit. More powerful flooding or an increase in erosion led to the rapid deposition of a deeper bed of coarser silts but the accumulation rate eventually slowed and alluvial deposition continued, less frequently and with less effect as the ground surface rose to its current level.

The coarser sediment laminae were preserved where they had built up most deeply in the centre of the slight depression but, away from the pit, were reworked by soil organisms, into the surrounding profile. Some post-depositional reduction probably took place where organic matter was being metabolised by soil micro-organisms under wetter conditions. This may be the explanation of the grey-brown unit in the second profile.



We examined a number of the archaeological pits and post-holes which had been revealed in excavation. We found, as expected, that the edges of the features and of the post-pipes, had been obscured by post-depositional mixing (mostly by worms) and by the precipitation of deep purple-brown manganese-iron hydrated oxihydroxides. These processes are similar to those which have obscured the upper parts of the cuts of features in trenches 17 and 19, but those in trench 23 have suffered a greater degree of oxihydroxide mottling because of the slightly poorer drainage.



## Conclusions

The profiles in the northern and southern parts of the site are similar to those studied previously and confirm our understanding of those deposits. The powerful, destructive effect which desiccation is having on the soil structure and preserved organic matter may be a significant issue in the future conservation of archaeological deposits in the area. It will be helpful to identify whether this desiccation is due to field drainage or quarry down-draw.

The peaty depression running through trenches 30 and 31 may be a valuable source of palaeoenvironmental evidence relevant to the entire region.

The deposits around the pit in trench 23 are of wider interest than they might appear because they may allow us to answer questions not only about the development of the immediate area but may also add to the evidence from trenches 30 and 31 concerning the palaeoenvironmental development of the whole valley.



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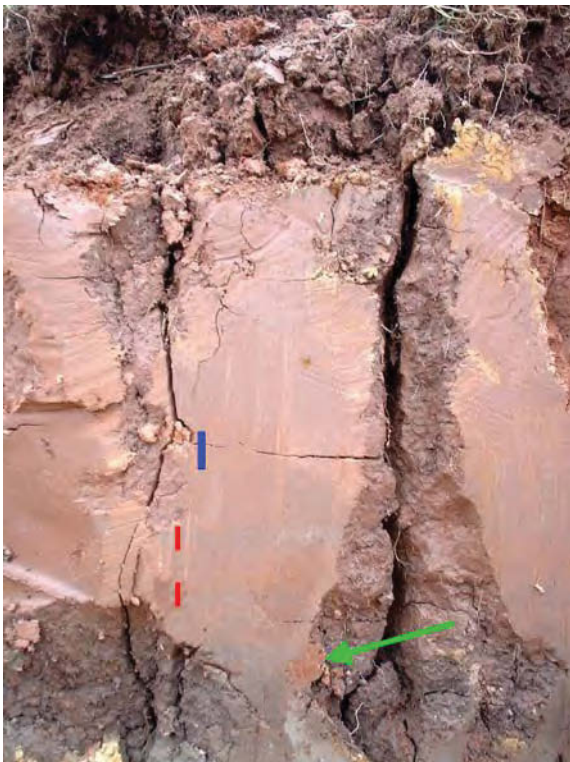






### ***Profile in trench 31***

*The upper red-brown alluvium overlies grey clayey peat. Below this is a band of post-depositional reduction over a weathered lower alluvium. The tape measure rests on gravel.*



### ***Detail of the upper alluvium***

*The red lines mark the position of the organic bands within the alluvium. The blue line marks a band of silty alluvial laminae. The green arrow points to a block of surface soil which has dropped down a fissure and has been incorporated into the top of the peat. The fissures themselves are clearly visible since the photograph was taken when the soil was at its driest.*



***Detail, of the upper trench 31 profile***

- 1 Silty laminae*
- 2 Red-brown clayey-silt alluvium*
- 3 Organic band within the alluvium*
- 4 Red-brown clayey-silt alluvium*
- 5 Organic peaty band*
- 6 Yellow-brown clayey silt, reduced grey at the top*



***Detail of trench 23 profile***

- 1 Clayey silt alluvium*
- 2 Mixing of alluvium and organic clay beneath*
- 3 Organic clay*
- 4 Weathered gravel*





## **Appendix 3: Radiocarbon dates**

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**Report on Radiocarbon Age Determination for Wk- 12255**

( AMS measurement by IGNS [NZA-17020] )

**Submitter** E Pearson  
**Submitter's Code** HSM 32268/2309  
**Site & Location** Morton-on-Lugg (Nr Hereford), Herefordshire, United Kingdom  
**Sample Material** Charred residue from pottery sherds  
**Physical Pretreatment** Possible contaminants were removed.  
**Chemical Pretreatment** Sample washed in hot 10% HCl, rinsed and treated with hot 0.5% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

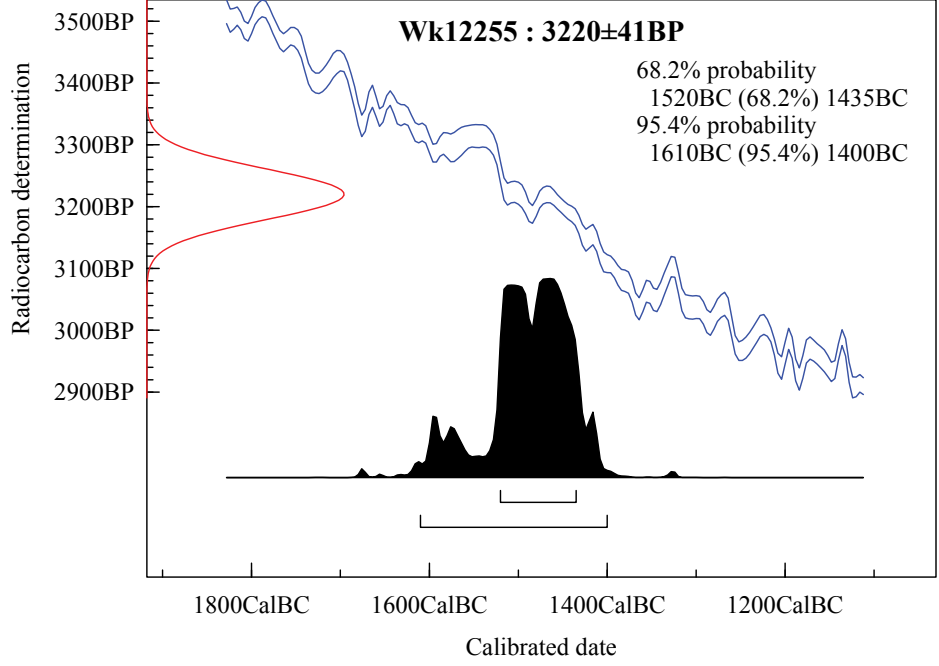
$\delta^{14}\text{C}$	$-328.6 \pm 3.2$	‰
$\delta^{13}\text{C}$	$-26.4 \pm 0.2$	‰
$\text{D}^{14}\text{C}$	$-330.3 \pm 3.4$	‰
% Modern	$67.0 \pm 0.3$	%
<b>Result</b>	<b>3220 ± 41 BP</b>	

**Comments**

30/4/03

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation,  $\delta^{13}\text{C}$ , is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

Atmospheric data from Stuiver et al. (1998); OxCal v3.5 Bronk Ramsey (2000); cub r.4 sd:12 prob usp[chron]



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**Report on Radiocarbon Age Determination for Wk- 12256**

( AMS measurement by IGNS [NZA-17021] )

**Submitter** E Pearson  
**Submitter's Code** HSM 32268/2327  
**Site & Location** Morton-on-Lugg (Nr Hereford), Herefordshire, United Kingdom  
**Sample Material** Fine charcoal fragments from a posthole.  
**Physical Pretreatment** Possible contaminants were removed. Washed in ultrasonic bath.  
**Chemical Pretreatment** Sample washed in hot 10% HCl, rinsed and treated with hot 0.5% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

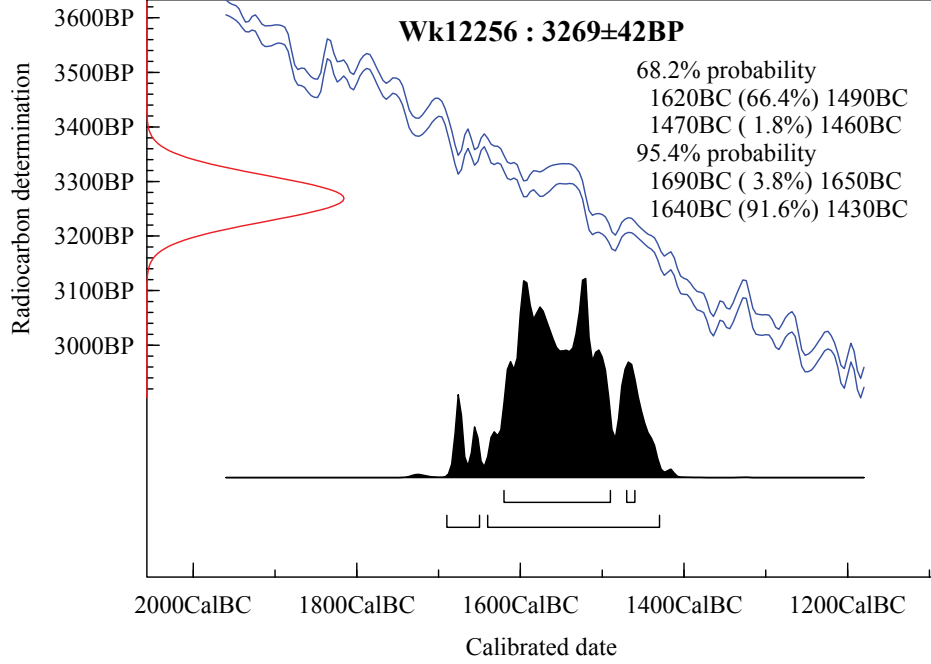
$\delta^{14}\text{C}$	$-335.6 \pm 3.3$	‰
$\square^{13}\text{C}$	$-28.6 \pm 0.2$	‰
$\text{D}^{14}\text{C}$	$-334.3 \pm 3.5$	‰
% Modern	$66.6 \pm 0.3$	%
<b>Result</b>	<b>3269 ± 42 BP</b>	

**Comments**

30/4/03

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation,  $\square^{13}\text{C}$ , is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

Atmospheric data from Stuiver et al. (1998); OxCal v3.5 Bronk Ramsey (2000); cub r.4 sd:12 prob usp[chron]





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**Report on Radiocarbon Age Determination for Wk-**

**12257**

**Submitter** E Pearson  
**Submitter's Code** HSM 32268/2406  
**Site & Location** Morton-on-Lugg (Nr Hereford), Herefordshire, United Kingdom  
**Sample Material** Wood charcoal from a pit fill. Processed from soil sample by wet-sieving and fl  
**Physical Pretreatment** Possible contaminants were removed. Washed in ultrasonic bath.  
**Chemical Pretreatment** Sample washed in hot 10% HCl, rinsed and treated with hot 0.5% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

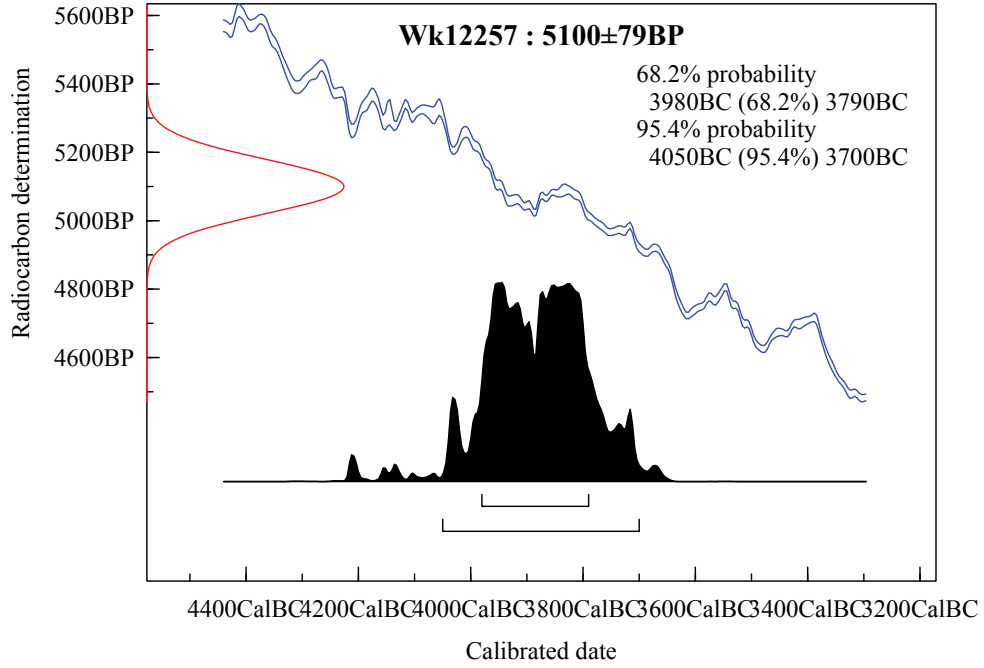
$\delta^{14}\text{C}$	$-469.9 \pm 4.3$	‰
$\delta^{13}\text{C}$	$-25.0 \pm 0.2$	‰
$\text{D}^{14}\text{C}$	$-470.0 \pm 5.2$	‰
% Modern	$53.0 \pm 0.5$	%
<b>Result</b>	<b>5100 ± 79 BP</b>	

**Comments**

30/4/03

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.217 .
- The isotopic fractionation,  $\delta^{13}\text{C}$ , is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

Atmospheric data from Stuiver et al. (1998); OxCal v3.5 Bronk Ramsey (2000); cub r.4 sd:12 prob usp[chron]



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**Report on Radiocarbon Age Determination for Wk- 12258**

( AMS measurement by IGNS [NZA-17022] )

**Submitter** E Pearson  
**Submitter's Code** HSM 32268/3006  
**Site & Location** Morton-on-Lugg (Nr Hereford), Herefordshire, United Kingdom  
**Sample Material** Organic material from an organic clay layer.  
**Physical Pretreatment** Visible contaminants removed.  
**Chemical Pretreatment** Washed in hot 10% HCl, rinsed and treated with hot 0.5% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

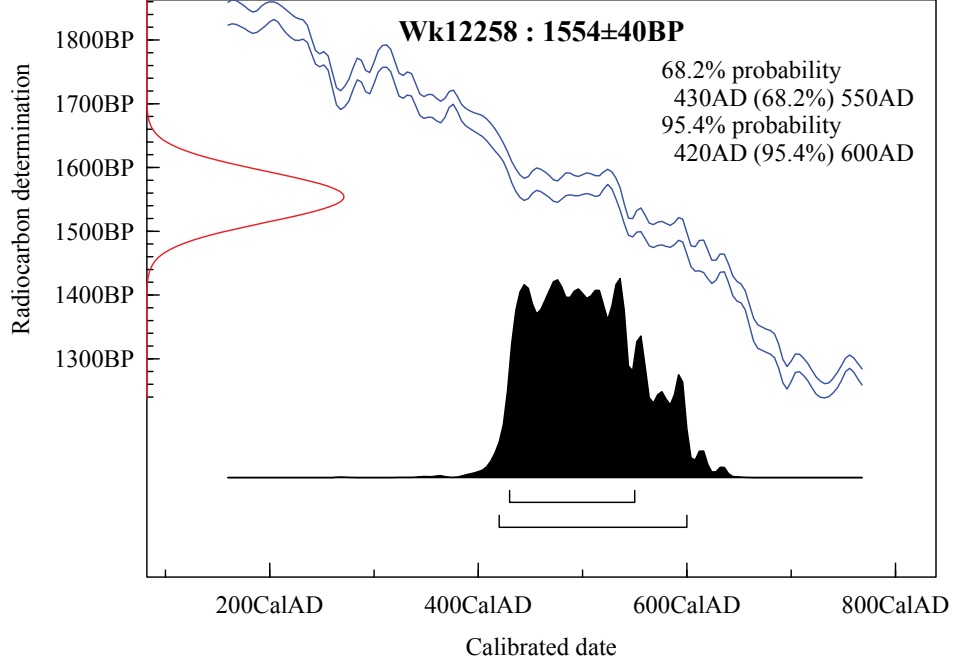
$\delta^{14}\text{C}$	$-179.7 \pm 4.0$	‰
$\delta^{13}\text{C}$	$-29.5 \pm 0.2$	‰
$\text{D}^{14}\text{C}$	$-175.8 \pm 4.2$	‰
% Modern	$82.4 \pm 0.4$	%
<b>Result</b>	<b>1554 ± 40 BP</b>	

**Comments**

30/4/03

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation,  $\delta^{13}\text{C}$ , is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

Atmospheric data from Stuiver et al. (1998); OxCal v3.5 Bronk Ramsey (2000); cub r.4 sd:12 prob usp[chron]



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Head: Dr Alan Hogg

**Report on Radiocarbon Age Determination for Wk- 12259**

( AMS measurement by IGNS [NZA-17023] )

**Submitter** E Pearson  
**Submitter's Code** HSM 32268/3012  
**Site & Location** Morton-on-Lugg (Nr Hereford), Herefordshire, United Kingdom  
**Sample Material** Organic material processed from an organic clay.  
**Physical Pretreatment** Visible contaminants removed.  
**Chemical Pretreatment** Washed in hot 10% HCl, rinsed and treated with hot 0.5% NaOH. The NaOH insoluble fraction was treated with hot 10% HCl, filtered, rinsed and dried.

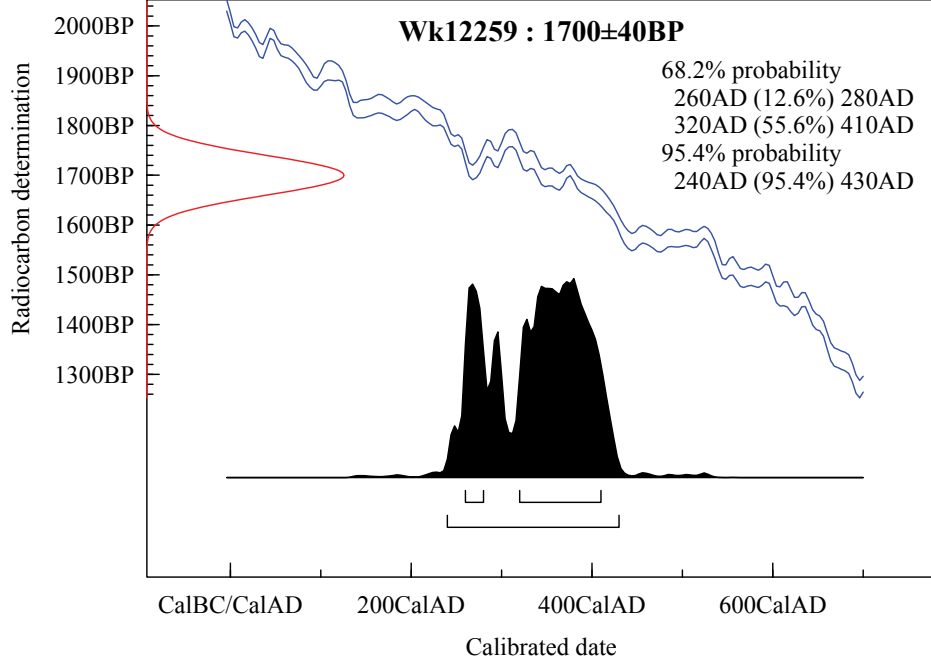
$\delta^{14}\text{C}$	$-193.8 \pm 3.9$	‰
$\delta^{13}\text{C}$	$-29.1 \pm 0.2$	‰
$\text{D}^{14}\text{C}$	$-190.7 \pm 4.1$	‰
% Modern	$80.9 \pm 0.4$	%
<b>Result</b>	<b>1700 ± 40 BP</b>	

**Comments**

30/4/03

- Result is *Conventional Age or % Modern* as per Stuiver and Polach, 1977, Radiocarbon 19, 355-363. This is based on the Libby half-life of 5568 yr with correction for isotopic fractionation applied. This age is normally quoted in publications and must include the appropriate error term and Wk number.
- Quoted errors are 1 standard deviation due to counting statistics multiplied by an experimentally determined Laboratory Error Multiplier of 1.
- The isotopic fractionation,  $\delta^{13}\text{C}$ , is expressed as ‰ wrt PDB.
- Results are reported as % Modern when the conventional age is younger than 200 yr BP.

Atmospheric data from Stuiver et al. (1998); OxCal v3.5 Bronk Ramsey (2000); cub r.4 sd:12 prob usp[chron]





## **Tables**



Context	Fabric	Sherds (count)	Sherds (weight)	Forms	Decoration	Comment
1200	Indet	5	2			Crumbs
2100	Indet	4	2			Crumbs
2309	MoL 1	40	504	Simple rim (15 sherds; 32% of 220mm diameter)  Externally expanded base (2 sherds of 150mm diameter base)	Fingernail/fingertip impressions  ?incised linear	All from 1 vessel
2337	MoL 1	1	19	Simple rim	Fingernail/fingertip impressions	Part of same vessel as sherds in 2309
2406	MoL 3	8	5			Badly decayed
2703	MoL 3	45	71			Fine surfaced with protruding angular quartz. Possibly more than 1 vessel present.
2705	MoL 3	7	42			At least 2 vessels present. One fine surface finish. One with angular quartz fragments protruding
2706	MoL 3	9	70	T-shaped rim. 200mm diameter	Possible lug	At least 2 vessels present. One fine surface finish. One with angular quartz fragments protruding
3302	MoL 3	1	2			
3401	MoL 2	12	75		Incised linear	?All same vessel
	MoL 3	31	142			Probably 2 vessels
	MoL 4?	2	5			Tiny fragments of thin walled vessel

Table 1: Summary of prehistoric pottery assemblage

context	flakes	broken flakes	burnt flakes	blades	broken blades	tools	broken tools	misc debitage	spalls	total	tool type
1100		1								1	
1200		1								1	
2306		1								1	
2406	3	3	1	2		2		2	2	15	2 x scrapers
2503								1		1	
2702								1		1	
2703	3	1						1		5	
2705									1	1	
2706		1								1	
2907								1		1	
3104						1				1	scraper
3105						1				1	scraper
3202						1				1	scraper
3302	2	1		1		1	1			6	serrated flake; microlith point
3401	2	4	1	1	1					9	
<b>totals</b>	<b>10</b>	<b>13</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>6</b>	<b>3</b>	<b>46</b>	

Table 2: The flint

---

<b>Period</b>	<b>Fabric</b>	<b>Fabric Name</b>	<b>Total</b>	
Unknown		Unknown	2	1
Medieval	99	Miscellaneous medieval	3	3
Modern	85	Modern stone china	1	7
Post-medieval	100	Miscellaneous post-medieval	1	25
Post-medieval	78	Post-medieval red wares	1	4
Roman	12	Severn Valley ware	12	105
Roman	22	Black burnished ware	1	1
Roman	43	Samian	1	1

*Table 3: Summary of Roman and later pottery assemblage*

Context	Sample	Context type	Description	Period	Sample volume	Volume processed	Residue assessed	Flot assessed
2306	16	pit		BA	40	10	Y	Y
2308	17	pit		BA	40	40	Y	Y
2309	19	pit	around pot	BA	10	10	Y	Y
2309	19	pit		BA	40	40	Y	Y
2310	20	pit		BA	40	10	Y	Y
2329	14	phole		?	10	10	N	Y
2342	56	misc	?cremation	?BA	05	05	Y	Y
2344	55	misc	?cremation	?BA	05	05	?	Y
2406	41	pit	C14 sample	NEO/BA	10	1	N	Y
3006	26	channel		?	10	10	N	Y
3010	31	channel		?	10	1	Y	Y
3012	32	channel		?	10	5	N	Y
3015	29	channel		?	10	10	Y	Y
3304	43	ditch		?RBR	10	1	N	Y
3401	38	pit		BA	30	30	Y	Y

Table 4: List of environmental samples selected for assessment

Context	Sample	Large mammal	mollusc	insect	charcoal	waterlogged plant	Comment
2306	16				mod-abt		
2308	17				occ		
2309	19	occ			occ		
2310	20				occ	mod-abt	
2327	13				occ		
2329	14				abt	abt	unidentifiable organics
2342	56				occ-mod		
2406	39				abt	abt	unidentifiable organics
3006	26		occ			abt	
3010	31		occ	occ-mod		abt	insects well preserved
3012	32			occ		abt	
3015	29		occ				
3304	43					abt	
3401	38	occ				abt	unidentifiable organics

*Table 5: Summary of environmental remains from wet-sieved samples*

## Field Section

Latin name	Family	Common name	Habitat	2310	3006	3010	3012	3304
Gramineae sp indet grain	Gramineae	grass	AF					++
Gramineae sp indet grain (small)	Gramineae	grass	AF				+	
Ranunculus acris/repens/bulbosus	Ranunculaceae	buttercup	CD		+		+	
Ranunculus sceleratus	Ranunculaceae	celery-leaved crowfoot	E				+	
<i>Ranunculus</i> sbgen <i>Batrachius</i>	Ranunculaceae	crowfoot	E		+	+++		
<i>Fumaria</i> sp	Fumariaceae	fumitory	ABC				+	
<i>Rubus fruticosus</i> agg	Rosaceae	blackberry/bramble	CD					+
<i>Prunus avium/cerasus/spinosa</i>	Rosaceae	cherry/sloe	CF					+
<i>Urtica urens</i>	Urticaceae	small nettle	AB				+	
<i>Urtica dioica</i>	Urticaceae	common nettle	CD				+	
cf <i>Mentha</i> sp	Labiatae	mint	ABCDE F	+		++	+	+
<i>Cirsium</i> sp	Compositae	thistle	ABCD					+
<i>Carduus/Cirsium</i> sp	Compositae	thistle	ABCD				+	
<i>Alisma plantago-aquatica</i>	Alismataceae	water-plantain	E					+
<i>Juncus effusus</i> type	Juncaceae	soft rush	CD	++				
<i>Eleocharis</i> sp	Cyperaceae	spike-rush	E			+++	+	
cf <i>Schoenoplectus lacustris</i>	Cyperaceae	bulrush	E		+++	++		
<i>Carex</i> sp	Cyperaceae	sedge	CDE			++	+++	++
unidentified seed	unidentified						+	

Table 6: Plant remains from wet sieved samples

Taxon	Period				Total
	Prehistoric		?Romano-British	Undated	
	Neolithic/Bronze Age	Bronze Age			
Cattle ( <i>Bos f. domestic</i> )	+	2	7	-	9
Pig ( <i>Sus f. domestic</i> )	-	1	-	-	1
Horse ( <i>Equus caballus</i> )	-	-	2	68 <sup>1</sup>	70
<b>Total</b>	+	<b>3</b>	<b>9</b>	<b>68</b>	<b>80</b>

Table 7: Hand-collected animal bone

“+” means that the taxon is present but no specimens could be “counted” (see text).

---

Trench 23	Sample 50; Molluscan collumn through trench profile
Trench 30	Sample 49; Molluscan collumn through trench profile
	Sample 26; context [3006]
	Sample 27; context [3013]
	Sample 28; context [3014]
	Sample 30; context [3016]
	Sample 31; context [3010]
	Sample 36; context [3018]
	Sample 37; context [3017]
Trench 31	Sample 48; Molluscan collumn through context 3107

*Table 8: List of samples containing mollusc remains*



---

<b>Mollusc</b>	<b>No.</b>
<i>Carychium</i> sp	1
<i>Anisus leucostoma</i>	6
<i>Vallonia costata</i>	1
<i>Vallonia excentrica</i>	2
<i>Trichia hispida</i>	2
<i>Pisidium</i> sp	2
<b>Ostracoda</b>	<b>1</b>

Table 9: Molluscs from context 2306

<b>Mollusc</b>	<b>No.</b>
<i>Bithynia tentaculata</i>	64
<i>Lymnaea truncatula</i>	8
<i>Succinea/Oxyloma</i> sp	12
<i>Pisidium</i> sp	8

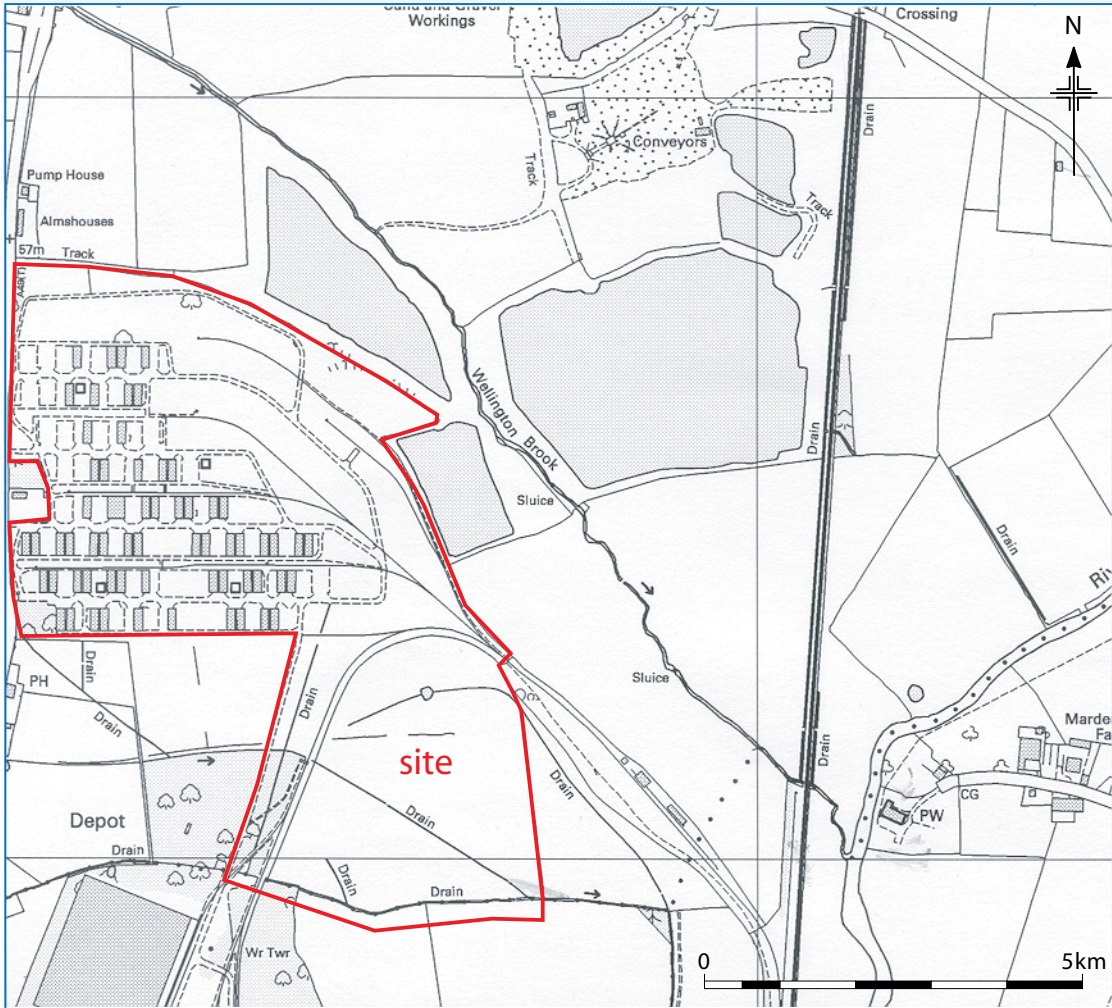
Table 10: Molluscs from context 3006

Sample	2310	3006	3012	
<b>Spores</b>				
<i>Pteridium</i>	4	1	7	bracken
<b>Pollen</b>				
<i>Ranunculus</i> -tp.	2	1	-	buttercup, crowfoot
<i>Ulmus</i>	-	-	1	elm
<i>Quercus</i>	1	-	2	oak
<i>Betula</i>	1	-	-	birch
<i>Corylus</i>	1	2	6	hazel
Chenopodiaceae	+	1	-	goosefoot
Caryophyllaceae	+	-	-	stitchwort family
cf. <i>Spergula</i>	1	-	-	spurrey
Brassicaceae	-	1	-	brassicas
<i>Crataegus</i> tp.	1	-	-	hawthorn
<i>Plantago lanceolata</i>	3	-	-	ribwort plantain
<i>Centaurea nigra</i>	+	-	-	knapweed
Lactuceae	3	3	3	a group of composites
<i>Potamogeton</i>	-	1	-	pondweed
Cyperaceae	2	38	2	sedges
Poaceae	34	7	5	grasses
Cerealia-tp.	1	-	-	cereals

Table 11: Pollen and spore remains from selected samples

Sample weight (Kg)	4
Sample volume (l)	5
<b>COLEOPTERA</b>	
<b>Carabidae</b>	
<i>Nebria spp</i>	+
<i>Dyschirius spp.</i>	+
<i>Bembidion spp.</i>	++
<i>Acupalpis spp.</i>	+
<i>Agonum spp.</i>	+
<b>Dytiscidae</b>	
<i>Colymbetes fuscus</i> (L)	+
<b>Hydraenidae</b>	
<i>Hydreana spp.</i>	+
<i>Ochthebius spp.</i>	+++
<i>Helophorus spp.</i>	+
<b>Hydrophilidae</b>	
<i>Cercyon spp.</i>	+
<i>Lacobius spp.</i>	+
<i>Chaetarthria seminulum</i> (Hbst.)	+
<b>Staphylinidae</b>	
<i>Lesteva spp.</i>	+
<i>Oxytelus spp.</i>	+
<i>Stenus spp.</i>	+
<i>Quedus spp.</i>	+
<i>Tachyphorus sp.</i>	+
<b>Helodidae</b>	
<i>Helodidae</i> ( <i>Cyphon</i> )	+
<b>Dryopidae</b>	
<i>Dryops spp.</i>	+
<b>Phalacridae</b>	
<i>Phalacrus spp.</i>	++
<b>Scarabaeidae</b>	
<i>Aphodius spp.</i>	++
<b>Chrysomelidae</b>	
<i>Phyllotreta spp.</i>	+
<b>Curculionidae</b>	
<i>Apion spp.</i>	+
<i>Notaris spp.</i>	+

Table 12: Insects from context 3012



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Location of the site.

Figure 1





Figure 2: Trench Locations

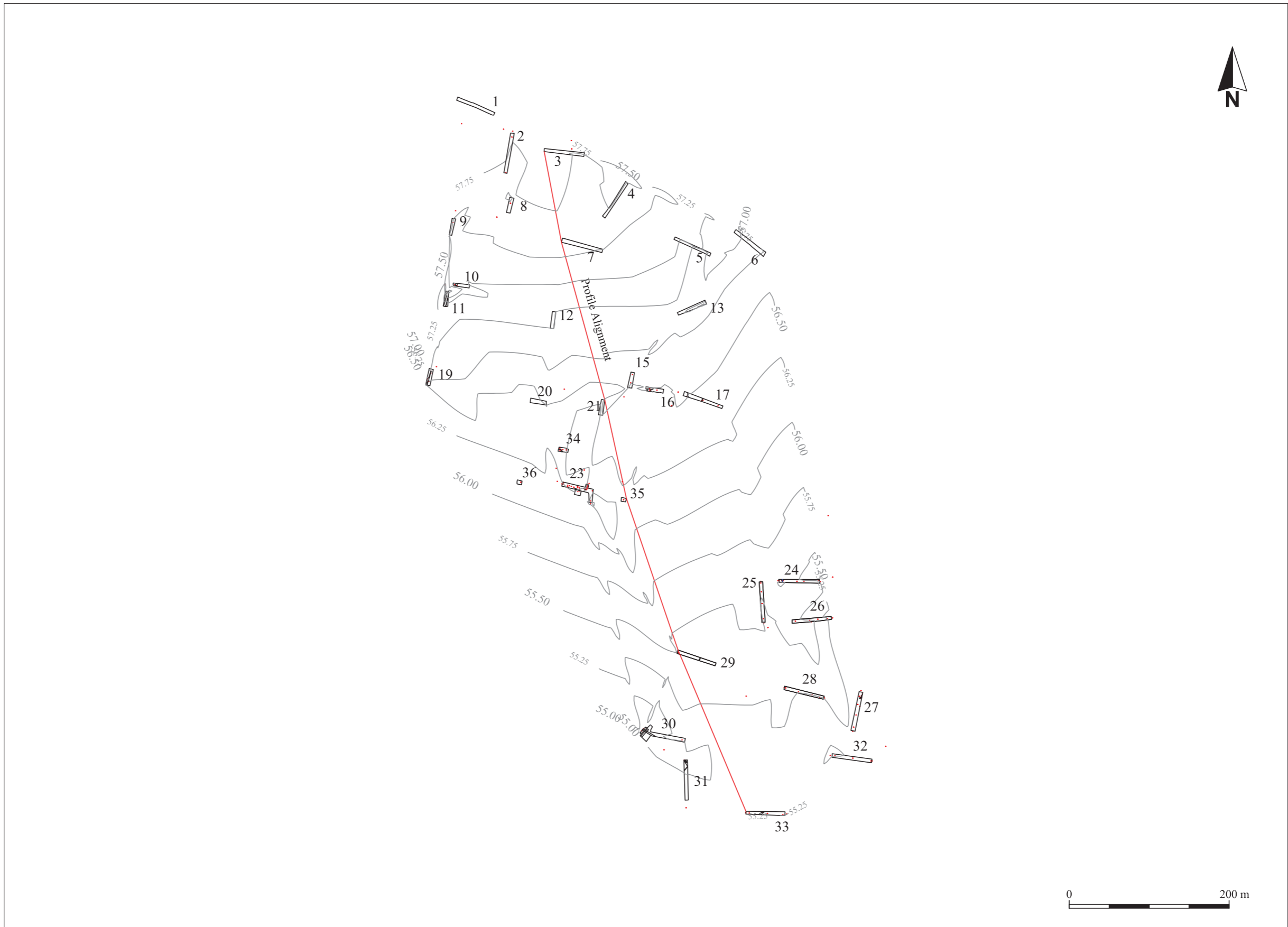


Figure 3a: Contours based on gravel within trenches and long profile alignment

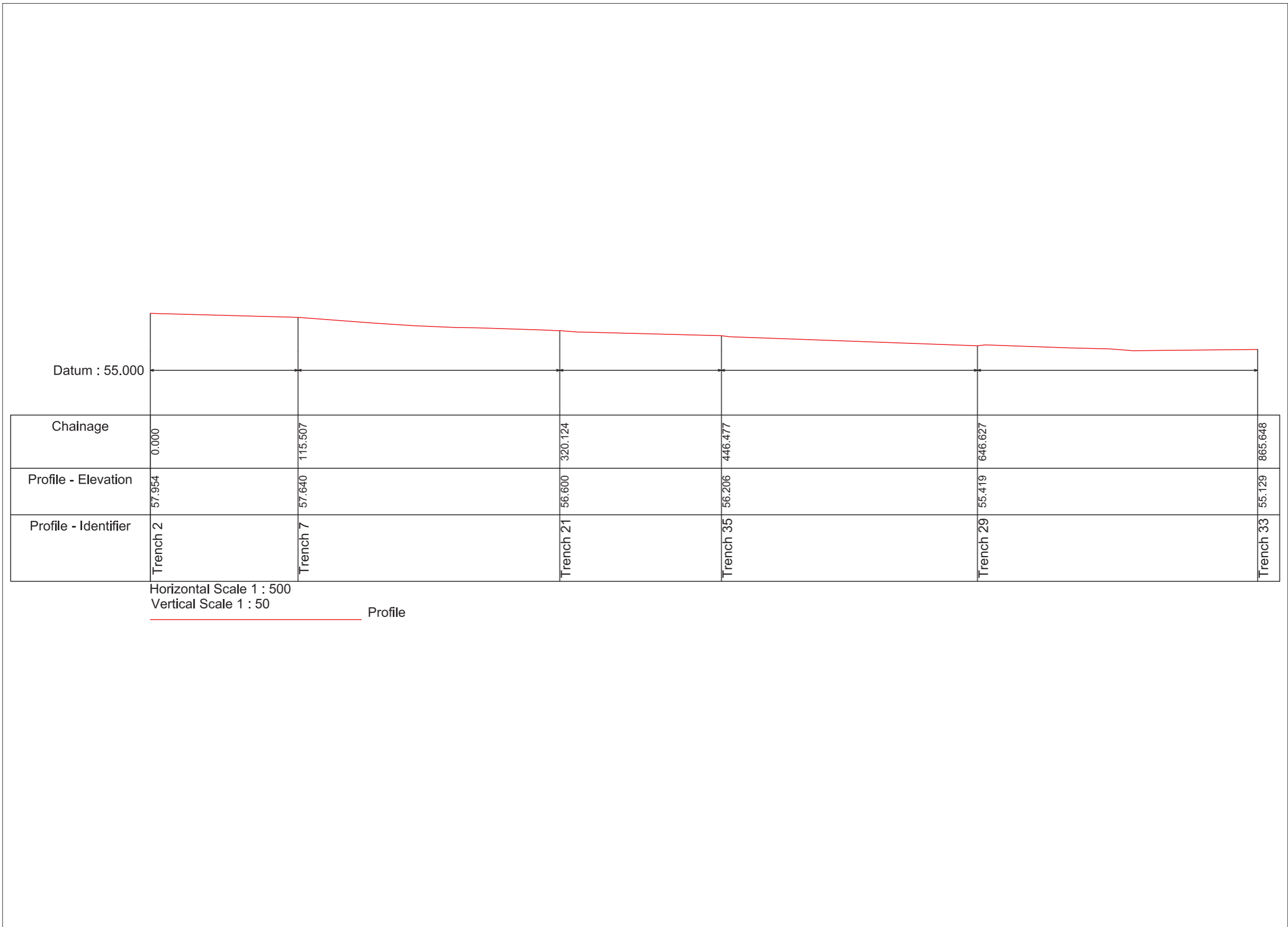
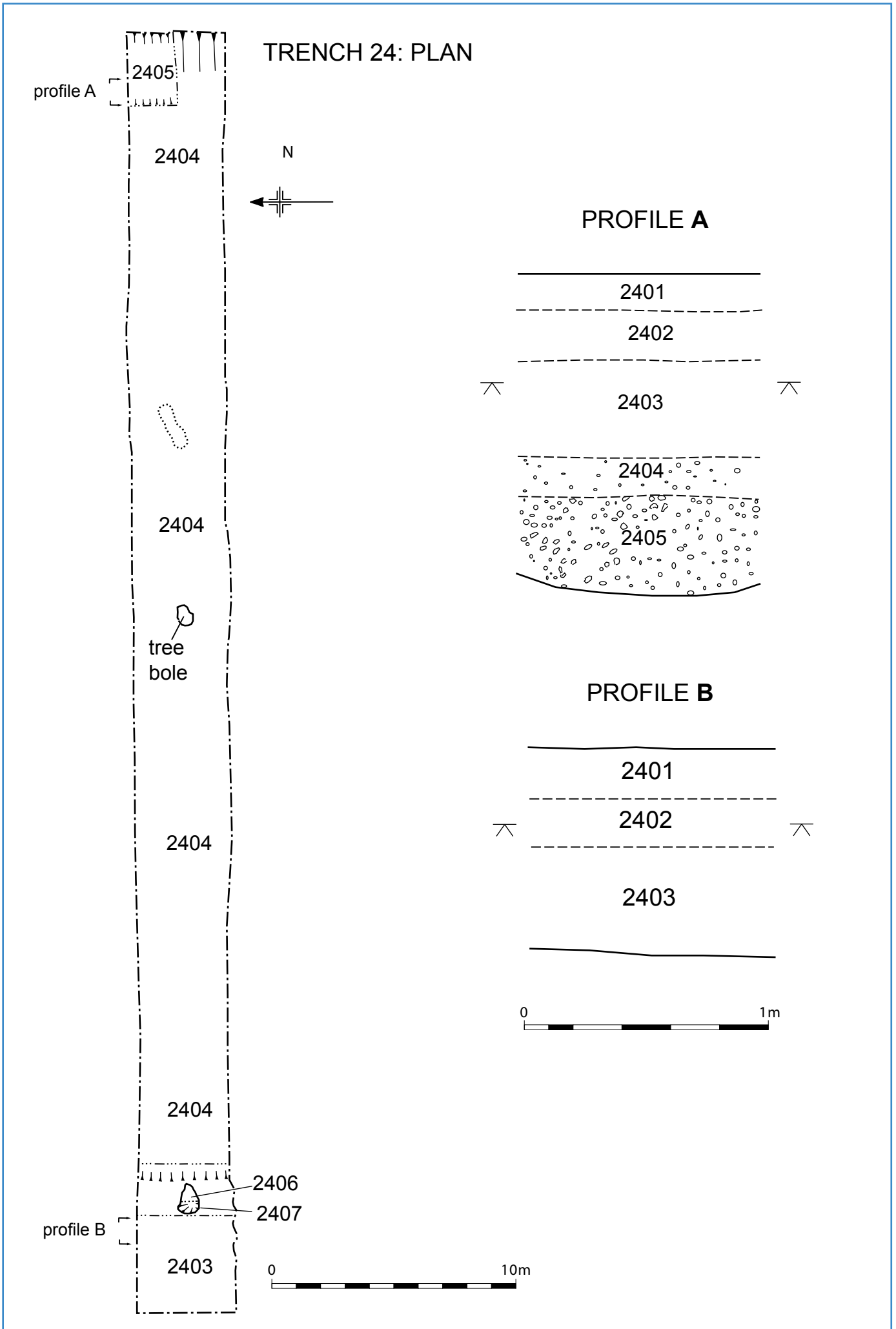


Figure 3b: Long Profile (generated from Alignment in Fig 3a)

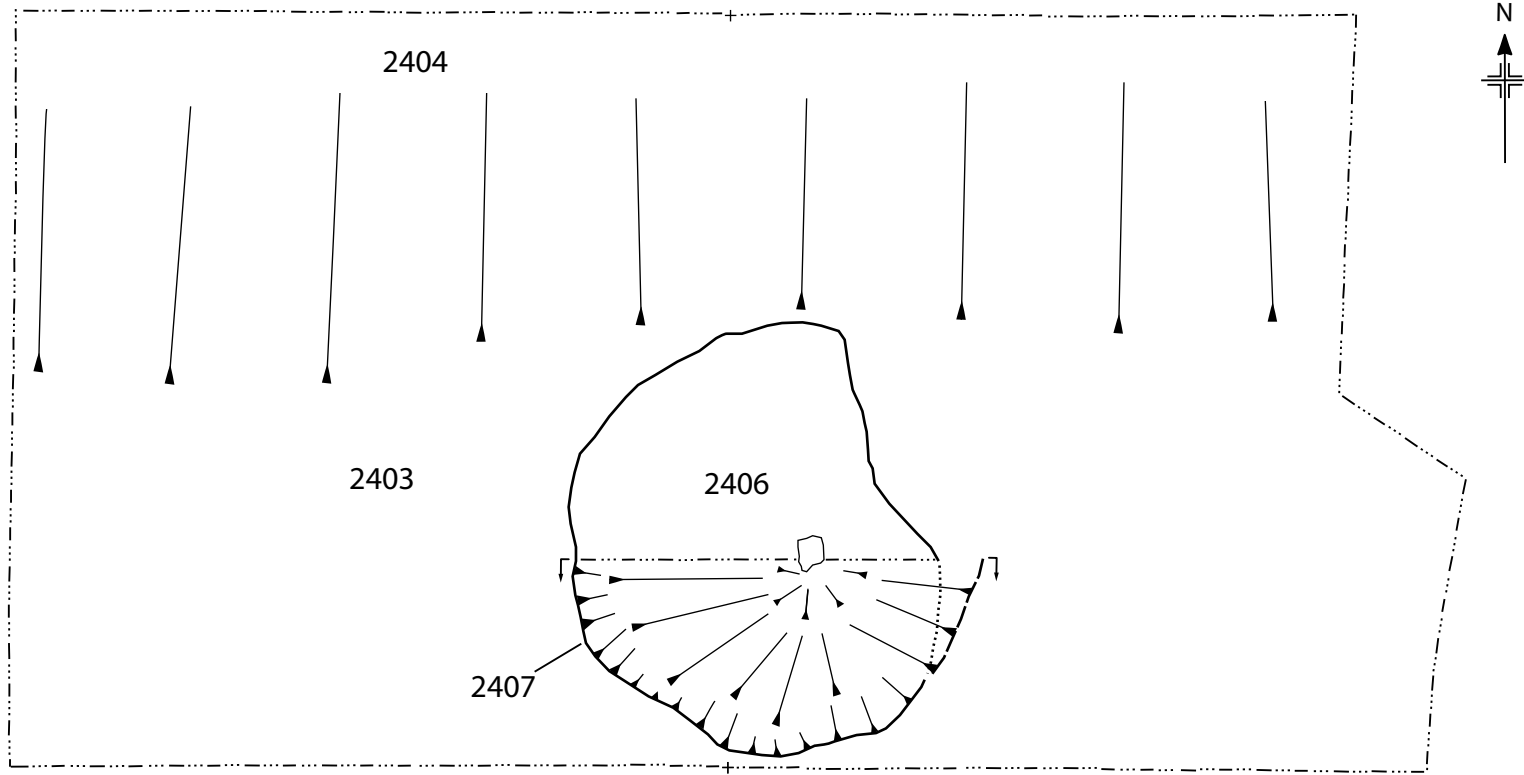


Trench 24: Plan and profiles

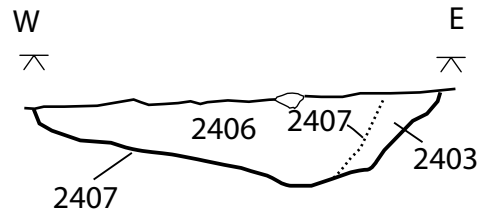
Figure 4



PLAN OF FEATURE 2407



SECTION OF 2407



Trench 24: Plan and section of feature 2407

Figure 5

Trench 23: Plan.

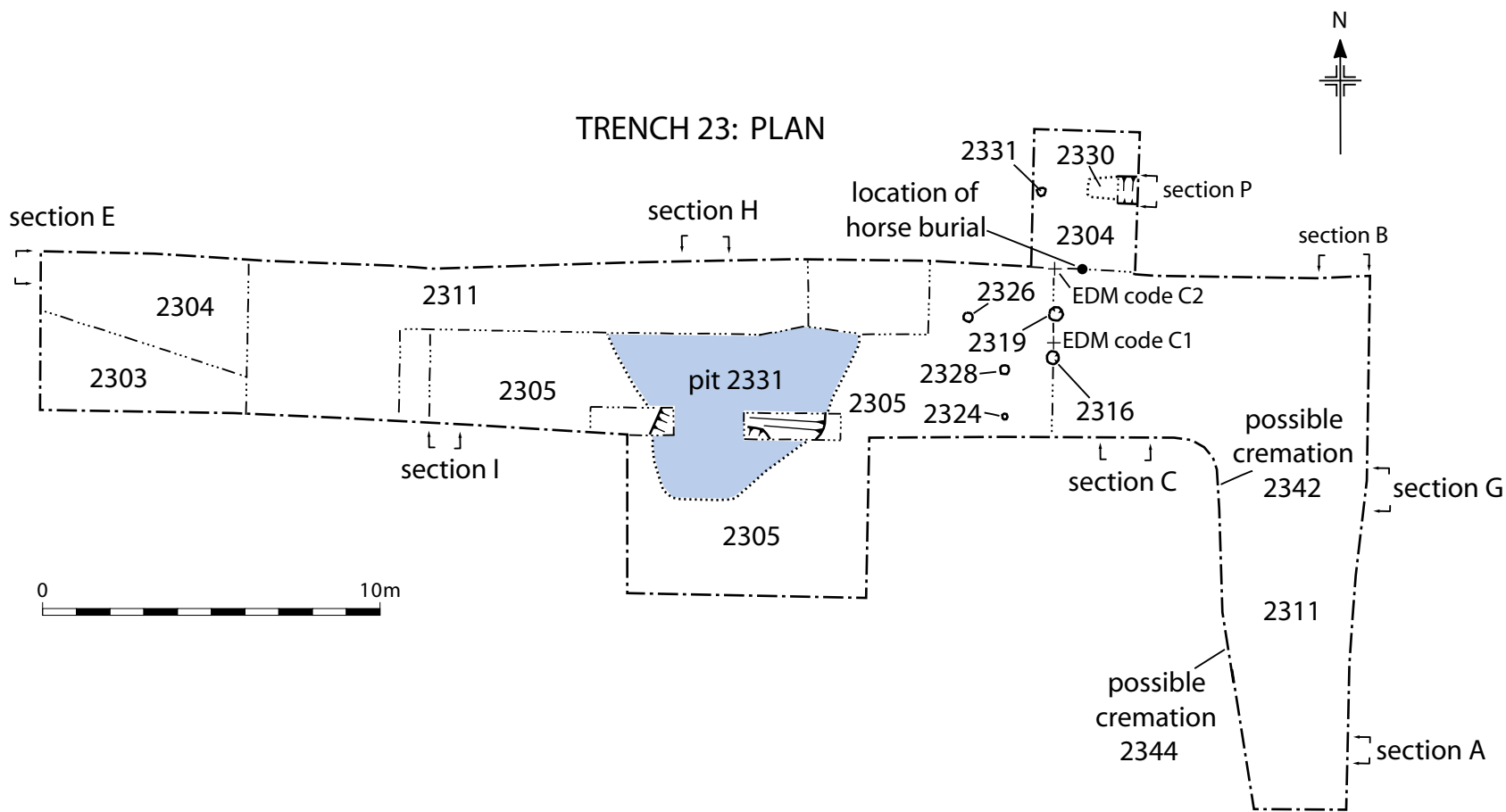
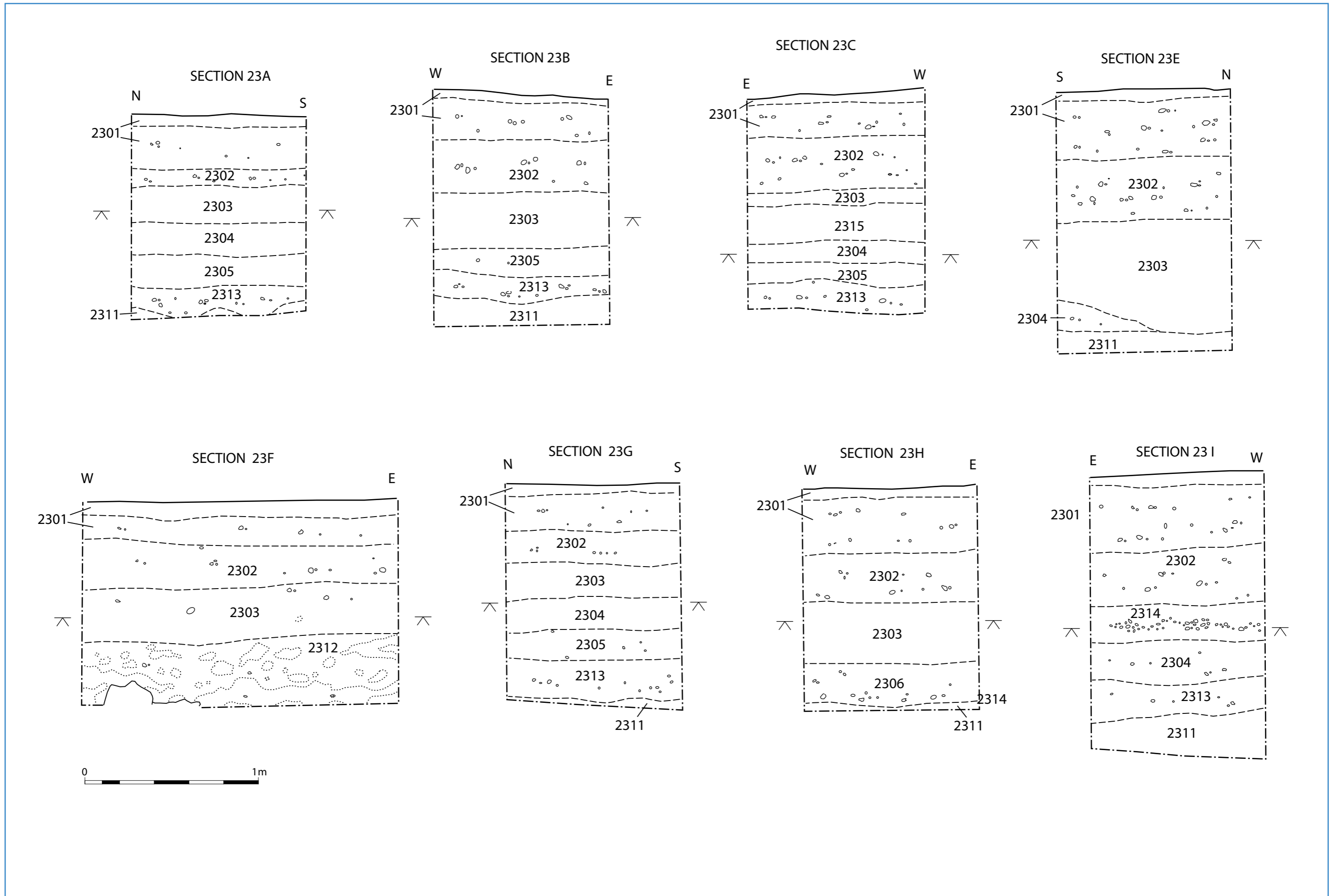
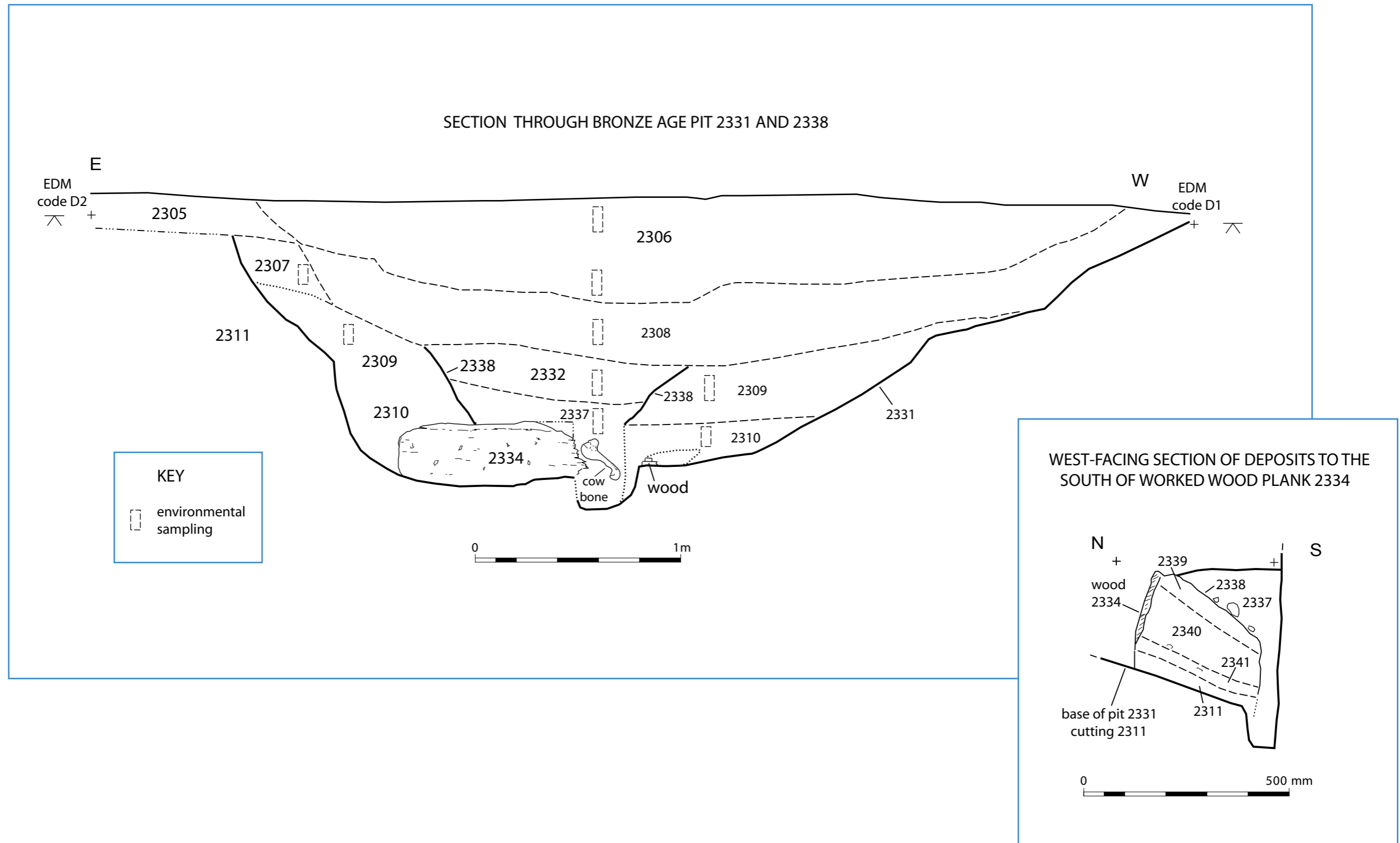


Figure 6



Trench 23: Sections A, B, C, E, F, G, H and I

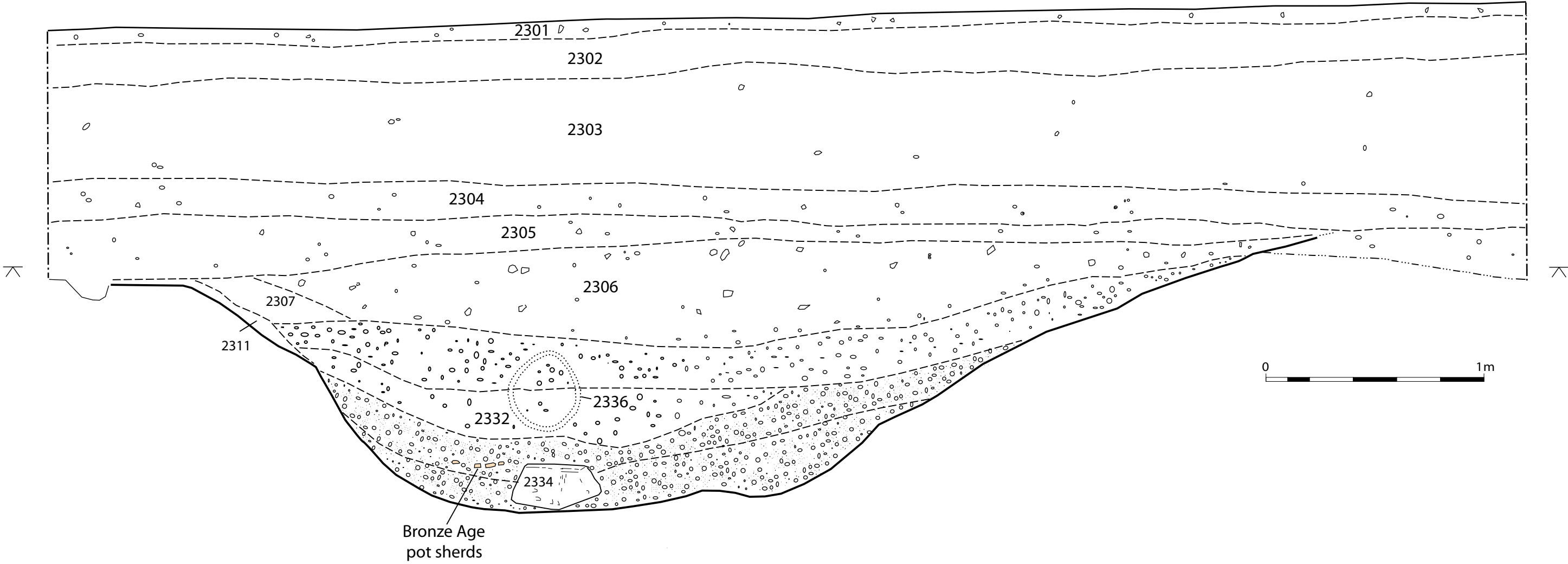
Figure 7



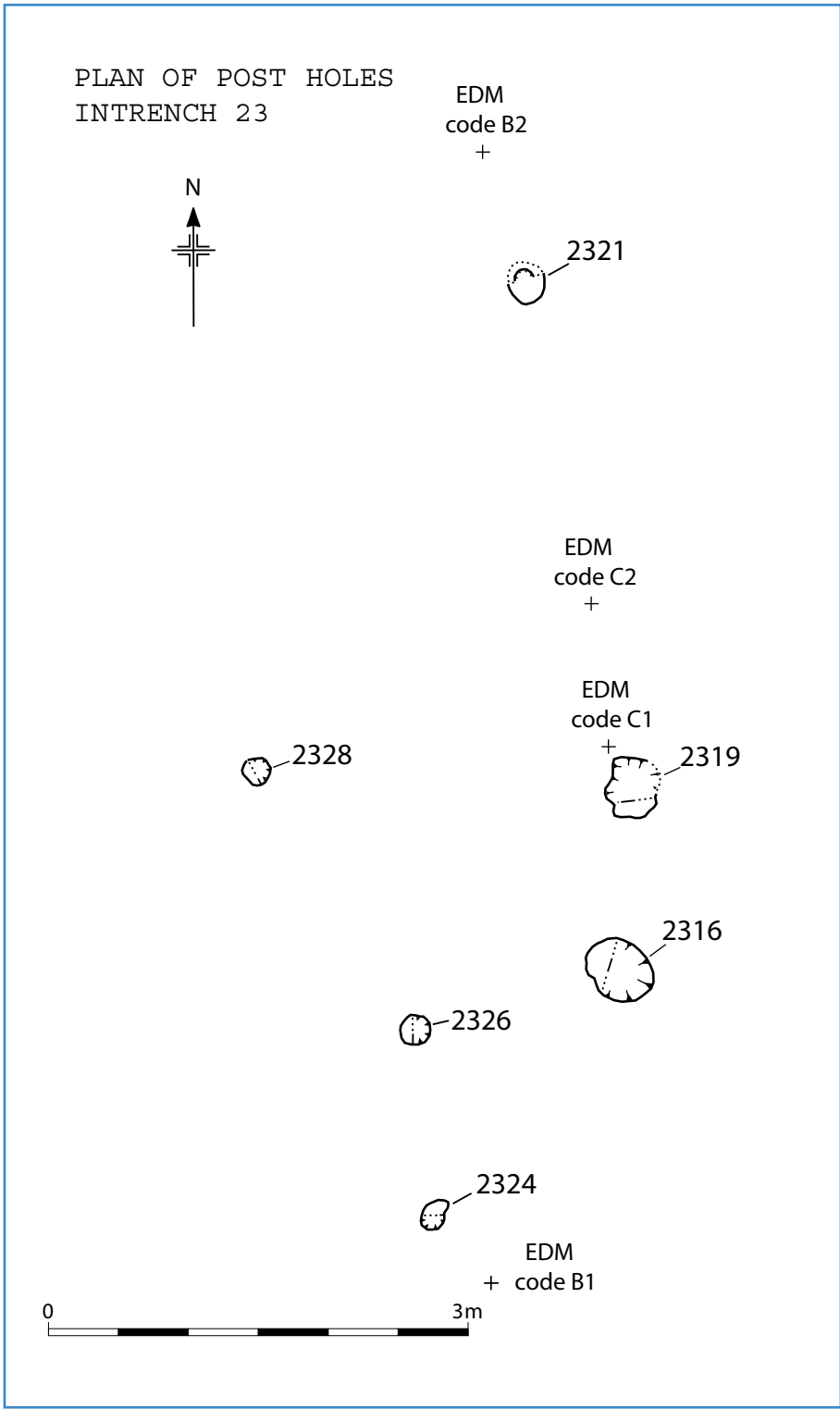
Trench 23: Section through Bronze Age pit 2331 and Robber pit 2338.

Figure 8

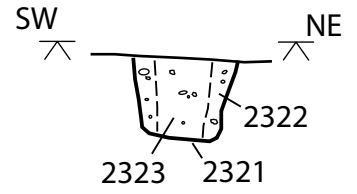
TRENCH 23: NORTH-FACING SECTION THROUGH BRONZE AGE PIT 2331



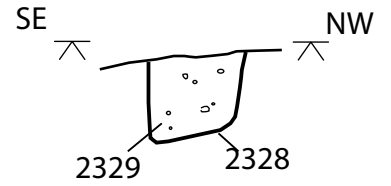
Trench 23: Complete (north-facing) section through Bronze Age pit 2331.



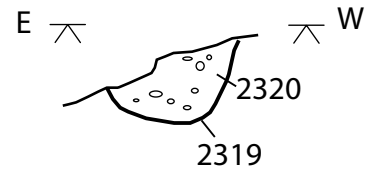
SECTION 23L



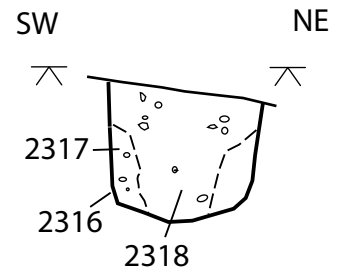
SECTION 23M



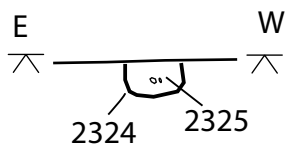
SECTION 23K



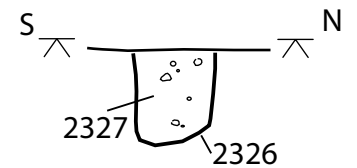
SECTION 23J



SECTION 23O

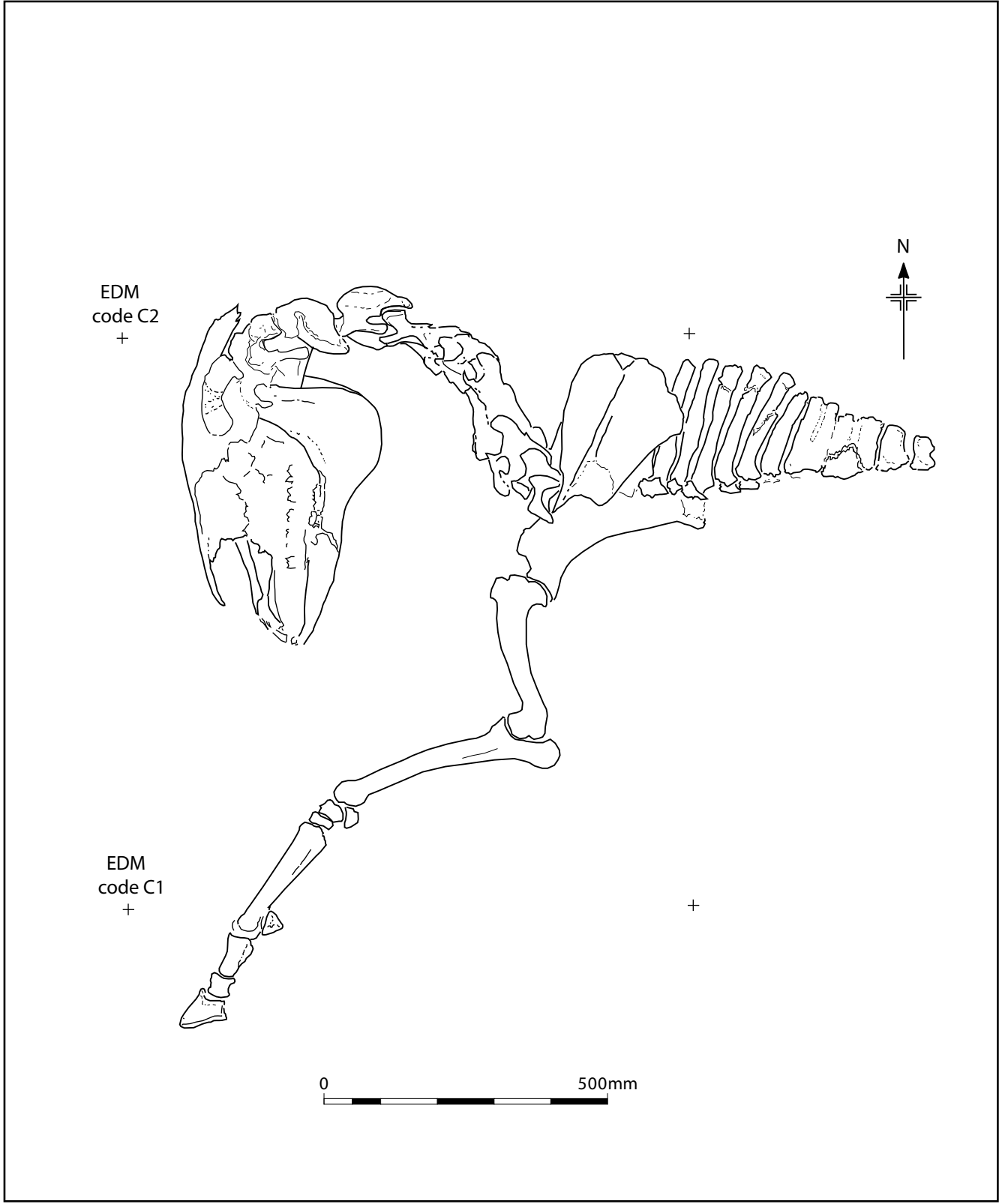


SECTION 23N



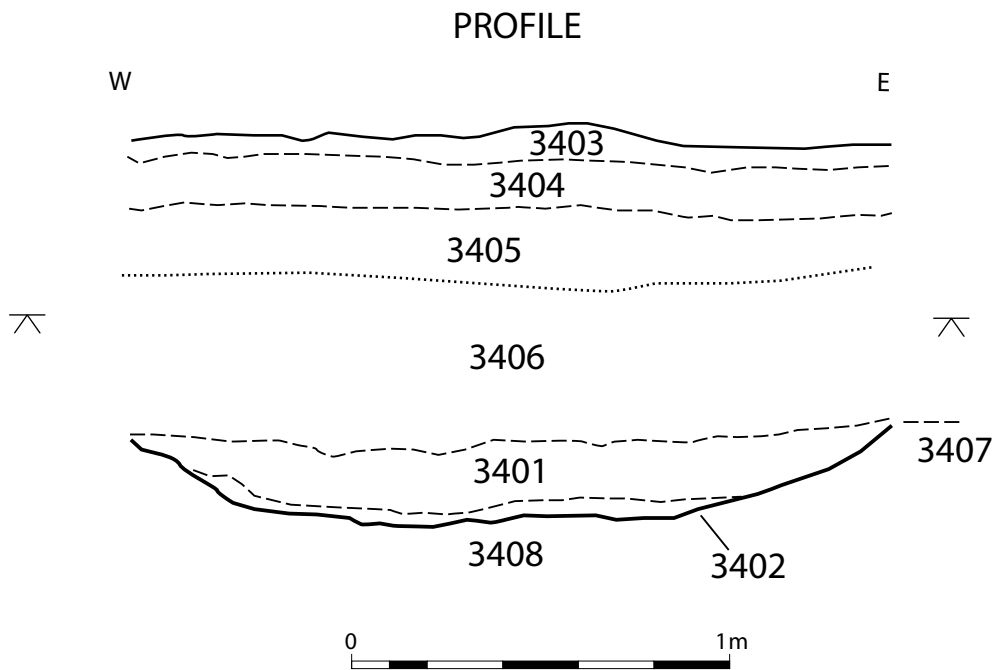
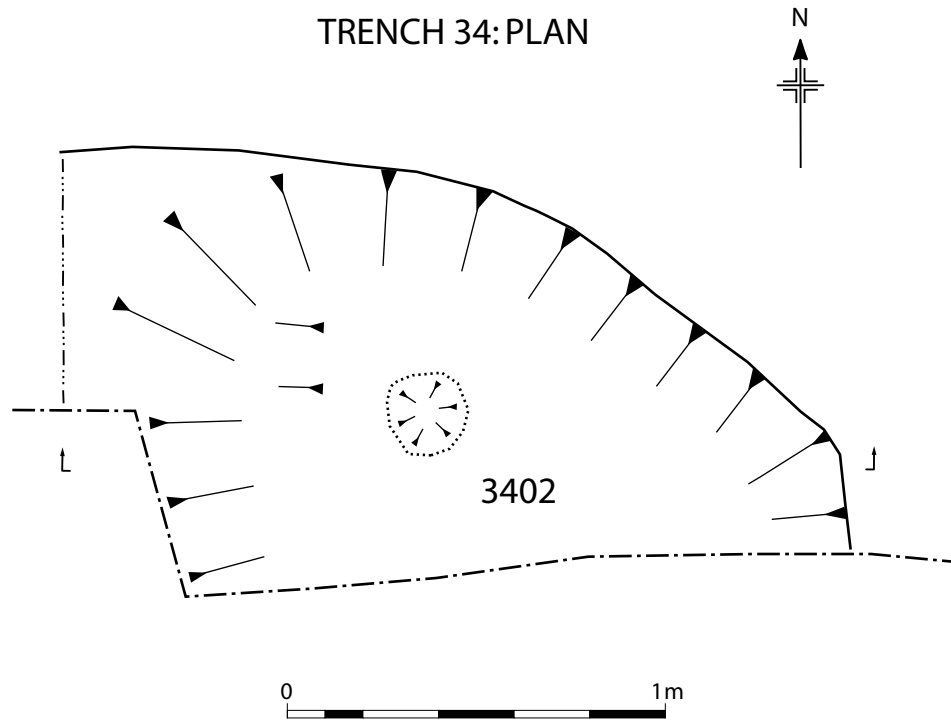
Trench 23: Plan and sections of postholes.

Figure 10



Trench 23: Detail of horse burial 2333

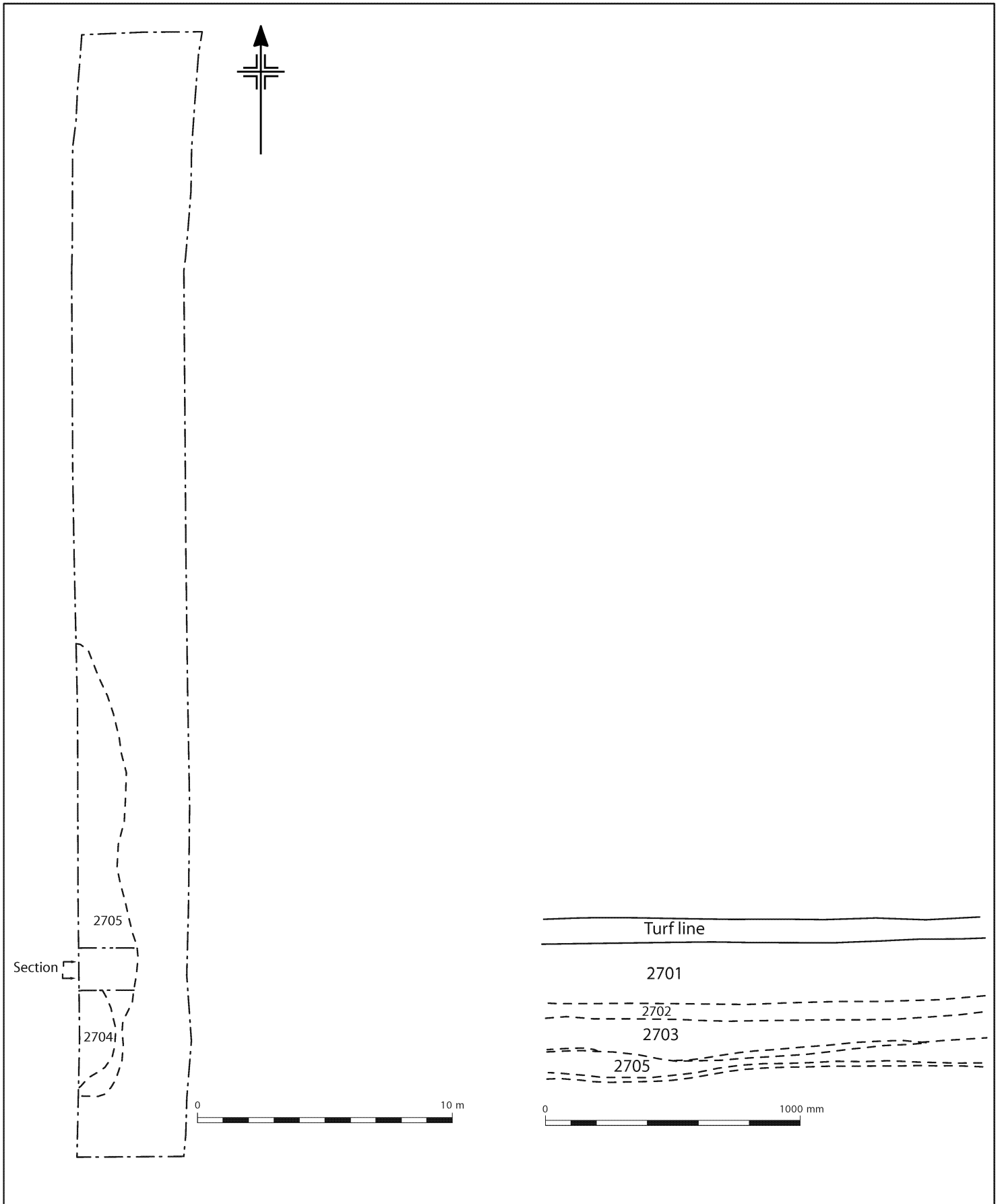
Figure 11



Trench 34: Plan and profile

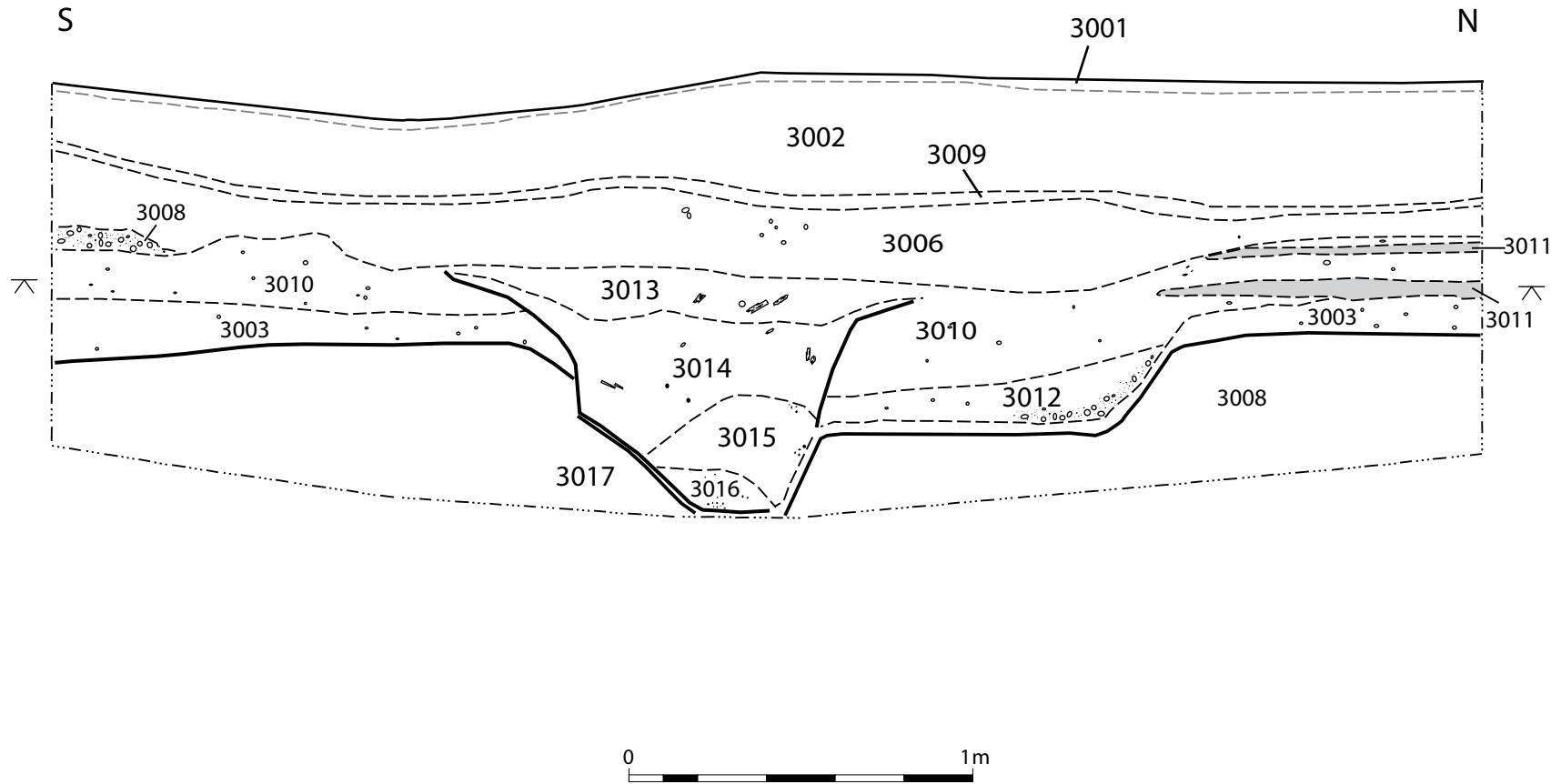
Figure 12





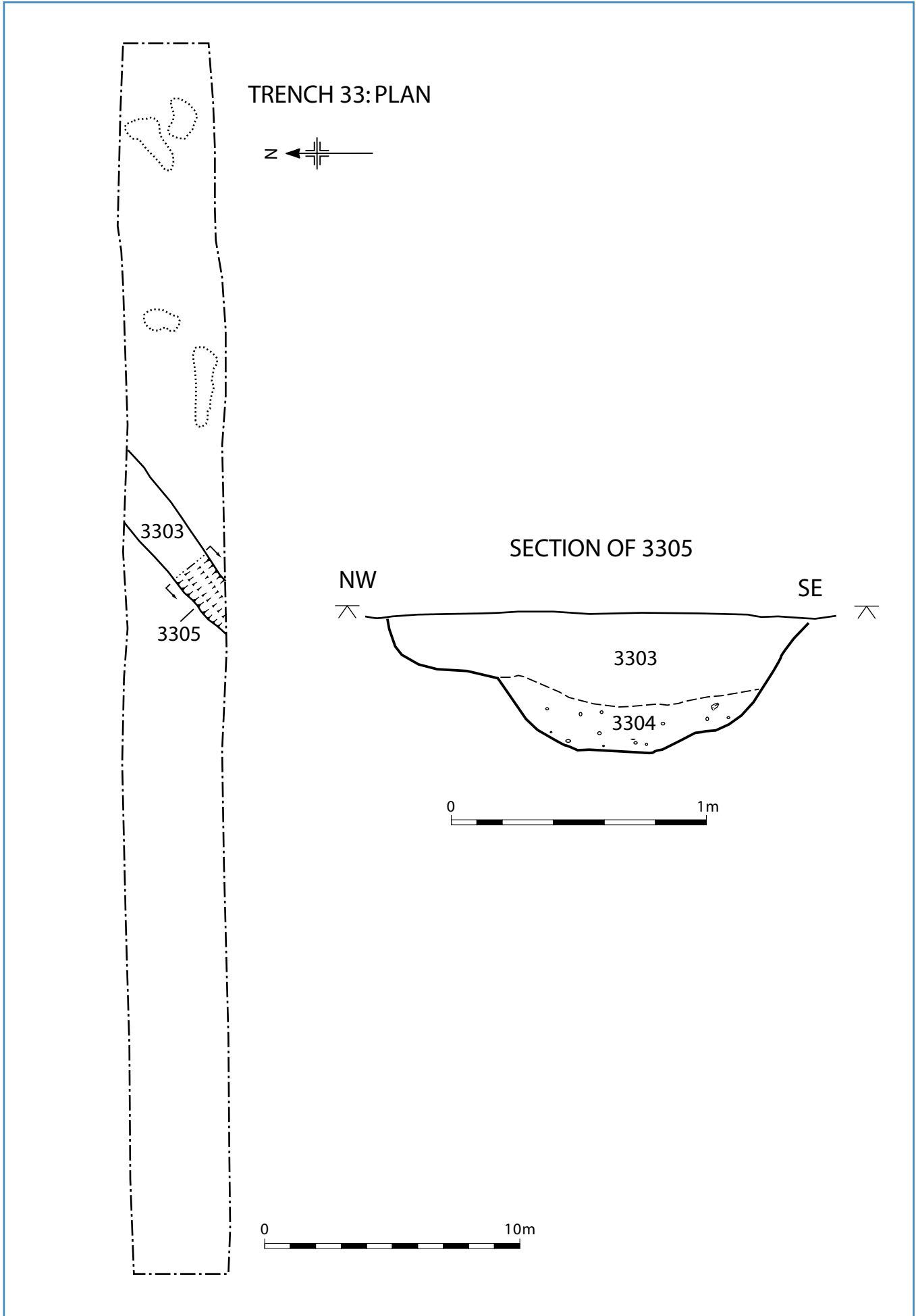
Trench 27: Plan and section □ □ □ □ □ □ □ □ □ □ Figure 13

# TRENCH 30: SECTION THROUGH PALAEOCHANNEL



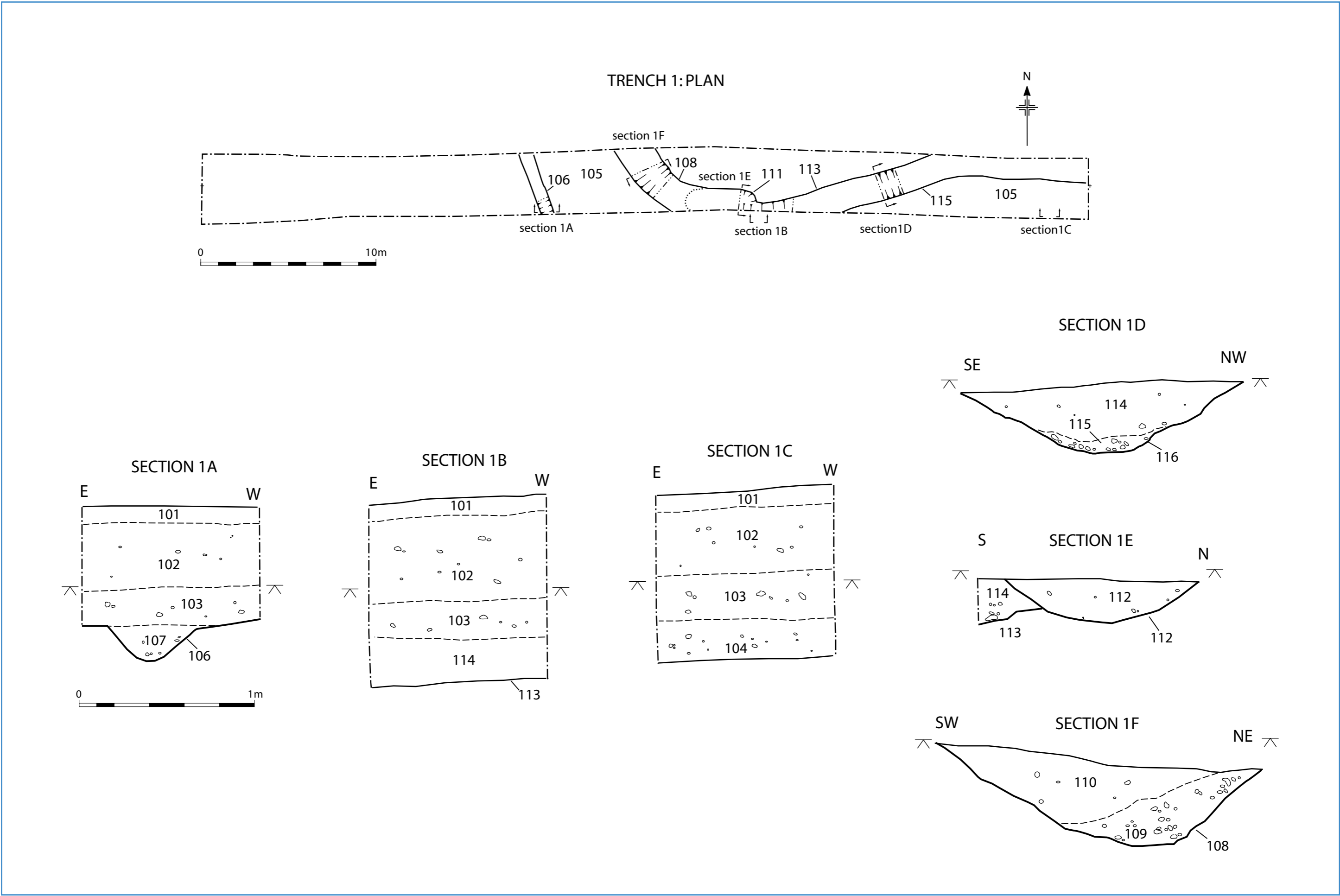
*Trench 30: Section through palaeochannel and ditch*

*Figure 14*



Trench 33: Plan and section of Ditch 3305

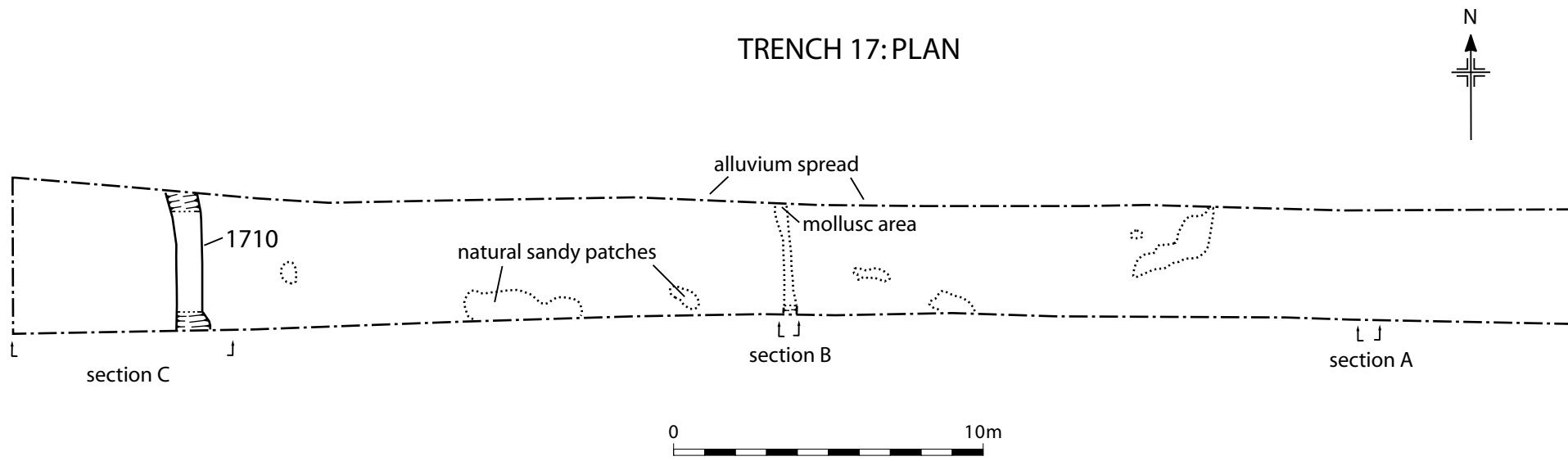
Figure 15



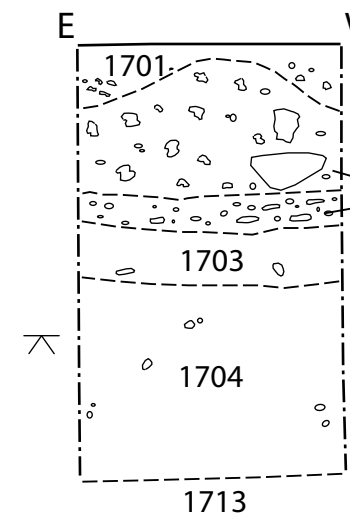
Trench 1: Plan and sections

Figure 16

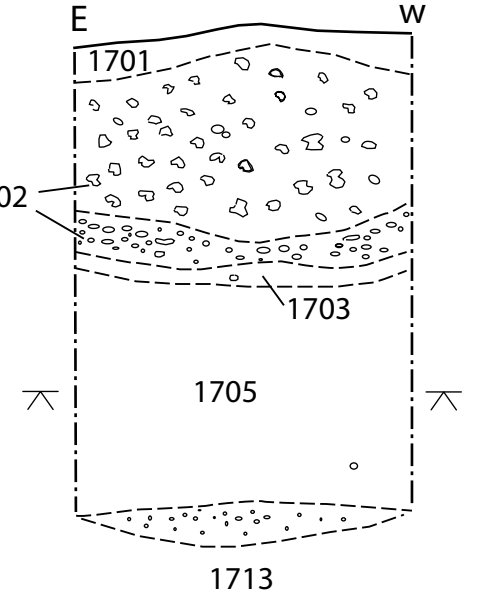
TRENCH 17: PLAN



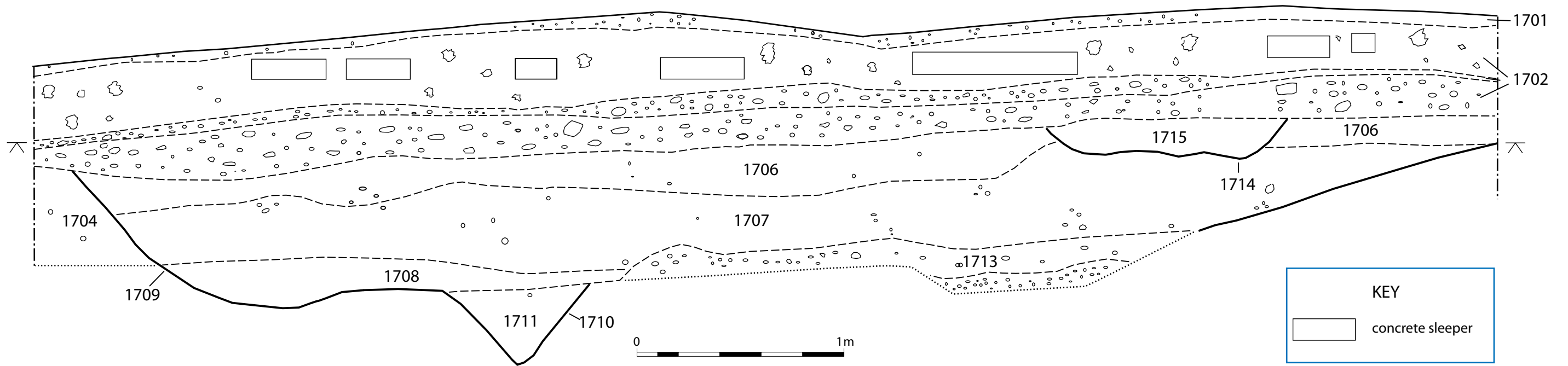
SECTION 17A



SECTION 17B

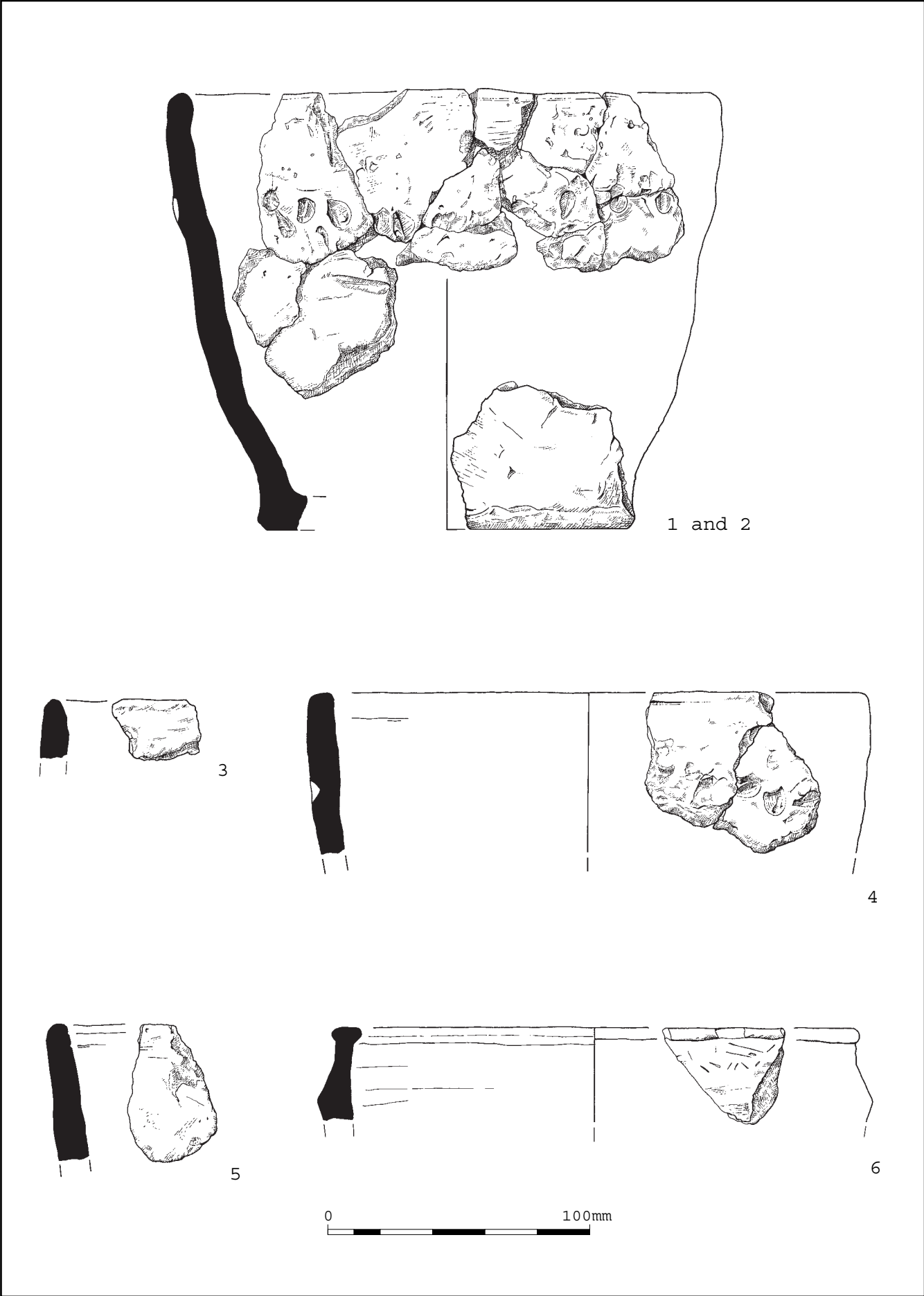


SECTION 17 C



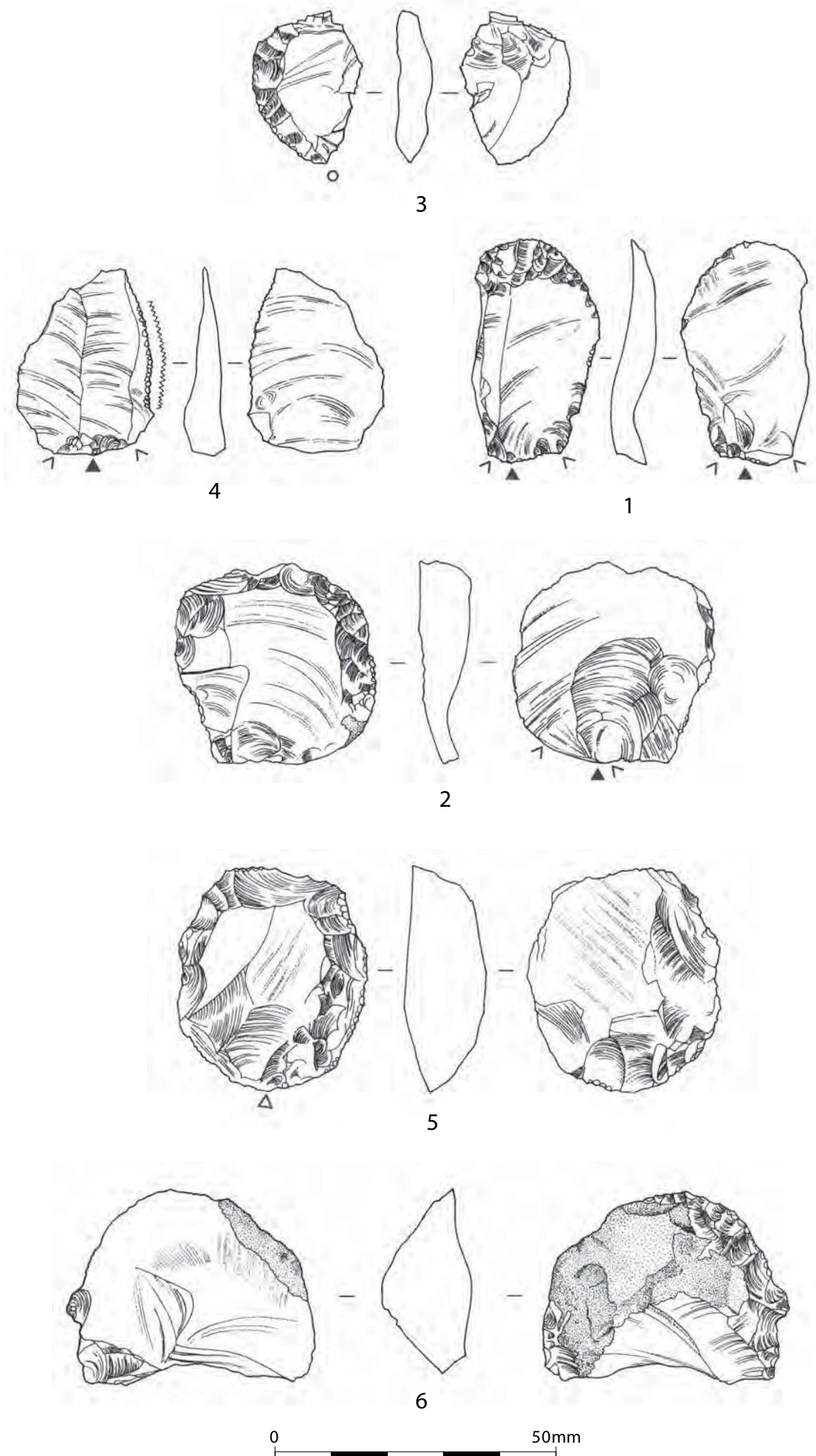
Trench 17: Plan and sections

Figure 17



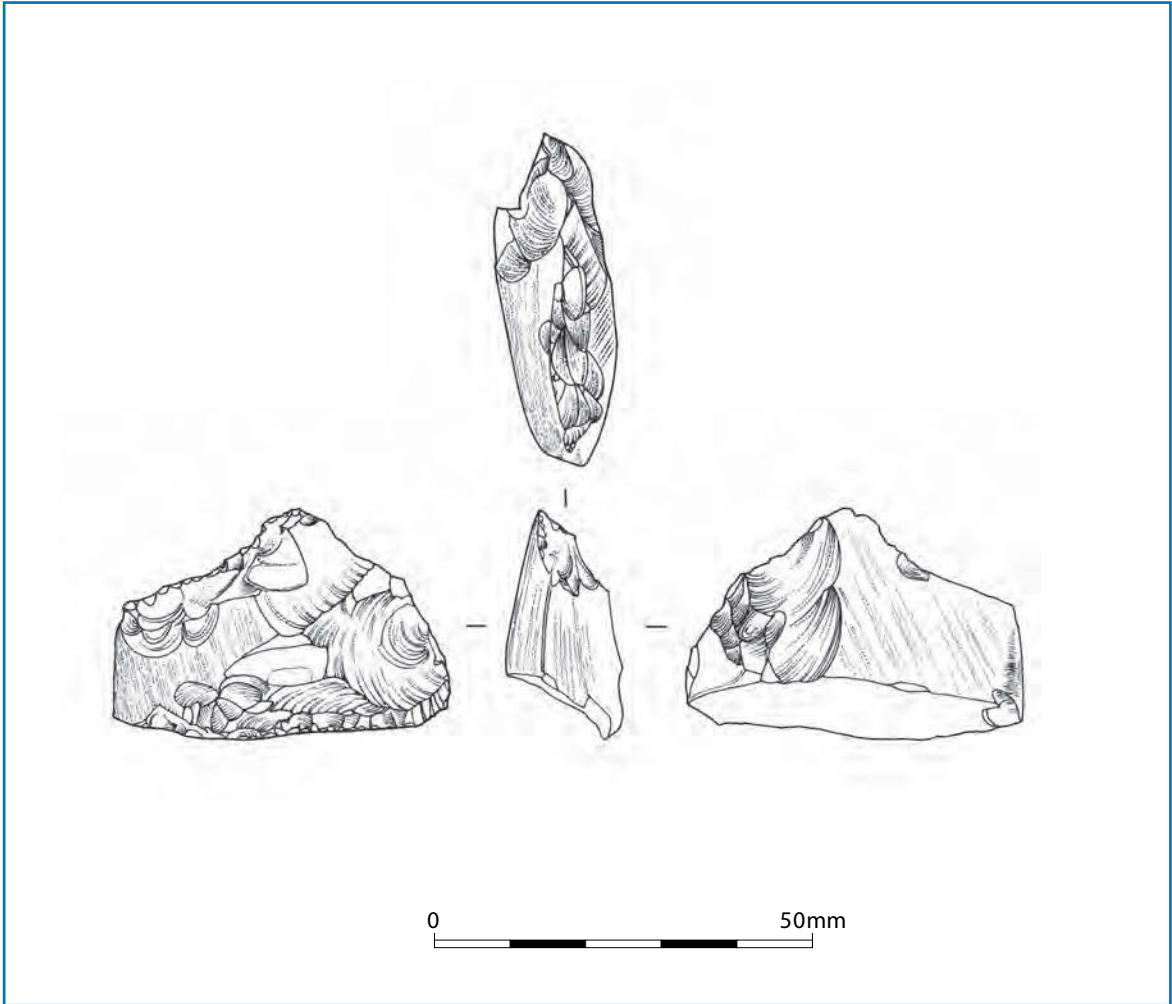
Pottery

Figure 18



The flints

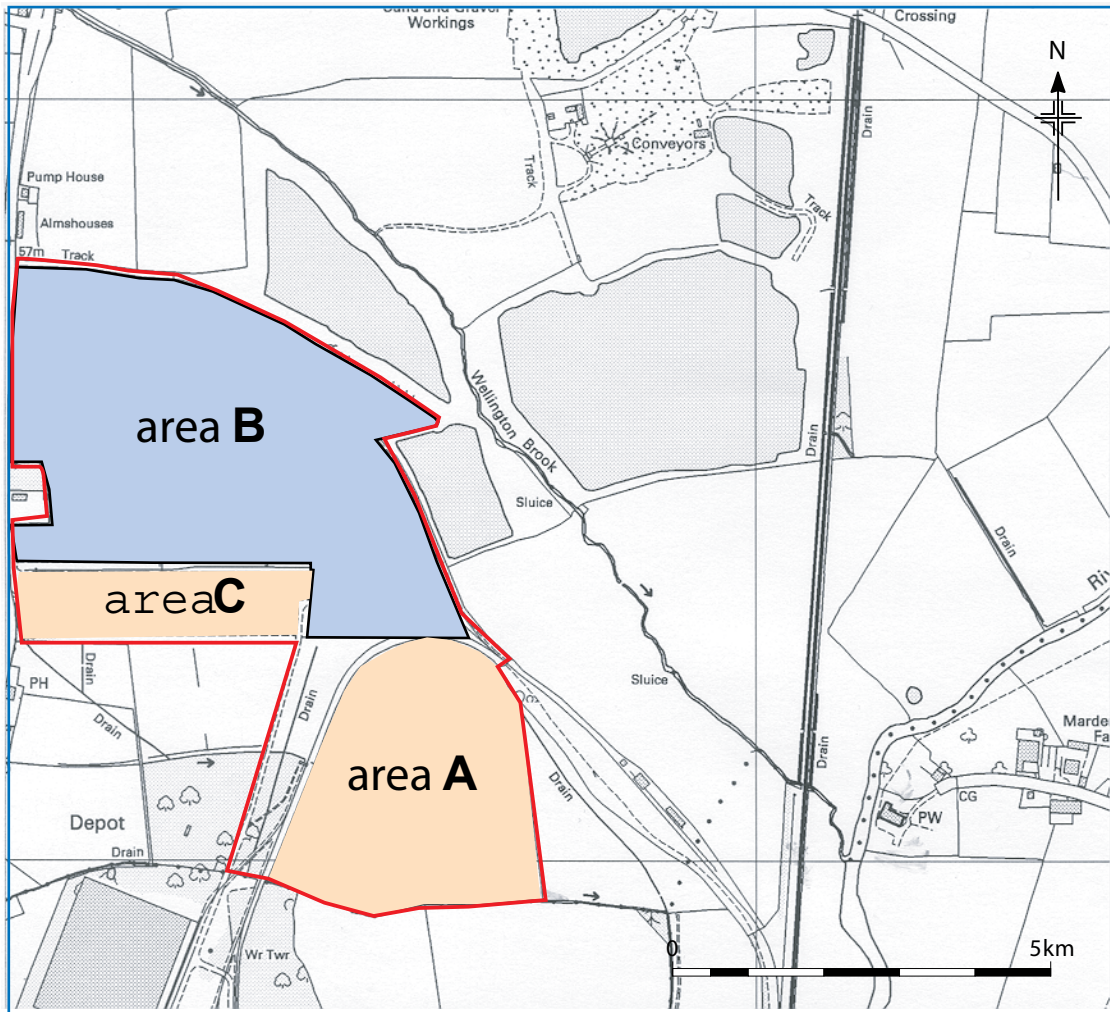
Figure 19



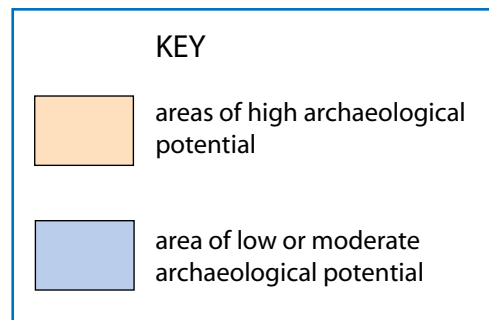
*Polished axe fragment.*

*Figure 20*





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Areas of archaeological potential.

Figure 21