

PROGRAMME OF ARCHAEOLOGICAL WORKS

FORMER HYDE LAUNDRY SITE

HYDE ABBEY ROAD

WINCHESTER

HAMPSHIRE

NGR: SU 48250 29895
JOB N°: BA1105HLW
SITE CODE: HLW11



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JULY 2011



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1. Non Technical Summary & Conclusion

From 26th May to 9th June 2011, Border Archaeology undertook a programme of archaeological works at the site of the former Hyde Laundry, which involved the excavation of two evaluation trenches to the north of and within the existing building and a series of geoarchaeological boreholes across the Laundry site.

- The Hyde Laundry site was identified as lying within an area of high archaeological sensitivity, within the historic suburb of Hyde, to the north of the Roman and medieval walled city of Winchester, with the potential for archaeological evidence of prehistoric, Roman, medieval and post-medieval activity.*
- Evidence for deep water-lain (alluvial) peat deposits and organic silts was anticipated, characteristic of a heavily alluviated floodplain environment dissected by watercourses of natural origin or created by human activity; indeed, the evaluation trenches were positioned to obtain evidence of an historic watercourse shown on historic maps to have extended through the Laundry site.*
- The evaluation trenching and boreholes have established that deposits of high archaeological and geoarchaeological potential exist on the site (potentially at a depth of 2.8m below ground level) overlaid by 'made-ground' - that is, soil and other material brought onto the site at some point since the late 19th century to raise the ground surface above the water table or flood waters - and (within Trench 2) structural remains associated with the partial demolition of the original Laundry building (built in 1888).*
- Beneath this more recent material and structural remains in both trenches was a significant accumulation of clayey silt, represented by (103) in Trench 1 and (207) and (208) in Trench 2, representing the uppermost deposits within a probable watercourse aligned north-south [210], which may be identifiable with a channel shown on historic maps (dating back to 1611) and was interpreted as being of medieval origin.*
- These deposits appeared to represent a phase of frequent flooding (alluviation), with intermittent episodes whereby material was moved down-slope by processes of erosion and weathering (colluviation) resulting from human activity, potentially extending from the medieval period through to the late 19th century.*
- These alluvial deposits in both trenches appeared to overlie peat, represented by (104) in Trench 1 and (211=216=217), the lower fill of the probable water channel [210] in Trench 2, which may reflect a period of relatively static environmental conditions, with areas of permanent standing water (e.g. ponds, water channels) existing alongside marshy grassland and scrub.*
- A limited quantity of pottery and a small number of well-preserved animal bones was recovered from these peat deposits, which could have accumulated over an extended period, potentially ranging from the medieval through to the 17th century.*

- *The peat observed in both trenches appears to have sealed another deep alluvial (flood) deposit with evidence of intermittent, low-level human activity represented by (105), (106) and (107) in Trench 1 and by (209) and (218) in Trench 2. In Trench 1, this alluvial deposit extended to the base of the excavation (approximately 2.3m below ground level) and the evidence of a borehole excavated within this trench indicated the likely existence of an occupation layer of Roman date at a depth of 2.8m below ground level.*
- *In Trench 2, however, evidence of more permanent occupation was identified, represented by a surface formed from rammed chalk (219), (220), (225) and (226), which appears to have been a platform for a structure or a metalled yard possibly associated with livestock husbandry. Two postholes [222] and [224] appeared to have been cut into this chalk surface however it was uncertain whether these postholes were contemporary with or much later than the chalk surface.*
- *This chalk layer in turn overlaid a compact grey clay-with-flints deposit (212) interpreted as an earlier occupation surface. Dating of the chalk surface and the occupation layer beneath it was difficult due to the small quantity of pottery recovered from these contexts, a late Saxon-early Norman date was tentatively assigned to the chalk surface based on the occurrence of a sherd of flint-tempered pottery in (212); however, an earlier (possibly Roman) date cannot be ruled out.*
- *It is perhaps significant that a scatter of Roman pottery and tile was encountered within the majority of contexts within Trench 1 and Trench 2, which does suggest the existence of a focus of Roman occupation somewhere in the immediate vicinity of the site.*
- *Several important conclusions can thus be drawn from the evaluation results. Given its location close to a known centre of Iron Age occupation, the site appears to contain evidence of prehistoric activity, albeit presumably at a significant depth. Several flints that appeared initially to bear evidence of working have subsequently been assessed as natural; however, a shale bracelet fragment found in Trench 2 is of possible Iron Age or Roman date, although its actual provenance is uncertain.*
- *No securely datable evidence of Roman occupation has been revealed but a strong background scatter of Roman tile and pottery, some of it of high status, would almost certainly indicate of a focus of Roman occupation somewhere in the immediate vicinity. It is worth noting that the projected course of a metalled road of probable Roman date, which was identified during excavations at the nearby Marstons' Brewery site, runs just to the south of the Laundry site. Additionally, the discovery of a layer of black charcoal-rich silt containing Roman pottery in borehole BH4 (in Trench 1) at a depth of 2.74-2.81m, indicates the significant potential for occupation layers of probable Roman date to be encountered, albeit a beneath substantial accumulation of post-Roman flood deposits.*
- *A small number of features and deposits of possible Saxon date have been identified, consisting principally of the puddled or rammed chalk surface, which was found in Trench 2 beneath (and is therefore earlier than) a deposit containing pottery of 12th-14th century date; a single sherd of flint-tempered pottery, which is probably not much later than the late Saxon-early Norman period (10th-11th century), was found underlying this surface within a less well-defined and more ephemeral occupation surface. If the chalk surface and its predecessor are of post-Roman or Saxon date, then potentially they represent a significant contribution to the existing knowledge of the topography and extent of the northern suburb during this period.*

- *This chalk surface is potentially of some significance, as it has been assumed that settlement activity in this area did not commence until later in the medieval period and that at this early date Hyde was principally water meadow. It is possible that the feature had some specialised function within the overall management of the meadows and may, for example, have formed part of a monastic farm complex associated with New Minister, which evidently acquired a substantial tract of meadow to the north of the City Ditch (which would later become the estate of Hyde Abbey) by the late 10th century.*
- *The watercourse [210] identified in Trench 2 appears to be of a slightly later date and may thus have formed part of a later extension of land improvement and water management activity carried out by the monks of Hyde Abbey, who, based on a small but mostly well-preserved animal-bone assemblage, evidently grazed livestock in the immediate vicinity. It is interesting to note that a piece of worked elm, possibly a fragment of revetment material, was recovered from within the water channel. Further substantial evidence of a timber-revetted watercourse, presumed to be of medieval date, was previously revealed to the north of Hyde Laundry on the former Gordon Road timber yard site.*
- *The watercourse appears to have remained open until the construction of Hyde Laundry in the late 1880s; however, the relatively stable environmental conditions that appear to have prevailed during the Middle Ages, as indicated by the formation of peat at the base of the channel, seem to have changed markedly towards the end of the medieval period, with episodes of frequent flooding suggested by a substantial accumulation of water-lain silts.*
- *It is thus clear that the results of the Hyde Laundry evaluation viewed as a whole indicate a very long history of use, potentially extending back as far as the later prehistoric period, and that the site has the potential to significantly clarify and augment the existing body of knowledge relating to this area of Winchester.*



2. Introduction

Border Archaeology was instructed by Drew Smith Group to undertake a programme of archaeological works at the site of the former Hyde Laundry Hyde Abbey Road Winchester (SU 48250 29895), with planning consent being granted for a mixed commercial/residential development conditional upon the satisfactory completion of an archaeological programme of work.



Fig. 1: Site Location Plan

In summary, this programme of works consisted of the following components:

- 1/ Production of a Detailed Archaeological and Historical Assessment of the archaeological and historical resource within the site
- 2/ Programme of Archaeological Field Evaluation comprising two evaluation trenches excavated within and to the N of the former Laundry buildings.
- 3/ Production of an archaeological Deposit Model for the site, based upon a programme of geoarchaeological investigation
- 4/ An Impact Assessment based on the results of these three components is to be supplied as a separate report and will comprise a detailed consideration of issues relating to the impact of both the current & proposed new build on the archaeological resource.

Prior to the commencement of fieldwork, a Written Scheme of Investigation was prepared by Border Archaeology for submission to Ms Tracy Matthews WCC Historic Environment Officer, and approved by her as a methodology for the proposed programme of work. A Detailed Archaeological and Historical Assessment has also been supplied, consisting of a detailed assessment of all available



documentary and cartographic evidence and the results of previous archaeological fieldwork, in order to determine fully the archaeological potential of the site.

Fieldwork was undertaken from 26th May to 9th June 2011.

A copy of the Report will be sent to Ms Tracy Matthews, Drew Smith Group and to Jeremy Tyrell, T2 Architects and, subject to confirmation of future work being required, will form part of the final deposition. A copy of the archive report and digital data relating to the archaeological remains investigated (.dxf or shapefile format) will be deposited with the Winchester Sites and Monuments Record for incorporation into the Winchester Urban Archaeology Database.

3. Project Aim

The project aim was to assess as fully as possible, by means of a detailed archaeological assessment and archaeological field evaluation, the location, extent, date, state of preservation and significance of the archaeological resource on the site.

Based on the results of this programme of archaeological works, a considered assessment can be made of the likely impact of the archaeological resource of the proposed developmental groundworks.

4. Site Summary

The study area (NGR: SU 48250 29895) is defined as the former Hyde Laundry premises located at the junction of Hyde Abbey Road and Gordon Road within the extra-mural suburb of Hyde, approximately 80m north of the Roman and medieval city defences.

4.1 Soils and Geology

The urban area of Winchester is classed as Unsurveyed in the Soil Survey of England and Wales (SSEW 1983). However, to the NE of the study area, the predominant soil type consists of the earthy eutro-amorphous peat soils of the ADVENTURERS' 3 (1024c) series, comprising deep peat soils with associated extremely calcareous mineral soils with some deep stoneless silty and clayey soils with a humose surface horizon in places. The underlying geology consists of fen peat, tufa and river alluvium.

4.2 Brief Historical and Archaeological Background

The site lies within an area of high archaeological sensitivity, just to the N of the Roman and medieval walled city of Winchester, with potential for encountering significant archaeological deposits and features from the Iron Age, Roman, medieval and early post-medieval periods.

It is located approximately 80m to the N of the middle-late Iron Age defended settlement enclosure of Oram's Arbour and evidence for outlying settlement activity of late prehistoric date is limited. Roman occupation is associated with the extra-mural suburb that appears to have extended to the N of the civitas of *Venta Belgarum*, along the course of the road to Silchester.

The Roman suburb may have continued further eastwards than is usually supposed, based on the results of excavations at the Southern Electric Depot in King Alfred's Terrace and the Marston's Brewery site, located to the N and SW of the study area respectively. The latter site is particularly important as the remains of a metalled street alignment running from W to E were identified, suggesting that further evidence of Roman settlement may be revealed to the E of the Brewery site. However, it should be noted that occupation features and deposits on the Brewery site lay at a depth of 1.1-1.5m below existing ground level, overlaid and truncated by substantial post-medieval/modern rubble deposits associated with the Brewery buildings.

Documentary evidence indicates that, during the medieval period, the development area lay within a substantial tract of water meadows bounded by the monastic precinct of Hyde Abbey to the N, the City Ditch to the S, Upper Brook to the E and Hyde Street to the W. These water meadows (known as Hyde Meadows or Hyde Moors) were enclosed by a series of ditches and watercourses, forming part of a complex water management system which appears to be essentially of late Saxon or medieval date.

Evidence of historic mapping indicates the presence of a watercourse, first shown on John Speed's map of 1611 and later 18th century estate maps, which extended S of the Hyde Abbey Mill stream and through the western part of the study area. This watercourse appears to have remained open until the construction of the Hyde Laundry in the late 1880s and may well be identifiable with the channel feature aligned N-S [210] which was revealed during the course of the present investigation together with evidence of associated structural remains in the form of a piece of worked elm, possibly a fragment of revetment material, recovered from (211), a peat deposit forming the lower fill of the channel. In this context, it is worth noting that a number of worked timbers were recovered from the alluvial peats revealed on the former Gordon Road timber yard site immediately N of Hyde Laundry, which were interpreted as forming part of a timber revetment for a watercourse, possibly of medieval date.

5. Methodology

5.1 Summary Description of Works

The programme of archaeological fieldwork at the former Hyde Laundry site detailed in this report consisted of two components:

1/Archaeological Evaluation: Two trenches measuring 20m × 6.2m x 2.3m and 8.2m × 4.2m x 1.8m were excavated under the direction of Gerry Martin MIfA to the north of and within the existing building, respectively; these were stepped-in 1m for each metre to consolidate exposed sections.

2/Geoarchaeological Investigation: Five geoarchaeological boreholes (BH 1-5) were excavated by ARCA in various locations across the site, BH 1 and BH2 were located to the SE and SW of the Laundry building respectively, BH 3 and BH 4 were situated to the N of the Laundry building (within the footprint of Trench 1) while BH 5 was located within the W half of the Laundry building. Please see Section 7.3 for a detailed methodology.

This programme of archaeological works was carried out in accordance with *Standard and Guidance for archaeological field evaluation* (IfA 2008) and *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (English Heritage 2006) and with other relevant published sources of technical, professional and ethical guidance. Border Archaeology adheres to

the IfA *Code of conduct* (2010) and *Code of approved practice for the regulation of contractual arrangements in field archaeology* (2008).

5.2 Archaeological Field Evaluation - Methodology

Two evaluation trenches measuring 20m (E-W) × 6.2m (N-S) × 2.30m and 8.2m (N-S) × 4.2m (E-W) × 1.80m were excavated under the direction of Gerry Martin MIfA to the N of and within the existing building, respectively (*Fig. 2*) these were stepped-in 1m for each metre to consolidate exposed sections, their locations being situated to investigate as fully as possible & practical the likely positions of the suspected watercourse shown on historic mapping of the area.

The DAHA anticipated that significant archaeological and/or geoarchaeological deposits were likely to be sealed by significant post-medieval and modern overburden deposits (possibly up to 2m in thickness) and, following the manual breakage and removal of existing concrete surface material, this overburden was mechanically removed. Thereafter, excavation proceeded in a manner consistent with maximising the recovery of information and with achieving a full characterisation of all revealed structures, features and deposits constituting the entire archaeological sequence, with each context encountered being defined by trowelling.

Poorly stratified deposits such as 'dark earths' and garden soils pre-dating the post-medieval/modern period were removed in spits and sampled & sieved for the recovery of artefacts and palaeoenvironmental materials, such deposits being generally subdivided into horizontally-gridded vertical spits to allow for vertical separation of artefacts and ecofacts. Buried soils and sediment sequences considered by ARCA to reflect the pedology of the site were analysed for information on site formation processes. Two temporary benchmarks were established on the site, for Trench 1 (to the N of the former Laundry building) a benchmark was established with a value of 37.62m AOD E end of the trench, while for Trench 2 (within the Laundry) a benchmark was established with a value of 37.50m AOD at the S end of trench.

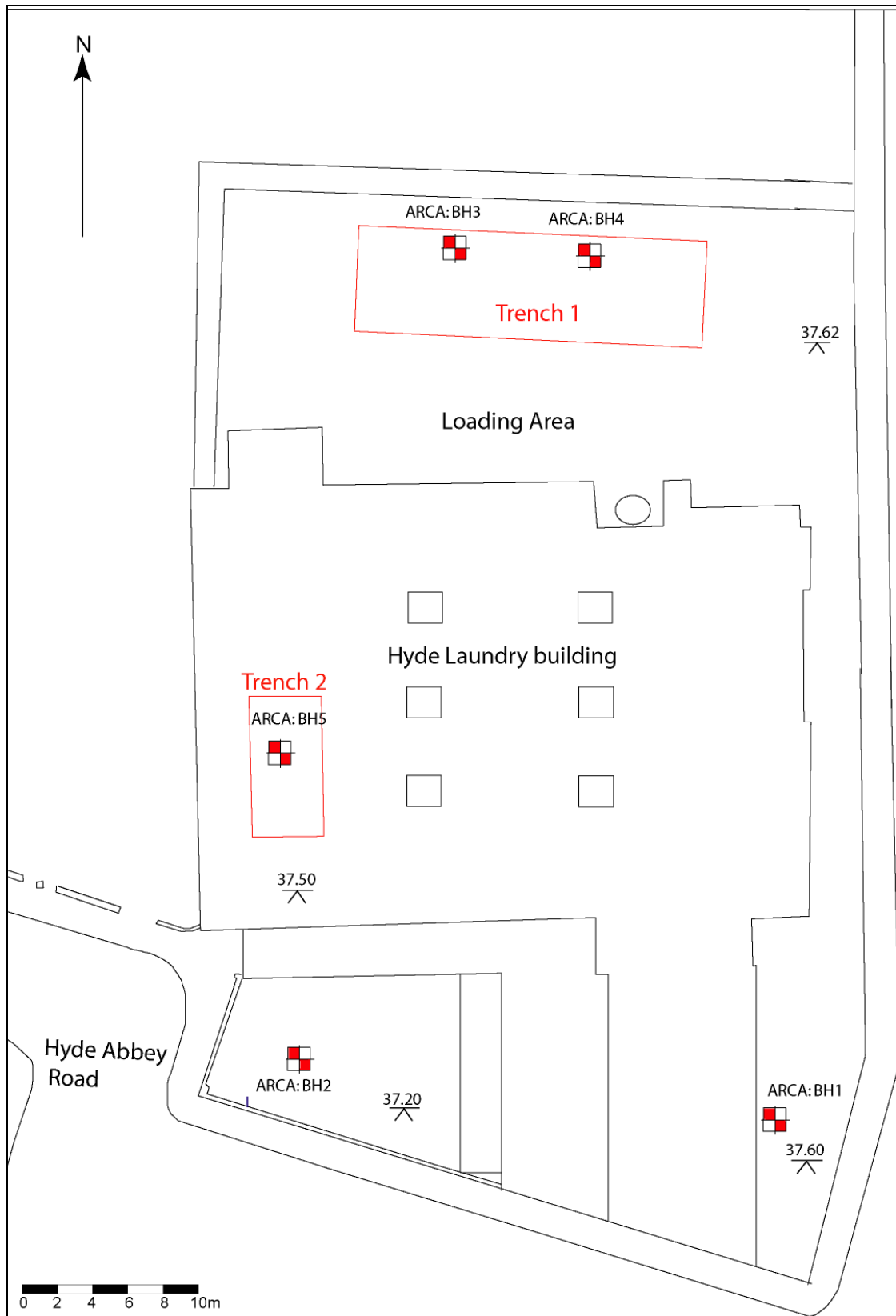


Fig. 2: Plan showing location of evaluation trenches and geoarchaeological boreholes

5.3 Recording

A detailed written, drawn and photographic record was produced in accordance with archaeological practices set out by the Institute for Archaeologists and Border Archaeology's *Field Recording Manual* (2008). A detailed stratigraphic record using a sequential context numbering system was compiled and a Harris matrix was produced for the entire site.

Written records were compiled using separate numbered pro forma record sheets to create a detailed stratigraphic record of the site. Plans, sections and elevations were produced at scales of 1:50, 1:20 or 1:10, as appropriate, on pro-forma gridded archivally stable polyester film; while artefact details were recorded at an appropriate scale. All plans, elevations and sections contain grid and level information relative to OS data. All drawings have been numbered and listed in a drawing register; these drawing numbers being cross-referenced to written site records.

A high resolution digital photographic record (12MPX) was compiled of all stratigraphic units, comprising record views of contexts, samples or artefacts, together with a representative photographic record of the progress of the evaluation. All photographic records were indexed by frame number and cross-referenced to written site records. Details concerning subject and direction of view were maintained in a photographic register, indexed by film and frame number.

The progress of the evaluation was recorded & assessed by the Company's General Manager George Children MA MIfA using the Company's ISO 9001 procedures.

5.4 Recovery, processing and curation of artefactual data

All associated artefacts recovered were retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials* (IfA 2008) and *First Aid for Finds* (Watkinson & Neal 2001).

All artefacts were bagged and labelled with the site code and context number before being removed off-site and each assemblage will be examined by an approved specialist according to typological or chronological criteria and conservation needs identified. The ceramic evidence was identified and assessed in relation to using the Winchester fabric series and assessed in relation to existing national and regional research frameworks for Roman, Saxon and medieval pottery.

Conservation will be undertaken by approved conservators on advice provided by a suitable specialist to be agreed by Ms Helen Rees (Curator of Archaeology Winchester Museums) and in accordance with United Kingdom Institute for Conservation (now part of ICON, the Institute of Conservation) guidelines.

5.5 Environmental Sampling

Ground conditions combined with the nature of deposits encountered during the course of the evaluation necessitated a reassessment of the stated sampling strategy, resulting in lower volumes of material being taken for subsequent assessment. It must be stressed, however, that this decision was based purely on practical considerations and in no way diminishes the value of the strategy or its results.

In addition to bulk samples, a monolith sample was taken from each of the two trenches, which, at present, have not yet been subject to detailed specialist description and assessment. However, as

these samples duplicate the stratigraphy in the cores, it is the considered opinion of Keith Wilkinson (ARCA) that no further work need be undertaken on them at this stage. Should the project continue to excavation, the intention is to retake the samples; however, if no excavation ensues, a report will be produced based on the existing evidence.

6. Results

6.1 Trench 1

Trench 1 ran E-W approximately 8m N of the Laundry building; it measured 20m (E-W) × 6.2m (N-S) and was excavated to a maximum depth of approximately 2.3m below ground level (37.62m AOD). It should be noted that, with due regard to health & safety considerations, a decision was made on site to reduce its size to obviate the risk to pier and party wall stability caused by substantial ground water ingress.



Plate 1: Trench 1 – General view looking E

Seven contexts were identified within this trench (*Plate 1; Fig.3*), the uppermost (101) consisting of an indurated grey tarmac overlying concrete slabs representing a hardcore sub-base for the modern yard surface, which measured up to 0.2m in thickness. Underlying (101) was (102) a firm, dark blackish-brown silty clay extending trenchwide to a maximum depth of 0.8m, which was interpreted as a modern overburden deposit, containing frequent CBM and concrete fragments, moderate

quantities of 18th-20th century pottery and a single glazed roof tile fragment of medieval date (*Plate 2*).

(102) in turn overlaid (103) a firm, mid greyish-brown sand-silt-clay with frequent chalk and flint inclusions and very occasional pottery and CBM fragments, consisting of two sherds of Lezoux (Central Gaulish) Samian ware (dated to the 2nd century AD) and a single fragment of combed hypocaust tile. (103) extended trenchwide to a maximum depth of 0.6m and was initially interpreted as a capping layer of imported clay which had been dumped to form a watertight membrane prior to construction of the Laundry in the late 19th century; however, an alternative and probably more plausible explanation is that (103) represented a substantial alluvial deposit, having accumulated as a result of periodic overbank flooding over a prolonged period, with intermittent episodes of colluviation (indicated by the granular chalk inclusions within the deposit) and deposition as a result of human activity.

Underlying (103) was a soft dark brown organic peat with occasional flint fragments (104), its visible extent measuring >6m (N-S) × >8m (E-W) × 0.2-0.5m. This deposit, interpreted as a homogenous peat horizon, was noticeably devoid of artefactual material. It dipped slightly towards the W, possibly suggesting the presence of a watercourse just beyond the W end of the trench. Analysis of an environmental sample taken from (104) revealed that it contained a significant quantity of species typical of damp, waterlogged conditions, including the uncharred remains of sedge and buttercup, while the occurrence of bogbean and celery leaved buttercup are characteristic of an area of shallow ponds or marshes susceptible to flooding.



Plate 2: Trench 1 –View N showing S-facing section with modern/post-medieval overburden (102) overlying greyish-brown alluvial clay (103), underlying which is peat horizon (104) overlying (105), (106), (107)

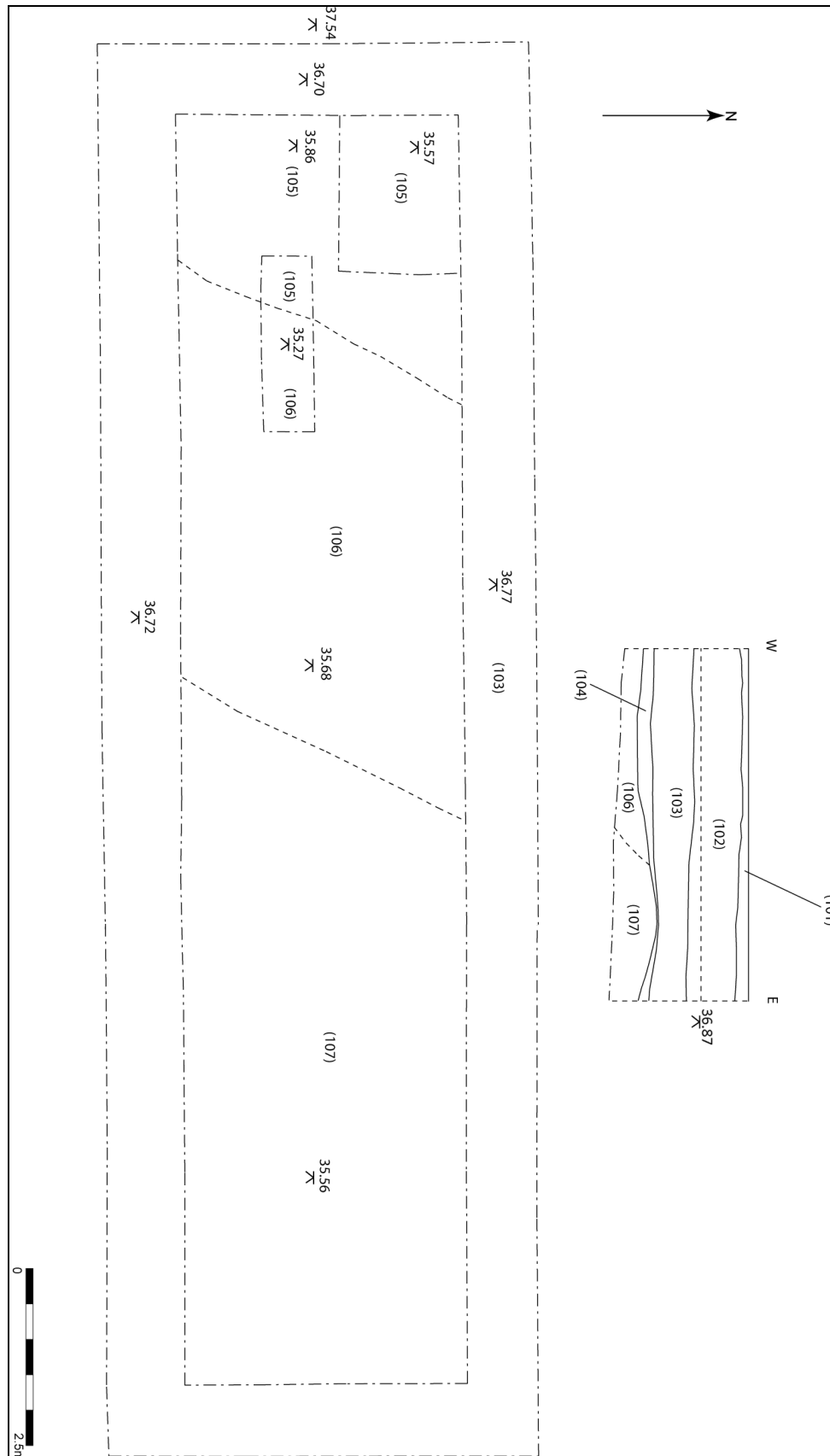


Fig. 3: Plan and S-facing section of Trench 1

Sealed by peat horizon (104) was possible evidence for another phase of heavy alluviation, with episodes of human activity and colluvial deposition, represented by deep clayey silt deposits (105), (106) and (107). (105) and (107) both comprised firm, light brown clayey silt with very frequent flint inclusions extending to the base of the trench. Two small *sondages* were excavated at the W end of the trench; the first of these measured 2.2m (E-W) × 1.6m (N-S) × 0.29m and was placed in the NW corner, while the second was located to the SE and measured 2.5m (E-W) × 0.6m N-S × 0.59m established that (105) was still visible at a depth of 35.27m AOD (approximately 2.3m below ground level).

(105) and (107) appeared to flank (106), a firm, dark grey clayey silt with frequent angular flint and chalk flecking which was interpreted as a possible water channel, on a sinuous, roughly curvilinear alignment running approximately NE-SW across the trench. On further investigation, however, it was difficult to define the extent of (106); no discernible evidence for a cut was identified and there was no clear distinction between the possible channel fill and the deposits flanking it (although further investigation was restricted by the increasingly waterlogged conditions in the trench at this point, which reached a maximum approximate depth of 2.3m (at the base of the *sondages*) below ground level).

Evidence of cultural activity was noted in (106), comprising a single Fe nail and a small assemblage of pottery and CBM (the datable material being exclusively of Roman date), while a very small assemblage of pottery was recovered from (107), comprising a single sherd of Lezoux (Central Gaulish) Samian ware of probable 2nd century date and a sherd of New Forest colour coated ware of late 3rd-4th century date.

It is possible, in view of the evidence indicating that this area lay within a highly dynamic semi-wetland environment subject to regular episodes of flooding, that the cultural material in (106) and (107) may be intrusive, having found its way into these deposits by natural processes; however, one would perhaps have expected the material to have been much more heavily abraded than it actually was.

3.2 Trench 2

Trench 2 extended N-S within the SW corner of the existing Laundry building. It measured 8.2m × 4.2m and was excavated to a maximum depth of 1.8m below ground level (37.50m AOD). Originally, the trench was intended to run E-W; again, however, due regard to health & safety concerns regarding the possible undermining of existing structural roof supports & party walls necessitated a reconfiguration of the trench layout in this area.

A total of 27 contexts were identified within the trench, the uppermost being (201), the indurated concrete floor surface within the Laundry building, its visible dimensions measuring >8m × >4m × 0.16m. Underlying this was a loose yellowish sand with frequent inclusions of gravel and coal waste (202=205) interpreted as a demolition deposit; this deposit measured up to 0.4m deep and was probably associated with the reconstruction of part of the original Laundry building in the first half of the 20th century.

Underlying demolition deposit (202=205) were the footings of two unfrogged, cement-bonded red-brick walls (203, 204) running N-S across the trench, which appeared to be contemporary with each other and probably represented part of the original construction of the late 19th century Laundry building. Underlying walls (203) and (204) was an indurated concrete slab (206) extending trenchwide to a maximum depth of 0.19m, into which a cast-iron pipe, aligned N-S, had been embedded towards the E end of the trench. (206) was interpreted as a foundation pad probably

associated with the construction of Hyde Laundry in the late 19th century. Underpinning the pad was a concrete block or base (214) sitting within a rectangular cut [213] oriented N-S (its visible dimensions measuring 0.8m × 0.7m × 0.5m) at the base of which was a brick rubble fill (215) containing sherds of late 19th century stone ware and industrial glazed wares.

(206) appeared to truncate a N-S channel feature [210], its visible dimensions measuring 8.2m (N-S) × 2.16m (E-W) × 0.56m, although the full extent of this feature was not visible within the evaluation trench (*Plate 3*). The feature appeared to slope gently from E to W, possibly reflecting a dip or hollow in the natural geology, and was identified as evidence of a watercourse shown on the OS 1st edition map of 1871 and earlier historic mapping (dating back to Speed's map of 1611).



Plate 3: Trench 2 – Post-ex view looking S showing N-facing section of trench with channel [210] cutting (209) and filled by clayey silts (207) and (208) overlying peat deposit

The uppermost deposits within (210) comprised cohesive mid greyish-brown clayey silt exhibiting frequent chalk flecking and CBM (207), which extended some 0.28m in thickness, and an underlying deposit of firm greyish silty clay, 0.48m thick, with occasional chalk inclusions, containing a mixed assemblage of artefacts, including roof and floor tile fragments of medieval/post-medieval date, a body sherd of grey sandy ware and *pila* and *tegula* fragments of Roman date (208).

(207) and (208) were both initially interpreted as landscaping deposits of post-medieval date; however, it appears more likely, based on their composition and similarity to (103) in Trench 1, that they actually represent a phase of alluvial deposition within the upper levels of [210], with episodes of intermittent, low-level human activity and colluvial deposition (indicated by the frequent chalk granular inclusions).

(208) in turn sealed a homogenous peat horizon represented by (211=216=217), dipping from E to W and measuring up to 0.3m in thickness (*Plate 3*). The peat horizon contained a small quantity of pottery and CBM, including a single sherd of Lezoux (Central Gaulish) Samian ware and a body sherd of a Roman grey ware vessel, together with brick and roof-tile fragments of unspecified medieval/post-medieval date. A single piece of worked elm timber was recovered from this deposit, which measured 274mm long and 32mm in diameter and which revealed evidence of a cut-mark and

of having been deliberately debarked. The timber was not found *in situ* and its function remains undetermined, although it is worth noting that worked timbers possibly forming part of a stream revetment were previously identified during an evaluation at the Gordon Road timber yard to the N of the site.



Plate 4: Trench 2 – General view looking N showing rammed chalk surface and postholes [222] and [224]

Analysis of the soil sample taken from (211), one of the deposits forming part of the peat accumulation within [210], identified a significant quantity of pollen and plant macrofossil material indicative of damp, marshy grassland, including the uncharred remains of sedge and buttercup, while the presence of yellow iris, crowfoot, bugle and branched bur-reeds in (211) probably indicates an area of shallow ponds or marshes susceptible to flooding. The occurrence of pondweed and water-milfoil fruits in (211) also points to the likely existence of areas of permanent standing water in the immediate locality.

A small but relatively well-preserved assemblage of animal bone was also obtained from (211), comprising remains of dog, horse, cattle and *caprines* (sheep/goat), with one cattle *humerus* fragment exhibiting evidence of butchery. No bones from either birds or wild mammals were present; some of the animal bone exhibited evidence of slight deterioration, possibly indicative of fluctuating water levels. (211=216=217) appeared to represent a gradual accumulation of peaty sediment filling the watercourse [210]; over what period of time this accumulation took place is not entirely clear, however, during the medieval and post-medieval periods this area appears essentially to have consisted of water meadow.

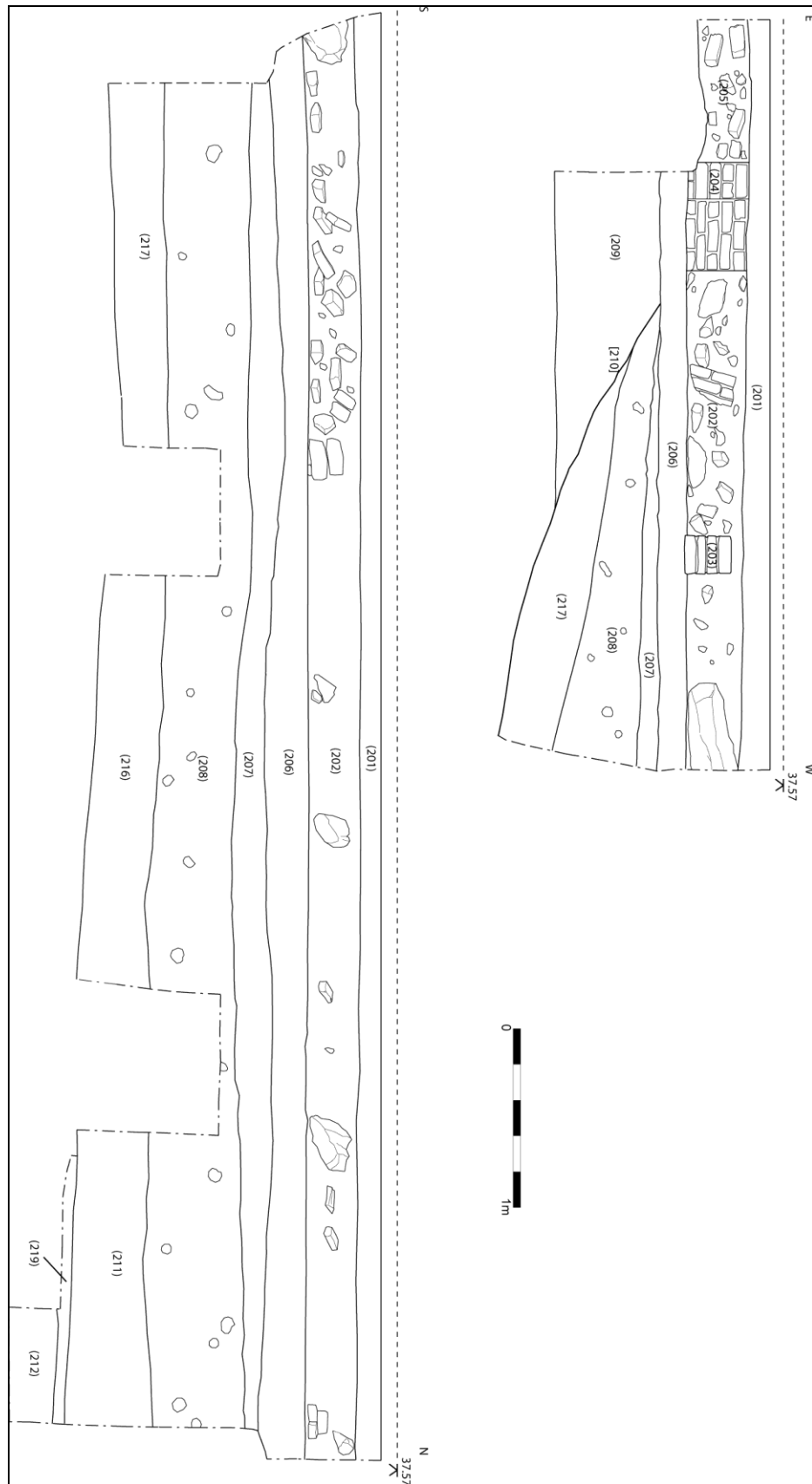


Fig. 4: N- and E-facing sections of Trench 2

Although it could not be definitely confirmed within the limits of the evaluation trench, due to the positioning of the feature and its partial truncation by the concrete foundation pad (206) for the late 19th century Laundry building, it appeared that [210] may have been cut from (209), a cohesive mid brown silty clay containing frequent chalk and flint nodules and a small quantity of animal bone. A single sherd of Samian ware was recovered from this deposit, together with a fragment of a shale bracelet, possibly of late prehistoric or Roman date. This deposit, which was visible in the N- and S-facing sections of the trench, measured up to 0.57m in thickness and appeared to have been truncated by channel [210] and at a much later date, by the laying of the concrete foundation pad (206) associated with the construction of Hyde Laundry in the late 19th century.

(209) was initially interpreted as an earth bank which had been deliberately deposited to formalise occupation within that area; however, a more plausible interpretation is that it represents an episode of alluvial build-up with evidence of colluviation and human activity. Analysis of a sample taken from (209) revealed evidence of a minute quantity of charcoal and clinker and a small but diverse range of animal bone fragments, including pig, *caprines*, and various small mammals, as well as birds and fish. Uncharred fruit-stones of elder (*Sambucus nigra*) and bramble (*Rubus fruticosus*) were also found within the sample, indicative of a shady scrubland environment. Also cut by channel [210] was (218), a thin deposit of soft, light greyish silty clay with frequent chalk inclusions containing a single rim-sherd of chalk-tempered ware identified as being of 12th-14th century date.



Plate 5: Trench 2- Plan view of posthole [222] cut into rammed chalk surface

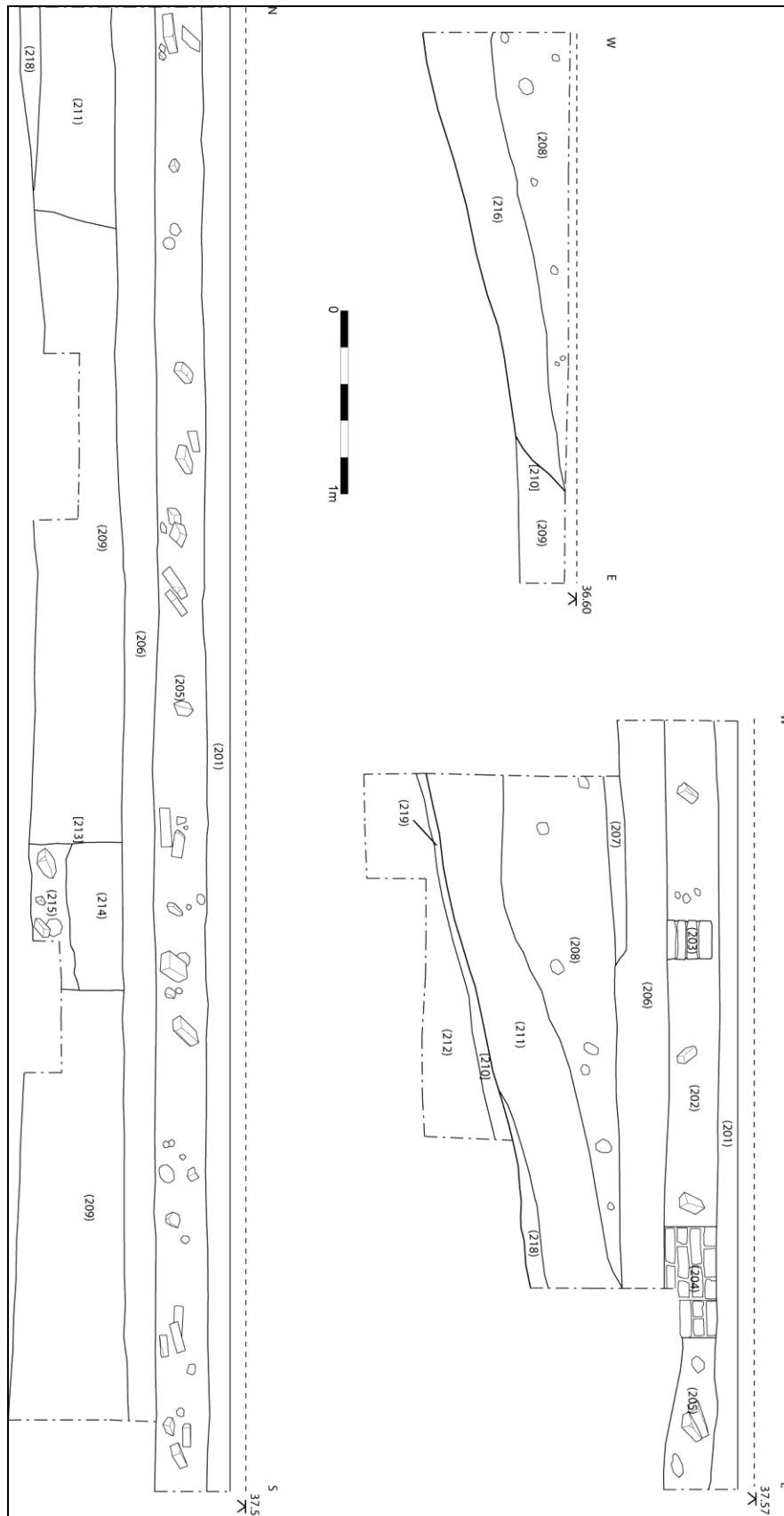


Fig. 5: S- and W-facing sections of Trench 2

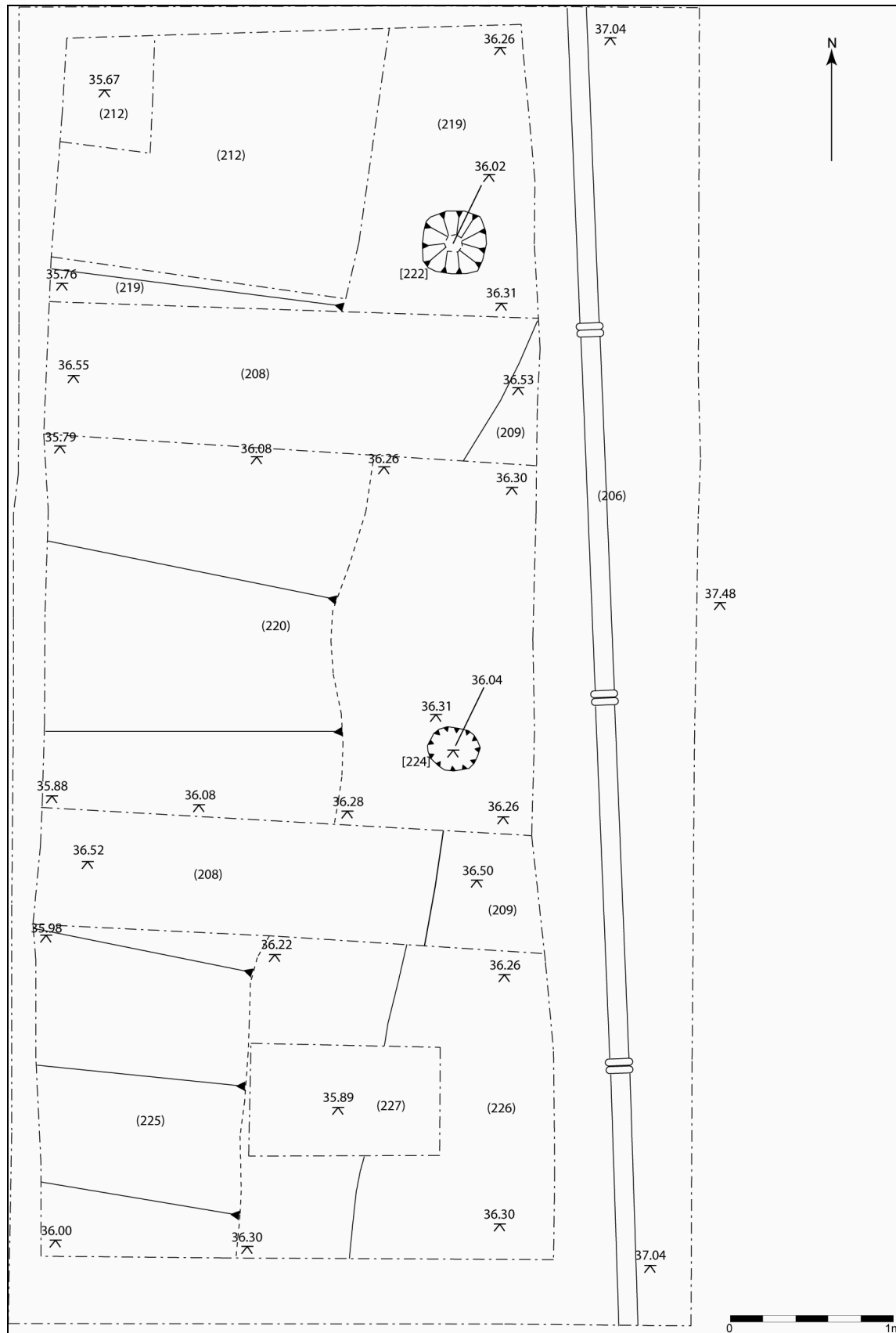


Fig. 6: Trench 2 – Post-ex plan



Both (209) and (218) appeared to overlie a substantial spread or surface of rammed or puddled chalk, measuring up to 0.3m in thickness and sloping gently from E to W across the trench, which was tentatively interpreted as a raised chalk platform or yard area of probable anthropogenic origin. Two distinct phases of deposition appeared to be visible, the earliest represented by (226) at the E end of the trench, with (219) (220) and (225) representing an extension of the surface towards the W, apparently respecting the dip of the channel [210]. Little artefactual evidence was found in association with the chalk surface, with the exception of single Roman *tegula* fragment and two other CBM fragments of indeterminate date recovered from (220); plant macrofossil material extracted from the samples taken from (225) and (226) identified evidence of elder and bramble similar to that found in (209), which may be indicative of areas of scrubland with nearby tree-cover.

Within the limits of the evaluation trench, it was not possible to clarify the relationship between channel [210] and the chalk spread or surface represented by (219) (220), (225) and (226); the most plausible interpretation appears to be that the channel simply truncated the chalk surface, although an alternative explanation is that (219), (220) and (225) constitute a chalk bank or revetment for [210] which may have been further truncated when the channel was widened at a later date.

Evidence for human activity apparently associated with the chalk surface was represented by two postholes [222] and [224] (*Plate 5*), both of which were filled with a mid greyish-brown silty clay with occasional chalk inclusions. Both [222] and [224] appeared to be on the same N-S alignment and could possibly represent the remains of a boundary fence or structure upon the chalk surface; however, no further evidence for this possible posthole alignment was identified within the limits of the trench. Moreover, it was could not be established precisely from where these postholes were cut; it is possible that they were not contemporary with the chalk surface and could well be much later in date. Two brick fragments of post-medieval date were recovered from (221) the fill of [222] while a brick and roof-tile fragment of unspecified post-Roman date were recovered from the fill of [224].

Underlying the chalk spread was a moderately compact, coarse grey clay with frequent inclusions of flint nodules (212=227), at least 0.3m deep and extending to the base of the excavation (which was, at its deepest, approximately 1.8m below ground level). Within the upper reaches of this deposit, a small quantity of animal bone, oyster shell and possible worked flint was recovered, together with a single, largely unabraded sherd of flint-tempered ware identified as being of medieval (possibly middle to late Saxon) date. Deposit (212=227) appeared to represent a raised, cambered surface which was further consolidated and formalised by the laying of the rammed chalk surface represented by (219), (220), (225) and (226).



7. Hyde Laundry: Geoarchaeological assessment of borehole stratigraphy

Dr Keith Wilkinson (ARCA)

7.1 Introduction

This report assesses the stratigraphy of Hyde Laundry using evidence from five geoarchaeological boreholes drilled at the site during the course of the archaeological evaluation and is reproduced in its entirety. Supplementary evidence is provided by descriptions made of upstanding sections in the evaluation trenches and logs of a previous geotechnical survey conducted by Structural Soils Ltd. The geoarchaeological works were carried out following a schema provided in a Written Scheme of Investigation (WSI) and were intended to address the following aims (Wilkinson 2011, 2):

- 1/ To reconstruct the Quaternary sub-surface stratigraphic sequence;
- 2/ To determine the archaeological and geoarchaeological significance of the strata encountered
- 3/ To produce a deposit model mapping the three-dimensional distribution of key strata on the Hyde Laundry site.

7.2 Geographic and geological setting

The site is located on in the Hyde area of northern Winchester and approximately 75m N of the Roman and medieval city walls. The site is currently occupied by the derelict Hyde Laundry building and surrounding hard-standing. The centre of the site is situated at NGR SU 48255 29902. The British Geological Survey (BGS) map the site as lying on gravels of the Late Pleistocene 'River Terrace 1', while Structural Soils (SS) BH1 demonstrates that the gravels lie on top of the Seaford Chalk Formation at c. 9m below ground surface.

The BGS map 'alluvium', *i.e.* floodplain deposits of Holocene age, immediately to the E of the site, but even prior to the present geoarchaeological works, the Structural Soils geotechnical investigation had demonstrated that such deposits extended across the whole Hyde Laundry site. The Structural Soils survey also suggests that between 0.5 and 2m of 'Made Ground' overlie the alluvial sequence across the site. 'Made Ground' is classified by the BGS as sediment that is deliberately deposited by people, usually to raise the ground surface above the water table or flood waters (BGS 2011).

7.3 Methodology

The five geoarchaeological boreholes were drilled at the locations illustrated on *Fig. 7*. Boreholes (BH) 1 and 2 were drilled from the ground surface, while BH 3-5 commenced from steps of 0.5-0.9m depth within the archaeological evaluation trenches. Eijkelpkamp auger heads and extension rods powered by an Atlas Cobra petrol-powered hammer and operated with a crew of two were used to drill the boreholes. A gouge auger head of 75mm diameter and 500mm length was employed to drill through the concrete sub-base in BH1 and BH2, after which recovery was as a continuous series of 1m long, 0.05m diameter cores (the core sampler was used without gouge auger head preparation to drill BH3-5). Sediment recovered in the gouge auger heads was logged in the field according to

standard geological criteria and then discarded (Tucker 1982; Jones *et al.* 1999; Munsell Color 2000). Core samples were labelled and sealed on site and then transported to the ARCA's Winchester laboratory for further study.

Two monolith samples were taken through organic strata by staff of Border Archaeology and later passed to ARCA; these samples have not yet been examined in the laboratory and it is considered by ARCA that no further work need be undertaken on them at this stage. Should the project continue to excavation, the intention is to retake the samples; however, if no excavation ensues, a report will be produced based on the existing evidence.

In the laboratory the plastic tubes containing the cores were cleaned to remove surface mud. Volume magnetic susceptibility readings were then taken at 30mm intervals using a Bartington MS2C core logging sensor attached to an MS2 meter. The plastic tubes containing the cored sediment were then sliced open using a bench-mounted stone saw and a sharp blade was used to split the cores lengthways in two. One half of the core was used for sedimentary description while the other was wrapped in plastic film and placed in storage pending decisions on bioarchaeological assessment and ¹⁴C dating. Sediments revealed in the core half-section retained for stratigraphic description were carefully hand-cleaned and described using the same geological criteria as employed in the field (Tucker 1982; Jones *et al.* 1999; Munsell Color 2000). Following description, the core half-sections were wrapped in plastic film to minimise moisture loss and placed in storage.

Lithological descriptions obtained in the field were combined with positional information provided by Border Archaeology within a RockWorks database. The geotechnical lithological data collected by Structural Soils were then added to the database so that they could be used in modelling (RockWare 2007). The RockWorks database was next used to produce the composite cross-section that is reproduced in *Fig. 8* and the surface and deposit thickness models that are included as *Figs. 9-12*. The latter have been produced using a Kriging algorithm and use stratigraphic classes derived from combining lithological units of similar geneses. Descriptions of lithological units of the ARCA geoarchaeological boreholes are included as Appendix 2.

7.4 Borehole stratigraphy

7.4.1 Seaford Chalk Formation

Only SS BH1 penetrated deep enough to encounter the Seaford Chalk Formation (the hard rock basement on the site) at 9m below ground surface. Even in SS BH1 only the weathered Chalk surface was encountered. The Seaford Chalk Formation is a biogenic deposit made up of skeletal plates of coccoliths (marine algae) and foraminifers. These remains were originally deposited in ocean waters of 100-600m depth during the Upper Cretaceous (89 and 71.3my BP) (BGS 2011; Hunter and Easterbrook 2004, 109).

7.4.2 Pleistocene fluvial gravels ('River Terrace 1')

Matrix and clast-supported gravels of sub-angular to rounded flint granules to pebbles were encountered in all boreholes and window samples, except SS WS4 and SS WS5, which encountered obstructions in the Made Ground that limited penetration. The gravels outcrop at elevations ranging from +32.2 to +34.2m OD (*i.e.* approximately 2-3m below ground level), with a possible trend for lower elevations in the N of the site (*Fig. 9*). However, the modelled gravel surface is somewhat compromised by the categorisation of fine-grained alluvium containing gravel particles as true gravels in some of the geotechnical window sample and borehole logs. Nevertheless, assuming that the depth of the Chalk outcrop revealed in SS BH1 is correct, approximately 7m of Pleistocene

gravels underlie the site. While the geotechnical window samples and boreholes suggest only that the gravels change upwards from clast- to matrix-support, the geoarchaeological boreholes indicate greater complexity in the gravel bedding. For example in ARCA BH1 gravel strata are interbedded with layers of fine sand and laminated silt/clays. Such variation is to be expected in a braided river environment of the type that deposited the gravels, where flow velocity and, hence, sediment calibre varies seasonally. Assuming the gravels are part of River Terrace 1, they would date to the very end of the Late Pleistocene, *i.e.* the Late Glacial period (11.5-24ky BP).

7.4.3 *Holocene alluvium*

Between 0.5 and 2m of Holocene fine-grained alluvium unconformably overlies the Pleistocene fluvial gravels discussed above (*Figs. 8 & 11*) and have a surface outcrop varying between +34.60 and +35.30m OD (*Fig. 10*). However, it is likely that the models mapping Holocene alluvial thickness and outcrop height are compromised for the same reasons as given above for the Pleistocene gravels, *i.e.* misclassification in the geotechnical boreholes of fine-grained alluvium as either Made Ground or Pleistocene fluvial gravels. Accepting the potential constraints of the models, it is still tempting to suggest that the surface outcrop height suggests the presence of a N-S orientated palaeochannel (*Fig. 10*). The elevation at which alluvium is encountered would appear to be about 0.5m deeper in the centre of the site than towards its edges, possibly as a result of compression of the softer alluvial sediments by overlying Made Ground. On the other hand, the maximum 0.7m difference in outcrop height of the Holocene alluvium in all the boreholes would suggest that these deposits are largely tabular and were laid down by overbank flooding of the River Itchen.

The Holocene alluvium displays a broad trend of increasing quantities of gravel inclusions upwards through the sequence, the latter particles mainly comprising subangular and sub-rounded flint and chalk granules and fine pebbles (*Fig. 8*). However, archaeological material was also found throughout the alluvial sequence and includes pottery, charcoal and (towards the surface) brick fragments. The artefacts do not have rounded edges and are of a calibre that could not be transported by flood waters of the same low velocity that moved the silts and clays. Therefore, it would appear that there are two components to the 'alluvial' sequence: the silts and clays forming on the floodplain by overbank flooding and the gravels that must have been deposited on the site between individual flood episodes. The latter process is likely to have combined direct human activity (the artefacts and charcoal) and colluviation (*i.e.* the chalk granules – these are unlikely to have been transported by the river) from slopes to the W. Further activity of human activity on the floodplain during deposition of the alluvium is provided by the magnetic susceptibility evidence (*Fig. 8*), which displays peaks in all boreholes that can only be the product of human action. Indeed, a concentration of pottery (the core sampler is likely to have broken a large sherd of ceramics) is accompanied by a dense concentration of charcoal and the highest magnetic susceptibility readings of any borehole at the Holocene alluvium-Pleistocene gravel contact in ARCA BH4 (2.74-2.81m below ground surface).

Interbedded within the largely mineral silt/clay Holocene alluvial sequence are organic units as found in ARCA BH4, ARCA BH5 and SS WS3. In the case of the former two at least, these strata are likely to have formed in depressions that retained water between normal river flooding events, *i.e.* perhaps in the channel features found during the archaeological evaluation. Magnetic susceptibility evidence would appear to suggest that the organic strata formed by natural means (*i.e.* readings are low – *Fig. 8*) of decomposition of biological material and, as such, they contain moderate quantities of plant macroremains but no artefacts.

7.4.4 *Made Ground*

Made Ground deposits were encountered unconformably overlying the Holocene alluvium in all boreholes but the thickness of such sediments varies across the site. One reason for the variation is that the geotechnical window samples and boreholes appear to have recorded the top part of the underlying silt/clay alluvium as Made Ground, possibly as a result of contamination from the overlying units during drilling. Nevertheless, the modelled made ground thickness varies between 2.4m in the centre of the laundry building and 0.5m in the hard-standing in the SE and SW (*Fig. 12*). Allowing for outliers in the geotechnical data, Made Ground thickness would appear to be around 0.5-1m on the outside of the Laundry buildings and 1-1.5m within the structure. In other words, it is likely that extra material was dumped at the building location prior to the placement of reinforced concrete to support its floor. It is also possible that extra material was also needed to compensate for compression in the putative channel discussed above.

The Made Ground is a highly variable deposit comprising coarse gravels made up of crushed concrete, brick, chalk and flint, to finer (sand) grade clinker and even reworked alluvial silts and clays containing brick and charcoal. In general, there is a trend for the calibre of Made Ground deposits to decrease (fine) downwards, while often the boundary with the underlying fine-grained alluvium is diffuse. Artefacts within the Made Ground suggest that it dates to the last two centuries.

7.5 **Assessment**

Sediments of the Seaford Chalk Formation have no archaeological or geoarchaeological significance given that they accumulated at least 79my before the first hominins set foot in what is now Britain.

The Pleistocene fluvial gravels are assessed as having low archaeological and geoarchaeological potentials. Although humans were present in Britain during the Late Glacial, they are unlikely to have inhabited or carried out any long-lasting activities within a river's braid plain. The laminated silts and sands noted within gravel strata of ARCA BH1 might contain biological materials that could be used to reconstruct past environments (although no macrofossils were noted during description of the cores). However, the deposits are technically difficult to date and therefore the age of any reconstructed environment would be uncertain.

The Holocene alluvium is assessed as having high archaeological and geoarchaeological potentials. The former is further demonstrated by the results of the archaeological evaluation but the geoarchaeological borehole survey has highlighted the presence of artefact-containing alluvium to a depth of 2.81m below ground surface in the NE part of the site. Furthermore, magnetic susceptibility evidence from the cores and artefact finds both in the cores and in the sections indicate that humans were active on the site/in its environs throughout the period of floodplain sedimentation. The alluvium also contains organic strata with well-preserved plant macro-remains that are sandwiched between mineral layers with artefact inclusions. These plant remains could provide information on the nature of local environments at the time of human activity on/adjacent to the floodplain. In short, there is extensive archaeological evidence in all parts of the floodplain sequence and an association of human activity with well-preserved biological remains from which past environments might be reconstructed.

The Made Ground is assessed as having a low archaeological and geoarchaeological potential given that it was emplaced in the last 200 years.



7.6 Recommendations

Given that, at the time of writing, it is uncertain what the next phase (if any) of archaeological works might be, general priorities for further study are provided below rather than specific recommendations:

As has been stressed in the preceding section, the floodplain alluvial strata are of high archaeological and geoarchaeological significance. Although artefacts were recovered in the geoarchaeological boreholes, these are still too few to provide a robust chronology for deposition of the alluvium. Therefore, the first priority in the next phase of works is to date the strata encountered on the site, particularly those outcropping beneath the maximum depth of the evaluation trenches. Construction of such a chronology might combine a detailed examination of the artefacts that have been recovered with ^{14}C dating of organic remains.

Once the age of the organic strata has been determined, their palaeoenvironmental potential can be assessed. Should they prove of interest once their age has been determined, the nature of biological preservation within the strata needs to be assessed, *i.e.* by the examination of plant macro-, pollen and, possibly, insect remains by appropriate specialists.

Although the broad nature of alluvial deposition can be determined from strata exposed in the narrow window of a borehole core, much greater detail can be provided by examining morphological properties of the sediment in exposed sections and carrying out laboratory measurements of grain size and particle properties. It is therefore recommended that a geoarchaeologist examine any such sections produced by further archaeological works on the site.

7.7 Acknowledgements

ARCA would like to thank Neil Shurety and Will Logan of Border Archaeology for their help during geoarchaeological works on the Hyde Laundry site. ARCA fieldwork was carried out by Nick Watson and Keith Wilkinson, while Nick Watson undertook the laboratory assessment of the borehole cores.

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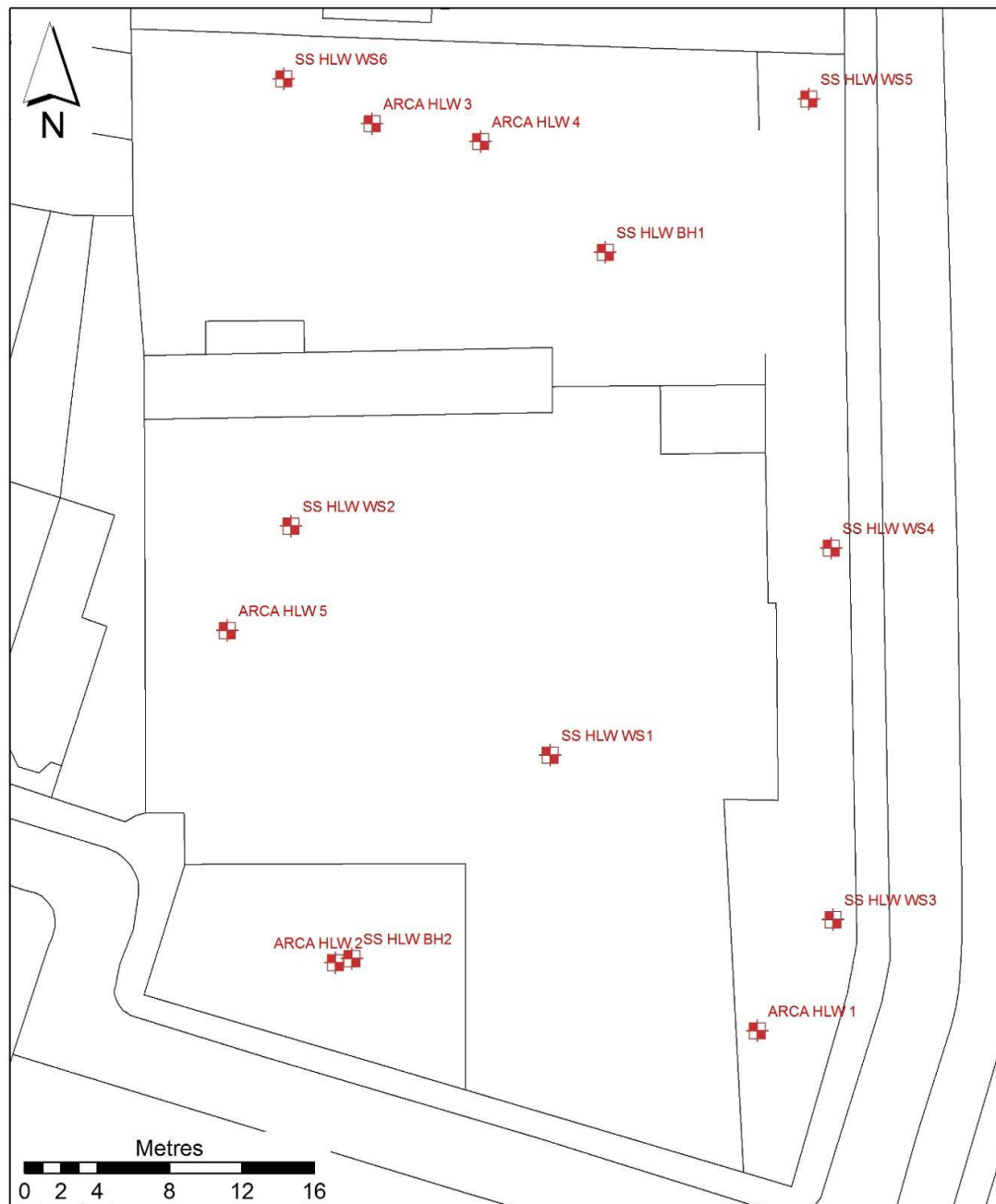


Fig. 7: Location of the ARCA geoarchaeological boreholes and Structural Soils geotechnical boreholes and window samples within the study area

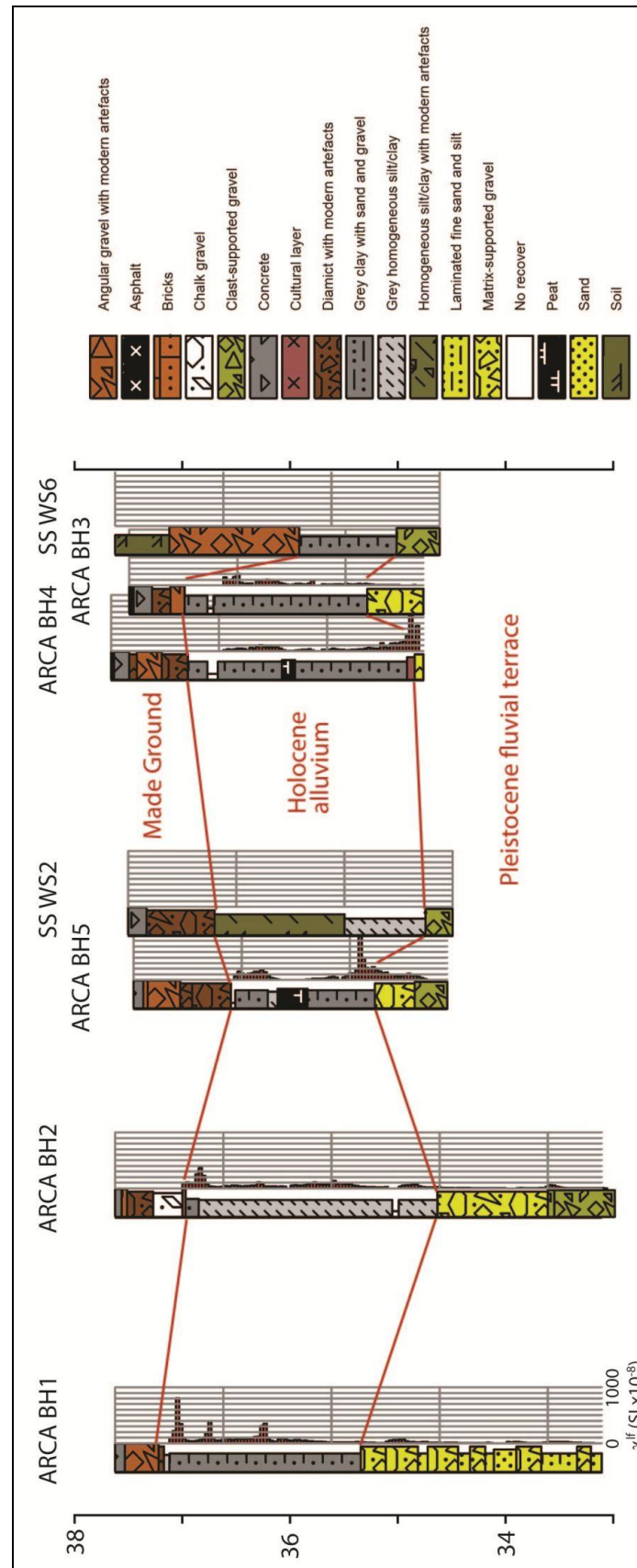


Fig. 8: Composite cross section through the Hyde Laundry site

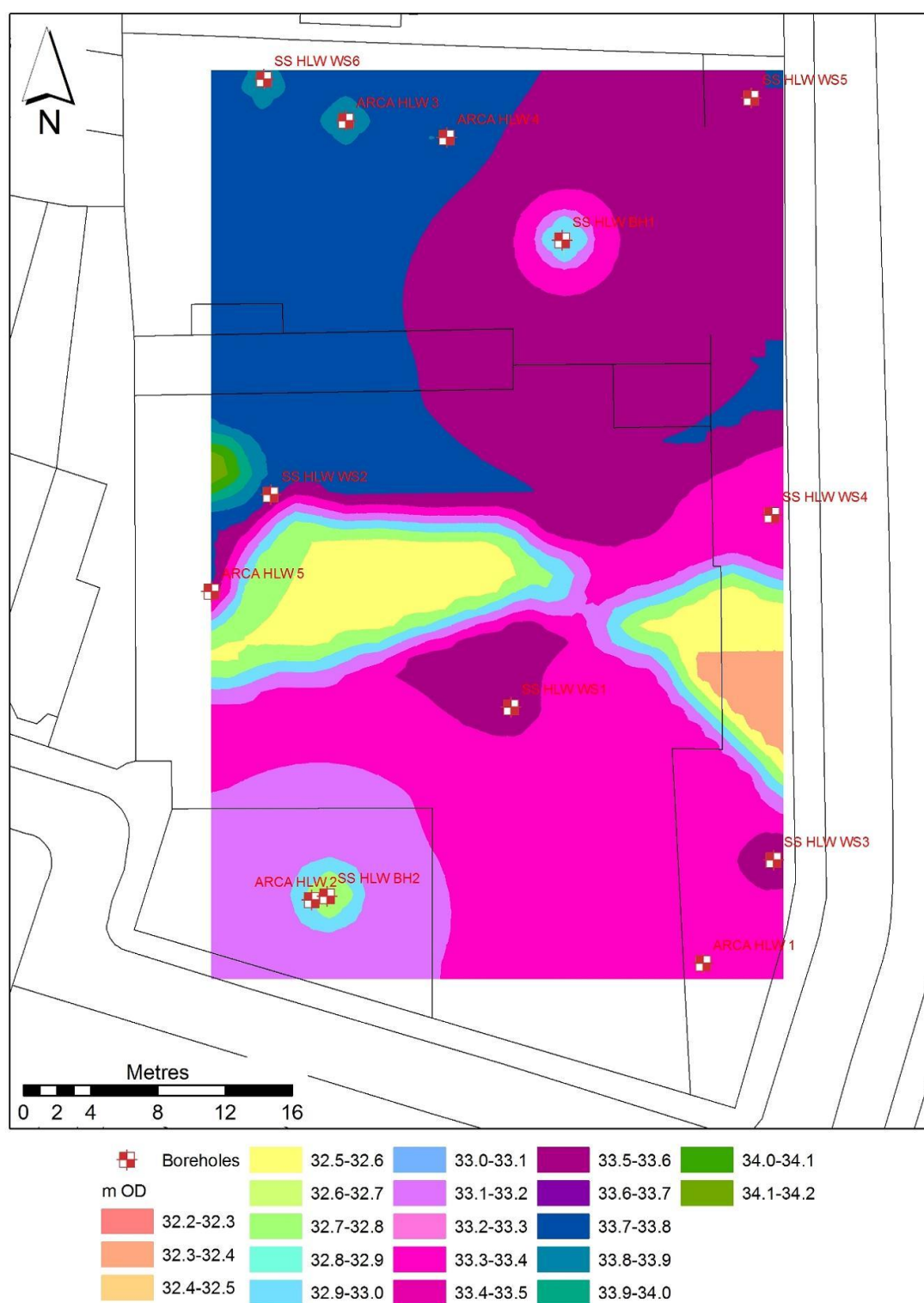


Fig. 9: Modelled surface of the Pleistocene gravels within the Hyde Laundry site

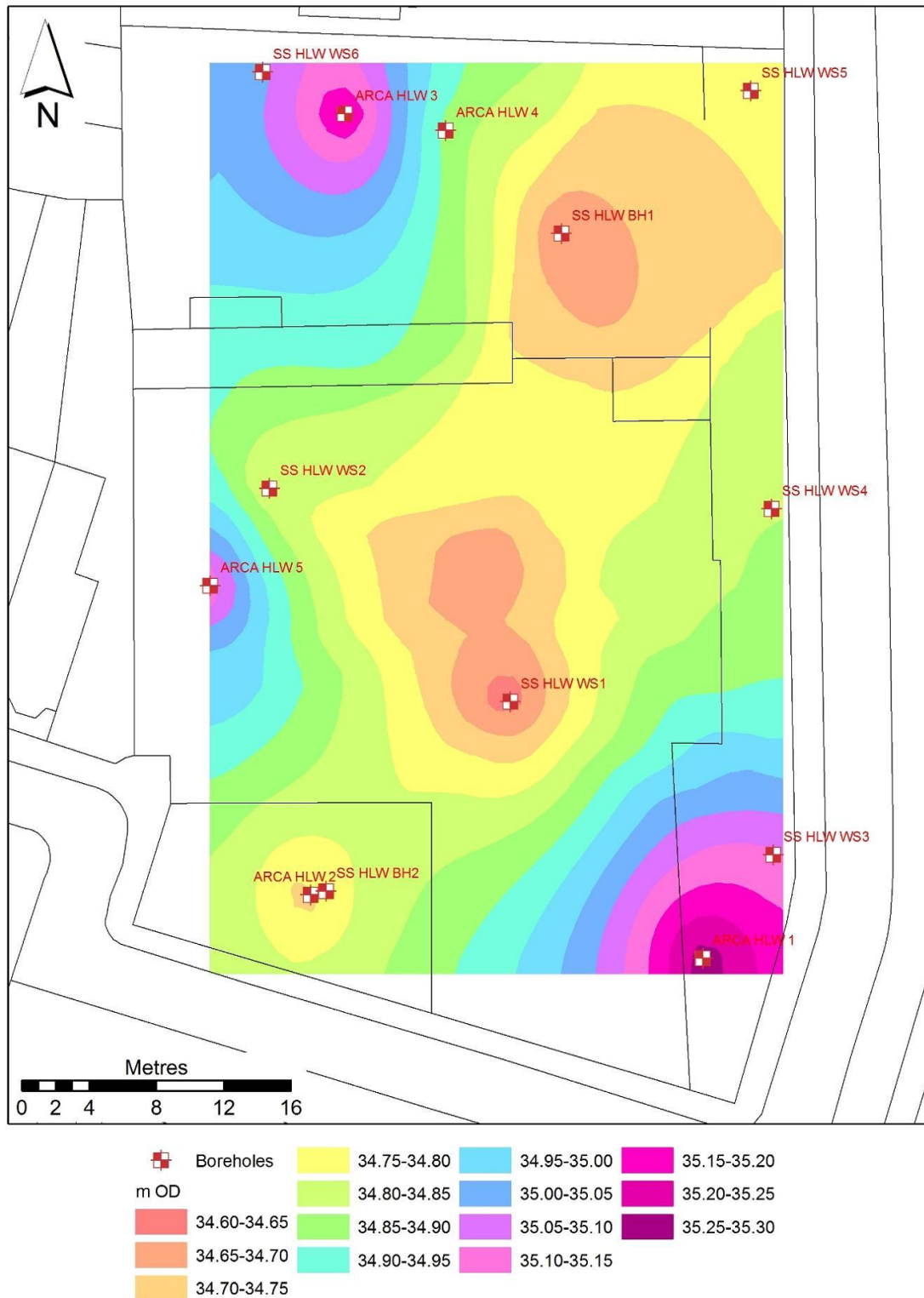


Fig. 10: Modelled surface of Holocene alluvium within the Hyde Laundry site

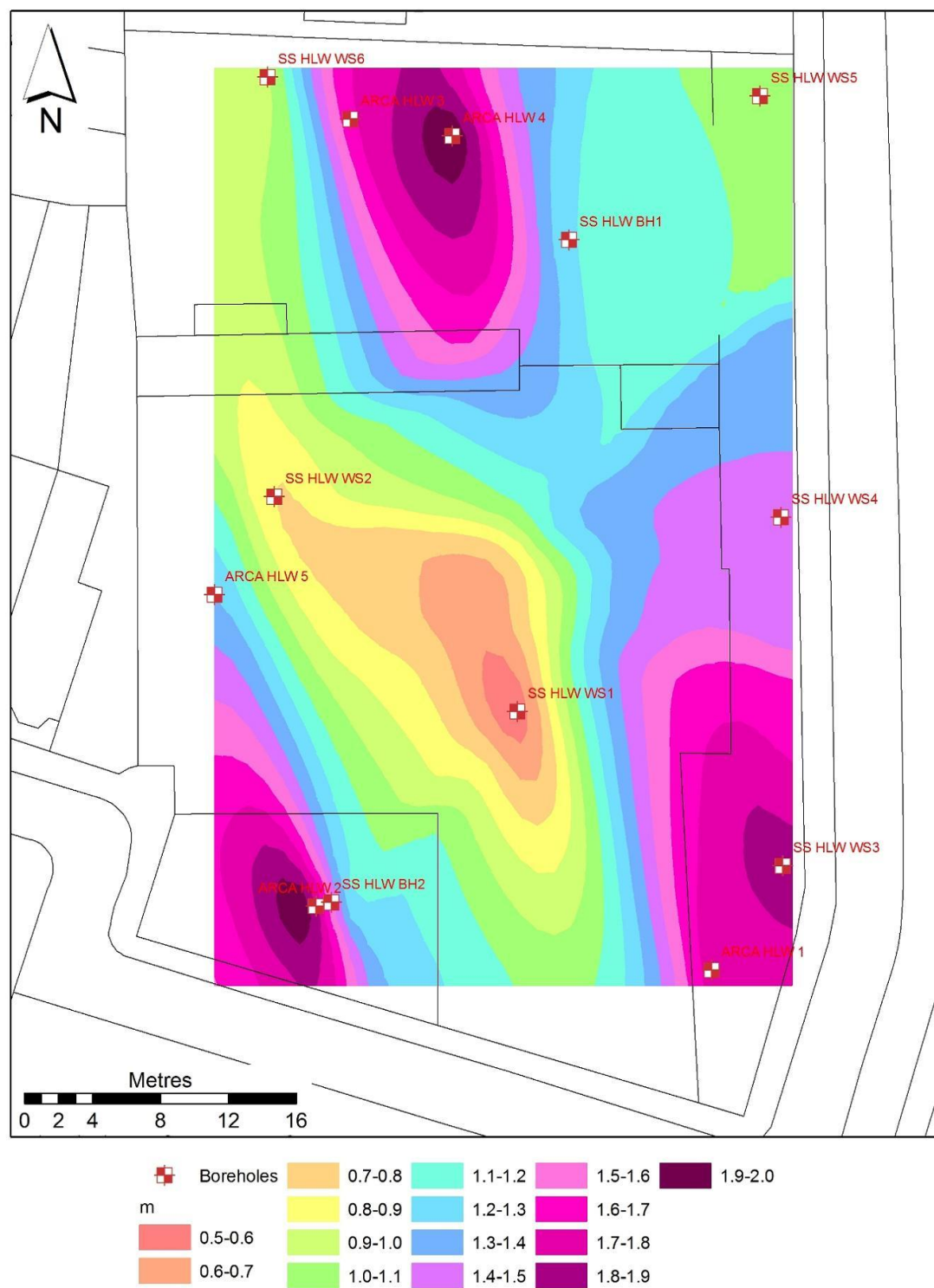


Fig. 11: Modelled thickness of Holocene alluvium within the Hyde Laundry site

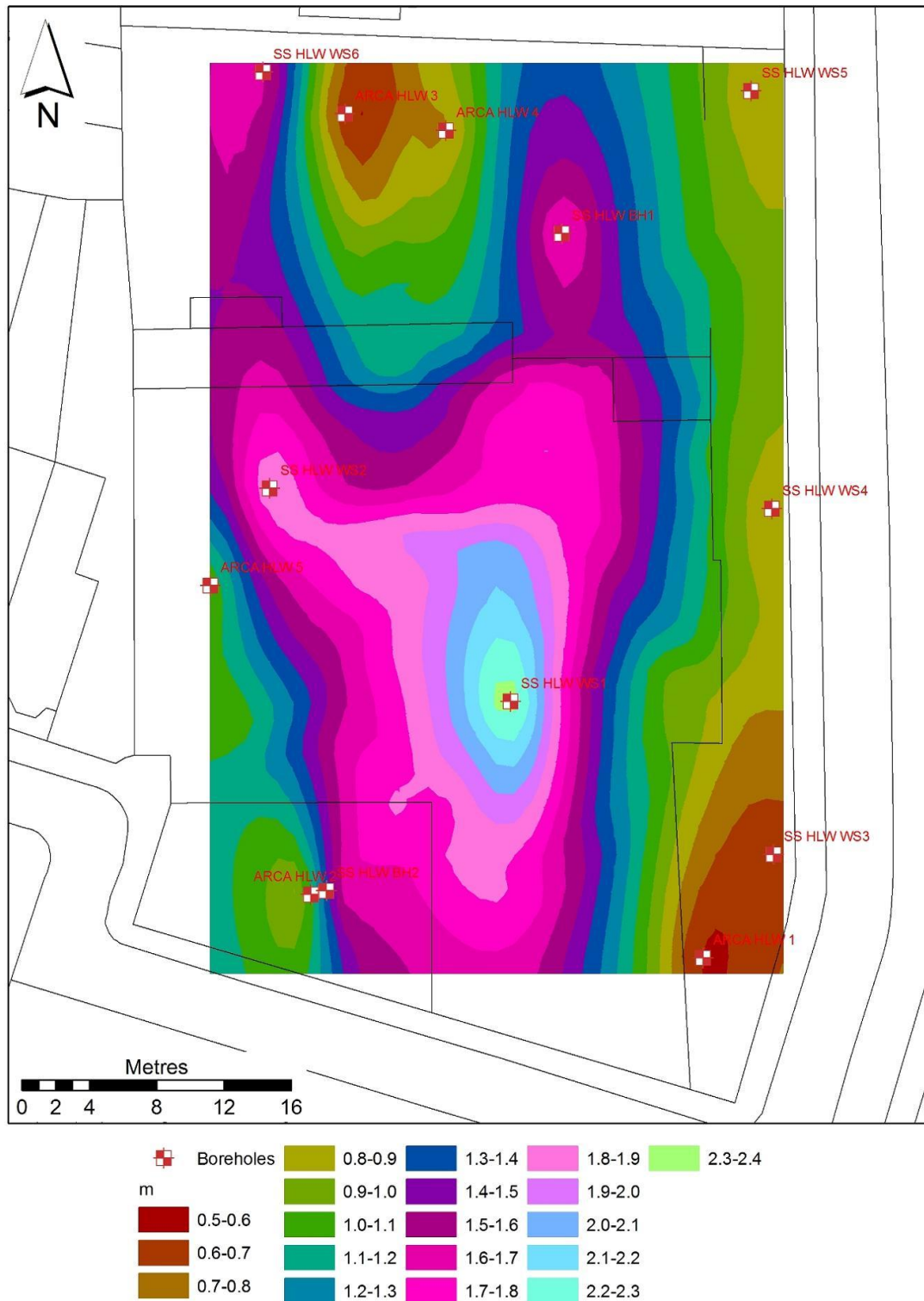


Fig. 12: Modelled thickness of Made Ground within the Hyde Laundry site



8. Discussion of Results

The results of this programme of archaeological evaluation and geoarchaeological investigation at Hyde Laundry have demonstrated the potential for stratified archaeological deposits to survive at a considerable depth on the site, up to 2.8m below existing ground level (based on the evidence of ARCA borehole BH4 in Trench 1). It should be stressed that it was difficult to establish a secure date for a significant proportion of the contexts identified, due to the small quantity of datable artefacts recovered and the high residuality of the assemblage, which is perhaps to be expected in an area which appears to have been marginal water meadow, heavily susceptible to flooding, for a considerable period.

The depth and survival of archaeological deposits would appear to vary to a certain extent across the site, depending on the extent of truncation by successive phases of landscaping activity and construction/site clearance relating to the late 19th-20th century Laundry buildings. These late post-medieval/modern Made Ground deposits, either related to the construction of the Laundry in the late 1880s or to subsequent phases of demolition, site clearance and reconstruction, vary in depth across the site, being somewhat deeper in Trench 1 compared to Trench 2; they may be regarded as being of low archaeological potential.

In Trench 1, Made Ground appears to be represented by (102), which was interpreted as a deep layer of modern overburden with frequent late 19th-20th century ceramics, CBM and concrete fragments. (102) may relate to a phase of extensive reconstruction, which appears to have taken place in the late 1940-early 1950s, when the original Laundry buildings were significantly enlarged and extended to the N.

In Trench 2, the depth and composition of the Made Ground differed somewhat from that encountered in Trench 1, presumably reflecting its location within the footprint of the Laundry building. (202=205) consisted of a yellowish sand with frequent inclusions of gravel and coal waste, which appeared to represent a sub-base for the existing Laundry building (which was substantially reconstructed and enlarged in the late 1940s-early 1950s). This overburden deposit overlaid the heavily truncated remains of brick walls associated with the late 19th century Laundry building, which were, in turn, built upon a substantial concrete pad (206).

Underlying the post-medieval/modern overburden deposits and structural remains in both trenches was a significant accumulation of greyish-brown clayey silt, represented by (103) in Trench 1 and contexts (207) and (208), representing the uppermost deposits within the probable water channel [210] in Trench 2. These contexts were initially interpreted as imported clay deposits, which had been dumped to form a watertight membrane prior to construction of the late 19th century Laundry buildings.

While there is no evidence to directly contradict this initial interpretation, a much more plausible hypothesis may be advanced, which is that (103) and (207)/(208) actually represent a gradual accumulation of alluvial clay over a prolonged period, presumably reflecting the prevailing environmental conditions in this area, which may be characterised as low-lying water meadow susceptible to periodic overbank flooding, with intervening episodes of low-level human activity and colluviation. This is supported by the documentary and cartographic evidence, which shows that the area to the N of the City Ditch was low-lying water meadow from the medieval period through to the late 19th century and that the watercourses which dissected the water meadows in this area were subject to alteration, presumably as a result of natural processes and anthropogenic activity.

It is difficult to specify the date range for the phase of alluviation represented by (103) and (207)/(208), as only a small amount of artefactual material was recovered from these deposits; however, it is reasonable to assume that it could conceivably extend from the medieval period through to the late 1880s. A small quantity of pottery and CBM of Roman date (including several sherds of Samian ware and a fragment of hypocaust tile) was recovered from (103) in Trench 1; however, in view of the paucity of the material it cannot be relied on to date this context securely and must therefore be regarded as residual. In contrast, a somewhat mixed assemblage was recovered from (208), including several fragments of roof-tile of unspecified medieval/early post-medieval date, a possible medieval floor tile, a sherd of grey sandy ware of unspecified medieval date and several Roman *pila* and *tegula* fragments (the latter almost certainly being residual in context).

Underlying the alluvial clay deposits in both trenches, a discrete peat horizon was identified, represented by (104) in Trench 1 and (211=216=217), the lower fill of the probable water channel [210] in Trench 2. The full extent of [210] lay outside the evaluation trench; however, it is possible that this may represent the watercourse aligned roughly N-S which is visible on the OS 1st edition map of 1871 and which is shown, in a somewhat modified form, on earlier historic mapping, including the Hyde Abbey estate plans of 1738 and 1760 and John Speed's plan of Winchester dated 1611.

This accumulation of peat may represent a period of relative environmental stability, characterised by areas of permanent standing water existing alongside areas of marshy grassland and scrub. This is particularly reflected by the pollen and plant macrofossil evidence from (104) and (211), which is characterised by species typical of damp, waterlogged conditions, including the uncharred remains of sedge and buttercup, while the presence of uncharred seeds of spike-rushes, bog-bean, and celery-leaved buttercup in (104), and the remains of yellow iris, crowfoot, bugle and branched bur-reeds in (211), probably indicate an area of shallow ponds or marshes susceptible to flooding. The occurrence of pondweed and water-milfoil fruits in (211) is of especial interest, as it confirms the presence of permanent standing water in this particular area. A small, but generally well-preserved faunal assemblage was recovered from (211=216=217), although some of the material exhibited slight evidence of deterioration, which may be indicative of fluctuating water levels.

It is difficult to establish a tight date range for the peat horizon in both trenches; apart from a fragment of fired clay of unspecified date, no artefactual evidence was recovered from (104) while a small, mixed assemblage of material was recovered from (211=216=217), comprising brick and roof-tile fragments of unspecified medieval/early post-medieval date, a single sherd of Lezoux Samian ware and a body sherd of a grey ware vessel of unspecified Roman date. At its broadest date range, the peat horizon can probably be assigned to the medieval/early post-medieval periods.

(211=216=217) constituted a gradual accumulation of peat within the probable water channel [210]. The origins of this watercourse remain unclear; in its present form, the feature appears to have been the result of anthropogenic activity, although it cannot be discounted that it could have been originated as a result of natural processes (perhaps reflecting a natural geological hollow) and was subsequently altered and widened by human activity. A possible *terminus post quem* for [210] is suggested by the fact that it appears to cut (218), a layer of mid greyish chalky clay containing a sherd of chalk-tempered ware of 12th-14th century date. This may suggest that [210], at least in its visible form, is of later medieval date and could potentially represent a watercourse established by the monks of Hyde Abbey, whose precinct was situated approximately 35m N of the Laundry site, as part of a wider programme of drainage and land improvement.

The recovery of a piece of worked wood (possibly a stake) from (211) should be viewed in the context of the evidence for worked timbers found within a deep peat deposit adjoining the course of the Hyde Abbey mill stream during an evaluation on the Gordon Road timber yard (immediately N of the Laundry site) in 1986 (EWC8016). These worked timbers, which comprised two squared timbers and a stake, were interpreted as forming part of a timber revetment, possibly of medieval date, adjoining the mill stream. Although the evidence, at present, is inconclusive, the possibility of the existence of a similar revetment associated with the watercourse in Trench 2 should certainly be considered and further investigation of the watercourse and the peaty sediments within it could potentially reveal further evidence of well-preserved, waterlogged timber structural remains.

This episode of relatively more static environmental conditions represented by peat deposits (104) and (211=216=217) appears to have been preceded by another phase of heavy alluviation with intermittent episodes of occupation and colluvial deposition. This earlier phase of activity was represented by contexts (105), (106) and (107) in Trench 1 and in Trench 2 by the soil bank (209) and the rammed chalk surface (219), (220), (225) and (226) overlying a mid greyish clayey silt (212). Significant differences were noted between Trenches 1 and 2, in terms of the chronology and the intensity of human activity observed.

Within Trench 1, the peat horizon appeared to seal evidence for another possible water channel aligned roughly NE-SW (106); however, it was impossible to determine its extent with certainty (further complicated by the significant ingress of water towards the base of the trench); moreover, it was extremely difficult to distinguish it clearly from the greyish-brown clayey silts (105) and (107) flanking it. Whatever the case, it appears likely that (105) (106) and (107) represent another phase of alluvial deposition with intervening episodes of human activity and colluviation.

A small assemblage of artefactual material was recovered from (106) and (107), which may be regarded as indicative of peripheral, low-level activity. A quantity of Roman pottery and ceramic building material was recovered from (106), including *pila* and *tegula* fragments and a possible vent fragment, as well as an Fe nail, while (107) yielded a sherd of Lezoux Samian ware (probably 2nd century) and a New Forest colour coated sherd of 3rd-4th century date. While this material cannot be regarded as much more than a background scatter, it may hint at occupation on the edge of a more significant settlement focus nearby; it is significant that all the datable pottery and ceramics from these two contexts was Roman in date.

The results of the geoarchaeological investigative borehole dug by ARCA in Trench 1 further indicate the likely presence of stratified occupation deposits of probable Roman date beneath the deep alluvial coverage represented by (105), (106) and (107), indicated by the presence of a black silty clay layer at a depth of 2.74-2.81m below ground level, containing frequent charcoal fragments and a quantity of pottery comprising a sherd of Lezoux Samian and sherds from a black sandy ware vessel of unspecified Roman date.

Within Trench 2, the pattern of activity differed significantly from that encountered within Trench 1. The watercourse [210] appeared to cut two greyish clayey silt layers - (209) and (218) - the former being interpreted as an earth bank, which had been deposited to formalise occupation within that area, while the latter was a possible occupation deposit. Both deposits contained a small assemblage of pottery and faunal remains characteristic of ephemeral, low-level occupation. Possibly a more accurate interpretation of (209) and (218) is that they represent an episode of alluvial deposition with evidence of colluviation (suggested by the frequent chalk inclusions in both deposits) and anthropogenic activity, particularly in the case of (209), which exhibited evidence of having been shaped, possibly by human action.

Underlying both (209) and (218), evidence for a substantial puddled or rammed chalk surface was identified, possibly consisting of two phases of deposition, the earliest represented by (226) with (219), (220) and (225) constituting a subsequent extension of the surface towards the W. This rammed chalk surface appeared to represent the consolidation or reinstatement of an earlier, cambered surface represented by a compact coarse grey clay with frequent inclusions of flint nodules (212=227), which it overlaid.

The function of the chalk surface and its possible predecessor (212=227) remains undetermined. The chalk surface could represent a platform for a structure and indeed two postholes - [222] and [224] - appeared to have been cut into it. However, there was insufficient evidence to determine whether [222] and [224] formed part of a structure or whether they were contemporary with or later than the chalk surface into which they were cut. Another possibility is that the chalk surface and its predecessor were associated with an enclosure yard for livestock (indeed, such coarse surfaces are often encountered in association with animal husbandry). Little evidence of animal bone occurred within the samples taken from (225) and (226) while a single *caprine* bone fragment was recovered from (212). The occurrence of elder and bramble fruit-stones in (225) and (226) also suggests the presence of scrubland with some degree of tree-cover in the immediate vicinity.

Dating of the activity associated with the chalk surface and its predecessor in Trench 2 is somewhat problematic. A possible *terminus ante quem* may be provided by the occurrence of a sherd of 12th-14th century chalk-tempered ware in (218), although the occurrence of a single sherd may not necessarily be a reliable indicator of date. A fragment of a shale bracelet (possibly of late Iron Age or Roman date) and a single chip of Lezoux Samian ware were recovered from (209), although these finds could well be residual in context. A small quantity of CBM was recovered from (220), one of the contexts forming part of the chalk surface, comprising a single *tegula* fragment of Roman date, although again it may well be that this material is also residual. A single sherd of flint-tempered ware of possible early medieval date was recovered from (212); while it cannot be relied upon solely as an accurate indicator of date, it may suggest a possible pre-Conquest origin for the chalk surface.

The presence of this rammed chalk surface, with evidence for earlier occupation deposits underlying it, attests to occupation of a different, possibly more permanent character in this particular part of the Laundry site. Comparisons may be drawn with the metalled road surface found during the excavations on the former Marstons' Brewery site in 1997-8, which was identified as being of Roman date (WMS, 1998); however, this metalled surface was of quite a different composition to that encountered at the Hyde Laundry site, comprising smoothed flints in contrast to the puddled or rammed chalk surface revealed in Trench 2, which appears to be more characteristic of a platform for a structure or metalling defining a yard within an enclosure. There is clearly further potential for investigation of the extent of this chalk surface and the earlier occupation layers underlying it, which could potentially extend to a depth of 2.6m below ground level, based on the evidence of the results of the ARCA borehole in Trench 2 (BH5).

If the chalk surface and its predecessor (212=227) represent evidence of Saxon or early Norman occupation, then this is of particular interest, as relatively little evidence of extra-mural settlement of this period has been previously identified in the immediate locality, either from archaeology or the documentary record. On the Marstons' Brewery site, occupation deposits of Saxon and later medieval date appeared to have been truncated by a cellared building of 19th century date. Evidence of medieval occupation has been identified further to the NW at the Evans Halshaw garage site and during the excavations on the former Southern Electric depot (EWC 8961) further to the N; however, in both cases these clearly represent activity associated with the outer precinct of Hyde Abbey.



The chalk surface and earlier occupation deposits beneath it could represent evidence of occupation and/or livestock husbandry associated with the estate of Hyde Abbey (founded c.1110) or its predecessor, the New Minster (which encompassed a significant tract of land extending to the N of the City Ditch). Further investigation of the documentary records for the New Minster/Hyde Abbey estate might help to clarify the date and function of the chalk surface and associated deposits; however, there appears to be little or no record of settlement in the vicinity of the site from c.1300 onwards (when documentary evidence for property holding in Winchester and its suburbs becomes much more plentiful). It is also worth noting that the Laundry site lay within an enclosure marked as 'Lower Park' on estate maps dating back to c.1738.

The possibility should also be considered that the chalk surface and occupation deposits beneath it are of an earlier, possibly Roman date, and that the solitary sherd of medieval flint-tempered ware in (212) is intrusive. This is suggested by the occurrence of Roman pottery and CBM in almost all the contexts in Trench 2 and the assemblage of Roman ceramics in (105), (106) and (107) beneath the peat horizon in Trench 1 to the N, the combined evidence of which seems to indicate the presence of Roman extra-mural settlement somewhere in the immediate vicinity. Moreover, the chalk surface in Trench 2 bears comparison with rammed chalk surfaces found during the excavations at the Evans Halshaw site to the E of Hyde Street, associated with two buildings and oven features of Roman date situated immediately W of the line of the Roman road to Silchester (Birbeck & Moore, 2004). However, it should be noted that no evidence of characteristic 'dark-earth' deposits of post-Roman date was noted overlying the chalk surface, although it is possible that these might have been truncated or removed by the cutting (or widening) of the later watercourse [210].

9. Conclusions (with reference to the Site Specific Research Agenda)

This section will consider the significance of the evaluation results in the context of the Site-Specific Research Agenda (Part 3.1) detailed in the Written Scheme of Investigation (WSI), which was based upon information obtained from the Historic Environment Record held by Winchester City Council, including the Urban Archaeological Database (UAD) and published and unpublished literature on archaeological work undertaken in the vicinity of the site, as well as material derived from primary archival sources (e.g. site archives, property records and historic mapping).

9.1 Evidence for pre-Roman activity

Research priorities (as outlined in the WSI) for this period consisted of the following:

- *Activity predating the middle-late Iron Age period*
- *Middle-late Iron Age occupation: duration; relationship to late prehistoric occupation layers/features identified at the Marstons' Brewery site; contribution to knowledge of late prehistoric occupation outside Oram's Arbour enclosure*
- *Agricultural or domestic occupation (field boundaries, post-built structures and rubbish pits)*
- *Cultural and religious/funerary practices (finds or structural features)*
- *Industrial activity (e.g. iron smithing, pottery manufacture), trade or market functions*
- *Pottery of Iron Age date (to refine the ceramic sequence for the Winchester area)*

Little evidence for prehistoric activity was found during the evaluation. The only artefact of possible prehistoric origin was a shale bracelet fragment of possible Iron Age or Roman date recovered from

(209) in Trench 2, although this find may well be residual in context. Analysis of the possible worked flints identified in (212) suggests that they are probably the result of natural rather than anthropogenic processes. However in view of the likely considerable depth of archaeological deposits in both trenches, indicated by the results of the geoarchaeological borehole investigations (to a potential maximum depth of 2.8m), there remains potential for evidence of stratified deposits of prehistoric date to be identified.

9.2 Evidence for Roman activity

Research priorities (as outlined in the WSI) for this period consisted of the following:

- *Date, nature and extent of any Roman occupation evidence and its relationship to evidence for extra-mural activity identified at the Evans Halshaw and Marstons' sites; its contribution to the overall characterisation of suburban occupation to the N of the civitas*
- *Continuity of occupation on the site from the late Iron Age onwards*
- *Evidence for holloways or metalled street surfaces of Roman date*
- *Roman burial activity: if located, does it represent an eastward extension of the burial ground previously identified to the west of the Silchester Road?*
- *Timber/masonry structures and associated occupation features and deposits (date, function, position within the Roman street system and possible relationship with structural evidence found nearby (e.g. Evans Halshaw garage)*
- *Evidence for industrial activity, trade or agricultural cultivation or animal husbandry*
- *Evidence for a change in the nature of occupation or abandonment of the site*

No securely datable Roman features or occupation deposits were identified during the evaluation; the chalk surface in Trench 2 (represented by contexts (219), (220), (225) and (226)), which might possibly constitute a raised platform or metalled yard surface, contained a single *tegula* fragment of Roman date; however, (212), the deposit underlying it, contained a sherd of early medieval pottery.

Roman pottery and CBM was found in the majority of contexts in Trenches 1 and 2; however, almost all of it appeared to be residual in context. However, the discovery of a layer of black charcoal-rich silt containing Roman pottery in borehole BH4 (in Trench 1) at a depth of 2.74-2.81m, indicates the likely potential for stratified occupation layers of probable Roman date to be encountered on the site, albeit a considerable depth, below deep alluvial strata.

In spite of the high degree of residuality, the occurrence of Roman artefactual material in the majority of contexts within the evaluation trenches may be regarded as a strong background scatter indicative of a focus of Roman occupation somewhere in the immediate vicinity of the site, possibly of high status (judging from the preponderance of high-quality Samian ware within the assemblage). In connection with this, it is worth noting that evidence for a metalled road of probable Roman date running from W to E was identified during excavations at the Marstons' Brewery site, the projected course of which (assuming it continued on the same easterly alignment, which is not necessarily certain) would have probably have run somewhere just to the S of the Laundry site.

While there is insufficient evidence at present, in terms of deposits and features, which can be securely dated to the Roman period, for direct comparisons with nearby sites where significant evidence of Roman extra-mural settlement has been found (e.g. the Evans Halshaw garage and the Marstons' Brewery sites), there is clearly potential for further investigation to clarify the nature and extent of Roman occupation on the Laundry site and thereby to contribute significantly to the overall characterisation of Roman suburban occupation to the north of the walled *civitas*.

9.3 Evidence for post-Roman and later Saxon occupation

Research priorities (as outlined in the WSI) for this period consisted of the following:

- *Define extent, date and character of any occupation evidence and assess contribution of such to existing knowledge of topography of northern extra-mural suburb and its development*
- *Interpret any surviving alluvial peat deposits in terms of prevailing land use and environmental conditions*
- *Development of water management and sanitation in late Saxon Winchester by reference to any relict watercourses and associated features (e.g. timber revetments) revealed*
- *Identify finds, features and deposits associated with agricultural cultivation or grain-processing, industrial activity, animal husbandry and processing*

A small number of features and deposits within the evaluation trenching may be of pre-Conquest date, consisting of the puddled or rammed chalk surface represented by (219), (220) (225) and (226), which was overlaid by a deposit containing pottery of 12th-14th century date, and context (212) underlying the chalk surface, which contained a single sherd of flint-tempered ware which, although it could not be dated more precisely, is suggestive of an early medieval date, probably not much later than the late Saxon-early Norman period. The dating evidence for these contexts is extremely limited; it is conceivable that the chalk surface and the underlying occupation deposit (212) are of an earlier date and that the medieval pottery found in these contexts is intrusive.

However, if the chalk surface and its predecessor are of post-Roman or Saxon date, then potentially they represent a significant contribution to the existing knowledge of the topography and extent of the northern extra-mural suburb during this period. Previous archaeological work in the locality (much of which has been focused in the area occupied by the later medieval monastic precinct of Hyde Abbey, immediately E of Hyde Street) has revealed only limited evidence of post-Roman and later Saxon occupation, which appears to have been of a somewhat ephemeral, low-level character, although remains of possible structures and pit features of 9th-11th century date (predating the foundation of Hyde Abbey) were found during excavations to the S of King Alfred Place.

The chalk surface may be interpreted as an attempt to consolidate or formalise occupation in this area, which had already been established in a more ephemeral manner in the form of cambered occupation surface (212), whether it represents a platform for a structure or a metalled yard forming part of a farm complex (possibly connected with an enclosure for livestock). It is possible that it could represent evidence of activity associated with the monks of New Minister who appear to have acquired a substantial tract of meadow to the N of the City Ditch (which would later become the estate of Hyde Abbey) by the late 10th century.

9.4 Evidence for medieval occupation

Research priorities (as outlined in the WSI) for this period consisted of the following:

- *Evidence for a southward extension of activity associated with Hyde Abbey, such as enclosure features*
- *Assess contribution of any water-management features and associated structural remains identified to the development of water management and sanitation in medieval Winchester and the extent to which any surviving alluvial peat deposits can aid understanding of the prevailing land use and environmental conditions*

- *Finds, features and deposits associated with agricultural cultivation or grain-processing, industrial activity, animal husbandry/processing or viticulture.*
- *Evidence for landscape change immediately following the dissolution of Hyde Abbey (in 1538), such as the filling or alteration of watercourses, changes in enclosure boundaries or land use (e.g. from pasture to orchards)*

The chalk surface revealed in Trench 2 could, at the very latest, date from the 14th century, based on the evidence of the pottery sherd found in the overlying deposit (218). This raises the possibility that it could represent activity associated with Hyde Abbey, which was founded in about 1110. The conventual buildings of the Abbey were situated some 150m NW of the Laundry site, while the extreme southern boundary of the monastic precinct (by the 14th century at least) appears to have been located approximately 35m N of the site (defined by the Hyde Abbey mill stream), although it may originally have extended further to the S of the mill-stream. It is possible that the chalk surface could represent evidence of occupation on the edge of the monastic precinct.

Another feature of probable medieval date identified during the evaluation was the N-S watercourse [210] partially revealed in Trench 2. [210], in its existing form, appears to be identifiable with a N-S aligned watercourse shown on the OS 1st edition map of 1871, which defined the W edge of an enclosure known as Lower Park. Earlier historic maps of the area, in particular John Speed's map of 1611 and later plans of the Hyde Abbey estate dated c.1738 and 1760, show this watercourse originally extending S from the Hyde Abbey mill-stream to the City Ditch.

It is highly likely that this watercourse was originally established in the medieval period and may have formed part of a programme of land improvement and water management established by the monks of Hyde Abbey. The accumulation of peaty sediment within the fill of [210] possibly suggests the presence of slow-moving or stagnant water within the watercourse for a considerable time, with evidence of areas of tree-covered scrubland immediately adjacent to the watercourse (indicated by the plant macrofossil evidence). The small but mostly well-preserved animal bone assemblage also indicates the presence of grazing livestock in the immediate vicinity of the watercourse.

This period of relatively static environmental conditions was followed by a period of more dynamic environmental conditions with frequent flooding represented by a substantial accumulation of alluvial clayey silts. The alluvial clayey silts and peat accumulations can be demonstrated to have significant potential to determine the nature and chronology of environmental change in this area during the Middle Ages and to contribute to the overall state of knowledge concerning changing environmental conditions, topography and land use in the northern extra-mural suburb of Winchester during this period.

10. Copyright

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11.2 Cartography

(All historic mapping was consulted using the collections held at the Hampshire Record Office unless otherwise stated)

John Speed's Map of Winchester - 1611

W. Stukeley's Prospect of Winchester from the South – 1723

The East Prospect of the City of Winchester by Samuel and Nathaniel Buck - 1736

W. Godson's Map of Winchester - 1750

T. Milne's Map of Winchester - 1791

Roper's Map of Winchester - 1805

OS 1st edition 1:500 map (Hampshire 41.13.9) - 1871

OS 1st edition 25 inch map Hampshire 41.13- 1872

OS 2nd edition 25 inch map Hampshire 41.13 - 1897

OS 3rd edition 25 inch map Hampshire 41.13- 1909

OS 4th edition 25 inch map Hampshire 41.13 – 1939

OS provisional edition 25 inch map Hampshire 41.13 – 1953



12. Appendix 1: Context register

12.1 Trench 1

CONTEXT	DESCRIPTION
(101)	Indurated grey/black concrete/tarmacadam; extends 20m × 6m × 0.14m. Overlies (102)
INTERPRETATION	<i>Hard-standing extending across the entire area of Trench 1</i>
(102)	Firm dark brownish-black silty clay; frequent concrete, pottery and CBM; extends 20m × 6m × 0.8m. Underlies (101), overlies (103)
INTERPRETATION	<i>C20 Made Ground deposit across Trench 1</i>
(103)	Firm mid brown sand-silt-clay; frequent flint and chalk; occasional pottery, bone and CBM; extends 20m × 6m × 0.8m. Underlies (102) Overlies (104)
INTERPRETATION	<i>Deep alluvial deposit with evidence of episodes of colluviation and human activity</i>
(104)	Soft dark brown organic peat; occasional flint; extends >6m × >8m × 0.2m-0.5m. Underlies (103) Overlies (105) (106) and (107)
INTERPRETATION	<i>Probable peat horizon reflecting static environmental conditions with areas of permanent wetland in the immediate vicinity</i>
(105)	Firm light brown silty clay; very frequent flint; extends >6m × >4.2m × >1m. Underlies (104) Same as (106) and (107)
INTERPRETATION	<i>Alluvial deposit with evidence of periodic colluviation and low-level human activity in W extent of Trench 1.</i>
(106)	Firm dark greyish-brown silty clay; very frequent flint; occasional CBM and pottery; extends >6m × >6.2m × >1m. Underlies (104) Same as (105) and (107)
INTERPRETATION	<i>Natural clay and flint deposit in centre of Trench 1, finds residual</i>
(107)	Firm light brown silty clay; frequent flint, pottery; extends 6m × 10m × >1.5m. Underlies (104). Same as (105) and (106)
INTERPRETATION	<i>Alluvial deposit with evidence of periodic colluviation and low-level human activity in W extent of Trench 1.</i>

12.2 Trench 2

CONTEXT	DESCRIPTION
(201)	Indurated grey coated concrete; extends >8m × >4m × 0.16m. Overlies (202) and (205)
INTERPRETATION	<i>C20 concrete floor surface within building</i>
(202)	Loose sand, gravel and industrial waste material; very frequent CBM; extends >8m × >3m × 0.4m. Underlies (201), overlies (203) and (204)
INTERPRETATION	<i>C19-C20 Made Ground containing demolition rubble</i>
(203)	Wall; oriented N-S; constructed from coursed, stack-bonded, cement mortared, unfrogged brick (materials measure 100mm × 65mm × 210mm); extends >8m × 0.21m × 0.4m. Underlies (202) and (205), overlies (206), contemporary with (204)
INTERPRETATION	<i>Foundation wall for late C19 laundry building on the site running across the centre of Trench 2</i>
(204)	Wall; oriented N-S; constructed from coursed, stack-bonded, cement-



	mortared, unfrogged brick (materials measure 100 × 65 × 210mm); extends >8m × 0.21m × 0.6m (extends 0.6m × 0.6m at piers). Underlies (202) and (205), overlies (206), contemporary with (203)
INTERPRETATION	<i>Foundation wall for late C19 laundry building on the site running across the E extent of Trench 2</i>
(205)	Loose yellowish sand and gravel; very frequent CBM; extends >8m × >0.9m × 0.4m. Underlies (201), overlies (203) and (204)
INTERPRETATION	<i>19-C20 Made Ground containing demolition rubble</i>
(206)	Indurated grey concrete; extends >8m × >4m × 0.19m. Underlies (203) and (204), overlies (214)
INTERPRETATION	<i>Late C19 floor surface/foundation pad for earlier building on the site</i>
(207)	Cohesive mid greyish-brown clayey silt, gravel and small stones; frequent charcoal flecking and CBM; extends >8m × >1.83m × 0.28m. Cut by [213], overlies (208)
INTERPRETATION	<i>Probable alluvial deposit with evidence of colluviation and human activity, filling uppermost level of watercourse [210]</i>
(208)	Compacted grey silty clay and chalk; pottery, bone and CBM; extends >8m × >1.71m × 0.48m. Underlies (207), overlies (211), (216) and (217)
INTERPRETATION	<i>Probable alluvial deposit with evidence of colluviation and human activity, filling uppermost level of watercourse [210]</i>
(209)	Cohesive mid brown silty clay; frequent chalk, flint nodules; very occasional pottery and animal bone; extends >4.5m × >1.58m × 0.57m. Cut by [210], overlies (221) and (223)
INTERPRETATION	<i>Possible alluvial deposit with evidence of colluvial deposition and human activity, cut by linear channel [210] and laid over the chalk surface (219) (220) and (225)</i>
[210]	Linear cut; oriented N-S; measuring >8m × >2.16m × 0.56m; break of slope (top) gentle though probably truncated, E side gentle to moderately sloping (W side not within trench), break of slope (base) and base not within trench. Underlies (218), overlies (209), truncated by (206), filled by (211) (216) and (217) and later (208)
INTERPRETATION	<i>Cut of channel partially within Trench 2, likely to be a feature identified on mapping from 1611 and probably medieval or early post-medieval in date</i>
(211)	Soft mid brown silt and peaty organic matter; occasional broken flint, bone and CBM; extends >2.8m × >1.65m by 0.43m. Underlies (208), overlies (218), same as (216) and (217)
INTERPRETATION	<i>Fill of water channel [210]; probably a natural build-up of silt and decomposed organic material over a long period</i>
(212)	Moderately compact mid grey clayey silt and flint nodules; moderate pottery, bone, oyster shell and possible worked flint; extends >1.93m × >1.64m × >0.3m. Underlies (219), same as (227)
INTERPRETATION	<i>Silt clay deposit underlying the chalk surface (219) identified in the N extent of Trench 2 but appearing to extend throughout the excavated area</i>
[213]	Rectangular cut; oriented N-S; measuring 0.8m × 0.7m × 0.5m; break of slope (top) sharp, sides vertical, break of slope (base) sharp, base flat. Filled by (214) and (215), cuts (207)
INTERPRETATION	<i>Cut of foundation pit for concrete base (214)</i>
(214)	Indurated light brownish-grey concrete; pebble inclusions; extends 0.8m × 0.7m × 0.3m. Underlies (206), overlies (215), fills [213]
INTERPRETATION	<i>Concrete base supporting late 19th century foundation pad (206)</i>



(215)	Loose light brown sand concrete and brick rubble; moderate late 19 th century pottery; extends 0.8m × 0.7m × 0.2m. Underlies (214), fills [213]
INTERPRETATION	<i>Primary fill of pit [213]</i>
(216)	Soft mid brown silt and peaty organic matter; occasional broken flint, pottery and bone; extends >2.33m × >2.4m × 0.26m. Underlies (208), overlies (218), same as (211) and (217)
INTERPRETATION	<i>Silty peat fill of [210] in the centre of Trench 2</i>
(217)	Soft mid brown silt and peaty organic matter; occasional broken flint and small stones; extends >2.07m × >2m × 0.33m. Underlies (208), overlies (218), same as (211) and (216)
INTERPRETATION	<i>Silty peat fill of [210] in the S extent of Trench 2</i>
(218)	Soft plastic light-mid grey chalky clay; 20-30% chalk flecking & very occasional pottery; extends >1.8m × >1.2m by 0.1m. Underlies (211), cut by [210]
INTERPRETATION	<i>Possible alluvial deposit with evidence of colluvial deposition and human activity, cut by linear channel [210] and overlying the chalk membrane (219) in the N extent of Trench 2</i>
(219)	Compact white/light grey chalk and clay; occasional flint; extends 3m × 1.8m × 0.1m. Underlies (225), overlies (212), same as (220) and (226)
INTERPRETATION	<i>A thin chalk surface constructed from crushed or puddled chalk in the N extent of Trench 2 but believed to be continuous throughout the excavated area</i>
(220)	Compact white/light grey chalk and clay; occasional flint; extends 2.5m × 3m (depth not determined). Underlies (225), overlies (212), same as (219) and (226)
INTERPRETATION	<i>Continuation of the chalk surface across the centre of Trench 2</i>
(221)	Loose mid greyish-brown, silty clay; occasional chalk, flint and CBM; extends 0.41m × 0.37m × 0.2m. Underlies (209), fills [222]
INTERPRETATION	<i>Fill of posthole [222] in N extent of Trench 2</i>
[222]	Square cut with rounded corners; oriented N-S; measuring 0.41m × 0.37m × 0.2m; break of slope (top) sharp, sides vertical, break of slope (base) gradual, base flat. Filled by (221), cuts (225)
INTERPRETATION	<i>Cut of posthole in the N extent of Trench 2</i>
(223)	Loose mid brown silty clay; occasional chalk and CBM; extends 0.27m × 0.32m × 0.26m. Underlies (209), fills [224]
INTERPRETATION	<i>Fill of posthole [224] in centre of Trench 2</i>
[224]	Oval cut; measuring 0.27m × 0.32m × 0.26m; break of slope (top) sharp, sides near vertical, break of slope (base) gentle, base concave. Filled by (223), cuts (225)
INTERPRETATION	<i>Cut of posthole in centre of Trench 2</i>
(225)	Compact white/light brown chalk and clay; occasional flint; extends 2.3m × 2m × 0.1m. Cut by [224] and [222], overlies (226)
INTERPRETATION	<i>Similar to chalk surface (226) and part of the same general spread but distinct in colour possibly representing a repair or addition</i>
(226)	Compact white/light grey chalk and clay; occasional flint; extends >1.13m × >1.9m (depth not determined). Underlies (225), overlies (212), same as (219) and (220)
INTERPRETATION	<i>Chalk surface in the S extent of Trench 2</i>
(227)	Moderately compact mid grey clayey silt and flint nodules; oyster shell; extends >1.18m × >0.66m × >0.3m. Underlies (226), same as (212)
INTERPRETATION	<i>Silt clay deposit underlying the chalk surface (226) identified in the S extent of Trench 2 but appearing to extend throughout the excavated area</i>



Appendix 2: Lithological Description of ARCA boreholes

BOREHOLE	TOP (M)	BASE (M)	LITHOLOGY	DESCRIPTION
BH1	0.00	0.09	Concrete	Concrete
	0.09	0.40	Angular gravel with modern artefacts	2.5 YR 4/4 Reddish-brown loose clayey granular gravel of frequent granular to pebble-sized angular concrete fragments. Sharp boundary to:
	0.40	0.45	Diamict with modern artefacts	2.5 Y 3/1 Very dark grey silt/clay, compact; frequent coarse sand-sized mineral grains; frequent granular-size; occasional pebble-sized sub-rounded flint and chalk. Diffuse boundary to:
	0.45	0.50	Grey homogeneous silt/clay	5 Y 4/1 Dark grey, compact silt/clay; occasional coarse sand-granular-sized grains of (?)brick, chalk and charcoal.
	0.50	2.27	Grey clay with sand and gravel	2.5 YR 4/1 Dark grey compact silt/clay; occasional to frequent sand and sub-rounded granular-sized chalk and angular flint clasts; occasional coarse pebble-sized angular flint, pebble-sized sub-rounded chalk; rare sub-rounded brick fragments. Rare granular sized charcoal fragments. Homogenous. Sharp boundary to:
	2.27	2.50	Matrix-supported gravel	2.5 7/1 Light grey compact clayey gravel of granular to pebble-sized sub-rounded chalk clasts and occasional angular flints. Poorly sorted. Unknown boundary to:
	2.50	2.80	Matrix-supported gravel	2.5 Y 6/2 Light brownish-grey, moderately-well sorted, fine sandy granular gravel of angular flints and sub-angular chalk clasts; occasional pebble-sized flint. Diffuse boundary to:
	2.80	2.89	Laminated fine sand and silt	2.5 Y 5/1 Grey, well sorted silt/fine sand. Three possible coarse laminae of coarser and lighter, and finer and darker grains. Sharp boundary to:
	2.89	3.17	Matrix-supported	2.5 Y 6/2 Light brownish-grey, moderately-well sorted, fine sandy granular gravel of angular flints and sub-



			gravel	angular chalk clasts; occasional pebble-sized flint. Diffuse boundary to:
	3.17	3.28	Laminated fine sand and silt	2.5 Y 5/1 Grey, well-sorted silt/fine sand. Diffuse boundary to:
	3.28	3.42	Matrix-supported gravel	2.5 Y 6/2 Light brownish-grey, moderately-well sorted, fine sandy granular gravel of angular flints and sub-angular chalk clasts; occasional pebble-sized flint. Diffuse boundary to:
	3.42	3.50	Laminated fine sand and silt	2.5 Y 5/1 Grey, well-sorted silt/fine sand. Unknown boundary to:
	3.50	3.71	Sand	2.5 Y 7/2 Light grey well-sorted medium sand; occasional granular-sized clasts of angular flint and sub-rounded chalk. Diffuse boundary to:
	3.71	3.94	Matrix-supported gravel	2.5 Y 7/2 Light grey, well-sorted granular gravel and coarse sand of angular flints and subangular to sub-rounded chalk clasts; sand component increases at the base. Diffuse boundary to:
	3.94	4.27	Laminated fine sand and silt	2.5 Y 5/1 Grey, well-sorted silt/fine sand; rare cobble-sized flint at the base. Sharp boundary to:
	4.27	4.40	Matrix-supported gravel	2.5 Y 6/2 Light brownish-grey, poorly sorted, fine sandy granular gravel of angular flints and sub-angular chalk clasts. Diffuse boundary to:
	4.40	4.50	Laminated fine sand and silt	2.5 Y 5/1 Grey, well-sorted silt/fine sand.
BH2	0.00	0.06	Concrete	Concrete
	0.06	0.11	Angular gravel with modern artefacts	2.5 YR 4/4 Reddish-brown loose clayey granular gravel of frequent granular to pebble-sized angular concrete fragments. Sharp boundary to:
	0.11	0.35	Diamict with modern artefacts	2.5 Y 4/2 Dark greyish-brown silt/clay; occasional coarse sand-sized iron stains; frequent granular to fine pebble-size subangular and sub-rounded chalk; occasional granular-sized charcoal and brick



				fragments, flint, glass and ceramics. Sharp boundary to:
	0.35	0.62	Chalk gravel	Chalk
	0.62	0.65	Angular gravel with modern artefacts	2.5 Y 7/2 Light grey chalk cobble and pebble-sized charcoal fragments. Poorly sorted. Sharp boundary to:
	0.65	0.77	Grey clay with sand and gravel	2.5 Y 3/1 Very dark grey, compact silt/clay; occasional coarse-medium sand; rare granular-sized chalk, brick and oyster shell fragments. Poorly sorted. Diffuse boundary to:
	0.77	2.56	Grey homogeneous silt/clay	5 Y 3/1 Dark grey silt/clay; rare to occasional coarse-medium sand; occasional granular to pebble-sized angular flint and chalk clasts; rare cobble -sized angular flints but becoming frequent towards the base. Sharp boundary to:
	2.56	2.62	No recover	Void.
	2.62	2.98	Grey homogeneous silt/clay	5 Y 3/1 Dark grey silt/clay; rare to occasional coarse-medium sand and occasional granular to pebble-sized angular flint and chalk clasts; frequent cobble-sized angular flints. Diffuse boundary to:
	2.98	4.00	Matrix-supported gravel	2.5 Y 7/2 Light grey, poorly sorted clayey/sandy gravel of granular to cobble -sized flint clasts; occasional to frequent coarse sand to granular-sized subangular chalk clasts. Becoming clast-supported below 3.5m. Sharp boundary to:
	4.00	4.06	Clast-supported gravel	2.5 Y 5/1 Grey clayey clast-supported gravel of poorly sorted granular to pebble-sized flints and granular-sized subangular chalk clasts. Diffuse boundary to:
	4.06	4.62	Clast-supported gravel	2.5 Y 7/2 Light grey clayey clast-supported gravel of poorly sorted granular to pebble-sized flints and granular sized subangular chalk clasts. Finer component in places winnowed, but reappears towards base.
BH3	0.00	0.04	Asphalt	Asphalt
	0.04	0.21	Concrete	Concrete. Sharp boundary to:



	0.21	0.38	Diamict with modern artefacts	2.5 YR 2.5/1 Black diamict of granular and pebble-sized cinders in coarse sand-silt matrix of cinders and ash. Sharp boundary to:
	0.38	0.51	Angular gravel with modern artefacts	5 YR 4/4 coarse diamict of granular and fine pebble-sized brick fragments in coarse and medium sand matrix. Nails and granular charcoal also present. Sharp boundary to:
	0.51	0.72	Grey clay with sand and gravel	2.5 Y 3/2 silt/clay; occasional to moderate granular-sized chalk and charcoal fragments. Moderately sorted.
	0.72	0.78	No recover	Void.
	0.78	2.20	Grey clay with sand and gravel	2.5 Y 4/1 Dark grey compact silt/clay; occasional fine to coarse sand-sized mineral grains, including flint, chalk and brick; frequent granular to small pebble-sized sub-rounded chalk and angular flint; rare granular-size charcoal, sub-rounded brick fragments. Occasional large pebble-sized angular flints. Homogeneous. Sharp boundary to:
	2.20	2.72	Matrix-supported gravel	10 YR 7/2 Light grey, compact, poorly-sorted clayey gravel of frequent granular-sized angular flint, sub-rounded chalk fragments and pebble-sized angular flint clasts.
BH4	0.00	0.03	Asphalt	Asphalt
	0.03	0.17	Concrete	Concrete. Sharp boundary to:
	0.17	0.24	Diamict with modern artefacts	2.5 YR 2.5/1 Black diamict of granular and pebble-sized cinders in coarse sand-silt matrix of cinders and ash. Sharp boundary to:
	0.24	0.47	Angular gravel with modern artefacts	5 YR 4/4 coarse diamict of granular and fine pebble-sized brick fragments in coarse and medium sand matrix. Nails and granular charcoal also present. Sharp boundary to:
	0.47	0.71	Diamict with modern artefacts	10 YR 3/2 silt/clay with frequent coarse sand-sized brick fragments and rare pebble-sized subangular flint clasts. Diffuse boundary to:
	0.71	0.89	Grey clay with sand and	2.5 Y 3/2 silt/clay; occasional to moderate granular-sized chalk and charcoal fragments. Moderately



			gravel	sorted.
	0.89	0.99	No recover	Void.
	0.99	1.58	Grey clay with sand and gravel	2.5 Y 4/1 Dark grey compact silt/clay; occasional fine to coarse sand-sized mineral grains, including flint, chalk and brick; frequent granular to small pebble-sized sub-rounded chalk and angular flint; rare granular-size charcoal, bone and sub-rounded flint.
	1.58	1.70	Peat	7.5 YR 2.5/1 Black –oxidizes from 7.5 YR 3/1 compact, well-humified peat; occasional fine sand-sized mineral grains and granular-sized plant fibres. Diffuse boundary to:
	1.70	2.74	Grey clay with sand and gravel	2.5 Y 3/1 Very dark grey, compact silt/clay; occasional fine to coarse sand-sized chalk and flint fragments; frequent granular-sized sub-rounded chalk and angular flint clasts; occasional large pebble-sized angular flint clasts; rare pebble-sized oyster
	2.74	2.81	Cultural layer	2.5 Y 2.5/1 Black silt/clay; frequent granular to pebble-sized charcoal fragments. Coring breaks >5cm x3cm sherd of a base with black exterior slip and red fabric. The charcoal was possibly in the vessel. A 1x0.5cm fragment of Samian ware was also recovered. Sharp boundary to:
	2.81	2.89	Matrix-supported gravel	10 YR 7/2 Light grey, compact, poorly sorted clayey gravel of frequent granular-sized angular flint, sub-rounded chalk fragments and pebble-sized angular flint clasts.
BH5	0.00	0.09	Concrete	Concrete. Sharp boundary to:
	0.09	0.13	Angular gravel with modern artefacts	Hardcore support to concrete. Matrix and clast-supported gravel of sub-angular to angular flint in fine sand-silt matrix. Sharp boundary to:
	0.13	0.43	Angular gravel with modern artefacts	7.5 YR 2/1 Black diamict of subangular pebble and granular-sized cinders; occasional boulder-pebble-sized subangular brick, textile etc. Sharp boundary to:



	0.43	0.54	Diamict with modern artefacts	7.5 YR 5/3 fine diamict of subangular and sub-rounded flint and brick pebbles and granules in a medium sand-silt matrix. Diffuse boundary to:
	0.54	0.90	Diamict with modern artefacts	10 YR 3/2 silt/clay with some medium fine sand; occasional granular-sized chalk clasts and granular-sized charcoal; moderate cobble and pebble-sized brick.
	0.90	0.94	No recover	Void.
	0.94	1.24	Grey clay with sand and gravel	2.5 Y 4/1 Dark grey compact silt/clay; occasional fine to coarse sand-sized flint, chalk and brick; frequent granular to small pebble-sized sub-rounded chalk and angular flint; rare granular-size charcoal and bone and sub-rounded brick fragments. Occasional coarse pebble sized angular flints. Homogeneous. <i>2x2cm sherd of grey coarse ware and crushed fragments recovered at 1.18m.</i> Sharp boundary to:
	1.24	1.33	Grey homogeneous silt/clay	2.5 Y 3/2 Very dark greyish-brown silt/clay. Well sorted. Sharp boundary to:
	1.33	1.61	Peat	7.5 YR 3/1 Very dark grey - oxidises to black – organic silt/clay; occasional to frequent granular-sized plant fibres. Black peat in top 2cm and colour changes gradually to 2.5 Y3 /2. Very dark greyish-brown towards the base. Rare pebble-sized angular
	1.61	2.23	Grey clay with sand and gravel	2.5 Y 3/1 Very dark grey, compact silt/clay; occasional fine sand-sized mineral grains and coarse sand-sized chalk and flint fragments; frequent granular-sized sub-rounded chalk and angular flint clasts; occasional large pebble-sized angular flint clasts. (Roman black slip ware recovered from this unit on site). Sharp boundary to:
	2.23	2.60	Matrix-supported gravel	2.5 Y 6/1 Grey clayey gravel of granular to pebble-sized angular flint clasts and rare cobbles; frequent coarse sand to granular-sized rounded chalk and angular flint clasts. Colour varies to 2.5 Y 4/1 Dark grey. Diffuse boundary to:
	2.60	2.90	Clast-supported	2.5 Y 7/1 Light grey, compact, clast-supported and poorly sorted clayey gravel of frequent granular-sized angular flint and sub-rounded chalk fragments and



			gravel	pebble-sized angular flint clasts.
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13. Appendix 3: Ceramic Assessment

Dr Jane Timby Mlfa

14.1 Introduction

The archaeological work at Hyde Laundry resulted in the recovery of 39 sherds of pottery weighing 475g; 40 pieces of ceramic building material (CBM) weighing 3,748g and a single small fragment of fired clay.

The finds include material of Roman, medieval and post-medieval date.

For the purposes of this assessment, the assemblage was briefly scanned to assess fabric, form and chronology and quantified by count and weight. Known traded Roman fabrics are coded using the National Roman fabric reference collection (Tomber and Dore 1998). For this report other wares are coded more generically.

Ceramic material was recovered from both Trench 1 and Trench 2, a total of 14 contexts. In addition, a small amount of material came from boreholes BH4 and BH5. The excavated assemblage, although small, was moderately well preserved with an overall average potsherd weight of 19.95g. If the borehole material is added to this, the average sherd weight drops to 12.2g. The more recent material was not, surprisingly, better preserved than the Roman. The quantity of sherds per context was thus very low and therefore not chronologically reliable. It is also likely that much of the material is residual.

In the following report, the pottery is described first, followed by the CBM. Table 1 provides a quantified summary of the complete assemblage. At this stage, no attempt has been made to tie the assemblage into any local fabric or form series or to look at other published assemblages from the locality.

14.2 Roman pottery

Eight sherds of Roman pottery were recovered from five contexts. These include five sherds of Samian, one sherd of New Forest colour-coated ware, a buff sandy ware and a grey sandy ware.

The high proportion of Samian in such a small group is noteworthy. The pieces comprise five sherds of Central Gaulish ware from Lezoux (LEZ SA) and one small chip of South Gaulish ware (La Graufesenque) (LGF SA). The former includes one sherd from a decorated bowl (Dragendorff type 37) and probable sherds from a dish (Drag. 18/31) and bowl (Drag. 38). The Lezoux sherds are likely to be 2nd-century products whilst the South Gaulish sherd is probably originally a 1st-century import.

The New Forest sherd (NFO CC) dates to the later Roman period whilst the other two sherds (GREY, BUFF) cannot be closely dated, other than likely Roman.

CONTEXT	TYPE	FABRIC/MATERIAL	FORM/TYPE	NO	WT	DATE
102	layer	CBM	glazed roof-tile	1	24	Med
102	layer	PMCHINA	dish	3	34	C18-20



102	layer	PMGLAZE	bodysherds	2	43	C19-20
102	layer	PMREF	flowerpot	1	12	C19-20
103	layer	LEZ SA	Drag 18/31	1	20	C2
103	layer	LEZ SA	Drag ?38	1	24	C2
103	layer	cbm	hypocaust	1	162	combed
106	deposit	BUFF	bodysherd	1	2	Roman
106	deposit	cbm	tegula	2	82	Roman
106	deposit	cbm	frags	13	46	no date
106	deposit	cbm	fragment	1	5	?
106	deposit	cbm	flat tile	1	92	Roman
106	deposit	cbm	vent?	1	77	Roman
107	deposit	LEZ SA	Drag 37	1	16	C2
107	deposit	NFO CC	bodysherd	1	5	late C3-C4
208	layer	cbm	rooftile	7	411	med/p-med
208	layer	cbm	tegula	1	395	Roman
208	layer	cbm	floortile?	1	574	??med
208	layer	cbm	pila/flat tile	1	1528	Roman
208	layer	cbm	tegula	1	12	Roman
208	layer	MEDSA	body	1	11	Med?
209	deposit	fclay	small lump	1	2	no date
209	deposit	LGF SA	chip	1	0.5	C1
211	water channel	stone		0	0	no date
211	water channel	CBM	brick(?)	1	207	med/p-med
211	water channel	CBM	roof-tile	1	11	med/p-med
212	layer	MEDFL	bodysherd	1	6	Med
215	pit 213	PMCHINA	body	1	36	C19-20
215	pit 213	PMESTW	body	1	72	C19-20
215	pit 213	PMGRE	body	1	115	C18-20
215	pit 213	PMSTW	body	1	19	C19-20
216	fill of 210	GREY	bodysherd	1	7	Roman
216	fill of 210	LEZ SA	chip	1	0.5	C2
218	occupation layer	MEDCA	jar rim	1	13	C12-14th
220	deposit	CBM	tegula	1	33	Roman
220	deposit	CBM	fragments	2	16	?
221	fill ph 222	CBM	(?)brick	2	26	P-med
223	fill ph 224	CBM	brick(?)	1	43	post-Roman
223	fill ph 224	CBM	roof-tile	1	6	post-Roman
us	us	MEDSA	bodysherd	1	3	Med
BH4	borehole	LEZ SA	chip	1	0.5	C2
BH4	borehole	BW	body/base	16	35	Roman
BH5	borehole	(?)mortar		0	0	nd
TOTAL				80	4226.5	

Fig 1: Tabulated results of ceramic assessment

14.3 Medieval

Four sherds of medieval date are present, including one jar-rim and three plain bodysherds. The sherds are three different fabrics, with one flint-tempered piece (MED FL), two grey sandy wares (MEDSA) and one with a calcareous temper (MEDCA).

One sherd was an unstratified find; the others came from deposits (208), (212) and (218).

14.4 Post-medieval

Ten post-medieval/modern sherds were recovered; four refined white-glazed earthenwares, one red earthenware probably flower-pot, two stonewares, one glazed red earthenware and two brown/cream glazed industrial wares. All are likely to date to the 19th century or later and all came from layer (102) and pit [213].

14.4 Ceramic building material

The bulk of the recovered assemblage comprises fragments of CBM. Whilst some of the smaller fragments are difficult to identify and thus date, the remainder includes both Roman and post-Roman pieces.

The Roman CBM includes examples of roofing tile (*tegula*) (106), (208) (220), flat tile or *pila* (208), (106), a piece of hypocaust with concentric combing (103) and one possible vent (106) showing the edge of a cutaway on the break.

The post-Roman finds include fragments of roof-tile, one with a peg-hole (208) (211), brick (211), (221) (223) and a complete unglazed floor-tile (208). One tile fragment from (102) has a green glaze.

A single very small lump of fired clay of indeterminate form, function and date came from (209).

14.6 Summary

Most of the recovered assemblage came from various layers or deposits. Finds were recovered from just four cut features. Feature [210]/(216) produced a small chip of 2nd-century Samian and a Roman grey ware. Finds of post-Roman CBM were recovered from postholes [222] and [224] and four sherds of post-medieval pottery came from pit [213].

The only other context which appears chronologically coherent is (107) with two Roman sherds but one of these is later Roman (NFO CC) and the other, a samian sherd, is earlier although could be curated. Two sherds are insufficient to give a confident date.

Core BH4 produced some 17 sherds of which 16 come from a well-fragmented single Roman vessel in black medium-fine sandy ware and a small chip of Lezoux Samian. Core BH5 produced a small fragment of what appears to be mortar.

The assemblage is entirely consistent with that to be expected from Winchester, which has seen a long history of occupation. The moderately high incidence of Samian might suggest a structure of higher status nearby but may simply be a quirk of the small sample.

On the basis of the small size of the assemblage and the mixed levels no further work is recommended unless further work is undertaken on the site.



14.7 Reference

Tomber, R, and Dore, J, 1998, *The National Roman fabric reference collection: a handbook*, Museum of London / English Heritage/ British Museum



14. Appendix 4: Evaluation of hand-collected vertebrate remains and shell

Alison Foster (Palaeoecology Research Services Report Ref. PRS 2011/31)

15.1 Introduction

A small quantity of hand-collected bone and a little marine shell was submitted to Palaeoecology Research Services Limited (PRS) Kingston upon Hull for an evaluation of its bioarchaeological potential.

15.2 Methods

15.2.1 Hand-collected shell

Marine shell identifications were made principally by reference to Hayward and Ryland (1995). The weights (in grams), numbers of fragments and maximum dimensions of shell of different *taxa* from each context were recorded (where determinable) and the minimum numbers of individuals (or individual valves for bivalve *taxa*) represented calculated where possible.

For oyster (*Ostrea edulis* L.) shell, additional notes were made (where possible) regarding numbers of left and right valves, evidence of having being opened using a knife or similar implement, measurability of the valves, damage from other marine *biota* (e.g. polychaete worms and dog whelks), encrustation by barnacles. Preservation was recorded using two, subjective, four-point scales for erosion and fragmentation—scale points were: 0—none apparent; 1—slight; 2—moderate; 3—high.

Nomenclature for marine shell follows Hayward and Ryland (1995).

15.2.2 Hand-collected vertebrate remains

All of the submitted material was examined and identified as closely as possible within the constraints of the evaluation. Subjective records were made of the state of preservation, colour of the fragments and the appearance of broken surfaces ('angularity'). Other information, such as fragment size, dog-gnawing, burning, butchery and fresh breaks, was noted where applicable.

Fragments were identified to species or species group using the PRS modern comparative reference collection and published works (Schmid 1972). The bones that could not be identified to species were described as the 'unidentified' fraction. Within this fraction, fragments were grouped into three categories: large mammal (assumed to be cattle, horse or large *cervid*), medium-sized mammal (assumed to be *caprine*, pig or small *cervid*) and completely unidentified.

15.3 Results

15.3.1 Hand-collected shell

The hand-collected shell recovered consisted of just two oyster valves (total weight 18.4g) from Context (212), a possible raised cambered surface and the earliest evidence for occupation at the site.

Preservation of the remains was poor, with considerable surface erosion and fragmentation, but 'side' could be determined for both of the oyster valves, with one left and one right valve recorded (the latter more a large fragment); the two did not appear to form a pair. Neither of the valves would be able to provide biometrical data beyond a simple maximum linear dimension. Evidence of the oysters having been opened using a knife or similar implement (as shown by characteristic damage to the shell margins) was noted on the left valve and perhaps also on the right (this possible evidence having been rendered inconclusive through deterioration of the shell in the ground and fresh breakage presumably caused during recovery). There was no evidence of damage or encrustation of the oyster valves by other marine *biota*.

Details of the recorded shell remains are summarised in Table 1.

15.3.2 Hand-collected vertebrate remains

Vertebrate remains were recovered from six deposits resulting in a small assemblage of 19 fragments. The majority of these were from the ((?)naturally accumulated) silty 'peat' fill of the water channel (Context 211=216=217). The colour of the bones from this organic deposit was a uniform dark brown and fragmentation was low, with several complete elements present. Condition, however, was variable; some remains were excellently preserved whereas a few were in poor condition, with severe flaking and recent breaks. This suggests that moisture levels within the deposit were inconsistent and may indicate a fluctuating water table. A *caprine* metacarpal and a fragment of cattle pelvis from (216) had crenulated edges, which can indicate gnawing by carnivores, but distinctive tooth-scoring was not apparent and this damage may therefore be unrelated to scavenging. The remaining bone consisted of occasional fragments derived on the whole from deposits interpreted as introduced material.

Remains of dog, horse, cattle and *caprines* (sheep/goat) were among the identified material, with no bones from either birds or wild mammals present. Only a few elements were wholly unidentified or categorised only by size, which reflects the low fragmentation of the assemblage. A cattle *humerus* from (216) had been chopped through the distal articulation and across the shaft, but this was the only firm evidence of butchery. No pathologies or scorch-marks were apparent on the material.

Four of the bones were measurable for the purposes of biometrical data analysis, all from (211) and (216). These included a dog *humerus* and *ulna*, possibly from the same animal, and a horse *femur*. A horse mandible from (211) was preserved intact with the incisors and a full set of permanent cheek teeth from the right side *in-situ*. The presence of the complete permanent dentition, in wear, indicates an animal at least three-and-a-half to four years old (Hillson 1986; Silver 1969). In addition, the smooth occlusal surface of the incisors would extend this to nine years old or more using traditional methods of age determination. However, ageing horses by attrition of the incisors has been shown to be unreliable when applied to modern horses of known age and can therefore only be used to provide a rough estimate (Muylle *et al.* 1996; Richardson *et al.* 1995). The vestigial, unerupted, canines indicated that the animal was probably female.

Details of the recorded vertebrate remains are presented by context in Table 2.

15.4 Discussion and statement of potential



The trace of oyster shell recovered almost certainly derives from human food waste but was too little to be of any further interpretative value.

The site produced a very small but generally well-preserved assemblage of vertebrate remains; the majority being recovered from the silty peat fill of a watercourse which also produced Roman pottery. The dark brown colour of the bones and low fragmentation was evidence of the excellent preservation conditions within this feature, although the deterioration of some of the material may indicate fluctuating water levels in some places and that unexcavated remains are therefore vulnerable to decay.

None of the bones showed conclusive evidence of carnivore gnawing, suggesting rapid incorporation into the deposit with limited access for scavenging animals.

Identified elements were exclusively of the main domestic mammals, including dog, horse, cattle and *caprine*, with no remains of birds or wild mammals. Fragmentation was low and four of the bones were measurable, although too few to provide data for any meaningful biometric analysis. One horse mandible with a complete permanent dentition provided a guide as to age-at-death for this animal.

15.5 Recommendations

No further study of the biological remains recovered from this site is recommended in isolation.

Some specific additional study of the bone may be of value if included as part of an analysis of the vertebrate assemblage from proposed further excavations at the site; the excellent condition of most of the vertebrate remains from the watercourse suggests that larger and more interpretatively valuable concentrations of bone may well be recovered.

15.6 Retention and disposal

All of the remains should be retained as part of the physical archive for the site.

15.7 Archive

All material is currently stored by Palaeoecology Research Services (Unit 4 National Industrial Estate Bontoft Avenue Kingston upon Hull), pending return to the excavator, along with paper and electronic records pertaining to the work described here.

15.8 Acknowledgements

The author is grateful to Sarah Ritchie, of Border Archaeology, for providing the material and the archaeological information.

15.9 References

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CN	Context type	Oyster valves									Notes	wt
		l	r	i	e	f	Meas	kn	fr	biota		
212	Possible raised cambered surface – earliest evidence for occupation	1	1	0	3	3	0	1/?2	1	0	Oyster valves to 60mm – not a pair; some mm-flakes of shell	18.4

Table 1: Hyde Laundry, Winchester, Hampshire: Hand-collected shell. Key: 'CN' = context number; 'l' = number of left (or lower) valves; 'r' = number of right (or upper) valves; 'i' = number of valves of indeterminate side; 'e' = erosion score for valves; 'f' = fragmentation score for valves; 'meas' = estimated number of valves intact enough to be measured; 'kn' = number of valves showing damage characteristic of the oyster having been opened using a knife or similar implement; 'fr' = number of valves showing fresh breakage; 'biota' = number of valves with evidence of damage or encrustation from/by other marine biota (e.g. polychaete worms, dog whelks, barnacles); 'wt' = total weight of shell (in grammes). Erosion and fragmentation scores were recorded, subjectively, as: 0 – none apparent; 1 – slight; 2 – moderate; 3 – high.

		Context						Total
Species		103	208	209	211	212	216	
<i>Canis</i> f. domestic	dog	-	-	-	-	-	2	2
<i>Equus</i> f. domestic	horse	1	-	-	3	-	1	5
<i>Bos</i> f. domestic	cattle	-	-	-	-	-	2	2
<i>Caprine</i>	sheep/goat	-	-	-	1	1	1	3



Large mammal		-	1	-	-	1	1	3
Medium-sized mammal		-	-	-	-		2	2
Unidentified mammal		-	-	1	-	-	1	2
TOTAL		1	1	1	4	2	10	19

Table 2: Hand-collected vertebrate remains by context



15. Appendix 5: Assessment of Flint Artefacts

Dr Randolph E. Donahue (University of Bradford)

Three flints, all fractured, were submitted to the University of Bradford for assessment as prehistoric objects. All three flints were obtained from context (212) interpreted as an occupation deposit underlying a rammed chalk surface; the flints are fractured and have substantial amounts of cortex on their dorsal surfaces, none of these pieces can be considered to be culturally derived.

Specimen 1 is derived from an extended section of a nodule, thus the cortex wraps around the flint. The margin of the fractured surface has fracture scars along almost all its length. The fracture scars are not systematic, but vary in shape and size. Some would have required substantial force to produce while others could have been caused by knocking around in gravel. The interior surfaces of the fracture scars vary in freshness, indicating that they vary in age. Specimen 1 measures 67.7mm long, 26.5mm wide and 23.8mm thick.

Specimen 2 is a heavily fractured flint which has large fracture scars on both the ventral and dorsal surfaces. There is no systematic patterning to the fracture scarring. The margins and some ridges display small fracture scars with similar characteristics as found on the margin of Specimen 1. There is a remnant cortex that extends throughout the stone. Specimen 2 measures 51.5mm long, 43.9mm wide and 23.8mm thick.

Specimen 3 is a split flint nodule. It is composed of high-quality flint with a thin cortex covering approximately half the dorsal surface. Initiated from one corner of the specimen are four long fracture scars that extend across much of the very convex dorsal face. There are three much smaller flake scars initiated from a projection at the distal end of the stone. The edges are severely bashed at these two locations and at a third corner, but the remainder of the edge shows very little fracture scarring, much less than Specimens 1 and 2. Specimen 3 measures 65.9mm long, 35.6mm wide and 22.9mm thick.



16. Appendix 6: Palaeoenvironmental Assessment

Lorne Elliott Archaeological Services University of Durham (Report Ref. 2703)

17.1 Summary

17.1.1 The project

This report presents the results of palaeoenvironmental assessment of six bulk samples, and an assessment of worked wood from (211), taken during archaeological works at the Hyde Laundry site.

The works were conducted by Archaeological Services Durham University.

17.1.2 Results

The assessment supports the historical documentary evidence that waterlogged conditions were once present at the site. The peat/organic silt deposits (104) and (211) comprised evidence of a damp meadow/grassland environment with areas of shallow ponds or marshes susceptible to flooding. The presence of pondweed and water-milfoil fruits in (211) also suggests that areas of permanently standing water occurred at the site. Low numbers of hemp seed recorded in (104) may represent cultivation of this crop for fibre or the occurrence of occasional weeds growing on nearby waste ground.

Little additional information is provided about the age or nature of the deposits, due to the absence of charred plant macrofossils from the samples, apart from a solitary indeterminate cereal grain in (209), although the faunal remains from (209) would correspond with the interpretation of this feature as an occupation layer.

17.1.3 Recommendations

No further analysis is required for the plant macrofossils, as the flots were scanned in their entirety and no additional information would be provided from an analysis. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

No further analysis is required for the wood; it should be allowed to air-dry slowly prior to archiving.

17.2 Project background

17.2.1 Objective

The objective of the scheme of works was to assess the palaeoenvironmental potential of the samples, establish the presence of suitable radiocarbon dating material and provide appropriate recommendations. The wood assessment was undertaken in order to identify evidence of worked features.

17.2.2 Dates

Samples were received by Archaeological Services Durham University on 14th June 2011. Assessment and report preparation was conducted between 8th and 15th July 2011.



17.2.3 Personnel

Palaeoenvironmental assessment and report preparation was undertaken by Lorne Elliott. Wood assessment was carried out by Jennifer Jones, wood identification was by Charlotte O'Brien and sample processing was by Carrie Drew.

17.2.4 Archive

The site code is **HLW11** for **Hyde Laundry Winchester, Hampshire, 2011**. The flots are currently held in the Environmental Laboratory at Archaeological Services Durham University. The small finds have been returned to Border Archaeology.

17.3 Palaeoenvironmental assessment

17.3.1 Methods

The bulk samples were manually floated and sieved through a 500µm mesh. The residues were examined for shells, fruit-stones, nutshells, charcoal, small bones, pottery sherds, flint and industrial residues and were scanned using a magnet for ferrous fragments. The flots were examined at up to × 60 magnification for charred and waterlogged plant macrofossil remains using a Leica MZ7.5 stereomicroscope. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services Durham University. Plant nomenclature follows Stace (1997). Habitat classification follows Preston *et al* (2002).

17.3.2 Results

All of the samples comprised small fragments of indeterminate unburnt and/or calcined animal bone. Apart from a sheep-/goat-sized tooth from (226), identifiable faunal remains were confined to the possible occupation layer (209). This small faunal assemblage included a sheep/goat horn-core and bones of bird (chicken-size), pig, frog/toad and shrew. Sherds of pottery were recorded in (106), (211) and (225) and small fragments of fired clay/CBM were present in (104) and (209). A fragment of shale bracelet occurred in (209), a tiny fragment of glass was present in (211) and context (106) contained a ferrous nail. Two fragments of possible worked flint were noted in (225), although the occurrence of occasional angular flint nodules from this context suggests that these are most likely natural fractures. Contexts (209) and (226) comprised an assortment of snails, probably representing modern intrusive material attracted to the chalk content of the deposits.

Small quantities of fragmented charcoal were noted in all of the samples. Identified charcoal included a fragment of vitrified hazel charcoal in (211) and a few fragments of hazel and oak in (226). Charred botanical remains were absent, with the exception of a poorly preserved and indeterminate cereal grain in (209). Waterlogged plant remains commonly occurred in the organic silt/peat deposits (104) and (211), largely comprising species typical of wet or damp ground. Of these remains, buttercup and sedges were the most abundant for both contexts. Other uncharred macrofossils in (104) included fruit-stones of elder, fruit-stones and thorns of bramble, seeds of fat-hen, fumitories, celery-leaved buttercup, bog-bean, hemlock, spike-rushes, nettle, hemp and water-plantain family. Context (211) comprised bur-reed fruit-stones in abundance and included seeds of yellow iris, nettle, crowfoot, pondweeds and water-milfoils, and a hazel nutshell fragment. The remaining samples contained low quantities of uncharred seeds, comprising almost entirely bramble and/or elder.

Material suitable for radiocarbon dating is available for contexts (209), (211), and (226). The results are presented in Table 1.

17.3.3 Discussion

The assessment supports the historical documentary evidence that waterlogged conditions were once present at the site. The peat/organic silt deposits (104) and (211) comprised the uncharred remains of sedges and buttercup in abundance, indicating a damp meadow/grassland environment. Uncharred seeds, such as spike-rushes, bog-bean and celery-leaved buttercup in (104) and the remains of yellow iris, crowfoot, bugle and branched bur-reeds in (211), reflect an area of shallow ponds or marshes susceptible to flooding. The presence of pondweed and water-milfoil fruits in (211) also suggests areas of permanently standing water at the site. Low numbers of hemp seed recorded in context (104) may represent cultivation of this crop for fibre or the occurrence of occasional weeds growing on nearby waste ground. The uncharred remains of elder and bramble fruit-stones and thorns and hazel nutshell possibly reflect areas of shady scrubland nearby.

Little additional information is provided about the age or nature of the deposits, due to the absence of charred plant macrofossils from the samples, apart from a solitary indeterminate cereal grain in (209), although the faunal remains from (209) would correspond with the interpretation of this feature as an occupation layer.

17.4 Worked wood assessment

17.4.1 Summary

A piece of, probably worked, wood from (211) was received in two joining pieces. The wood was 274mm long and 32mm in diameter, where intact. Both ends were damaged, one with a break across a natural bifurcation and the other an ancient break/damage. The wood was 'D'-sectioned for 185mm of its length from the bifurcated end. The slightly fresher colour of the flattened area of wood here suggests that this was recent damage.

17.4.2 Results

Evidence of only one possible cut-mark was observed, running diagonally across one side, towards the bifurcated end (*Plate 3*). This mark was too faint and abraded to identify the tool used but was probably evidence of deliberate conversion of the wood and not recent damage. The lack of bark on the surface of wood from a context with otherwise apparently naturally deposited material would suggest that this fragment was deliberately de-barked prior to conversion. The wood was identified as elm.





Plates 1 & 2: Plan and side views of wood



Plate 3: Detail showing tool mark

17.5 Recommendations

No further analysis is required for the plant macrofossils as the flots were scanned in their entirety and no additional information would be provided from an analysis. If additional work is undertaken at the site, the results of this assessment should be added to any further environmental data produced.

17.6 Sources

Preston, C. D., Pearman, D. A., & Dines, T. D., 2002, *New Atlas of the British and Irish Flora*, Oxford

Stace, C., 1997, *New Flora of the British Isles*, (2nd Edition), Cambridge



Table 1: Data from Palaeoenvironmental Assessment

Sample	1	2	3	4	5	8
Context	104	211	225	226	209	106
Feature	peat layer	peat layer	chalk fill	chalk fill	layer	layer
Material available for radiocarbon dating	-	✓	-	✓	✓	-
Volume processed (l)	4	20	14	17	17	19
Volume of flot (ml)	400	1200	50	15	25	30
Residue contents						
Bone (calcined) indet. frags	-	-	(+)	-	-	(+)
Bone (unburnt) indet. frags	+	+	+	+	++	+
Bone (unburnt) bird (chicken-size)	-	-	-	-	+	-
Bone (unburnt) frog/toad	-	-	-	-	+	-
Bone (unburnt) fish	(+)	(+)	-	-	+	-
Bone (unburnt) pig	-	-	-	-	+	-
Bone (unburnt) sheep/goat	-	-	-	-	+	-
Bone (unburnt) shrew	-	-	-	-	+	-
Charcoal	-	(+)	-	(+)	+	-
Flint (no. of fragments) ?worked	-	-	2	-	-	-
Fired clay / CBM	(+)	-	-	-	+	-
Glass (no. of fragments)	-	1	-	-	-	-
Nail Fe	-	-	-	-	-	1
Pot (no. of fragments)	-	1	1	-	-	18
Shale bracelet (no. of fragments)	-	-	-	-	1	-
Shell (marine) oyster	-	-	-	(+)	-	-
Tooth (no. of fragments) sheep/goat	-	-	-	1	-	-
Flot matrix						
Bone (unburnt)	(+)	-	-	-	+	-
Charcoal	(+)	-	(+)	+	+	(+)
Clinker / cinder	-	-	-	(+)	(+)	-
Insect / beetle	-	+	-	-	(+)	-
Organic material / Peat	+++	++++	-	-	-	-
Snail freshwater / terrestrial	-	-	(+)	++	+++	(+)
Uncharred seeds	+++	+++	+	+	+++	(+)
Vegetative material (uncharred)	+	-	++	-	-	++
Wood	+	++	-	-	+++	-
Charred remains (total count)						
(c) Cerealia indeterminate grain	-	-	-	-	1	-
Waterlogged remains (abundance)						
(a) <i>Chenopodium album</i> (Fat-hen) seed	1	-	-	-	-	-
(a) <i>Fumaria</i> sp (Fumitories) seed	1	-	-	-	-	-
(c) <i>Cannabis sativa</i> (Hemp) seed	1	-	-	-	-	-
(q) <i>Myriophyllum</i> sp (Water-milfoils) fruit	-	1	-	-	-	-
(q) <i>Potamogeton</i> sp (Pondweeds) fruit	-	3	-	-	-	-
(q) <i>Ranunculus</i> subgenus <i>Batrachium</i> (Crowfoots) achene	-	2	-	-	-	-
(r) <i>Urtica dioica</i> (Common Nettle) achene	1	2	-	-	-	-
(t) <i>Corylus avellana</i> (Hazel) nutshell fragment	-	1	-	-	-	-
(t) <i>Rubus fruticosus</i> agg. (Bramble) fruitstone	2	-	1	-	1	-
(t) <i>Rubus fruticosus</i> agg. (Bramble) thorn	2	-	-	-	-	-
(t) <i>Sambucus nigra</i> (Elder) fruitstone	4	-	2	2	4	1
(w) <i>Ajuga reptans</i> (Bugle) nutlet	-	3	-	-	-	-
(w) <i>Alismataceae</i> undiff. (Water-plantain family) embryo	1	-	-	-	-	-
(w) <i>Carex</i> sp (Sedges) biconvex nutlet	1	-	-	-	-	-
(w) <i>Carex</i> sp (Sedges) trigonous nutlet	4	3	1	-	-	-
(w) <i>Conium maculatum</i> (Hemlock) fruit	2	-	-	-	-	-
(w) <i>Eleocharis</i> sp (Spike-rushes) nutlet	2	-	-	-	-	-
(w) <i>Iris pseudacorus</i> (Yellow Iris) seed	-	2	-	-	-	-
(w) <i>Menyanthes trifoliata</i> (Bogbean) seed	2	-	-	-	-	-
(w) <i>Ranunculus sceleratus</i> (Celery-leaved Buttercup) achene	2	-	-	-	-	-
(w) <i>Sparganium erectum</i> (Branched Bur-reed) fruitstone	-	5	-	-	-	-
(x) <i>Ranunculus</i> subgenus <i>Ranunculus</i> (Buttercup) achene	5	5	-	-	-	-

[a: arable weed; c: cultivated plant; q: aquatic; r: ruderal; t: trees/shrubs; w: wet/damp ground; x: wide niche.
 (+): trace; +: rare; ++: occasional; +++: common; ++++: abundant
 Waterlogged remains are scored from 1-5 where 1: 1-2; 2: 3-10; 3: 11-40; 4: 41-200; 5: >200]



17. Appendix 7: Harris Matrices for Trench 1 and Trench 2

(101)
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(102)
|
(103)
|
(104)
|
(105)=(106)=(107)

(201)
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(202) [205]
|
(203) [204]
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(206)
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(214)
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(215)
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[213]
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(207)
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(208)
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(211)=(216)=(217)
|
(218)
|
[210]
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(209)
|
(223) [221]
| [222]
[224]
|
(225)
|
(219)=(220)=(226)
|
(212)=(227)



Document control

Job title	Archaeological Evaluation: Former Hyde Laundry Site Hyde Abbey Road Winchester	Job No	BA1105HLW
Report written by	Gerry Martin MA MIFA & Stephen Priestley MA		
Report edited by	George Children MA MIFA		
Issue No	Status	Date	Approved for issue
1	Final	July 2011	
Neil Shurety Dip M.GM Inst. M			