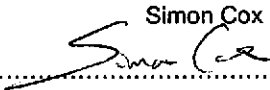


A325 FRITH END TO BUCKS HORN OAK
ALICE HOLT FOREST,
NEAR FARNHAM
HAMPSHIRE

VOLUME I:
TOPOGRAPHIC SURVEY AND
ARCHAEOLOGICAL EVALUATION

CA PROJECT: 1593
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SUMMARY

Site Name: A325 Frith End to Bucks Horn Oak
Location: Alice Holt Forest, Near Farnham, Surrey
NGR: SU 8080 3990 to SU 8069 4169
Type: Topographic Survey and Archaeological Evaluation
Date: 18-27 August 2003
Location of Archive: To be deposited with Hampshire County Museums Service
Accession no. A2003.48
Site Code: AHF 03
Scheduled Mon. No: County Monument No. 244

A programme of archaeological work was undertaken by Cotswold Archaeology in August 2003 at the request of ASI Heritage Consultants (on behalf of Hampshire County Council) on five discrete sites adjacent to the A325 between Frith End to Bucks Horn Oak. In compliance with an approved Written Scheme of Investigation a topographic survey was first undertaken within an area, (Site 1), of a statutorily-protected Scheduled Ancient Monument (county monument no. 244) within the Roman and later pottery production centre at Alice Holt forest. The topographic survey results informed the subsequent positioning of three evaluation trenches, numbered 9 to 11, within Site 1.

Trenches 9 and 10, within the southern part of Site 1, identified a sequence of well-preserved, complex and fragile deposits, 0.65-1.2m in thickness, associated with mid to late 1st-century AD and later pottery production. Set directly upon natural clays a metallised surface, possibly part of a drying shed or workshop, was overlain by a clay deposit possibly forming part of a kiln structure. Successive late 1st-century floors, and associated soil accumulations, were covered by 2nd and 3rd century deposits associated with a previously identified Romano-British pottery waster dump (AH 46; Lyne 1979). In excess of 27, 000 sherds of Roman pottery, dating from c. AD 50-270, were recovered.

Trench 11, within the northern part of Site 1, was sited close to a 4th-century waster dump (AH 68) but revealed no Romano-British deposits. A total of 937 residual pottery sherds, dating to c. AD 50-300, suggest a waster dump or kiln nearby. A post-medieval soil containing abundant brick may indicate a demolished structure in the site vicinity, which may have truncated part of the putative waster dump. Trenches 1 to 8, sited to the north of the scheduled area, revealed only a single worked flint, of late Neolithic or Bronze Age date, and an undiagnostic sherd of Roman grey-ware pottery.

1. INTRODUCTION

1.1 In August 2003 Cotswold Archaeology (CA) carried out a topographic survey and archaeological evaluation for ASI Heritage Consultants, on behalf of Hampshire County Council, alongside the Frith End to Bucks Horn Oak section of the A325 road near Farnham (between NGR: SU 8080 3990 and SU 8069 4169; Fig. 1). The survey and evaluation were undertaken within an archaeologically sensitive area of Alice Holt forest, part of which has statutory protection as a Scheduled Ancient Monument (county monument no. 244). Localised failure of the road embankment has occurred at five locations (Sites 1 to 5), where the A325 crosses existing streams and drainage ditches (Fig. 2) and the fieldwork was designed to provide archaeological information to assist in the design and management of proposed road maintenance works.

1.2 The topographic survey and evaluation were carried out in accordance with a specification for archaeological recording prepared by Mr Michael Heaton of ASI Heritage Consultants as archaeological advisor to Hampshire County Council (ASI 2003), and with subsequent detailed Written Scheme of Investigations produced by CA (2003b, 2003c) and approved by Mr Heaton. The fieldwork also followed the *Standard and Guidance for Archaeological Field Evaluation* issued by the Institute of Field Archaeologists (1999). The progress and quality of the evaluation was monitored both by Mr Heaton and by Mr Ian Wykes, County Archaeological Officer, Hampshire County Council, and included site visits on 19 and 27 August 2003. This volume contains an account of the survey and evaluation results: Volume II contains copies of site records and finds assessment sheets.

The site

1.3 Five areas adjacent to the A325 between Bucks Horn Oak and Frith End will be affected by proposed widening of the road embankment. Sites 1 to 5 are all situated towards the southern edge of Alice Holt forest, approximately 8km south of Farnham, and on the eastern side of the Blacknest tributary of the river Slea (Fig. 2). This section of the A325 has a discernible incline from north to south, with a ground level of approximately 108m AOD at Site 5 and 77m AOD at Site 1.

- 1.4 The underlying geology of the area is mapped as Lower Greensand and Upper Greensand with stiff Gault clay of the Cretaceous period (Institute of Geological Sciences, 1979). The Gault clays produce a thin poorly-drained gley soil unsuitable for agriculture.
- 1.5 Proposed maintenance works are focussed upon grass verges and areas of recent tree clearance immediately west and east of the carriageway, alongside established woodland managed by Forest Enterprises on behalf of the Forestry Commission.

Archaeological background

- 1.6 The archaeological and historical development of Alice Holt forest and its environs is known from a number of sources (Lyne 1976, 1978, Lyne and Jefferies 1979, Lyne 1998, Lyne forthcoming). An overview is also provided within an archaeological assessment document produced by ASI Heritage Consultants (ASI 2003). Reference should be made to these reports for more detailed archaeological information on the site and the wider locality, although the principal elements are summarised below.
- 1.7 Archaeological interest in the site arises from the known production centre of the Alice Holt/Farnham Roman pottery industry, and medieval and post-medieval potteries and forest management features, within the Alice Holt forest. Site 1 lies within Goose Green Inclosure, part of a Scheduled Ancient Monument (county monument no. 244; Fig. 2). Within the southern part of Alice Holt forest the complete range of features necessary to support pottery production are represented, including water-management features, thoroughfares, clay pits, building remains and waste dumps, making this one of the best preserved Romano-British pottery production centres in the country (ASI 2003, 3). Large scale production took place from about AD 60 to the fifth century AD, but may have been preceded by works on a smaller scale in the Iron Age and Claudian periods (Lyne and Jefferies 1979, 20, 37).
- 1.8 At least 79 waster dump sites, and 19 kiln sites, have been identified through previous excavation and survey work within the forest since the 1970s (Lyne and Jefferies 1979, 5-9). Proposed road improvements will affect part of the scheduled area falling between two pottery waster dumps, AH 45 and 68, previously identified by Malcolm Lyne. Waster dump AH 46, approximately 50m by 30m in size, lies

within the southern part of Site 1 and has previously yielded pottery of AD 60-270 date. A previous fluxgate gradiometer survey indicated at least four possible kilns on an east/west alignment running along the spine of dump AH 46. Waster dump AH 68, at least 15m by 15m in extent, lies within the northern section of Site 1 and has yielded pottery of AD 350-420 in date (Lyne and Jefferies 1979, 9-10).

Archaeological objectives

- 1.9 The objectives of the topographic survey and evaluation were to provide information on the date, character, quality, survival and extent of the archaeological deposits within the five areas of proposed maintenance works in order that an informed decision on their importance in a local, regional or national context could be made. This information is designed to inform subsequent mitigation measures that will seek to limit damage to significant remains, or alternatively provide a suitable recording strategy prior to the commencement of road maintenance works.

Methodology

Topographic Survey

- 1.10 A topographic survey was first undertaken across three 25m by 25m areas within the northern and southern sections of Site 1 (Fig. 2). These areas were surveyed using a Leica TCR 705 total station instrument, with onboard data logging for field data capture, supported by hand measurement and field notes. Survey areas 1 and 2 were subsequently linked to provide a more comprehensive topographic model within the northern part of Site 1. Final drawings were created using computer-based CAD and drawing software to produce a composite of surveyed data, superimposed on detail obtained from the OS base-map, and manually-recorded additional information (Figs 3 to 6). The survey data is available as a digital file, in dxf format, and with drawing layers in accordance with the ASI Heritage Consultants specification (EH, nd).

Archaeological Evaluation

- 1.11 The topographic survey results were used to inform the siting of three trenches within the northern and southern parts of Site 1, inside the Scheduled Ancient Monument at Goose Green Inclosure (part of county monument no. 244). A further two trenches were excavated at each of Sites 2 to 5 in locations determined by CA in consultation with ASI Heritage Consultants. The position of each trench was recorded digitally using the Leica TCR 705 total station instrument, enabling production of a location plan (Fig. 2) comparable in accuracy to the OS 1:1250 base map.
- 1.12 All trenches were 1m by 1m in size and were carefully hand-excavated to the top of the natural ground surface. An apparently homogeneous soil horizon in trenches 9 and 10, containing abundant pottery sherds, was excavated in controlled spits in order to try to discern any sequential development of this horizon (Fig. 7, Appendices 2 and 4). All excavations were fenced and signed as per the CA Health and Safety Plan (CA 2003c).
- 1.13 All archaeological features revealed were planned and recorded in accordance with Technical Manual 1: *Excavation Recording Manual* (CA 1996). Each context was recorded on pro-forma context sheets by written and measured description, with principal deposits recorded by means of drawn plans and sections at 1:10. Photographs (monochrome print, colour transparencies and digital images) were taken as appropriate.
- 1.14 All artefacts recovered were related to the context record and processed in accordance with CA Technical Manual 3: *Treatment of Finds Immediately After Excavation* (1995). All pottery was quantified by numbers of sherds and by their weight per fabric type, and rim and base sherds were selected as a sub-sample for assessment by Malcolm Lyne (see Appendix 2 and 5). Deposits were assessed for their palaeoenvironmental and palaeoeconomic potential and, where appropriate, sampled and processed in accordance with CA Technical Manual 2: *The Taking and Processing of Environmental and Other Samples from Archaeological Sites* (2003).
- 1.15 The archive and artefacts from the evaluation are currently held by CA at their offices in Kemble. Subject to the agreement of the legal landowner the site archive

(including artefacts) will be deposited with Hampshire County Museum Service under accession number A2003.48.

2. RESULTS

- 2.1 This section provides an overview of the topographic survey and evaluation results; detailed summaries of the recorded contexts, finds and environmental samples (biological evidence) are to be found in Appendices 1, 2 and 3 respectively. Tables showing the relative heights of the principal deposits within trenches 1-11, expressed as metres above Ordnance Datum (m AOD), and of relative heights for trenches 9-11, together with sherd counts and densities of recovered pottery, appear in Appendices 4 and 5 respectively.

Topographic Survey

Survey area 3 (Figs 2, 3 and 4)

- 2.2 The topographic survey recorded a raised area of ground, at least 20m in north/south extent (probably extending beyond the survey area to 35m north/south), and extending at least 25m west of the extant carriageway embankment. This earthwork correlates with the position of Roman waster dump AH 46, surveyed by Malcolm Lyne, originally assessed as being approximately 30m (north/south axis) by 50m (east/west axis) in size (Lyne and Jefferies 1979, 7; Fig. 2). Several small high spots upon, and immediately adjacent to, this raised strip of ground reflect extant tree boles.
- 2.3 The topographic survey results informed the siting of trenches 9 and 10 within the southern part of site 1. Trench 9 was positioned to examine the nature and thickness of deposits on the southern edge of waster dump AH 46, with trench 10 examining the stratigraphic sequence towards the northern periphery of the earthwork.

Survey areas 1 and 2 (Figs 5 and 6)

- 2.4 The topographic survey recorded a raised area of ground, at least 25m in width (north/south axis) and extending at least 25m (east/west axis) from the extant carriageway embankment, broadly correlating with the surveyed position of Roman waster dump AH 68 (Lyne and Jefferies 1979; Fig. 2). Examination of areas immediately adjacent to survey area 1 suggests that this feature is actually approximately 35m in width (north/south axis).

Archaeological Evaluation

- 2.5 Trenches 1 to 8 were located outside of the Scheduled Ancient Monument (SAM), and were designed to test for any archaeological deposits at Sites 2 to 5. Trenches 9, 10 and 11 were all positioned at Site 1 within the area of the SAM.
- 2.6 Trenches 9 and 10 targeted the central and southern areas of waster dump AH 46 as identified during the preceding topographic survey. Trench 11 examined a discernible ridge, revealed by the topographic survey, close to pottery waster dump AH 68 (Lyne 1979, 7-8) within the northernmost survey area.

Trenches 1 to 8 (Fig. 2)

- 2.7 The natural geological substrate of greensand (noted within trench 1) and yellow-brown Gault clay (within trenches 2 to 8) was revealed at the limit of excavation at depths of 0.1-0.3m below present ground level. In all cases the natural substrate was overlain by a root-disturbed clay subsoil, averaging 0.15m in thickness, and by 0.1m of humic topsoil. No archaeological features were encountered. A worked flint of later Neolithic or Bronze Age date was recovered from topsoil 401, and an undiagnostic sherd of Roman grey-ware pottery from subsoil 402, within trench 4 (Fig. 2).

Trench 9 (Figs 2 and 7)

- 2.8 Root-affected clays 904 were encountered at a depth of 0.63m below present ground level, and their natural origin was confirmed through hand-augering a further 0.3m.
- 2.9 Natural clays 904 were overlain within the northern half of the trench by a charcoal-flecked sandy-clay dump deposit 903. It is noteworthy that no pre-Roman soil horizon was present, indicating that ground clearance had occurred within this area prior to works associated with pottery production. Ashy spread 903 was overlain by a sandy-clay horizon 902, containing fired clay fragments, which sloped steeply from north to south. This sloping deposit appears to mark the southern edge of waster dump AH 46.
- 2.10 Dump layers 903 and 902 contained 315 sherds of Roman pottery dating to c. AD 50–80. Bulk samples were taken from deposits 902 and 903 to test for surviving palaeoeconomic or palaeoenvironmental material but each sample contained less than 1g of charcoal and single fragments, under 1g, of burnt animal bone.
- 2.11 Deposit 902 was sealed by a charcoal blackened soil 901, 0.3-0.5m in thickness, containing 4591 pottery sherds together with fired clay fragments. Careful excavation of 901 in controlled spits revealed a concentration of pottery of AD 80-90 date within lowest spits 6 to 9, and pottery sherds dating to no later than AD 270 from upper spits 1 to 5 (Fig. 7).

Trench 10 (Figs 2 and 7)

- 2.12 Natural yellow-brown clays 1011 were recorded at a depth of 1.20m below present ground level, and were again proven through hand-augering to 0.3m. No pre-Roman soil horizon was present, the natural clays instead being directly overlain by a smooth, level, metallated surface 1008 comprised of compact ashy clay-sand. Surface 1008 produced 269 pottery sherds of c. AD 60-70 date.
- 2.13 Floor 1008 was overlain by a compact, charcoal-flecked, yellow clay 1005 which produced 617 pottery sherds of c. AD 50-80 date. This deposit, varying from 0.5m to

0.01m in thickness, sloped in a south-eastward direction and may have been related to a kiln structure in the vicinity.

- 2.14 Clay deposit 1005 and floor 1008 were both overlain by a thin clay-sand accumulation 1006, yielding 1178 pottery sherds of c. AD 50-80 date together with charcoal and fired-clay fragments, which supported a surface 1007. Floor 1007 was in turn covered by a surface 1004 formed from pottery sherds set upon a compact clay deposit. A total of 1166 pottery sherds of c. AD 50-80 date were recovered from 1004. Floor 1004 rose gently from south to north within trench 10, following the profile of underlying clay deposit 1005.
- 2.15 Floor 1004 was sealed by an ashy soil 1003, containing 361 pottery sherds of c. AD 70-80 date, which was in turn covered by a discontinuous, root-disturbed, floor 1002 comprised of ashy gritty-sand. Surface 1002 produced 425 pottery sherds of c. AD 70-100 date. The edge of a steep-sided pit 1009, at least 0.5m in depth, was discernible cutting through the earlier floor deposits from this level or above. Its clay-sand fill 1010, indistinguishable from deposit 1001, appeared to include fragments from floor 1004. Once discernible, pit fill 1010 produced 12 sherds of c. AD 50-120 pottery from its lowest levels.
- 2.16 A 0.68m thick charcoal blackened soil 1001, containing 5790 2nd-century pottery sherds together with fired clay fragments, overlay floor 1002. This apparently homogenous deposit was carefully excavated in spits in order to define its depositional history, and yielded pottery wasters of AD 80-150 date from lower spits 8 and 9, and broadly 2nd-century pottery from upper spits 1 to 7. Soil 1001 appears to represent waster material dumped over an abandoned first-century AD production site.

Trench 11 (Figs 2 and 7)

- 2.17 Natural clays 1103 were encountered at a depth of 0.66m depth below present ground level. No pre-Roman soil horizon or Roman occupation deposits survived at this location. The natural clays 1103 were instead directly overlain by a silty-clay soil, 1102, containing abundant post-medieval/early modern brick, glass and china fragments. This may represent demolition debris from a previous structure in the site vicinity, and was overlain by topsoil 1101. A total of 937 residual Roman pottery

sherds, dating to the late 1st to early 3rd centuries AD, were recovered from later contexts and strongly suggests the presence of a kiln or waster dump nearby.

The Finds

- 2.18 A total of 27,960 sherds of pottery was recovered from trenches 9, 10 and 11, all of which, apart from two post-medieval sherds, are of 1st to early 3rd-century date. The material predominantly derives from dumped kiln waste and the condition is extremely varied. Overt signs of misfiring are relatively rare but include blistering, 'spalling' and distortion. There are no complete or even substantially complete vessels and average sherd weight is low, with much of the pottery abraded, suggesting breakage through some form of mechanical action prior to deposition. A detailed discussion of the pottery assemblage can be found in Appendix 2. Two burnt fragments of Roman tegula roof tile were found in soil 1001, spit 5, but the quantities are too small to indicate that production was carried out in the immediate vicinity. Tile may have been incorporated into the structure of kilns themselves as flue covers or within the chamber as impromptu furniture.
- 2.19 A single 'rim' fragment of fired clay from floor 1004 probably represents a pot-stand of simple ring, or possibly footed, form. Similar coil-built pot stands were recovered during Lyne's 1977-79 excavations (Lyne forthcoming) and were believed to date to the late 1st to mid 2nd century. A total of 620 fragments of fired clay was recovered from trenches 9-11. Most, if not all, of this material represents fragments of kiln lining (see Appendix 2).
- 2.20 No animal bone was encountered during the evaluation, with the exception of minute burnt fragments recovered from environmental samples, perhaps reflecting the acidity of soils in forest conditions, and/or a general paucity of such material on an essentially industrial site.
- 2.21 A single Roman nail was recovered from soil 1001, spit 4.

The Biological Evidence

2.22 Bulk soil samples were taken from a range of contexts within trenches 9 and 10 in order to assess whether material suitable for palaeo-environmental or palaeo-economic reconstruction was present, and to gauge the level of preservation of any such material. The five samples consisted of two 10 litre samples taken from dump deposits 902 and 903 in trench 9, together with one 10 litre sample from primary ?drying shed or workshop floor 1008, and two 10 litre samples from soils 1003 and 1006 (directly above floor 1004 and ?kiln structure 1005 respectively) within trench 10.

2.23 All five samples yielded minute quantities (less than 1g per sample) of charcoal and burnt animal bone. Charred plant remains, in the form of two carbonised seeds, were present within deposit 1003, directly above floor 1004. This small assemblage identifies a potential for the preservation of further biological remains within Roman deposits at Site 1. The quantities recovered were deemed too small, however, to allow an estimation of the likely quantities of biological material that might be present across the site. It should be noted that surviving charred plant remains on Site 1 may have been repeatedly reworked, with residuality of such material being a potential problem.

3. DISCUSSION

3.1 The topographic survey and subsequent evaluation further clarify the character and extent of archaeological deposits across the areas of proposed road maintenance at Sites 1 to 5.

Prehistoric

3.2 Despite evidence of prehistoric activity concentrated around the Slea valley (ASI 2003, 7-8) there were no features or artefact concentrations to indicate prehistoric settlement within sites 1 to 5. A single worked flint of late Neolithic or Bronze Age date was recovered from topsoil 401 in trench 4 (Site 3).

Roman

- 3.3 No Romano-British features or artefact concentrations were encountered within trenches 1 to 8 (Sites 2 to 5), confirming the general accuracy of Lyne's previous survey work which identified no kiln sites or waster dumps within the area north of the Scheduled Ancient Monument (Lyne and Jefferies 1979, 4; Fig. 2). A single, undiagnostic, Roman grey ware sherd was recovered from subsoil 402 in trench 4 at Site 3. A walkover survey undertaken at the time of the preceding archaeological assessment identified no surface scatters of pottery from Sites 2 to 5, nor were any archaeological discoveries reported during straightening of drainage channels alongside the A325 or during development works around Bucks Horn Oak at the northern edge of the forest (ASI 2003).
- 3.4 The evaluation has revealed complex and well-preserved Roman structural remains within trenches 9 and 10 in the southern half of Site 1. No pre-Roman soil horizon was encountered and it appears that at least parts of the site were stripped to natural clays prior to construction works associated with pottery production. The earliest structure identified was a floor 1008, perhaps associated with a workshop or drying shed, which appears to have been built c. AD 50-80. A sloping deposit of compact clay 1005, set upon primary floor 1008, conceivably marks the outer edge of an associated kiln, and a similar arrangement with a rebuilt kiln set upon successive drying shed floors was previously noted in the area of waster dump AH 52 (Lyne forthcoming).
- 3.5 The tentative identification of a kiln structure in trench 10 correlates with the results of a previous gradiometer survey which appears to have identified four kilns in the vicinity of waster dump AH 46 (Lyne and Jefferies 1979, 7). Three further floors within trench 10 all appear to date to c. AD 60-80 and also suggest the presence of a workshop, drying shed or other structural focus associated with 1st century AD pottery production. Eventual abandonment of this particular production site was indicated by the cutting of pit 1009 through, and by the dumping of waste pottery of c. AD 80-270 date over, the earlier floor levels.

Medieval and post-medieval

- 3.6 The evaluation has revealed no medieval deposits or artefacts despite the proximity of known medieval pottery production sites in Goose Green Inclosure and at other

sites nearby, and despite a possible medieval date for the boundaries of the principal woodland enclosures. Post-medieval activity is, however, attested from probable demolition debris, including abundant fragmentary brick, within trench 11 in the northern half of Site 1 (Fig. 8). Post-medieval brickworks are known to lie south of site 1 at Frithend (ASI 2003).

Preservation

3.7 The evaluation has confirmed the presence of extensive, well-preserved and securely-dated deposits associated with Roman pottery production, including structural remains of probable working floors and a possible kiln. Some of these deposits, particularly the uppermost friable ash-rich soils, can be considered to be fragile but their preservation is nonetheless good, woodland cover at Alice Holt having prevented damage to the archaeology from ploughing or development. Tree roots were noted throughout the charcoal blackened soils of the waster dump deposits in trenches 9 and 10, but there was relatively little root penetration into underlying structural remains.

3.8 In terms of artefactual preservation both pottery and fired clay fragments survive in varying conditions with much of the assemblage being small and abraded. No animal bone was found during the evaluation, apart from a small number of minute burnt fragments recovered within environmental samples, suggesting that soil conditions are not generally conducive to their preservation. The evaluation has demonstrated that, as often found on Roman pottery sites (EH 2003), charcoal and charred plant remains do survive, although the fragments were too small to identify wood species or tree age and may be reworked and residual in nature. Larger charcoal and charred plant fragments might survive on site, however, and palaeo-environmental material might be recoverable from any infilled kilns, ponds or pits on the site.

Significance

Local and regional context

3.9 The known waster dumps, AH 46 and AH 68, within Site 1 are only two of at least 82 possible, and 79 certain, waster dumps recorded from a 2km by 3km area within the overall production centre. Of these only a fraction have been systematically

examined, none are fully quantified, and of those published most relate to the period AD 270-400. The probable working floors, possible kiln structure and waster deposits found in trenches 9 and 10, dating from the mid to late 1st century onwards, form part of a group of at least 19 waster dumps dating from AD 60–150. In addition 49 waster dumps are recorded as being of pre AD 270 origin (Lyne and Jefferies 1979, 5-9).

- 3.10 Should clay dump 1005 represent the surround to a kiln it would be very significant: all of the early Alice Holt kilns examined to date were on waster dumps AH5 and AH52 and were ephemeral, surface built La Tene III type single-flued updraught types totally different to the substantial 3rd and 4th-century double-flued updraught kilns associated with the later industry.
- 3.11 The pottery assemblage recovered represents one of very few discrete assemblages at the site datable to the earlier phase of pottery production (before c. AD 270). Of particular interest are the well stratified deposits, including probable floor surfaces, from contexts 1002 to 1008, which seemingly indicate pottery production starting c. AD 60-70.
- 3.12 The well-preserved features and large artefactual assemblage recovered during the evaluation, although forming only a small part of the extensive pottery production centre at Alice Holt forest, can together thus be considered to be of high local and regional significance.

National context

- 3.13 The Roman potteries within Alice Holt Forest appear to be well preserved, and the area serves as a 'type site' for a Romano-British industrial complex. The longevity of production attested to at Alice Holt, running from the Pre-Flavian period into the 5th century AD, is also highly unusual.
- 3.14 Kiln assemblages are recognised as being of exceptional importance for the study of Roman pottery (SGRP 1997, 14). The study of kilns and kiln products represents the most effective means of establishing chronology for ware types and facilitating the dating of material traded to consumption sites. Additionally such sites provide a wealth of information on technology, the longevity of traditions and the levels of organisation/infrastructure required for pottery production.

- 3.15 The kilns at Alice Holt/Farnham are known to have been a major supplier to the London region and, particularly from c. 270 AD, to the whole of central southern England. Existing (typological) chronologies are based on a survey by Lyne and Jefferies (1979) and an alternative view (of some types) using data from the small town at Neatham (Millet 1979). Lyne's 1974 and 1977-9 excavations are as yet unpublished, although it is hoped that these will soon appear in the *Journal of Roman pottery studies*.
- 3.16 In national terms the importance of the site at Alice Holt is increased by the high quality of preservation of the site (confirmed in the latest investigations), the result of protection from agriculture and development by woodland cover.

Potential

- 3.17 Despite the huge volume of pottery recovered from waster dump deposits 901 and 1001 the assemblage has a restricted value in terms of analysis, no new forms having been identified and material of comparable date and form appearing in the published survey (Lyne and Jefferies 1979, AH 5, 20-33). The quantitative data, produced ahead of this assessment, will, however, provide a useful addition to our knowledge of the site, particularly as it derives from a well-defined area of measurable volume.
- 3.18 Analysis potential is likely to be considerably greater in the event of a larger area being opened for investigation. Further investigation of the area around AH46 may allow the plans of any buildings and/or kilns to be recovered, and could also furnish several consecutive assemblages large enough for quantification by Estimated Vessel Equivalents (EVEs) based on rim and base sherds (Orton 1975). Such analysis would provide valuable data regarding patterns of pottery production during the early Roman period, which might be compared with the findings from broadly contemporary waster dump AH 52 (Lyne forthcoming), as well as from contemporary consumption sites in the area. A single section of coiled pot-stand is the only fragment of kiln furniture found, and is small and unexceptional in form and function. Larger quantities of kiln furniture would almost certainly be forthcoming should further excavation take place, and would permit comparison with material from other known kiln groups, particularly AH 54, and add to our knowledge of technological

aspects of pottery manufacture. No moulds, iron tools or burnishing stones were recovered although these can occasionally be found on pottery sites (EH 2003) and it should be stressed that the absence of potter's tools and other accoutrements from the small areas sampled to date does not preclude their occurrence.

- 3.19 Using as a baseline the quantities of material from trenches 9 and 10, it seems further work carried out in this area would undoubtedly encounter vast quantities of pottery (see *Quantification* below; Appendix 5). This will present great difficulties in collection and management, and previous research documents covering Roman pottery studies (Fulford and Huddleston 1991; SGRP 1997) recognise the practical difficulties behind excavation of kiln sites and urge a pragmatic approach to sampling. Likely minimum recording criteria for further excavations would be Estimated Vessel Equivalence, which would require retrieval of rim and base sherds.

Site Comparisons

- 3.20 The most valuable comparisons in terms of technology and output will be other Alice Holt waster dumps, particularly the broadly contemporary AH 5 and AH 52 sites (Lyne and Jefferies 1979; Lyne forthcoming). If, as seems likely, kiln structures and additional quantities of kiln furniture are forthcoming, useful comparisons can also be made with 1st to 2nd-century kiln sites from the region (Swan 1984, 2.309-49/5.623-8). Further comparative research regarding the products from these sites may also shed new light on the earliest origins of the Alice Holt industry.
- 3.21 Limited evidence for the nature of pottery manufacture and associated structures already exists from previous investigations at Alice Holt. Evidence for buildings and a probable emplacement for a potter's wheel (a flagon neck set into the ground) are known from Lyne's excavations at AH 52 (Lyne forthcoming). Lyne's excavations seemed to indicate that at least in one instance, a kiln structure lay within the confines of a building and was stoked from the outside.
- 3.22 Wider comparisons concerning the character of the production area and supporting 'infrastructure', including workshops and drying ovens, could be made with a number of sites (Swan 1984, 43-42). Of particular value for comparison, in terms of the projected scale of the industry and level of organisation required, are Churchill Hospital, Oxford (Young 1977, 24-26) and sites in the Lower Nene Valley (Perrin,

1999; Wild 1973, 136-7). Both have produced evidence for workshop buildings and other structures including stone lined chests or troughs for clay storage.

Quantification

- 3.23 It is possible at this stage to give only a very general indication of the potential volumes of archaeological deposits which might be affected by maintenance works, since detailed information on proposed groundworks is not currently available and the full dimensions of waster dumps 46 and 68 can only be estimated from the topographic survey and evaluation results. Estimated volumes of archaeological deposits, and quantities of artefacts, which might be revealed by proposed maintenance works are based on the results of the topographic survey, site inspection and quantified artefacts (see Appendices 2 and 5).
- 3.24 The following estimate for the southern part of Site 1 assumes a maximum 10m wide impact area for all groundworks west of the carriageway, focuses solely upon the approximately 35m width (north/south axis) of waster dump AH 46, and assumes the total removal of the approximately 1.5m thickness of archaeological deposits beside the A325 as indicated both by the CA evaluation and by Malcolm Lyne's previous work on the site. Based on these assumptions approximately 525 cubic metres of stratigraphy might be affected within the southern half of Site 1.
- 3.25 The average of the pottery counts from trenches 9 and 10 suggests that approximately 12,800 pot sherds might be present per cubic metre of stratigraphy, suggesting at least 6,750,000 sherds might be present within this potential area of impact together with fired clay fragments (kiln lining and furniture) and other artefacts and palaeo-environmental material. Since the calculation of pottery counts per cubic metre includes counts from the very southern edge of waster dump 46, and higher densities of pottery may occur within the centre of the spread, it is possible that the figure of 6,750,000 sherds could fall below the true figure.
- 3.26 The estimate for the northern part of Site 1 also assumes a maximum 10m width for any groundworks west of the carriageway. Previous investigation of this waster dump area, AH 68, by Malcolm Lyne suggested that it was approximately 15m by 15m in area. The CA topographic survey suggests that the earthwork extends across the full 25m survey, and site inspection suggests that its maximum width

(north/south axis) is approximately 35m closest to the road frontage. The following estimate assumes that any mitigation measures are focussed solely upon this area and again assumes the total removal of approximately 1m of archaeological deposits as indicated by Malcolm Lyne's previous work on the site. It should be noted, however, that trench 11 revealed only a 0.6m thickness of post-medieval/early modern stratigraphy and that waster dump AH 68 may have been damaged and partly removed by post-medieval or modern landscaping or construction works. Based on these assumptions however approximately 350 cubic metres of stratigraphy might be affected by maintenance works within the northern half of Site 1.

- 3.27 Residual Roman pottery from trench 11 suggests that approximately 1500 pottery sherds might be present per cubic metre of stratigraphy, suggesting over 550,000 sherds might be present within this potential area of impact together with fired clay fragments, other artefacts and palaeo-environmental material. However, should areas of intact waster dump AH 68 survive nearby, it is likely to contain densities of pottery similar to those from trenches 9 and 10.
- 3.28 The above estimates suggest that approximately 875 cubic metres of archaeological stratigraphy might be affected by proposed road maintenance works, and that at least eight million, and potentially far more, pottery sherds might be present along with large amounts of fired clay, and other artefactual and palaeo-environmental material. These figures are provided only as rough estimations and it must be stressed that quantities of artefacts may be either far higher, or considerably lower if there has been localised disturbance to waster dumps from construction and repair of the road, tree growth and removal, post-1857 drainage works or from other activities (as seen in trench 11).

Development Impact

- 3.29 Should the proposed development proceed an adequate mitigation strategy would need to be formulated to preserve by record any archaeological features which cannot be preserved *in situ*.
- 3.30 It is understood that proposed maintenance works will involve widening the embankments at Sites 1 to 5, removing compressible humic soils to formation levels to retain the widened road bed, excavating flanking drainage ditches and extending

culverts to new headwalls outside of the embankments. Works are also likely to involve some removal of deposits prior to construction of temporary access routes and hard standings for plant. Any proposed works within the Scheduled Ancient Monument at Site 1 (part of county monument no. 244) would require Scheduled Monument Consent, whilst mitigation action may also be required within areas further north in accordance with local and county planning policies (ASI 2003).

4. CA PROJECT TEAM

The topographic survey was undertaken by David Kenyon, assisted by Ben Samphire, and the evaluation by Alistair Barber assisted by Kevin Colls, Ben Samphire and Nick Witchell. The report was written by Alistair Barber. The illustrations were prepared by Pete Moore. The archive has been compiled by Alistair Barber, and prepared for deposition by Ed McSloy. The project was managed for CA by Simon Cox and Neil Holbrook.

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APPENDIX 1: CONTEXT DESCRIPTIONS

Trench 1

101	Leaf litter, leaf mould and grey-brown humic-clay topsoil: 0.10m in thickness
102	Subsoil: root-affected yellow-brown clay soil: 0.08m in thickness
103	Natural geological substrate: root-affected yellow-brown clay at 0.18m depth

Trench 2

201	Leaf litter, leaf mould and topsoil: 0.15m in thickness
202	Subsoil: root-affected yellow-brown clay soil: 0.15m in thickness
203	Natural geological substrate: root-affected yellow-brown clay at 0.3m depth

Trench 3

301	Leaf litter, leaf mould and topsoil: 0.05m in thickness
302	Subsoil: root-affected yellow-brown clay soil: 0.15m in thickness
303	Natural geological substrate: root-affected yellow-brown clay at 0.2m depth

Trench 4

401	Leaf litter, leaf mould and topsoil: 0.07 m in thickness
402	Subsoil: root-affected yellow-brown clay soil: 0.17m in thickness
403	Natural geological substrate: root-affected yellow-brown clay at 0.24m depth

Trench 5

501	Leaf litter, leaf mould and topsoil: 0.07m in thickness
502	Subsoil: root-affected yellow-brown clay soil: 0.18m in thickness
503	Natural geological substrate: root-affected yellow-brown clay at 0.25m depth

Trench 6

601	Leaf litter, leaf mould and grey-brown humic-clay topsoil: 0.15m in thickness.
602	Subsoil: root-affected yellow-brown clay soil: 0.12m in thickness
603	Natural geological substrate: root-affected yellow-brown clay at 0.27m depth

Trench 7

701	Leaf litter, leaf mould and grey-brown humic-clay topsoil: 0.10m in thickness
702	Subsoil: root-affected yellow-brown clay soil: 0.10m in thickness
703	Natural geological substrate: root-affected yellow-brown clay at 0.20m depth

Trench 8

801	Leaf litter, leaf mould and grey-brown humic-clay topsoil: 0.05m in thickness
802	Subsoil: root-affected yellow-brown clay soil: 0.05m in thickness
803	Natural geological substrate: root-affected yellow-brown clay at 0.10m depth

Trench 9

901	Leaf mould and mid-grey sandy-clay: 0.52m in thickness
902	Mid grey sandy-clay: 0.22m in thickness
903	Mid to dark grey sandy-clay: 0.10m in thickness
904	Natural geological substrate: root-affected yellow-brown clay at 0.84m depth

Trench 10

1001	Leaf mould and grey-brown humic-clay topsoil: approximately 0.60m in thickness
1002	?floor surface. Dark grey-brown gritty-sand with abundant pot sherds: 0.04m in thickness
1003	Soil accumulation over ?floor 1004. Dark grey-brown humic-sand with abundant pot sherds: 0.08m in thickness
1004	? floor surface. Yellow-brown sandy-clay with surface covering of pot sherds: 0.08m in thickness
1005	? kiln superstructure. Orange-brown sandy-clay with sparse black and red mottling: 0.51m maximum thickness, 0.01m minimum thickness
1006	Soil accumulation over ?floor 1008. Grey-brown clayey-sand containing ash and fired clay flecks: 0.10m in thickness
1007	?floor surface. Grey-brown clay-sand with abundant pot sherds: 0.05m in thickness
1008	?floor surface. Dark grey to black ashy clay-sand: 0.09m in thickness
1009	Pit cut, not fully exposed but at least 0.50m in depth
1010	Fill of pit 1009. Dark grey to black ashy clay-sand: at least 0.50m in depth
1011	Natural geological substrate: root-affected yellow-brown clay at 1.2m depth

Trench 11

1101	Leaf mould and grey-brown humic-clay topsoil: 0.27m in thickness.
1102	Sandy-clay soil with abundant fragmentary brick: 0.16m in thickness.
1103	Natural geological substrate: root-affected yellow-brown clay at 0.66m depth

APPENDIX 2: THE POTTERY

By Malcolm Lyne

Introduction

The three trenches yielded a total of 27,960 sherds (164kg) of pottery, all of which, apart from two pieces from post-medieval vessels, are of first to early third-century Roman date. Trench 4 produced a single sherd (3g). Trench 9 on the southern edge of waster dump AH 46 yielded 4906 sherds (23kg), Trench 10 on the dump itself 21,735 sherds (135kg) and Trench 11 to the north of the stream with pond-bays produced 944 sherds (3.7kg) of pottery: a further 374 sherds (2kg) of unstratified material were also retrieved.

Condition

As might be expected of material predominantly derived from dumped kiln waster material, the condition of the pottery is extremely varied, though generally stable. A substantial proportion of the pottery is characterised by discoloured (orange or red) surfaces due to overfiring in the kiln or subsequent 're-firing'. Overt signs of mis-firing are relatively rare, but include blistering, 'spalling' and distortion.

There are no complete or even substantially complete vessels and a significant proportion of the recovered material is made up of small (approx 1-4cm) body sherds. Accordingly average sherd weight (table 1), is on the low side, particularly for spit-excavated upper layers. Occurrence of abrasion very variable (see discussion), however the most comminuted material appears in accumulation 1006 and upper spits of 1001/901. The low average sherd weight suggests that much of the pottery is well broken-up, most likely due to some form of mechanical process. The apparent chronological integrity of pottery within the excavated sequence (see below), would however appear to suggest that the pottery condition is the result of actions at the time of deposition rather than over a long period of time subsequent to this.

Trench	Context	Mean sherd weight
-	Unstratified	4.5g
4	402	3g
9	900	2.9g
	901(spits 1-9)	4.7g
	902	7.9g
	903	5.2g
10	1001 (spits 1-9)	6.1g
	1002	10.4g
	1003	5.6g
	1004	6.1g
	1005	6.4g
	1006	5.5g
	1008	6.1g
1010	11.3g	
11	1101	4.6g
	1102	4.5g

Table 1: average sherd weight per context

Methodology

All of the assemblages were quantified by numbers of sherds and their weights per fabric. These fabrics are those formulated in an earlier publication on the Alice Holt Roman potteries (Lyne and Jefferies 1979) and were identified using a x8 magnification lens with inbuilt metric scale in order to determine the natures, forms, sizes and frequencies of added inclusions.

The Assemblages

Trench 9

The earliest occupation horizon (ashy spread 903) yielded 204 sherds (1.086 kg) of pottery: there are, unfortunately, only five rim sherds present but these are consistent with late first-century date for the assemblage. Sandy clay layer 902 above this yielded even fewer sherds (111), including eleven rim fragments of late-first-century appearance. An absence of fragments from Class 3A Flat-rimmed jars suggests a more precise c. AD 50-80 date-range for these two layers.

Spits 6 to 9, forming the lower part of the waste dumped over layer 902, yielded a somewhat more substantial 2483 sherds (12.746 Kg) of pottery between them, including 60 rim sherds. This assemblage is also lacking in Class 3A jar rim sherds: this, combined with the comparatively poor showing of Class 4 bead-rim jar fragments (17% of all rims), suggests a c. AD 80-90 date for the lower portion of the dumped material.

Spits 1 to 5, forming the upper part of the waste, produced a further 929 sherds (2.82 kg) of pottery: The 123 rim sherds in this material now include 17 Class 3A jar and four Class 3B everted-rim jar fragments, indicative of the presence of second-century material. Spit 2, at a depth of 0.1m to 0.15 m just below the top soil, also produced a straight-sided dish fragment of probable third-century date.

Trench 10

Metalled surface 1008 on the surface of the natural subsoil yielded a 269 sherd (1.70 Kg) pottery assemblage, including 18 rim fragments. These fragments include three rim sherds from Class 3A jars: this would normally be indicative of a post AD 70/80 date for the layer but previous excavation of a series of mid-late first century structures on waster dump AH 52 nearby indicated the small-scale pre-Flavian production of transitional butt-beaker/Class 3A vessels. The unusual combed decoration on one of the Class 3A sherds from 1008, paralleled on a butt-beaker from waster dump AH 5 (Lyne and Jefferies 1979, Class 3.1), and the polished exterior of another may indicate that they are two of these transitional vessels. A date of c. AD 60/70 is therefore suggested for this metalled surface.

The 66 rim fragments present in the 617 sherd assemblage from the clay layer 1005 above 1008 are characterised by a high percentage of bead-rim jar fragments (33%) and a total absence of those from Class 3A jars. The absence of the latter may be fortuitous as such jars only become a significant element in the Alice Holt repertoire after c. AD 80/90 and the assemblage is quite small. The high percentage of bead-rim jars places this layer no later than the early-Flavian period (c AD 70-80).

The thin clayey-sand accumulation 1006 above 1008 and 1005 yielded a considerable 1178 sherd (6.45 Kg) assemblage of largely comminuted pottery. The 68 rim fragments from this layer also include a high percentage of bead-rim jar sherds (49%) and similarly display a complete absence of Class 3A rim fragments. This and the presence of a Class 3 butt-beaker rim suggests a similar c. AD 70-80 date range.

Clay floor 1004 above 1006 produced a pottery assemblage similar in size to that from 1006 (1166 sherds, 7.1K gm.). The 74 rim sherds from this deposit also lack Class 3A jar fragments and have a high percentage of bead-rim jars (39%): an early Flavian date is also indicated here.

Soil horizon 1003 above 1004 produced a somewhat smaller 361 sherd (1.93 kg) pottery assemblage with only 19 rim fragments. Precise dating is impossible with such a small assemblage but the bead-rim jar is still the most significant form and there is a continued absence of Class 3A jar fragments.

The 425 sherds (4.43 kg) of pottery from the ashy sand layer 1002, above 1003, display little change in form make-up: the 59 rim fragments continue to have bead-rim jars as the most significant single form (29%) and there is a single rim fragment from a Class 3A jar. Pit 1010 cut through this layer produced a mere 12 sherds of residual pottery.

Dump context 1001 above 1002 displays some kind of ceramic sequence in its 0.80m thickness at this point, although tree root action over the centuries has led to some blurring of the subdivisions. The 347 rim sherds from the lowest spits 8, 9 and 10 between 0.5m and 0.8m have Class 3A jar fragments present throughout the sequence and making up 18% of all of the rim sherds. Class 4 bead rim jar fragments now make up a considerably reduced 16% of the rim fragments and it is interesting to note that nearly all of these 55 fragments come from the lowest spit 9. The material from these lower spits also includes significant numbers of sherds from early second-century vessels and just a few late second-century fragments. A date range of c. AD 80-150 is indicated for nearly all of the pottery from spits 8 to 9.

The pottery from the upper spits 1 to 7 is very largely second century in date. Out of the 334 rim sherds present in the assemblage, only 22 (7%) are from Class 4 bead-rim jars and one of these is from the early-third-century variant 4.38. Class 3A flat-rimmed and Class 3B everted rim jars of second-century date now account for 17% and 8% of the rim sherds respectively. Small amounts of c. AD 200-270 dated pottery are also present and make up 12% of the rim fragments. These third-century rim sherds include those from incipient and developed beaded-and-flanged bowls, Class 1A and 1C storage-jars, Class 3C hook-rimmed jars and Class 3B-9 cooking-pots. There are no white/black-slipped sherds and nothing else which need be later than AD 270.

We can deduce from this Context 1001 sequence that the waste dump accumulated over the period c. AD. 80 to 240/270 with the bulk of the pottery being dumped during the early-to-mid second century. It is possible that the early third century material is derived from kilns operating on waster dump AH 52 a short distance to the west, where there is far more pottery of that date: surface examination of the western end of dump AH 46 nearest to AH 52 has shown far more early third-century material there as well.

Trench 11

All of the 944 sherds of Roman pottery from this trench are residual in post-Medieval contexts. The sherds are, nevertheless, of some interest in that the trench was sited very close to the eastern edge of fourth-century waster dump AH 68 yet the pottery from the pit is largely made up of a mixture of late first to early third-century material and could be occupational in nature.

Recommendations

Trench 10 is particularly interesting in that the findings from it suggest the presence of structures of similar date to those encountered beneath waster dump AH 52 to the west. Further examination of the pottery from Contexts 1002 to 1008 is recommended and publication of the assemblages with an estimated 27 pottery drawings.

If the clay dump 1005 is the surround to a kiln, then further examination will be very important: all of the early Alice Holt kilns so far examined were on waster dumps AH 5 and AH 52 and ephemeral surface built La Tene III type single-flued updraught types totally different to the substantial third and fourth century double-flued updraught kilns associated with the later industry. Ideally, the area excavated should be enlarged and extended to link up with simpler but similarly-dated stratification in Trench 9 in order to determine the plans of any buildings and/or kilns that may be present below and to the south of dump AH 52. Such an extension of the excavated area would also furnish several consecutive assemblages large enough for quantification by Estimated Vessel Equivalents (EVEs) based on rim sherds (Orton 1975). This will supply more information about changes in the pattern of pottery production during the early Roman period and compared with the findings from waster dump AH 52.

A further six sherds should be illustrated from waster dump 1001 above the possible kiln but most of the forms are either already illustrated in Lyne and Jefferies 1979 or soon to be published in the forthcoming monograph on the 1977-79 excavation on waster dump AH 52 (Lyne Forthcoming).

The pottery from Trench 11 can be written up in note form without recourse to illustration: as with the material from Context 1001, most of the pot forms are already illustrated or soon to be published in the publications referred to above. It would be useful to extend the area excavated in order to determine whether there are any Roman buildings and the nature of the post-medieval activity.

APPENDIX 3: OTHER ARTEFACTS AND ENVIRONMENTAL SAMPLES

By Ed McSloy And Sam Inder

The Fired Clay by Ed McSloy

The fired clay was scanned by context, counted and weighed. Fragments were examined for form and signs of mode of use.

Kiln furniture

A single 'rim' fragment (105g) from context 1004 probably represents a pot-stand of simple ring or possibly tripod-form. Fabric is fine and dense (similar to pottery fabric A), fired to a universal dark grey. The walls of the pot stand are thick (22mm) and clearly coil-formed, having fractured below the first coil. Similar pot stands were recovered from Lyne's 1977-9 excavations of waster dump AH 52 (Lyne forthcoming, 50) and believed to date to the late first to mid second century.

A fragment (24g) from 1006, of shaped, curving section, may represent a pot spacer. Similar items, used to separate vessels in the kiln were identified in the 1977-9 excavations of waster dump AH52 (Lyne forthcoming). Fabric is soft, light brown coloured and largely inclusionless.

Miscellaneous fired clay

Quantities of fired clay are presented in the table below. Most, if not all of this material represents fragments of kiln lining. The bulk of material recovered comprises formless fragments, or with a single smoothed face. As with much of the pottery, the fired clay recovered is frequently small and abraded. The fabric is typically fairly open and soft, most often fired to light grey or buff. Frequent voids indicate the presence of vegetable 'tempering', however mineral inclusions are rare. A small quantity of fired clay, most notably from 1002 is harder fired, vitreous in appearance and contains mineral inclusions in the form of quartz sand.

Trench	Context	Spit	Count	Weight (grams)
9	901	-	8	146
	901	1	5	25
	901	2	5	25
	901	4	5	91
	901	6	4	17
	901	7	14	66
	901	8	31	279
	901	9	4	57
	902	-	2	12
	903	-	1	5
10	1001	-	51	313
	1001	1	14	27
	1001	2	24	39
	1001	3	4	11
	1001	4	8	208
	1001	5	43	205
	1001	6	63	303
	1001	7	22	272
	1001	8	35	134
	1001	9	139	1020
	1002	-	39	755
	1004	-	13	119
	1005	-	10	70
	1006	-	45	308
	1008	-	9	161
11	1101	1	21	75
Totals			620	4743

Statement of potential and recommendations for further work

Quantities of kiln furniture are small and unexceptional in terms of form and function, comparing well to material from previous work at the site (Lyne forthcoming). In common with previous work at the site, no evidence for kiln bars, pedestals or perforated clay floors was recovered. Additional analysis or illustration of this and the miscellaneous fired clay material is not anticipated.

Larger quantities of kiln furniture will almost certainly be forthcoming should further excavation take place, although it seems unlikely that such material will be overwhelming. The recovery and analysis of kiln furniture will permit comparison with material from other known kiln groups (particularly AH 54) and add to our knowledge of technological aspects of pottery manufacture.

The Worked Flint by Ed McSloy

A single worked flint flake was recovered from context 401. On the basis of observed technology, probable use of hard hammer and 'squat' proportions, a later Neolithic to Bronze Age date is most likely.

Ceramic Building Material by Ed McSloy

Small quantities of Roman tile (6 fragments weighing 419g) were recovered. Identifiable forms are restricted to *tegula* (flanged roof tile). Two *tegula* fragments from 1001, spit 5 are extensively burnt, resulting in a partial or total reduction to grey and friable texture. With the exception of a single *tegula* fragment from 901, which appears to contain grog, the tile is all of a similar, hard, fine, slightly micaceous fabric containing quartz sand and small pebbles up to 7mm. Where unburnt, colour is pale orange with a grey core. The resemblance of the tile fabric and particularly the presence of white mica (most obvious in the burnt material from 1001), may indicate a local source, or even manufacture on site.

Quantities of tile are too small to indicate that production was carried out in the immediate vicinity, although the possibility exists (Lyne pers. comm.) that manufacture was carried out somewhere at the Alice Holt complex. It seems unlikely also that the tile derives from a building located close by, as structures associated with pottery production are in all probability insubstantial affairs. Tile may have been incorporated into the structure of the kilns themselves as flue covers or within the chamber as impromptu furniture. Use within the kiln is perhaps indicated by the burnt nature of some fragments.

Quantities of post-medieval brick and flat roof tile (100 fragments, weighing 895g) were recovered from 1102.

Iron nails by Ed McSloy

seven Iron nails were recovered, of which 6 are from post-medieval dated contexts 1101 and 1102. The one nail from a stratified Roman deposit (1001/spit 4), compares to Manning's type 1B, characterised by shaft with square section and flattened head (Manning 1985, 134-137). Nails from the post-medieval dated contexts are mainly of similar form and might easily be re-deposited Roman items.

Iron items corroded, though not unusually so, and apparently stable. They are stored in sealable plastic boxes with desiccating silica gel.

Statement of potential and recommendations for further analysis

Quantities of material recovered are small and there is no potential for further analysis. It should however be considered that the sampled area is very small and material recovered from additional phases of work are likely to be far greater. The recovered material does demonstrate the survival of materials such as iron and ceramic building material. The potential exists for additional quantities of ceramic building material and metal artefacts to be recovered and will provide additional data on the form and material culture of the site.

THE ENVIRONMENTAL SAMPLES by Sam Inder

Bulk environmental samples were taken for the purposes of confirming the presence of biological remains and gauging their state of preservation in order to assess the potential for analysis towards reconstructing former economies and environments. Five samples were taken in total. Two 10 litre samples came from dump deposits 902 and 903, one 10 litre sample from floor deposit 1008, and two 10 litre samples from deposits 1003 and 1006 which seal floor 1008.

Samples were taken using sealable plastic tubs and transported to the CA offices for processing. All of the samples were processed for purposes of assessment. Processing was by means of floatation utilising meshes of 250µm and 500µm for the flot and residue respectively. Residues and flots were dried in a low temperature drying cabinet prior to sorting. The dried flots were scanned under a low power binocular microscope for charred plant, molluscan material and artefacts.

The sample from 902 contained 85 sherds of pottery (257g); 32 fragments of fired clay (71g); a quantity of charcoal (<1g) and 1 fragment of burnt animal bone (<1g). The sample from 903 contained 73 sherds of pottery (353g); 14 fragments of fired clay (33g); a quantity of charcoal (<1g) and 1 fragment of burnt animal bone (<1g). The sample from 1003 produced 89 sherds of pottery (411g); 35 fragments of fired clay (99g); a quantity of burnt animal bone (<1g); 2 carbonised seeds (<1g) and a quantity of charcoal (<1g). The sample from 1006 contained 86 sherds of pottery (352g); 41 fragments of fired clay (108g); 1 fragment of burnt animal bone (<1g) and a quantity of charcoal (<1g). The sample from floor deposit 1008 contained 113 sherds of pottery (300g); 90 fragments of fired clay (112g); a quantity of burnt animal bone (<1g); and a quantity of charcoal (<1g).

The presence of carbonised material, including seeds indicates that there is a high potential for preservation of further biological remains. Such material will be of value in helping to reconstruct the environment at this site. The survival of carbonised material may also provide opportunities for absolute dating of structures within site 1.

APPENDIX 4: LEVELS OF PRINCIPAL DEPOSITS (TRENCHES 1-11)

Levels are expressed as metres below current ground level and as metres above Ordnance Datum, calculated using an existing survey station (with a value of AOD).

	Trench 1	Trench 2	Trench 3	Trench 4	Trench 5	Trench 6
Current ground level	0.00m (87.98m)	0.00m (91.59m)	0.00m (93.32m)	0.00m (96.54m)	0.00m (104.08m)	0.00m (108.34m)
Subsoil (top)	0.10m (87.88m)	0.15m (91.44m)	0.05m (93.27m)	0.08m (96.47m)	0.07m (104.01m)	0.15m (108.19m)
Limit of excavation	0.18m (87.80m)	0.30 (91.29m)	0.20 (93.12m)	0.24m (96.30m)	0.25m (103.83m)	0.27m (108.07m)

	Trench 7	Trench 8	Trench 9	Trench 10	Trench 11
Current ground level	0.00m (108.65m)	0.00m (106.95m)	0.00m (77.10m)	0.00m (77.40m)	0.00m (76.45m)
Subsoil (top)	0.10m (108.55m)	0.05m (106.90m)	-	-	-
Limit of excavation	0.20m (108.45m)	0.10m (106.85m)	0.64m (76.46m)	1.20m (75.20m)	0.60m (75.85m)

Upper figures are depth below modern ground level, lower figures in parentheses are metres AOD.

APPENDIX 5: QUANTIFICATION OF POTTERY SHERD DENSITY: TRENCHES 9-11

CONTEXT	OD HEIGHT (m AOD)	TYPE	NO. OF SHERDS	CUMULATIVE TOTAL	SHERD DENSITY (m ³)
TRENCH 9					
901 Spit 1	76.88-77.08	Waster dump	856	856	4280
901 Spit 2	76.83-76.88	Waster dump	432	1288	8640
901 Spit 3	76.78-76.83	Waster dump	9	1297	180
901 Spit 4	76.73-76.78	Waster dump	295	1592	5900
901 Spit 5	76.68-76.73	Waster dump	618	2210	12360
901 Spit 6	76.63-76.68	Waster dump	679	2889	13580
901 Spit 7	76.58-76.63	Waster dump	420	3309	8400
901 Spit 8	76.53-76.58	Waster dump	570	3879	11400
901 Spit 9	76.40-76.53	Waster dump	712	4591	5476
902	76.46-76.80	Waster dump	111	4702	326
903	76.42-76.55	Waster dump	204	4906	1569
TOTAL			4906	4906	7665 p/m³
TRENCH 10					
Surface finds	76.44	Waster dump	2528	2528	-
1001 Spit 1	76.39-76.44	Waster dump	898	3426	17960
1001 Spit 2	76.34-76.39	Waster dump	934	4360	18680
1001 Spit 3	76.29-76.34	Waster dump	631	4991	12620
1001 Spit 4	76.24-76.29	Waster dump	526	5517	10520
1001 Spit 5	76.14-76.24	Waster dump	1430	6947	14300
1001 Spit 6	76.04-76.14	Waster dump	1600	8547	16000
1001 Spit 7	75.94-76.04	Waster dump	1029	9576	10290
1001 Spit 8	75.84-75.94	Waster dump	2341	11917	23410
1001 spit 9	75.77-75.84	Waster dump	5790	17707	82714
1002	75.72-75.77	Floor	425	18132	8500
1003	75.64-75.80	Deposit	361	18493	2578
1004	75.50-75.64	Floor	1166	19659	8328
1005	75.26-75.66	Deposit (?kiln)	617	20276	1542
1006	75.40-75.46	Deposit	1178	21454	19633
1007	75.46-75.60	Floor	-	21454	-
1008	75.18-75.26	Floor	269	21723	3362
1009	75.18-75.70	Pit cut	-	21723	-
1010	75.18-75.70	Pit fill	12	21735	23
TOTAL			21735	21735	18112 p/m³
TRENCH 11					
1101 surface	76.46	Topsoil	110	110	-
1101 Spit 1	76.36-76.46	Topsoil	824	934	8240
1101 Spit 2	76.31-76.36	Topsoil	-	934	-
1101 Spit 3	76.26-76.31	Topsoil	3	937	30
1102	75.84-76.26	Deposit	7 (Post med)	944	39
TOTAL			944	944	1573 p/m³

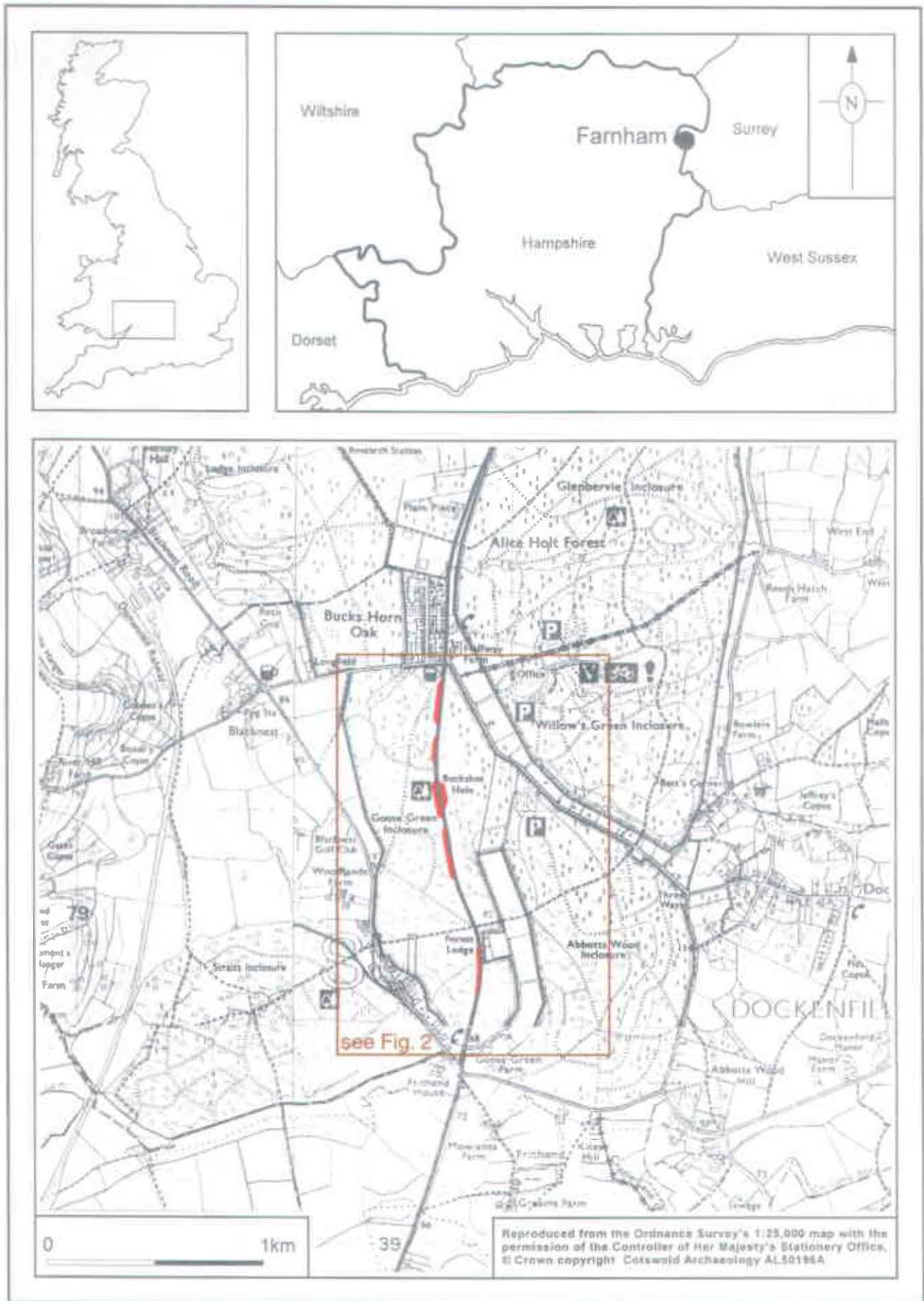


Fig. 1 Location plan

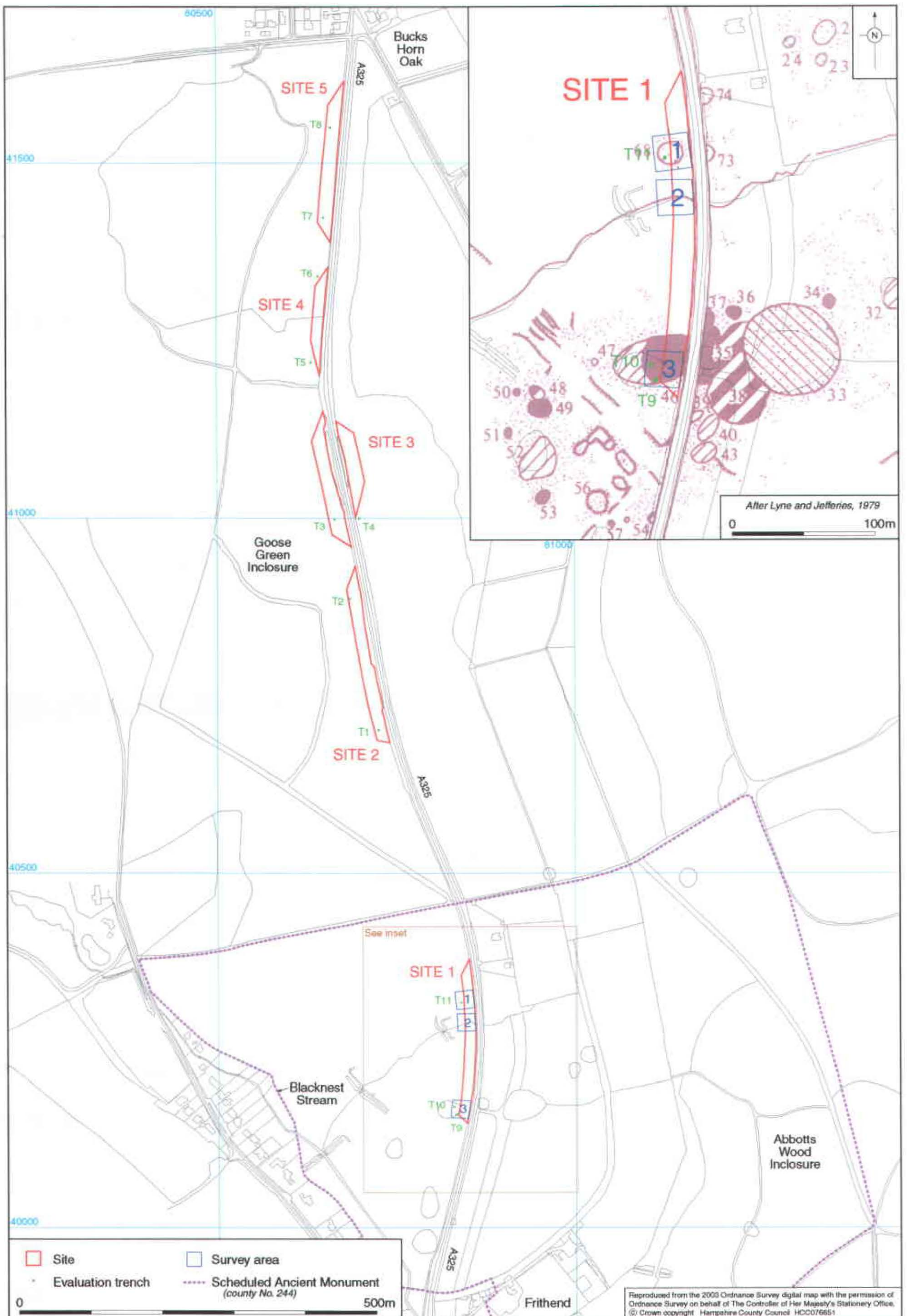


Fig. 2 Location of sites 1 to 5, showing evaluation trenches 1 to 11 and topographic survey areas 1 to 3 (1:5000)

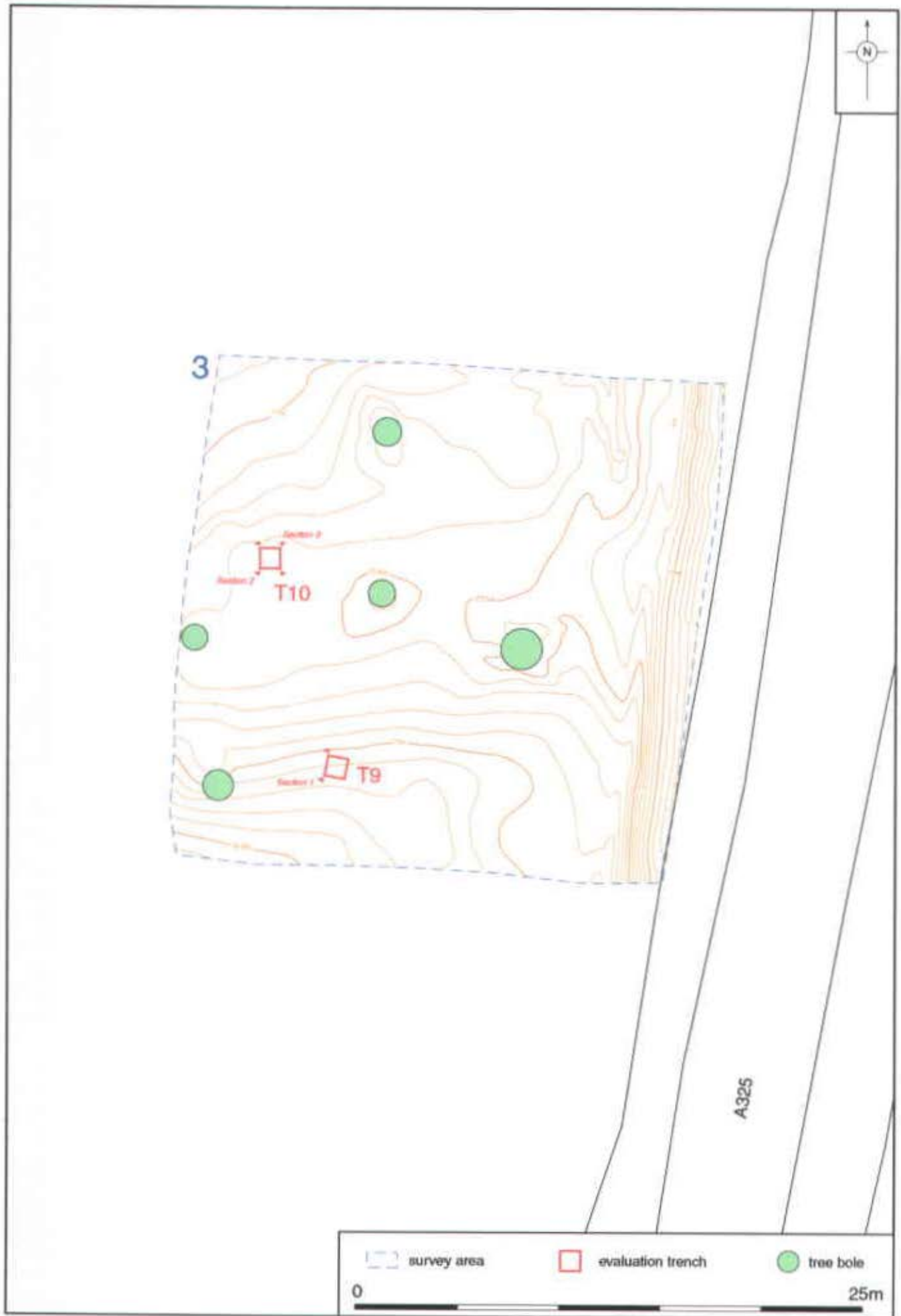


Fig. 3 Site 1, survey area 3: contour plot showing trenches 9 and 10 (1:250)

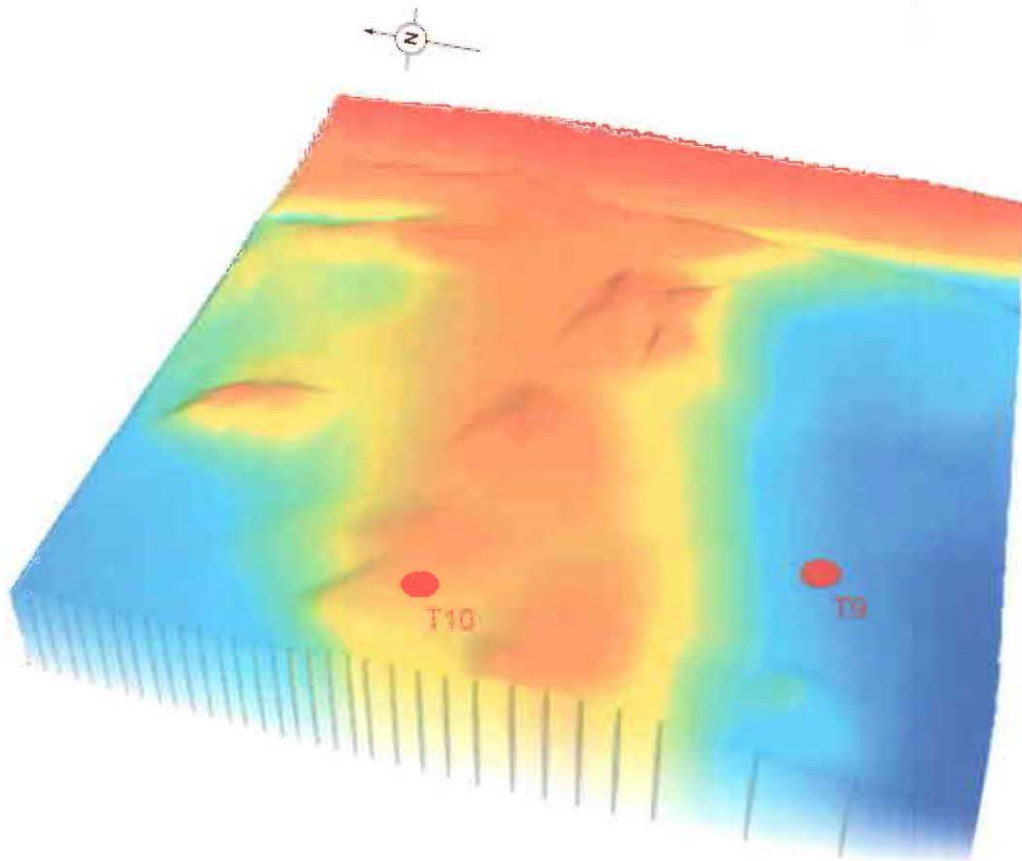


Fig. 4 Site 1, survey area 3: enhanced topographic modelling (*Z coordinate x 2*), showing trenches 9 and 10

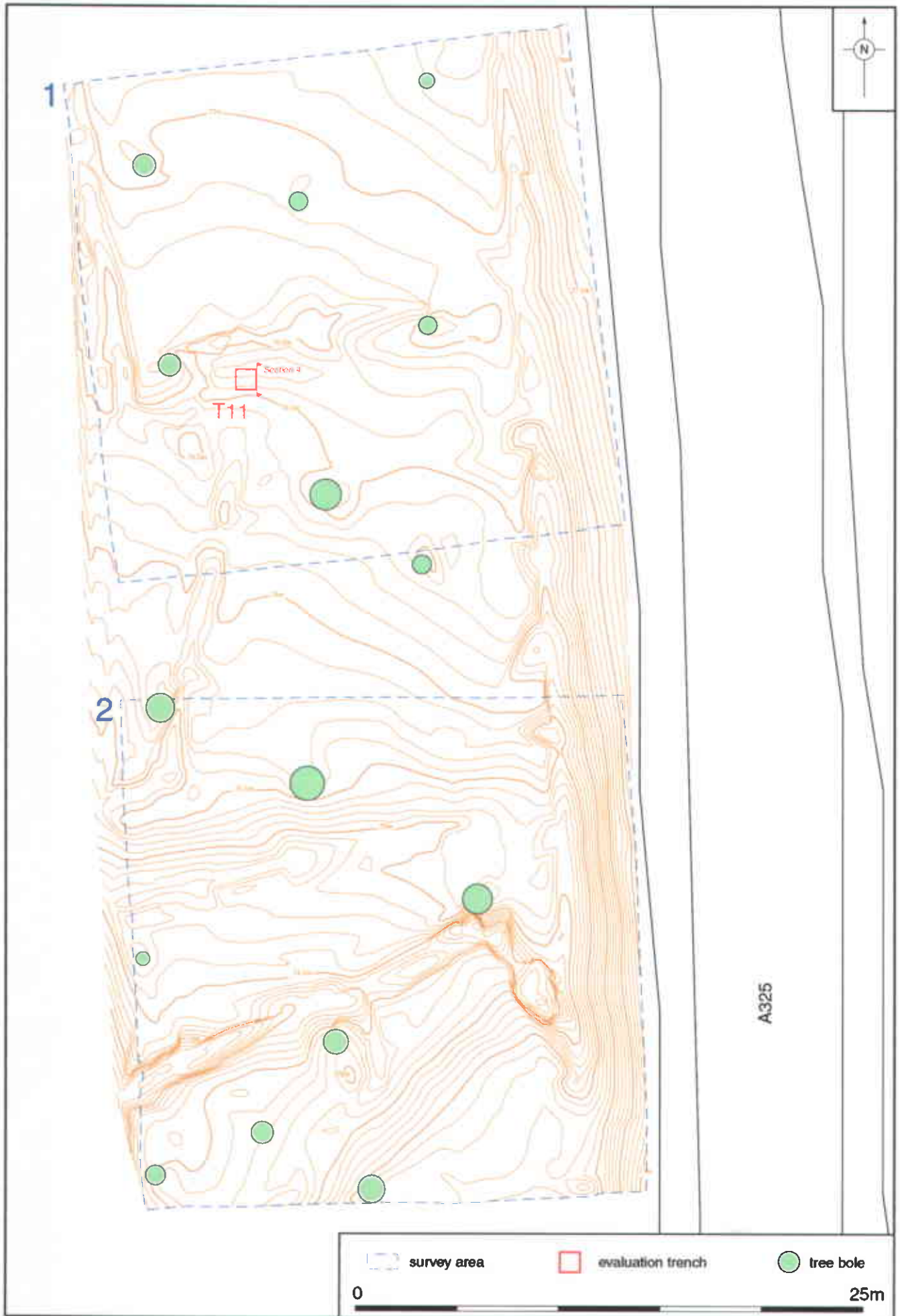


Fig. 5 Site 1, survey areas 1 and 2: contour plot showing trench 11 (1:250)

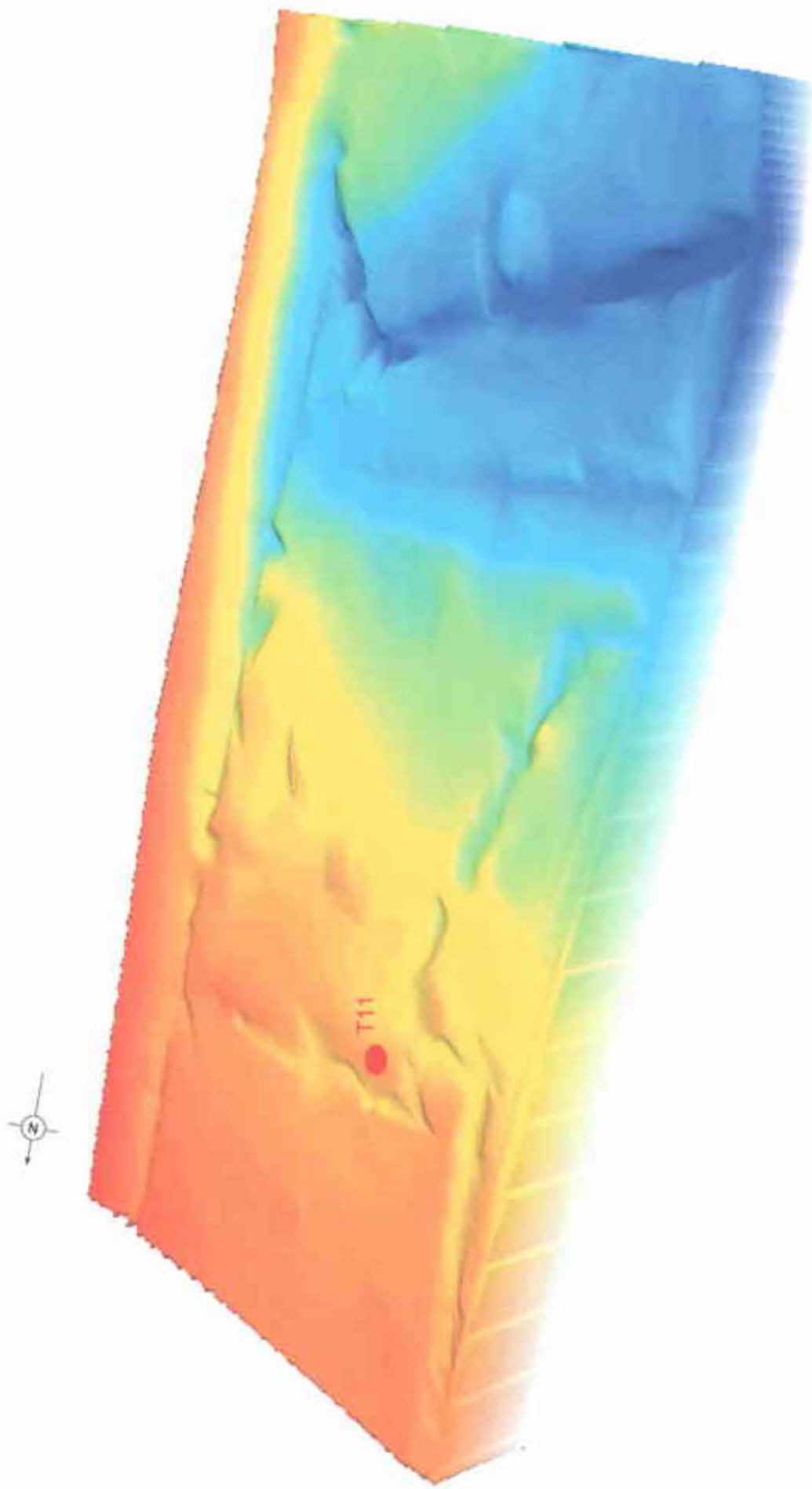
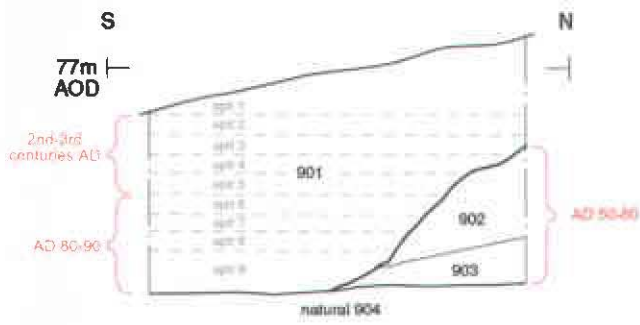
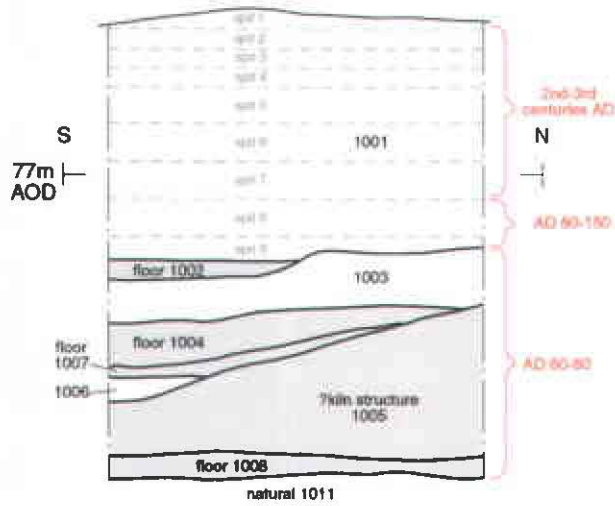


Fig. 6 Site 1, survey areas 1 and 2: enhanced topographic modelling (Z coordinate x 2), showing trench 11

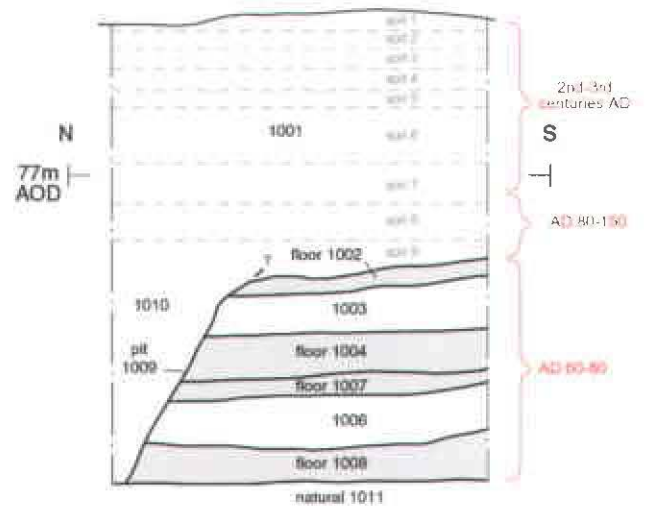
Section 1



Section 2



Section 3



Section 4

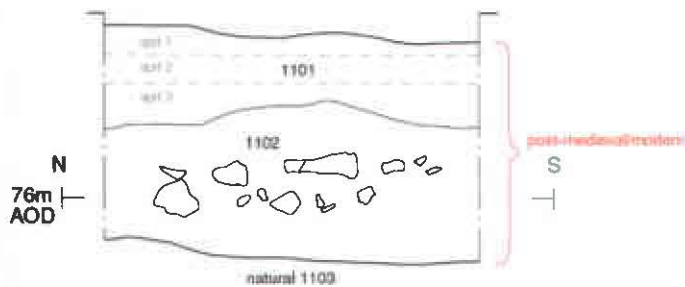


Fig. 7 Site 1, trenches 9 and 11: selected sections (1:20)



Trench 1, looking west



Trench 2, looking west



Trench 3, looking west



Trench 4, looking west



Trench 5, looking west



Trench 6, looking west

Fig. 8 Sites 1 and 5, trenches 7 to 11: selected photographs



Trench 7, looking west



Trench 8, looking west



Trench 9, looking north-west



Trench 10, looking west



Trench 10, looking west



Trench 11, looking west

Fig. 9 Sites 2 to 4, trenches 1 to 6: selected photographs



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