

SAID BUSINESS SCHOOL

OXFORD

ARCHAEOLOGICAL WATCHING BRIEF REPORT

NGR SP 600305 (centred)

, WRONG



OXFORD ARCHAEOLOGICAL UNIT

JANUARY 1998

SAID BUSINESS SCHOOL

OXFORD

ARCHAEOLOGICAL WATCHING BRIEF REPORT

NGR SP 600305 (centred)

Prepared by: *John Daltz*

Date: *1/1/98*

Checked by: *Stuart Hanson*

Date: *2/2/98*

Approved by:

Date:

OXFORD ARCHAEOLOGICAL UNIT

JANUARY 1998

Summary

In November 1997 the Oxford Archaeological Unit (OAU) undertook a watching brief on the proposed site of the Said Business School, Oxford (NGR SP 600305 centred), during the excavation of seven test pits, two shallow test pits and three boreholes by Foundation and Exploration Services (FES) on behalf of Ove Arup & Partners, Consulting Engineers. Natural gravel was seen in all of the seven test pits, and their sections displayed overlying silts and clays below dumped material, black ash and clinker associated with the previous functions of the site as both a rail yard, coal yard and city rubbish dump. None of the deposits seen produced any finds, with the exception of TP6 which produced assorted Victoriana from its primary deposit. None of the excavations impacted upon the buried remains of Rewley Abbey.

1 Introduction

A programme of development is proposed on former railway sidings and car parks at Oxford railway station. As a preliminary to this programme, Ove Arup & Partners commissioned a ground contamination investigation, which required an archaeological watching brief.

The watching brief was commissioned by Ove Arup & Partners, Consulting Engineers, on behalf of Oxford University and with the permission of the present landowner, Railtrack. The work was necessitated by the presence of Rewley Abbey, a Cistercian Abbey and *studium* (monastic college) founded in 1280, which is a Scheduled Ancient Monument (Oxfordshire no. 80). It is further to an archaeological field evaluation undertaken by the OAU in 1986, an evaluation of Rewley Road in 1993, an evaluation in the Scheduled Area undertaken in March/April of 1994, and to a watching brief presently being undertaken on the Persimmon Homes housing development immediately to the north.

The works were carried out subject to the conditions of a Scheduled Monument Consent issued by English Heritage, and in consultation with the Oxford Archaeological Advisory Service.

2 Background

Rewley Abbey was founded in 1280 as a Cistercian place of study, and the Cistercian order insisted that the foundation be a proper abbey. Documentation for Rewley in the medieval period is both scattered and obscure, but one key text shows the Crown granting the buildings of the *studium* to the Abbey in 1381, after the *studium* itself had failed. This fact has led to the suggestion that the Abbey and *studium* could have existed as separate sets of buildings (Munby, 1984). In this scenario the group of buildings known to have existed to the north of the Abbey church could represent the *studium*, while the Abbey buildings themselves are thought to lie south of the church, which is the typical Cistercian layout. Evaluation work on the Rewley Road site in 1993 (OAU, 1993) found no conclusive evidence to support this theory, which remains unproven. The Cistercians remained at Rewley until the Dissolution in 1536.

In terms of its plan and form, the church is the least well-documented of the buildings known definitely to have existed at Rewley. It does not appear on any views or maps.

A description by the antiquarian Thomas Hearne in 1706 correctly identifies the site of the church as follows:

That part of the Abbey of Rewley now standing which seems to have been part of the Chapell to some did not at all belong to the chapell as appears from the whole Circumference of the Chapell lately discovered when the Foundation of the Walls were dug up. It was in the Garden on the East side as you enter into the house, & did not come to the said part now standing by a great many Yards. (Hearne, 1706).

The north and west ranges are better documented in that they appear on a number of historic maps and views. Parts of these buildings survived until 1850, after which they were taken down when the area was raised prior to the creation of railway yards. It is possibly due to the fact that the north and west ranges were originally buildings used to accommodate the monks that led to their survival, in that they were more easily adapted for secular use than other buildings on the site.

The system of moats surrounding the Abbey complex may clearly be seen on Agas' map of 1578 (OAU 1994, fig. 13), and were still in existence in 1850. A single building, probably a barn with an enclosure to its south is shown just to the west of the moated area on Agas' map. This was located in the 1994 evaluation, in trenches 19, 27 and 28. These trenches located heavily robbed out walls and mortar surfaces, pottery from which shows that it was deposited in the late 13th century or later.

North of the Abbey complex the area was probably open ground prior to the coming of the railway, with the one exception of the Civil War period, when a small outlying defensive work known as a sconce was built. This feature is shown on a map of the defences of Oxford as they existed in 1644, together with a possible bridge over Castle Mill Stream leading to the sconce. The same map also suggests that the former west moat of the Abbey was a part of the defensive circuit itself. Civil War activity was identified during the 1994 evaluation in the 'barn' area, when a very stony layer was identified over virtually the whole area of trenches 19, 27 and 28, apparently deposited after the wall robbing described above. The latest sherd of pottery from this stony layer dates to AD 1550-1750, making sense if this layer represents Civil War activity when the west moat of the former Abbey became a part of the town's defensive circuit. Demolishing walls beyond that circuit would both provide building material and remove any potential cover for attackers.

Immediately prior to the construction of the railway much of the site was occupied by gardens. Once the tracks had been laid, activity associated with the railway spread rapidly to the east until checked by Castle Mill Stream. This activity involved the raising of ground levels by 1 - 1.5 m using fill material, presumably imported by train. It was at this point that the moats were filled in, leaving only Castle Mill Stream and Wareham Stream open. Some later, probably agricultural, buildings lying just to the west of the moat were also taken down at this time.

3 Aims

The excavation of ground contamination test pits on the site provided an opportunity to learn more about the archaeology within the development area. The intention was to minimise intrusion into significant archaeological deposits, and to excavate deposits by hand where such intrusion cannot be avoided. It was also intended to record any archaeological remains exposed on site during the course of the proposed works to previously established standards (OAU Fieldwork Manual, First Edition, 1992). The ultimate goal being the preservation by record of any archaeology, the presence and nature of which could not be established in advance.

4 Methodology

All excavation was carried out by a JCB using a toothless bucket, under the direct supervision of an archaeologist from the Oxford Archaeological Unit. Individual layers were retrieved by the machine and examined on the surface in the first instance, in order to determine their potential significance. Hand-excavation was employed when the nature of a deposit remained uncertain after inspection, or when structural features were encountered within the test pits. The ground contamination investigation consisted of three boreholes, two shallow test pits (STP 1-2) measuring 2 x 1 m and 1 m deep and seven test pits (TP 1-7), measuring 2.5 x 1.5 and from 2 to 3 m deep. The locations of the boreholes and all the test pits appear on figure 2, together with the locations of previous archaeological evaluation trenches. Shallow test pits 1 and 2 and boreholes 1 and 3 were all within the Scheduled Ancient Monument boundary. Natural deposits were exposed in all seven deep test pits. Shoring was deployed where access was necessary in order to excavate by hand at a depth greater than 1 m. The deposits exposed in plan and section were cleaned, inspected and recorded in plan, section and by colour slide and black and white print photography. A photographic record was also made for the benefit of Ove Arup and English Heritage. Written records were made on proforma sheets.

5 Results

Boreholes 1-3.

Borehole 1 was sited directly opposite the fire station, on the western side of Rewley Road. Half a metre of clinker, chalk and medium sized unworked subangular limestone pieces were broken out by hand, before boring began. Natural gravel was encountered at a depth of 2.70 m. Material removed from the borehole appeared to be a reworked natural clay; mottled brown/gray with 2% fine silt (*estimated* percentages based on the use of standard charts for approximation of percentage of inclusion types in soil deposits, also used below). It also appeared to be highly contaminated and was not sampled for archaeological purposes.

Borehole 2 was sited in the current railway station car park. Made ground, hardcore and tarmac were broken out with a pneumatic drill before boring began, to a depth of 0.75m. The borehole was moved slightly to the west due to the presence of modern services at a depth of 0.75m. Natural gravel was encountered at a depth of 2m, below reworked natural clay.

Borehole 3 was sited within the area currently being used by Barhale Construction PLC as a temporary compound, within the SAM, located over the western side of the moat. Barhale had laid a deposit of medium-coarse subangular pink gravel over much of the compound area in order to stabilise often very soft ground conditions; this material overlies the pre-existing railway deposits of clinker and chalk. This material was broken out by hand to a depth of 1 m before boring was able to begin. Between 1 and 2 m the borehole produced a mixed material containing high proportions of modern house brick and concrete pieces. A mid-dark gray silty clay with numerous small pieces of unworked wood was encountered at a depth of 2 m and remained consistent until the borer struck natural gravel, at a depth of 3 m. Boring continued through the gravel to a depth of 6 m, (52.10 m OD). The entire fill of the borehole between 2 and 3 m was sampled in 0.25 m sections, as this may represent the primary fills of the moat. The environmental information obtained is therefore of special interest as none of the evaluation trenches encountered the moat's primary fills. The environmental results are discussed elsewhere in this report.

The moat was investigated in Trenches 20, 21 and 22 of the 1994 evaluation; no trace of the moat cuts prior to their 19th century form were found. This was due to the depth of the moat and the difficulty in excavating to these depths in narrow evaluation trenches. Trench 21 provided a section across the full width of the 19th century moat, showing it to have been some 10 m wide (OAU, 1994).

Shallow Test Pits 1 and 2.

Both shallow test pits were also located within the current Barhale compound, inside the SAM; their depths were therefore restricted to 1 metre. STP 1 was located just to the north of Trench 27, where archaeological deposits lay below 1.51 m of post-1850 overburden. Medieval deposits associated with a possible barn or other stone-built structure were identified in Trench 27, as were post-medieval deposits.

The earliest deposit seen here was 0.39 m of tenacious buff/gray clay (103) with 1% fine silt black staining and numerous small pieces of thin, clear glass. This was sealed by 0.16 m of medium-coarse orange sand and medium pebbles (102). This underlay 0.21 m of black ash, coal waste and modern house brick, thoroughly mixed in equal parts (101). This was overlaid by 0.24 m of pink hardcore (100), the material deposited by Barhale to stabilise the surface of their compound. TP 1 terminated at 1 m depth, 57.20 m OD.

STP 2 was located at the west end of trench VIII, within the cloister area of the Abbey. Trench VIII demonstrated that 1.3 m of post-1850 overburden seals the archaeological deposits in this area. STP 2 was relocated, within 5 m of its original position, as Barhale's site offices were sited on its proposed location.

The earliest deposit seen here was 0.90 m of coal waste with small-medium lumps of coke, slag and pieces of modern housebrick (201). This was sealed by 0.10m of hardcore makeup and patchy tarmac (200). TP 2 terminated at 1 m depth, 57.21 m OD.

Test Pits 1 - 7.

The natural, as seen in the base of all seven test pits, consisted of orange and gray/brown fine-coarse sub-rounded sand and fine-coarse rounded gravel.

TP 1 (Fig. 3).

- (1) - medium-coarse sub-rounded gravel, 0.05 m thick.
- (2) - clinker with pieces of coke, slag and modern house-brick in varying quantities, 0.26 m thick.
- (3) - black ash with small fragments of modern housebrick and glass, 0.20 m thick.
- (4) - very mixed mid-dark gray clay with 2% fine silt; this deposit was very irregular being much thicker - up to 0.80 m - on the northern side of the test pit, 0.25 m thick.
- (5) - mixed medium-coarse subangular gravel and fine-medium sand with 25% dark gray/black slightly silty clay, 0.70 m thick.
- (6) - natural gravel.

TP 1 terminated at 3.05 m depth, 55.10 m OD.

TP 2 (Fig. 3).

- (20) - pink hardcore and clinker, 0.23 m thick.
- (21) - black silty clay loam with 2% fine silt, 0.22 m thick.
- (22) - medium-coarse subrounded orange sand, 0.12 m thick.
- (23) - tenacious very mixed buff/olive silty clay, 0.30 m thick.
- (24) - small-medium stone fragments with 5% fine-medium gravel and 2% fine-coarse sand, 0.20 m thick.
- (25) - dark gray/brown silty clay, 0.30 m thick.
- (26) - soft, dark gray silty clay with 10% fine-medium silt and 1% fine sand, 1 m thick. A brick culvert was encountered in this deposit; the test pit was moved slightly to the east to allow its full depth to be reached.
- (27) - light brown/buff clay with 2% fine silt, 0.20 m thick.
- (28) - natural gravel.

TP2 terminated at 2.85m depth, 55.41 m OD.

TP 3 (Fig. 4).

- (30) - tarmac, clinker and hardcore, 0.32 m thick.
- (31) - light brown fine-medium sand with 10% medium-coarse subangular gravel, 0.36 m thick.
- (32) - very mottled buff/gray clay with 2% fine silt, 0.80 m thick.
- (33) - dark gray/brown clay loam with 10% silt and 2% fine-medium subangular gravel, 1 m thick.
- (34) - natural gravel.

TP3 terminated at 2.55m depth, 54.14 m OD.

TP 4 (Fig. 3).

- (40) - black clinker with 20% coarse subangular gravel, 0.33 m thick.
- (41) - yellow/white fine-medium sand and medium-coarse gravel with 2% medium-coarse subrounded stone pieces, 0.15 m thick.
- (42) - tenacious buff/olive clay, 2.52 m thick; the upper portion of this material contained lenses of orange/brown sand and patches of a white, fibrous material, while the lower portion remained fairly clean.
- (43) - dark gray clay loam containing pieces of housebrick and occasional concrete lumps, 0.20 m thick.
- (44) - natural gravel.

TP4 terminated at 3 m depth, 55.12 m OD.

TP 5 (Fig. 4).

- (50) - tarmac and clinker, 0.20 m thick.
- (51) - black ash and coal waste, 0.12 m thick.
- (52) - buff/yellow medium-coarse sand and medium-coarse gravel, 0.26 m thick.
- (53) - tenacious gray clay with infrequent large pieces of unworked limestone and modern housebrick, 0.70 m thick.
- (54) - mid-dark gray slightly silty clay with 2% fine-medium silt, 0.12 m thick.
- (55) - mid gray silty gravelly clay with 10% fine-medium silt and 15% medium-coarse subrounded gravel, 0.85 m thick.
- (56) - natural gravel.

TP5 terminated at 2.35 m depth, 55.67 m OD.

TP 6 (Fig. 3).

- (60) - black clinker with 10% coarse subangular gravel, 0.20 m thick.
- (61) - six courses of bricks resting on a concrete foundation; the upper course lay 0.20 m below the surface of the modern car park, the whole being 0.83 m to the base of the foundation. The concrete foundation appeared to be laid directly over (65). No construction cut could be seen.
- (62) - black clinker, 0.12 m thick.
- (63) - mid gray silty clay with 2% fine silt and 10% fine-medium subrounded gravel, 0.30 m thick.
- (64) - orange medium-coarse silty sand, with pieces of decayed sleeper, 0.30 m thick.
- (65) - dark gray clay with 10% fine silt and 5% medium-coarse subrounded stones, 0.26 m thick.
- (66) - very mixed deposit of yellow, medium-coarse subangular sand, white medium angular gravel and brown silty clay with splintered sleeper fragments, 0.36 m thick.
- (67) - green/gray clay, becoming slightly brownish and more silty towards the interface with the natural, 0.40 m thick.

(68) - natural gravel.

TP6 terminated at 3 m depth, 55.02 m OD.

TP 7 (Fig. 3).

(70) - dark brown silty clay with angular and subangular fine-coarse gravel, mixed with black ash and modern housebrick, 0.30 m thick.

(71) - orange/brown fine-coarse sand with 2% subrounded fine-medium gravel, 0.30 m thick.

(72) - soft blue/gray slightly silty clay with 5% coarse subangular gravel and infrequent lenses of orange/brown clay and subrounded fine-medium gravel, 0.50 m thick.

(73) - soft blue/gray and black speckled silty clay with 2% shell fragments and 2% fine silt, 1.30 m thick. (74) - natural gravel.

TP7 terminated at 3.10 m depth, 54.86 m OD.

6 The Finds

The only finds retrieved were from TP 6, at the base of deposit (67), at a depth of c3 m. These consisted of eight sherds of post - medieval pottery, one piece of clay pipe and a "torpedo" bottle, bearing the legend "The Stretton Hills Mineral Water Co."

7 Environmental Results by Dr Mark Robinson.

The lower part of a core (BH3) through the late 13th century moat around Rewley Abbey was divided at 0.25 m intervals for evaluation of the potential of the sediments for environmental archaeology. A sub-sample of 1 kg was washed over onto a 0.25 mm mesh to recover organic and charred remains, while the residue was sieved to 0.5 mm to recover bone and shell. The contents of the flots and residues were identified and they are listed in Table 1.

Sample 1 contains 19th or 20th century material related to the coal yard formerly situated over Rewley Abbey. The other samples are plausibly medieval or early post-medieval. Waterlogged organic material other than roots is absent from the samples. Samples 3 and 4 contain a high concentration of charcoal, especially beech and oak. The only other charred item is a single hazelnut shell fragment. The only land snail shell is *Trichia hispida* and shells of freshwater molluscs are absent. Fragments of marine mussel shell and bone are also present.

The remains in samples 2-4 appear to represent mixed backfill including some domestic refuse. The charcoal suggests a woodland source of fuel and the record of beech, if medieval, is slightly unusual.

On present evidence, the potential of the moat is limited to non-waterlogged remains. Limited sampling is recommended for charred plant remains and bone, provided it can be demonstrated that the sediments relate to the medieval or early post-medieval archaeology of the site.

Table 1:		Sample	4	3	2	1
		Sample depth (m)	2.75-3.00	2.50-2.75	2.25-2.50	2.00-2.25
CHARRED PLANT REMAINS						
<i>Corylus avellana</i>	hazel nut shell		+	-	-	-
<i>Fraxinus excelsior</i>	ash charcoal		-	+	-	-
<i>Fagus sylvatica</i>	beech charcoal		+++	++	-	-
<i>Quercus</i> sp.	oak charcoal		+++	++	+	-
WATERLOGGED ROOTS			+	+	+	-
MOLLUSC SHELL						
<i>Mytilus edulis</i>	marine mussel		+	-	-	-
<i>Trichia hispida</i> gp.	a land snail		+	-	-	-
BONE						
Bird			-	-	+	-
Mammal			+	+	+	-
COAL AND RAILWAY ?BALLAST			-	-	-	+

+ present, ++ some, +++ much.

8 Discussion.

The conclusion of the 1986 evaluation report noted that "...the preservation was best in the northern and eastern sides of the...site" and that "...the worst preservation of all was to the south of the church on the British Rail site...[where] there was extensive disturbance..." (OAU 1996, p. 13). Post-1850 activity appears to have been particularly invasive also on the western side of the site, closer to the line itself. The 1994 evaluation notes that "...nothing of archaeological significance was found...in trenches 1, 2 and 6 within the current BR car park" (OAU 1994, p. 30). These trenches are in the vicinity of TP's 1,3,5,6 and 7 and BH 2.

It is thought probable that the majority of those deposits examined in the course of the test-pitting relate to the raising of ground levels prior to the coming of the railway, and to the railway itself. The artefactual evidence appears to be confined to the 19th and 20th centuries; i.e. post-1850 onwards. All of the structural evidence seen is thought to relate to post-1850 structures associated with the railway, with the exception of the brick culvert seen in TP 2 which is thought to be a Victorian sewer culvert as identified running across the Persimmon Homes development immediately to the north.

The exceptions to this are some of the deposits directly overlying the gravel, which previous work on the site would suggest are unlikely to be related to the railway. In the absence of any artefactual evidence from these deposits, correlation with previous

work can give some clues to their nature and date. It is possible that deposit (27) correlates with silt layers 1980, 1995, 1947-49 as identified in trench 19 of the 1994 evaluation; their silty nature, proximity to the natural gravel and heights OD are very similar.

The interface between railway build-up and pre-1850 deposits is difficult to ascertain, due to the absence of datable finds. The 1994 evaluation recorded the top level of alluvium as being between 55 and 57 m OD, and this is a useful guide. Typically, the upper levels of the post-1850 deposits are characterised by black staining and high percentages of house brick and general debris, with the lower deposits being extremely mixed dumps of loams, clays and assorted Victoriana. Having said this, the section of TP 4 displayed an extremely thick deposit of what appeared to be a reworked natural clay (42) sealing a much thinner deposit (43) which contained modern house brick and lay directly over natural gravel. Nothing like this was seen elsewhere and as such it must be treated as an exception to the general rule. Railway build-up, as seen in the other test pits and identified by the characteristics mentioned above, is most likely to start at a level of 56 m OD and above, although this is subject to localised variations as seen in TP 4.

Previous work at Rewley has indicated the presence of a general 'soil layer', for example seen in the 1993 Rewley road evaluation, indicating the ground level prior to the post-1850 build-up. Trench 3 here displayed this deposit in association with mainly 14th-15th century pottery at a maximum height of 57.42 m OD. Deposits (25) and (54) are the only two of those observed during the test pitting which match the general description of this deposit and both are at heights comparable with those previously recorded. If they do represent the soil layer then its absence elsewhere may be an indication of truncation by post-1850 activity.

The environmental evidence as assessed by Dr Robinson would appear to indicate a fairly limited environmental potential for those deposits sampled from borehole 3. It is at least possible, however, that borehole 3 penetrated only the very edge of the moat, or indeed that it missed it altogether. The presence of the Barhale compound within the Scheduled Area made accurate location here highly problematic, and substantially increased the margin for error. Conclusions drawn from the environmental samples obtained must therefore be treated with due caution.

John Dalton
OAU
January 1998

References.

Hearne, T 1706 *Remarks and collections of Thomas Hearne, Vol. 1 1705-7*, ed. C.E. Doble, OHS II, Oxford, 1884.

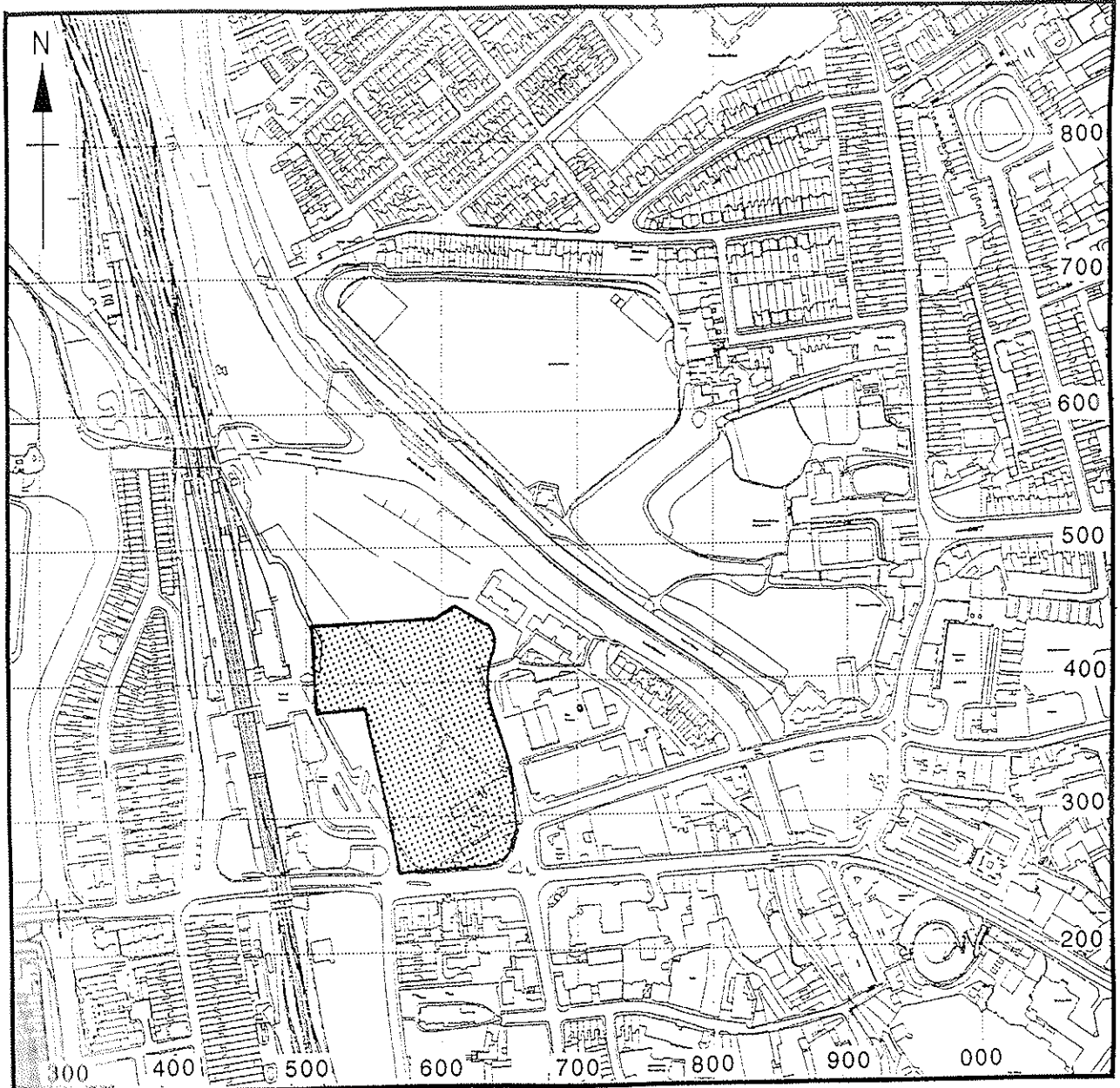
Munby, J 1984 *Oxford Station Yard: its historic features and the proposed redevelopment*.

OAU 1986 *Rewley Abbey, Oxford: an archaeological assessment of the Scheduled Ancient Monument*.

OAU 1993 *Rewley Road, Oxford: archaeological evaluation, October/November 1993*.

OAU 1994 *Oxford Station (Rewley Abbey) archaeological field evaluation, March/April 1994*.

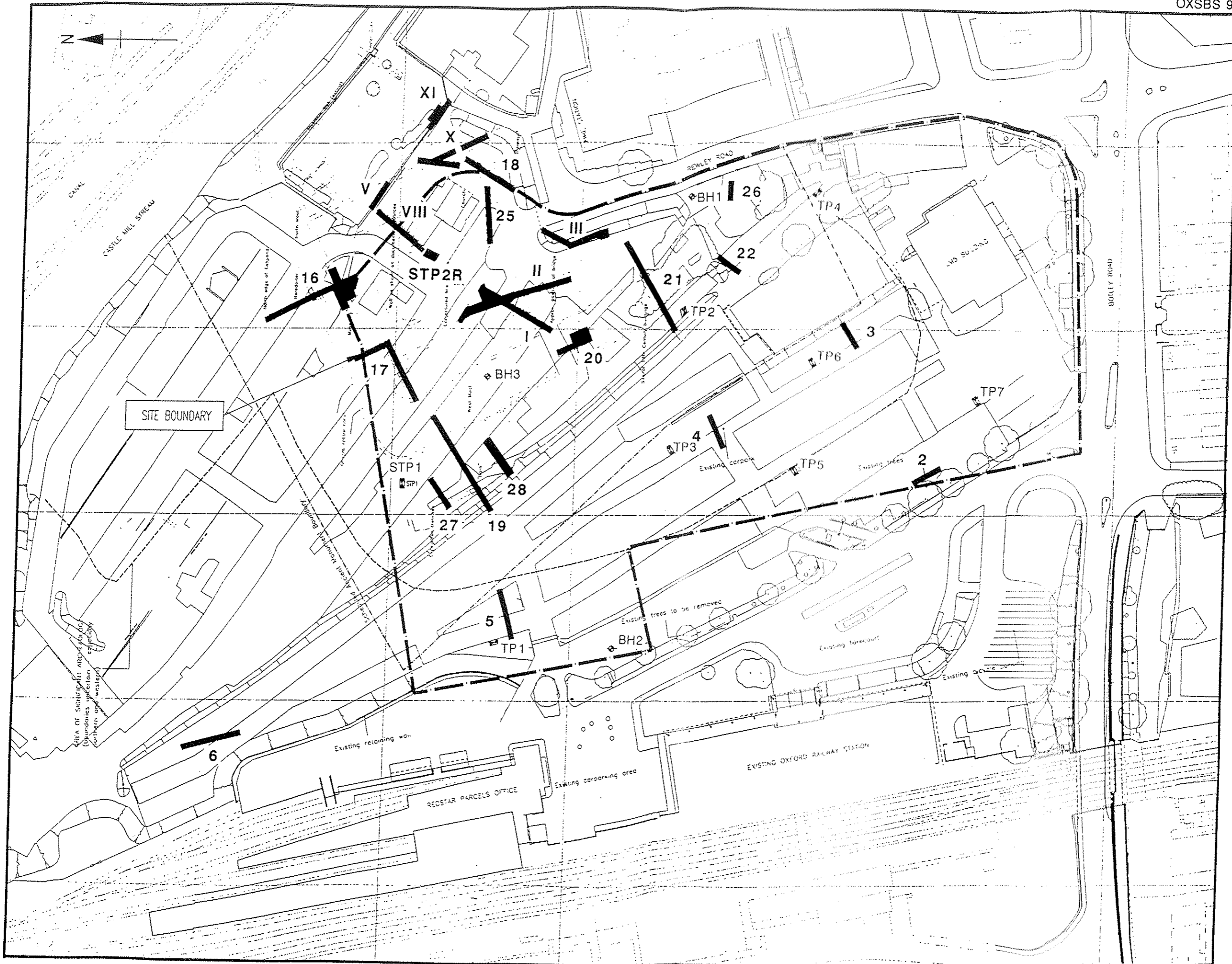
Wilkinson D (ed.), 1992 *OAU Fieldwork Manual*, First Edition.



Scale 1:2500

Site location map

Figure 1



21 } archaeological trench numbers
 VIII }
 STP2R revised test-pit position
 BH borehole
 TP test pit

scale 1:1000 (approx)

figure 2

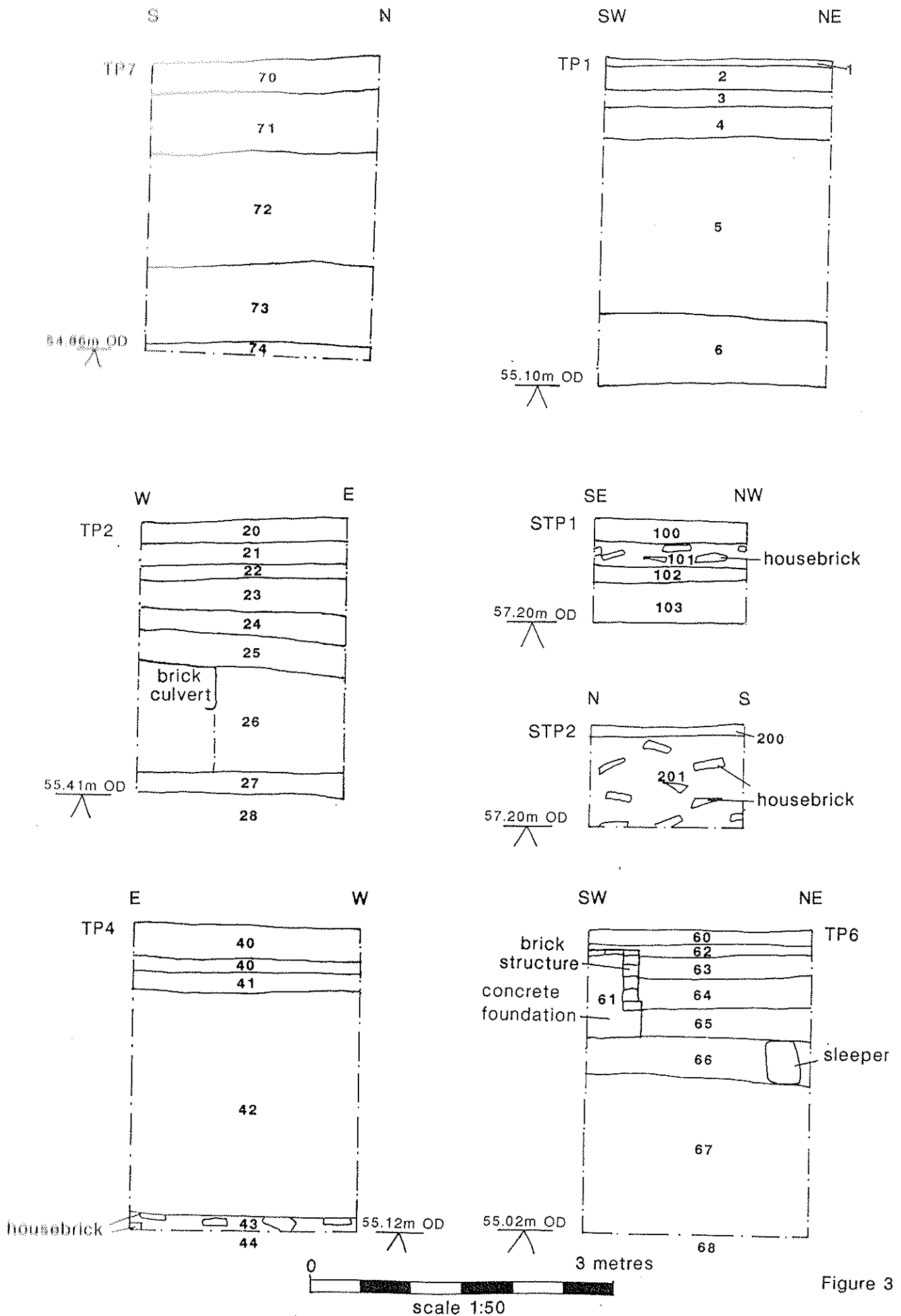


Figure 3

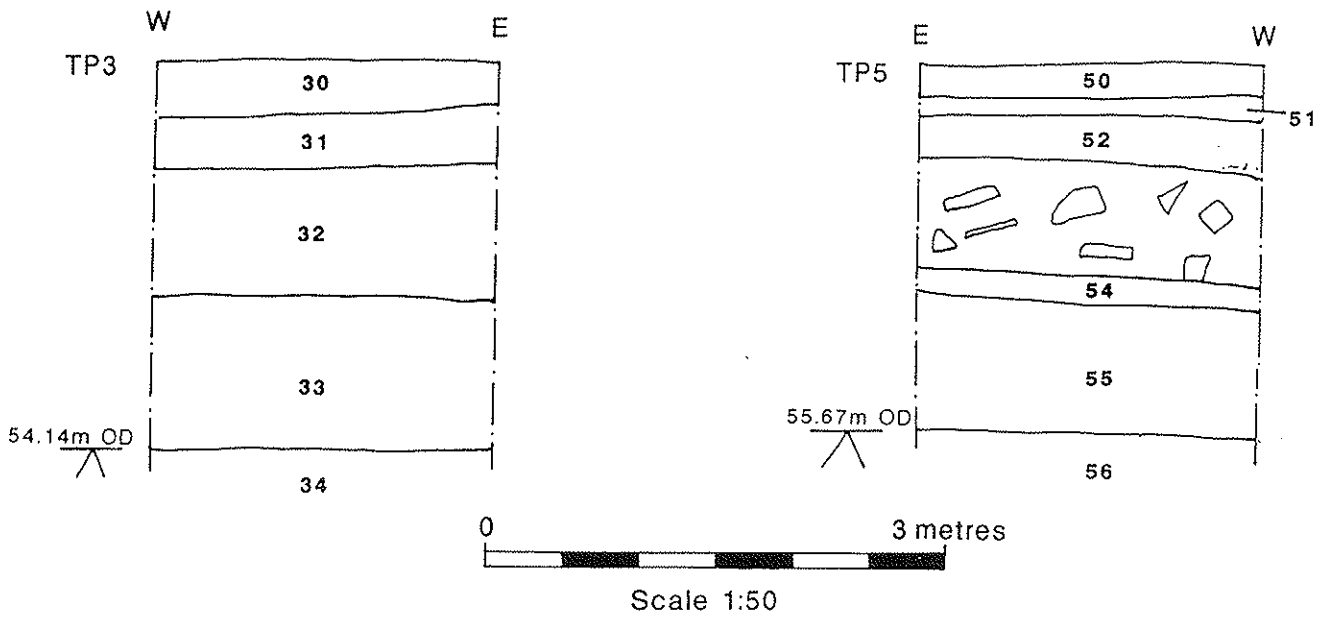


Figure 4

Borehole 3 reconstructed section

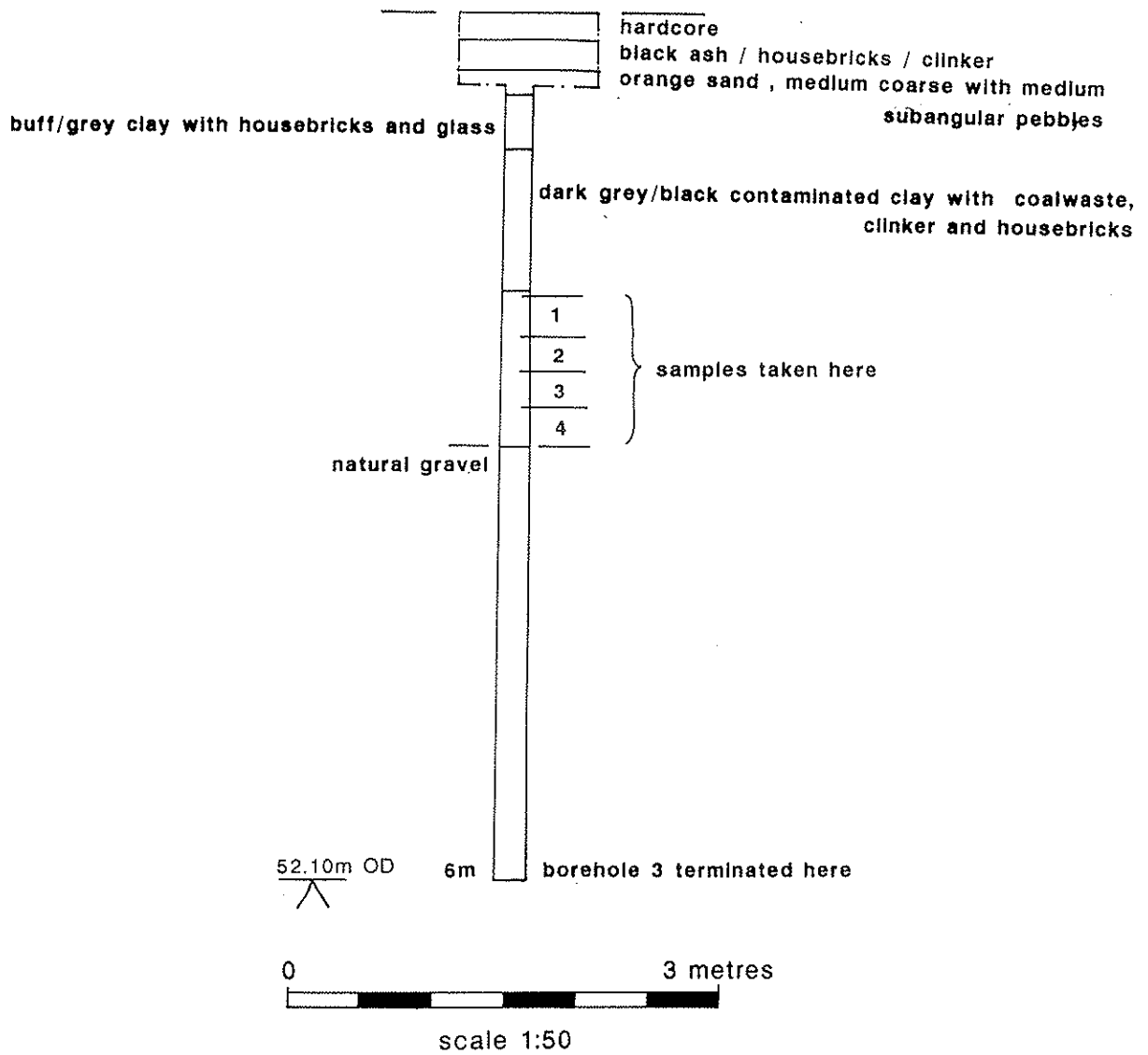


Figure 5



OXFORD ARCHAEOLOGICAL UNIT

Janus House, Osney Mead, Oxford, OX2 0ES

Tel: 01865 263800 Fax: 01865 793496

email: oau-oxford.demon.co.uk



Director: David Miles B.A., F.S.A., M.I.F.A. Oxford Archaeological Unit Limited.
Private Limited Company Number: 1618597 Registered Charity Number: 285627.
Registered Office: Janus House, Osney Mead, Oxford OX2 0ES