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An Archaeological Watching Brief on Land at Hilary Breck, Wallasey, Wirral, Merseyside Final Report

Prepared for LSP Developments

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Non-Technical Summary

This report is the final report on the results of an archaeological watching brief conducted on land at Hilary Breck, Wallasey, Wirral, Merseyside.

The site is located in the historic core of Wallasey in an area considered likely to contain archaeological deposits relating to early settlement.

The watching brief found evidence for post-Roman settlement dating to the late 4th to late 6th century AD on the upper slopes of the site. This consisted of a large 'key-hole shaped' pit packed with sandstone blocks. The pit fills contained fragments of clay from an oven and the large quantities of charred cereal grain, mainly barley but with some oats and bread wheat. The base of the pit was scorched which provides further evidence that the feature was used as an oven. The only other find from the feature was a possible saddle quern. It is likely that this feature was used either as a corn drier or malting kiln.

Archaeological deposits of this date are very rare in North-West England and this is only the third example of an oven of this date from the region.

The cottages which formerly occupied the northern access route to the site appear to have been entirely constructed in the early or mid-19th century. The only significant remains surviving were cellars at the southern end of the range. These were approximately 2 m deep and constructed in a mix of sandstone rubble and hand-made brick.

A sub-surface water cistern on the upper slopes of the site was probably constructed between 1850 and 1900 to supply water to the gardens which occupied the site.

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An Archaeological Watching Brief on Land at Hilary Breck, Wallasey, Wirral, Merseyside. Final Report

1. Introduction

This report describes the results of an archaeological watching brief at Hilary Breck, Wallasey, Wirral, Merseyside. It is the final report on this project.

The project was conducted in advance of proposals to develop the site for a medical centre. The project was conducted on behalf of LSP Developments (hereafter the Client) and was aimed at recording the archaeological deposits on the site.

2. The Site

The site is located at Hilary Breck, Broadway, Wallasey, Wirral (centred NGR SJ 2957 9219), west of St Hilary's Church (Fig. 1). The site is part of an area of historic and archaeological interest, forming part of the original historic core of Wallasey. Wirral MBC has granted planning permission subject to conditions including the requirement for programme of archaeological investigations.

The underlying geology is composed of desert-red Permo-Triassic sandstone of the Wilmslow formation (BGS map sheet 96, Liverpool), overlain by deposits of sand sealed by heavily rooted topsoil.

A narrow extension to the north-west was partly occupied by a ramp composed, at least in part, of rubble which gave access from Broadway to the main site.

3. Methodology

Full details are given in the Project Design.

Top-soil was removed using a mechanical excavator to the top of geological deposits or suspected archaeological deposits.

All subsequent excavation was by hand.

4. Archaeological and Historical Background

The only previous archaeological investigations of the area have been two desk-based assessments (Halsted 2010 and Stewart 2010) and a programme of trial trenching conducted for the present development (Adams 2011).

There is significant evidence for prehistoric settlement from the Wirral which is summarised in the desk-studies, but given the date of the excavated evidence from Hilary Breck this is not re-assessed further here. Outside the legionary fort at Chester, the most significant Roman settlement is the port at Meols on the north Wirral coast, which appears to have been in use from about 500 BC through the Roman period, continuously up to about AD 1500 (Griffiths *et al.* 2007). Otherwise Romano-British settlement patterns in the area appear to have largely continued Iron Age patterns of settlement of small farmsteads set within an agricultural landscape, though the only extensive excavation to date has been that at Irby (Philpott and Adams 2010).

In common with much of North-West England, evidence for post-Roman and early Medieval settlement on the Wirral, is largely confined to documentary and place-name evidence. The placename Wallasey first appears in the Domesday Book of 1086 as *Walea*, and there were many later variants including *Waleia* (1175), *Walleye* (1259) and *Waleyesegh* (1351). The name derives from the Old English *Walh/wala* meaning 'foreigner' or 'serf' and *eg* meaning 'island' or land partly surrounded by water (Dodgson 1972, 323). A literal interpretation of these elements would be 'foreigner's or Welshmen's island'. The second element relates to the topography of the area because until 19th century drainage and land reclamation the high ground upon which St Hilary's Church stands was connected to the Wirral only by a thin strip of land to its west. To the south it was cut off by Wallasey Pool and its associated marshes. However, the first element of the name indicates a surviving pocket of the original native British population in an area which was coming under the control of an Old English-speaking Anglo-Saxon population.

The collapse of Roman control in the early 5th century AD appears to have had only limited impact upon Cheshire and the Wirral. Thacker (1987, 238-47) suggests that some form of late Roman administration survived in the area until the 7th century AD when the area was linked with the kingdom of Powys. If correct this suggests that the composition of the population remained relatively unchanged in the 5th and 6th centuries AD.

The site is located to the north-west of St Hilary's Church which is likely to have Early Medieval or earlier origins, though the evidence for this is based largely upon the 1665 estate map which appears to show the churchyard sitting within a large circular enclosure (Fig. 3). Other maps, such as the 1656 estate map (Fig. 2) and the 1823 Enclosure Award (Fig. 4) show the site with much more angular boundaries and Cooper (1995) is possibly correct in casting doubt upon this interpretation of the 1665 map. Although the circular or curvilinear churchyards have been interpreted as characteristic of Celtic foundations, Higham notes that such a form may have become traditional for later medieval churchyards in Cheshire (Higham 2004, 23). However, the church's dedication to St Hilary of Poitiers is unusual and Bu'Lock (1972, 8) suggests that this is further evidence of an early, perhaps Celtic, foundation.

The Britons were defeated by the Anglian kingdom of Northumberland at the Battle of Chester in AD 616, though the extent to which this had a direct impact upon settlement in the region remains unclear. British place-names in the area continue to show changes typical of Welsh until the 7th century AD, the impact of Anglo-Saxon speakers appears to have been gradual (Thacker 1987, 243) suggesting that any population change was also relatively slow and perhaps relatively peaceful. A series of eight Byzantine finds, all but one coins, dating to the 6th or very early 7th century, found within 10km radius of the port of Meols argues strongly that north Wirral lay on the west coast trading route with the Mediterranean (Griffiths *et al.* 2007; Moorhead 2009, 268).

Cheshire and the Wirral only briefly remained under Northumbrian control, in AD 633 the area came under Mercian influence following Penda's victory over Edwin at the Battle of Hatfield Chase near Doncaster. The impact of these events upon local settlement remains uncertain but is unlikely to be dramatic, though there is little or no excavated evidence for this period from the region.

The earliest Viking involvement in the area was the siege of Chester in AD 893 by a Danish army and the area is likely to have acquired a strategic importance at this time because it lay on the route between the Viking kingdoms of Dublin and York

(Philpott and Adams 2010, 210). However, the earliest settlers probably arrived from Dublin in AD 902 and these too left traces in local place-names within the northern part of Wirral, including Wallasey. The former name of the parish, Kirkby in Whalley, indicates both a Viking-age church site and an associated settlement by the 10th or 11th century, though it is notable that the Old English element of the place-name was retained. The church sites provide the strongest identifiable focus of Norse activity and represent a point of continuity within the rural settlement landscape. Several early parish church sites in Wirral have Anglo-Scandinavian sculpture, such as Bromborough, West Kirby, Neston, Bidston or Woodchurch (Bailey 2010). Meols became a significant port for the Viking settlers from Dublin, and an important assemblage of Viking-age finds has been recovered from the shore (Griffiths *et al.* 2007; Griffiths 2010).

The historic mapping of the site (Figs 2, 3 and 4 and Halsted (2010) and Stewart (2010)) show that the central area of the site remained largely undisturbed from the 17th century into the 21st century. This suggested that it had a significant potential for the presence of archaeological deposits relating to early medieval or medieval settlement associated with the nearby church.

The northern part of the site, in the area of the access road, was located in the approximate position of the former enclosure boundary, potentially dating from the early medieval period. This area of the site had been developed in the past, however, including in the 19th and 20th century with buildings present until recently. These buildings consisted of a terrace of cottages shown on mapping from the mid-19th century onwards.

The trial trenching (Adams 2011) found evidence for settlement of uncertain date on the upper slopes of the site. This consisted of a large pit interpreted as a setting for a timber post packed with sandstone blocks. Large fragments of charcoal were found at the base of the pit and scorching of the base suggested a post may have burnt *in situ*. The only finds from the feature were fragments of fired clay (daub) with the impressions of twigs and a possible saddle quern. The form and construction of this feature was considered similar to postholes associated with buildings excavated at Irby, Wirral 8 km to the south-west which were dated to the early medieval period, i.e. c. 400-1000 AD, though the possible saddle quern suggested an earlier, possibly Iron Age, date (i.e. c. 600 BC- AD 70).

Trial trenching on the access route suggested that little survived of the cottages.

5. Results of the Excavation

The positions of the trial trenches are given in Fig. 5, the extent of the watching brief (Trench X) is shown in Fig. 6.

The deposits are described in stratigraphic sequence, beginning with the earliest.

Approximately 25 possible archaeological features were examined during the watching brief but found to either contain modern material or to be of geological origin. These are not described further here, though a record is maintained with the site archive.

5.1 Evidence for Early Medieval Settlement

The watching brief largely confirmed the results of the trial trenching which had suggested that the evidence for early settlement was confined to a small area at the northern end of the site. The only evidence relating to this period was a substantial pit identified in the evaluation (Context 14, Adams 2011).

Samples of charred grain from the palaeo-environmental assessment of the fills of this feature were submitted for Accelerator Mass Spectrometry (AMS) radiocarbon dating at Beta Analytic (Appendix 1).

Each sample consisted of an individual grain in order to maximise the accuracy of each date. The dating of individual cereal grains minimises the potential errors caused by the use of 'old wood', heartwood versus sap wood and residuality. This is because each grain can be guaranteed to represent a single season's growth, the burning of the grain is likely to have taken place as a single event or events separated by a period as short as days or at most months and it is unlikely that the grain will have been stored for more than a year or two before use or disposal.

The dates obtained (Beta 315035, 315036, 315037, 315038, Appendix 1) are consistent and suggest a date of 390 to 580 cal AD for this feature based upon the 2 sigma (95% probability) date range. An approximate mean for the four dates is c. 487 AD. The date range is relatively broad for the methodology used, largely because the uncalibrated dates coincide with a 'flat' point on the calibration curve used.

The feature consisted of a sub-circular pit c. 2 m in diameter and 0.60 m deep (Context 14, Figs 7, 8 and 9; Plates 1, 2 and 3) and the watching brief showed that most of this feature had lain within the evaluation trench, apart from a small southern extension (Context 99) which gave the fully excavated feature a 'key-hole' shaped plan. Context 99 was shallower than context 14 at 0.25 m deep and is likely to have been the location of the stokehole. This form is characteristic of Roman and early medieval corn driers and supports Cynthia Poole's suggestion (Section 6.7) that this feature served one of those functions.

The upper fill (Context 13) was a dark reddish brown silty sandy loam with occasional charcoal flecks and sandstone pebbles. This contained no finds apart from small fragments of 19th century ceramic and a fragment of Welsh slate, all found on the upper surface and within 0.15 m of each other. In the evaluation report these were interpreted as intrusive finds resulting from animal or plant action and the results of the radiocarbon dating, finds analysis and palaeo-environmental analysis support that interpretation.

Set within this deposit were c. 20 large sandstone rubble blocks (Context 12) arranged concentrically around a central void (Plates 1 and 2). The deposit below the sandstone blocks (Context 34) was much darker and contained large amounts of charcoal, including some pieces c. 100 mm across. Samples from these deposits have been processed (Section 7) and found to contain a rich assemblage consisting principally of wood charcoal, charred grain and weed seeds. The crop plants consist mainly of hulled barley, though bread wheat and oats were also recorded. Some crop processing waste including oat awns and barley glume were also present and this material could be interpreted as suggesting that this feature was mainly used for crop drying, though other functions cannot be ruled out. The assemblage of weed seeds included arable weeds and plants of cultivated or waste ground.

Approximately 120 fragments of daub (see Section 6.7) were also present in the fills, more being recovered during the watching brief. The majority are parts of an oven structure, but include two items of oven furniture. The assemblage includes sections where two structural elements were joined together such as wall and oven plate. Many of the pieces with a plain surface appeared to have a back face that had been pressed over another structural element and most pieces probably represent the inner wall surface. It is suggested that crop processing (drying or malting) was the most probable function.

The sandstone at the base of the cut was reddened, possibly as a result of scorching caused by burning (Plate 3) and the evaluation report interpreted this feature as a setting for a large timber post which had burnt *in situ*. The results of the palaeo-environmental analysis and assessment of the daub strongly suggest that it should be reinterpreted as the sub-surface structural remains of an oven. The lack of any similar features within the watching brief area would tend to support this reinterpretation and it is likely that any associated structures such as buildings would have had very shallow, or no, foundations.

This feature appeared to cut through another dark brown to black deposit containing charcoal (Context 47). At the evaluation phase this deposit was interpreted as an occupation deposits similar to those excavated at Irby (Philpott and Adams 2010). The Watching Brief showed that they were limited in extent, covering an area c. 1m south of the cut and were likely to be material spread from the oven either during its operation or by later ploughing.

The ditch excavated in Trenches II and III (Fig. 6) of the evaluation may date to this phase but contained no datable material so this interpretation must be regarded as uncertain.

5.2 Medieval

Fragments of daub and medieval pottery were found scattered across the site, the latter in deposits of sub-soil which occurred in isolated pockets across the site and which also contained occasional fragments of post-medieval pottery. The sub-soil is presumed to represent material relatively undisturbed by later ploughing but is otherwise of no archaeological significance.

No structural features relating to this phase were present.

5.3 Post-Medieval

5.3.1 The Cistern (c. 1850)

The brick roofed subterranean structure located in Trench VI of the evaluation (Figs 6 and 10) was cleared of water using a pump which revealed that it was filled with loose rubble, waterlogged black silt and modern debris of little archaeological significance. The barrel vaulted roof, which was two courses thick (Plates 4 and 5), was dismantled by hand to allow access to clear the debris by machine.

Machine clearance revealed that the interior measured 3.70 x 1.45 m and was 1.8 m deep from the apex of the vault. It was lined with a cement render, possibly coated with a bituminous paint though it was not possible to be certain that this was not discolouration caused by staining from the black silts which had filled the interior.

The interior was neatly constructed and lined with a hard Portland cement render. The only internal features were two inlets from the eastern side consisting of c. 80 mm diameter clay pipes presumably carrying water from up the slope to the east used to fill the cistern. There was no outlet pipe. The slate capped drain (Context 9) observed in evaluation Trench VI had no connection with the interior and presumably carried water from the roof of a superstructure.

No direct dating evidence was obtained for this structure, though it is likely to have been constructed between 1800 and 1900 AD. It was clearly intended as a water cistern, probably to supply the gardens which occupied the site in the late 19th century rather than drinking water as the contents are unlikely to have been of potable quality.

5.3.2 The Cottages

The cottages appear to have extended further into the main plot than was immediately apparent from historical map evidence (Halsted 2010 and Stewart 2010) which in turn may suggest that the northern plot boundaries were altered during the late 19th or early 20th century.

A spread of demolition rubble (Context 110, Fig. 11) was observed in the north-western corner of Trench X, covering an area of c. 200 m². This was excavated to reveal an east-west aligned wall (context 86) constructed in yellow sandstone rubble and very occasional hand-made brick and bonded with cream lime mortar.

The wall was 0.75 m thick. An earthenware pipe had been incorporated into the wall and presumably carried away drainage water.

The demolition debris observed to the south continued to the north of context 86. An attempt at hand excavation suggested that these deposits were very deep and a decision was made to excavate them by machine. This showed that context 86 was the southern wall of a cellar c. 2m deep and filled with loose demolition debris.

The demolition of the western garden wall of Hilary Breck House and a section of the alley to the south were monitored on three separate site visits. The first section to be dismantled represented the earliest phase of construction for the garden walls which recording during the evaluation phase suggested were the only standing section of the cottages. The deposits to the rear (east) of these walls were excavated to a depth between c. 1.0-1.5 m and consisted of dark, humic sandy loams over weathered bedrock. The humic material contained post-medieval and modern building material and pottery, confirming conclusions of the building recording which dated the construction of the walls to the mid-19th century with later, 20th century additions to the north.

The reduction of ground level to the ramp next to the site entrance was also monitored as part of the watching brief. This found that the cottages had been constructed by terracing south into the hill to create the cellar recorded in Trench X. The locations of the walls were plotted, though no dating evidence for their construction was recovered. Very little survived of the cottages at the northern end of the ramp where the only walls present were those recorded in the evaluation trench. Elsewhere there was evidence of extensive modern disturbance which suggests that demolition of the cottages and construction and demolition of the storage shed which occupied that portion of the site had removed all below ground archaeological deposits relating to the cottages.

No evidence was found for the boundary suggested in Halsted (2010).

The only significant find from demolition of the walls was dressed stone block with 'F.H. 1851' carved into one face. This may be a date stone from the cottages, though the Wallasey Tithe Map of c.1842 shows three cottages on the site so the stone may relate to a later rebuilding or have been imported to the from elsewhere. A note from R. Cooper dated 7/8/93 (MSMR Wallasey file) mentions this stone which was located on the southern side of the entrance. The note relates the initials to Frederick Hoggit who was rector of the church from 1850 to 1867. This feature will be incorporated into new walls on the site.

6. Finds (Clare Ahmad, Jeff Speakman and Cynthia Poole)

This section is a summary of the full finds report which is held as part of the site archive (file '131 Hilary Breck Finds report.doc'). It considers the finds from the evaluation and watching brief together.

6.1 Methodology

The finds were collected on site by context and then washed, recorded and catalogued by Clare Ahmad and Lauren Basnett (volunteer).

During the post-excavation phase the finds were sorted into typological groups within individual bags and assigned an object number. These types were recorded onto an Access Database using the National Museums Liverpool Field Archaeology Unit's (NMLFAU) recording system (file '131 Hilary Breck Finds database.mdb'). Where possible individual diagnostic pieces were recorded separately but most of the material, except where large parts of individual vessels could be identified, and any body sherds which could not be assigned to individual diagnostic pieces, were entered as bulk records.

A count of the numbers of pieces was taken and the total weighed.

6.2 Quantity of Material

A total of 674 finds were assessed, weighing c. 19.7 kilograms. These were recovered from six trenches and some unstratified deposits, all spoil heaps by trenches (Table 1).

Trench	Total	Total weight (grams)
I	12	118.0
III	31	75.3
IV	76	2102.9
VI	10	241.5
VIII	144	10044.1
IX	280	4805.3
X	119	2274.3
U/S	2	34.3
	Total = 674	Total = 19696

Table 1. Quantities of finds by Trench

Just under 50% of the finds (by count) were recovered from Trench IX from deposits of garden soils containing 19th century pottery. The next largest group was recovered from Trench VIII with 144 pieces; all recovered from fills related to a series of possible inter-cutting pits.

Material	Total number of pieces	Total weight (grams)
Bone	79	515.9
Ceramic	170	2414.7
Charcoal	3	2.2
Coal	1	3.5
Copper Alloy	4	31.3
Glass	38	870.8
Industrial Waste	2	41.6
Iron	4	155.3
Lead	1	9.8
Metal	1	15.2
Mortar	6	19.0
Pottery	329	6618.8
Pottery?	1	201.2
Shell	19	194.5
Slate	1	23.2
Stone	14	8578.6
Tin?	1	0.1
	Total = 674	Total = 19696

Table 2. Finds by material type:

6.3 Trenches I-IX

Most of the finds from these trenches were 19th and 20th century in date. These were described in the trial trenching report (Adams 2010) and have not been assessed further.

The only exception was Trench VIII where numerous fragments of fired clay were recovered from the stone filled pit. This material is reported on separately below (Section 6.7)

The only other find from this feature was a possible saddle quern fragment (Finds number 98). It is a red sandstone block which measures c. 300 x 200 mm and is 90-70 mm thick with a slightly dished upper surface. One edge shows some evidence of having being worked. Querns of this type were used for a wide range of purposes including the grinding of corn and other grains and the preparation of ore. Although not particularly diagnostic of date they are commonest in the Iron Age and early prehistoric periods.

6.4 Trench X

19th and 20th century material is described in the archive report.

A small group of medieval and early post-medieval material was located within the trench subsoil as context 79 and included one sherd of medieval pottery and one fragment of glazed medieval roof tile; two sherds of 15th/16th pottery and later sherds of slipware and late dark-glazed and unglazed earthenwares.

No significant finds were recovered during the watching brief around the ramp area, at the northern end of the site.

6.5 Unstratified

The majority of unstratified finds were later post-medieval in date although fragments of early post-medieval and medieval pottery were recovered during surface cleaning of Trench X. One sherd of 13th/14th century medieval pottery and one medieval glazed roof tile fragment were recorded from the trench. A lead ball, possibly from a musket, a copper alloy pin and button were also found unstratified by a metal detector within the trench subsoil.

6.6 Condition of material

The fired clay/daub is relatively fragmentary but appears stable. The 19th century pottery group from Trench IX includes larger pieces and contains joining sherds from the same bags have been located.

The pottery is generally in a stable condition and unlikely to deteriorate.

There are no finds requiring conservation or stabilisation.

6.7 Fired Clay Report (Cynthia Poole)

A small assemblage of fired clay comprising 124 fragments (1427g) was recovered from a single feature, a large pit in Trench VIII of the evaluation excavation. Preservation was relatively poor with a fairly low mean fragment weight of 11.5g. Intensity of firing was variable ranging from hard and well fired to poorly fired or only heat reddened. The assemblage has been recorded on an Excel spread sheet which forms part of the archive.

All the fired clay was made in the same sandy fabric containing a high density of coarse sand 0.5-1.5mm dominated by rounded quartz but including other minerals including dark rock in smaller quantity and in one piece translucent green grains. Some fragments also contained small grits up to 23mm in size both rounded and angular of quartzite, other hard fine-grained rock and mudstone or clay pellets.

Most pieces retained impressions of chaff and stems of cereal straw or grass. These impressions were normally less than 10mm in size, but some were up to 20mm long. On one piece there were stem impressions 3-5mm wide. Part of a deciduous leaf impression was also observed in one piece. The impressions occurred both superficially on moulded surfaces and incorporated within the fabric of the clay, but because of the coarse sandy texture the quality of the impressions was generally poor.

The whole assemblage can be interpreted as debris from an oven, the majority representing oven structure, but including two items of oven furniture. The oven structure all comprised pieces with a single moulded surface. Though generally flat the surfaces were sometimes curving or undulating, but generally roughly finished

and some pieces having deep finger tip depressions and even with the nail mark from pressing the clay into position. These pieces may relate to an area where two structural elements were joined together such as wall and oven plate. Many of the pieces with a plain surface appeared to have a back face that had been pressed over another structural element. These were no clear impressions such as stones or wattles, though a single concave impression may have been a wattle. In most cases it is more likely to be the impression of the foundation pit in which it was constructed or a primary clay wall structure. Most pieces ranged from 10 to 40mm thick suggesting the surviving pieces represent the inner wall surface. It is clear from some pieces that were very poorly fired on the unshaped face, sometimes only reddened and only lightly heat affected, indicating the oven walls were not fired throughout their thickness. A small number of pieces had areas of a flat or curving edge representing an opening or vent in the oven wall.

Some pieces from context 36 (sf101) have a roughly moulded rounded convex surface or two angled flat surfaces. In one case the piece has a curving edge at right angles to a flat surface. Two joining fragments have an area of flat surface with an angled surface curving around it. These pieces with curving surfaces may be fragments of pedestal rather than wall, which would normally present a concave rather than convex face. Any pedestal may have been constructed of a stone rubble and clay core finished with a clay render, represented by the surviving fragments.

Two items of oven furniture, both small flat discs or plates, were identified. Their size and form suggest they were used as oven furniture rather than a cover for a vent or opening in the oven. The pieces are similar to setters from pottery kilns and probably had a similar function as a support within an oven. Discs are sometimes used to form a suspended floor within the oven supported on a pedestal.

Sf109 Small circular or oval disc or plaque. One side is flat probably formed by pressing the clay onto a flat surface, such a board, stone slab or tile. The upper surface has been hand moulded resulting in an undulating convex surface with finger depressions sloping down at the edge to form an acute narrow edge joining with the base. Diameter: 130mm, thickness 16mm; wt: 22g. Context: 13

Sf102 Two joining fragments refitted form a half of a circular or end of an oval disc, flat on one surface and convex on the other. The flat face is irregular and uneven with many organic impressions in the moulded surface. The other side also has some organic impressions, but fewer and is smoother possibly more worn. The two surfaces join in a rounded acute angle forming a lentoidal cross-section. Two further pieces of similar colour and character may also be part of this object. Width: 83 x >46mm, thickness 30mm; wt: 114g. Context: 59

The characteristics of the fired clay and the feature, in which the assemblage was found, all point to the feature being the sub-surface part of an oven. The *in situ* burning of the basal surfaces provides a clear indication of such use together with the quantity of carbonised debris in its base probably representing fuel from its final firing. The stone within the pit is likely to derive from the superstructure and some of the blocks around the edge (Plate 1) would appear to be still *in situ* forming the base of the oven walls. The character of the fired clay recovered suggests the walls of the oven were originally clay lined. There is no *in situ* evidence to suggest this was a two chambered oven though some fragments of fired clay suggest a pedestal may have been used. However if this was an integral structural feature (most likely to be built of stone and clay) one might expect some evidence to survive in the base of the pit, if only a scar on the pit base. The alternative is that a portable pedestal was used. The small plates could have been used to form a suspended floor resting on a pedestal,

or they may have been placed directly on the hot embers though the latter is less likely in a double chambered oven.

However the evidence of this being a partly sub-surface structure would support the hypothesis of a double chambered structure with the main firing chamber at the subsurface level and an upper chamber at or above ground level. A domestic oven for baking is likely to have been single chambered. In the absence of evidence for pottery production or other industrial use, it may be suggested that crop processing (drying or malting) was the most probable function. Intrinsically the form of the fired clay provides no clue to dating, as all the material found is non-diagnostic and could occur at any period from prehistoric to medieval. The radiocarbon results indicate a 5th-6th century AD date for the feature. Comparative material of this period is hard to find. Two early Saxon pottery kilns have been found at Cassington, Oxfordshire (Arthur and Jope 1951) and a middle Saxon oven or kiln was excavated at Sedgeford, Norfolk (Hoggett 2001). Late Saxon structures are more common and typical key-hole shaped kilns (Carver 2010) and corndriers are known from Stafford (Moffett 1994). Descriptions of fired clay from such structures provides little detail, though wattle impressed daub was noted from both the Oxfordshire kilns and the Stafford structures. Heavily finger marked kiln wall structure is common from more recently excavated kilns at Stafford (Poole 2011).

7. Palaeo-Environmental Assessment (E. Huckerby)

Four bulk environmental samples from the fill of context 14 were processed by NMLFAU and the flots and residues were submitted for analysis by OA North. Table 3 shows the details of the samples assessed.

Sample no	Context no
3	35
4	34
5	59
25	36

Table 3. Environmental samples assessed from Hilary Breck

7.1 Methodology

The flots were scanned with a Leitz/Wild stereo microscope, plant material was recorded on a scale of 1-5 where 1 is five items or less and 5 is more than 100 items and provisionally identified. The matrix components were also noted and the residues were examined. Plant nomenclature follows Stace (1997). The data are shown in Table 2.

7.2 Results

The flots, from contexts 34, 35, 36 and 59, were between <10 ml and 75 ml in volume. They were very rich in charred plant remains including crops. Frequent or abundant charred cereal grains were recorded in all the samples and barley (*Hordeum*), spelt/emmer wheat (*Triticum dicoccum/spelta*), bread wheat, and oats (*Avena*), together with indeterminate grains, were identified. Crop processing waste, in the form of barley glumes and an oat awn were recorded in contexts 36 and 59. A few possible cultivated legumes were identified in context 34 and occasional fragments of hazel nut shell (*Corylus avellana*) were recorded in contexts 34 and 36.

Significant numbers of charred weed seeds were recorded in the four samples.

The assemblage of weed seeds included arable weeds and plants of cultivated or waste ground eg fat-hen (*Chenopodium album*), corn marigold (*Chrysanthemum segetum*), pale persicaria (*Persicaria lapathifolia*), and knotweed (*Polygonum aviculare*). Some grassland plants such as sheep's sorrel (*Rumex acetosella*) and grasses (*Poaceae*) with large seeds (> 4mm) and medium seeds (2-4mm) were recorded together with taxa from broad ecological categories eg bromes grasses (*Bromus*), small legumes, bedstraws (*Galium* sp). No plants of wet ground were observed when the flots were scanned.

Charcoal was identified in all samples and oak (*Quercus*) dominated with some hazel/birch/alder-type (*Corylus/Betula/Alnus*) and other taxa recorded. Some roundwood was noted and charred herbaceous stems were observed. The preservation of the charcoal was mixed and the fragments varied in size from greater than 2mm to less than 2mm in size. Modern roots and seeds were recorded in all the samples assessed. Sand particles were present together with small amounts of coal.

Context no	Sample no	Flot size ml	Matrix	Charred plant remains	Potential For analysis	Potential for dating
35	3	<10	Charcoal >2mm (2), <2 (4), modern roots, wood and seeds, sand, coal	Cereals (4) <i>Hordeum, Triticum</i> sp, <i>Avena</i> and undifferentiated . Weed seeds (3) including <i>Brassica, Chenopodium album, Chrysanthemim segetum</i> , and <i>Poaceae</i> with seeds >4mm	High	Yes
34	4	<10	Charcoal >.2mm (5), <2 (2), <i>Quercus, Corylus/Betula/ Alnus</i> , modern roots and seeds, sand	Cereals (5) <i>Hordeum, Triticum</i> sp, <i>Avena</i> and undifferentiated <i>Corylus</i> nut fragment (1) cultivated legumes? (1) Weeds (5) including <i>Bromus, Rumex acetosella, Persicaria lapathifolia</i> and <i>Stellaria media</i>	High	Yes
59	5	75	Charcoal >2mm (2), <2 (2), <i>Quercus</i> and <i>Quercus</i> roundwood, charred stems, modern roots and seeds, sand	Cereals (5) <i>Hordeum, Triticum</i> sp, <i>Avena</i> and undifferentiated . Crop processing waste (1) <i>Hordeum</i> glumes Weed seeds (5) including <i>Poaceae</i> with seeds >4mm, <i>Bromus, Rumex</i> sp, <i>Polygonum aviculare, Chenopodium album, Persicaria lapathifolia, Galium</i> sp and <i>Stellaria media</i>	High	Yes
36	25	40	Charcoal >2mm (4), <2 (4), <i>Quercus</i> , charred stems,	Cereals (5) <i>Hordeum, Triticum</i> sp, <i>Avena</i> and	High	Yes

			modern roots, wood and seeds, sand, coal	undifferentiated <i>Corylus</i> nut fragment (1) cultivated legumes? (1) Chaff (1) Weeds (5) <i>including Bromus,</i> <i>Rumex acetosella,</i> <i>Persicaria</i> <i>lapathifolia, Galium</i> <i>sp and Stellaria</i> <i>media</i>		
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7.3 Discussion

The assessment demonstrates that there is a high potential for further analysis. The lower fill context 59 contained the richest assemblage of charred plant remains but compared with many sites from North-West England the four samples were exceptionally rich in such remains.

Hulled barley was the major cereal crop identified in the samples from the site but wheat, including bread wheat, and oats were also recorded. A little crop processing waste was recorded in contexts 59 and 36 with oat awns in the former and barley glume in the latter. Nearby at Irby, Wirral, barley was a main crop in the Roman period (Huntley, 2010), however, as Hall and Huntley (2007) suggest, it is still unclear whether barley was used for human consumption or for fodder.

Charred weed seeds were plentiful in the four samples and included a number of different plants. The weed seeds suggest that there were areas of cultivated, waste ground and grassland but there is little evidence for wet ground.

8. Conclusions

The archaeological deposits from this site can be divided into two broad phases.

8.1 Phase 1 (Early Medieval)

The earliest phase is represented by the large stone filled pit (context 14) excavated in the evaluation and the associated dark deposits to its north and south which were excavated in the watching brief. The evaluation report tentatively suggested that context 14 was a setting for a substantial timber post similar to those seen in the Early Medieval and Medieval (c. 410-1400 AD) phases at Irby (Philpott and Adams 2010). A radiocarbon date of 390 to 580 cal AD has since been obtained for this feature based upon the 2 sigma (95% probability) date range. An approximate mean for the four dates is c. 487 AD. Subsequent assessment of the palaeo-environmental evidence and fired clay (see Sections 6.7 and 7) strongly suggest that this feature should be reinterpreted as an oven or kiln related to crop processing (drying or malting). In addition, the watching brief supplied further evidence of the form of this feature which conforms to the 'key-hole' plan characteristic of early ovens of this type.

The interpretation of context 14 and its associated fills as an oven is probably supported by the results of the watching brief which found no similar cut features in the surrounding area. This suggests that the pit did not form part of a building and it

is likely that any structures such as dwellings associated with the oven had shallow, or no, foundations which have not survived truncation by later activity.

The possible ditch in Trench III may belong to this phase, though this dating is based largely upon the absence of any datable finds from this feature.

8.2 Phase 2 (18th century and later)

The watching brief confirmed that most of the walls forming the western boundary to the site access were constructed in the late 19th to mid 20th century, modern material being found in the construction cut. Little survived of the cottages within the ramp area, which had been extensively disturbed following their demolition in the mid-20th century.

The cottages appear to have extended further south into the main plot than the late 19th and early 20th century map evidence suggested. Alternatively the cellar may not have had an associated superstructure and hence would not have appeared on mapping. It is possible that the cellar relates to an earlier phase of construction, though the use of ceramic pipe and brick suggests a date no earlier than c. 1800 and probably after c. 1840.

8.3 The Regional Context

Despite the absence of evidence for buildings relating to the post-Roman activity at Hilary Breck and the relatively wide date range of the radiocarbon dates these results are of great local and regional significance, there being little or no excavated evidence for early post-Roman rural settlement from the Wirral, or indeed the wider region of Merseyside, Cheshire or south Lancashire. This is further enhanced by the excellent evidence for cereal processing which provides some of the first evidence for the agricultural economy of the region at this date.

Although nationally corn-driers and/or malting kilns are relatively common features on archaeological sites from the Roman period onwards (Scott 1951) there are few parallels for structures of this type or date from the region. In fact they appear to be rare or absent in the North-West at most periods. For example, during the Roman period Jones and Mattingly (1990, Map 6:46, 228) show none north of a line running from East Yorkshire to the Severn. The ovens excavated within the Roman camp at Kintore, Aberdeenshire were broadly similar in form and size to the Hilary Breck oven (Jones 2012) but were interpreted as having been used for cooking. In addition, very few of the excavated post-Roman grain driers/ovens/kilns have produced charred plant remains which have been analysed (Moffett 1994, 62).

The use of corn driers seems to have been dictated, at least in part, by the British climate which dictated that corn was often unripe or wet when harvested and therefore had to be dried before drying or storage (Ward 1994, 76). The malting process is a critical stage in brewing and involves making grains germinate by soaking in water, the grains are then halted from germinating further by drying with hot air. Malting grains develops the enzymes required to modify the grain's starches into sugars which can be used by yeast. It is likely that the same structures could have performed both functions.

A corn drier of broadly similar date to that at Hilary Breck was excavated at No. 1 Abbey Green, Chester in 1975-8 (Ward 1994, 75), though the form was quite different from that at Hilary Breck, consisting of a stone-lined flue leading to a

shallow, irregularly shaped pit 2.5 to 3.0 m across which may originally have had a stone lining and served as a stoking area for the oven which the excavator believed was outside the excavated area. A similarly designed oven consisting of a 3m long flue and 2 m diameter heating chamber was excavated at Hunter Street School, Chester in 1979 but was post-Norman in date (Ward 1994, 77). The Hilary Breck, Abbey Green and Hunter Street ovens all conform to the 'key-hole' type (Carver 2010) which appears to continue Roman traditions of construction.

Ovens excavated at Stafford were later than those at Hilary Breck, dating to the 9th century AD (Moffett 1994, 56) but appear to have been broadly similar in form to the Hilary Breck structure. They were of two types, both described as keyhole-shaped (though the plan shows the unlined oven as a sub-rectangular pit), consisting of a round chamber and adjoining chamber or pit which was interpreted as a probable stoking area. One was clay-lined and the other not, the unlined oven most closely resembled Hilary Breck in size and form. They were grouped around a cobble surface and were in pairs, one of each type in each pair. Apparently the ovens were not enclosed by a building, although this was not certain. A range of functions were suggested including bread baking, grain drying and malting.

Two features at excavated on the multi-period settlement site at Irby may warrant reinterpretation in the light of this evidence. Feature F3, Phase EM4 (Philpott and Adams 2010, 63) was dated to the Anglo-Norse period and was broadly similar in size to that at Hilary Breck and contained similar fills. However, the stone packing material could be more clearly related to a post-setting which had been cut through the fills and there was no evidence for *in situ* burning or fired clay. It was also associated with metalworking debris and may therefore have been related to iron smithing rather than crop processing. The feature may also be later in date, being dated to the 10th to 11th centuries AD on stratigraphic evidence.

Feature 6, Phase M3 at Irby (Philpott and Adams 2010, 72) more closely resembled the Hilary Breck feature and contained fragments of fired clay, though there was no evidence for *in situ* burning and it was also likely to be later, perhaps, 14th century in date.

Many corn-driers were relatively small structures set within buildings (e.g. Beresford 1979) though there is no evidence that any of the Hilary Breck, Irby and Chester features were set within buildings and they seem to form part of a larger class commonly set in fields (Scott 1951, cited in Ward 1994, 77). However, those at Stafford, Irby and Chester were clearly within the limits of settlement and the location of the Hilary Breck example suggests that it too was within or close to the limits of settlement.

The different sizes of oven are likely to relate to differing practices, the smaller ovens within barns being used to dry small quantities of corn before grinding in had querns. Large kilns, such as Hilary Breck, imply the drying of larger quantities and perhaps by extension a more centralised and organised system of agriculture.

8.4 Archaeological Implications

The discovery of a rare type of oven dating to a period which is extremely poorly represented in the archaeological and historical record for the North West of England is a highly significant event. It confirms the unspecific evidence for early post-Roman activity suggested by the place-name, and provides a securely dated location for that activity.

The presence of early medieval activity in the vicinity of the site of the medieval church at Wallasey was predicted on placename, historical and topographical grounds. The lack of other structural remains in the area surrounding the oven is very likely to be a result of later truncation of the soil profile, and a consequence perhaps of the use of relatively slight building foundations in the early medieval period. The few known rural sites of early medieval period in Merseyside and Cheshire are virtually or totally devoid of datable cultural material (e.g. Higham 2004, 23; Fairburn 2002, 71; Griffiths 2010), so dating sites of this period depends upon radiocarbon determination in the absence of datable finds.

A further important methodological consideration is that site location depends on careful detailed investigation by experienced archaeologists. The ephemeral and fragile nature of the remains means that their identification and interpretation require a high degree of skill as well as an awareness of the type of remains which existed. Their fragility means that survival of remains can be patchy and partial, and narrow trenching on a limited sample, typically 10% or less, is not an adequate method to ensure that such remains are identified. Archaeological monitoring during topsoil stripping is likely to be a far more effective means of identifying the remains of the early medieval period.

9. Recommendations for Additional Work

No further fieldwork is required on this site. However, the palaeo-environmental assessment recommended that the remainder of the four samples should be processed and analysed for charred plant remains.

It is also recommended that the charcoal from Contest 34 (sample 4) should be analysed to inform about the use of wood on the site.

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11. Figures



Fig. 1. Site Location

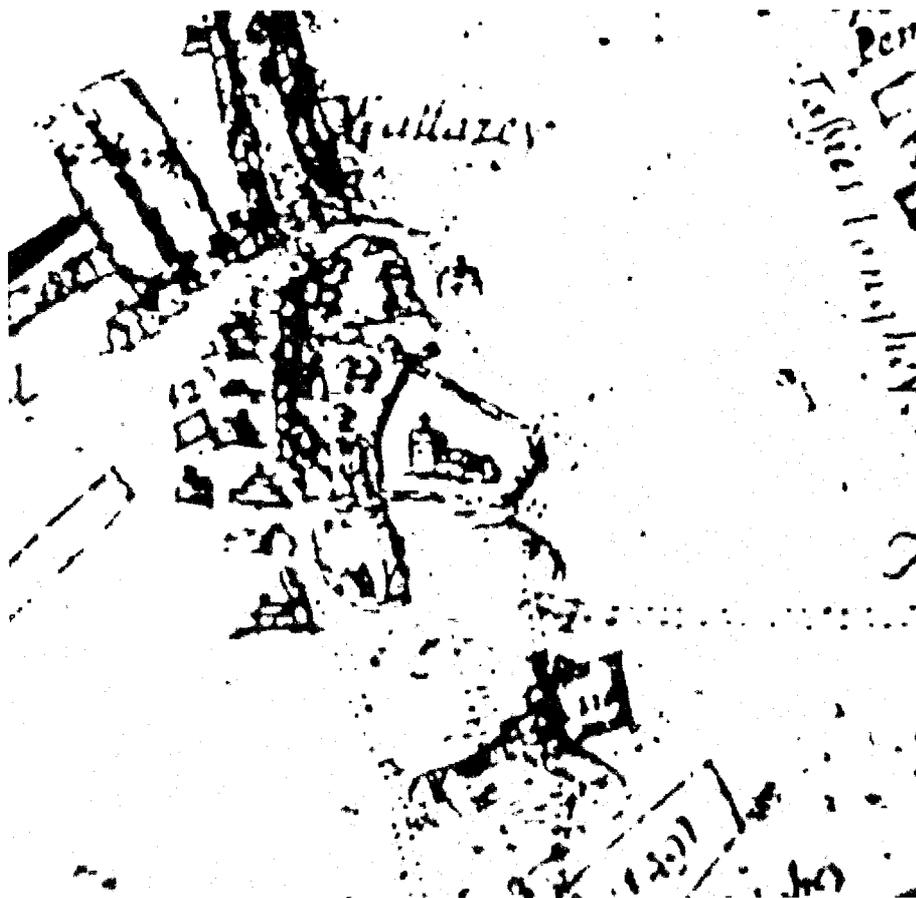


Fig. 2. 'A map of the Manor of Bidstone in Wirehall in Cheshire in England by Thomas Taylor' dated 1656.

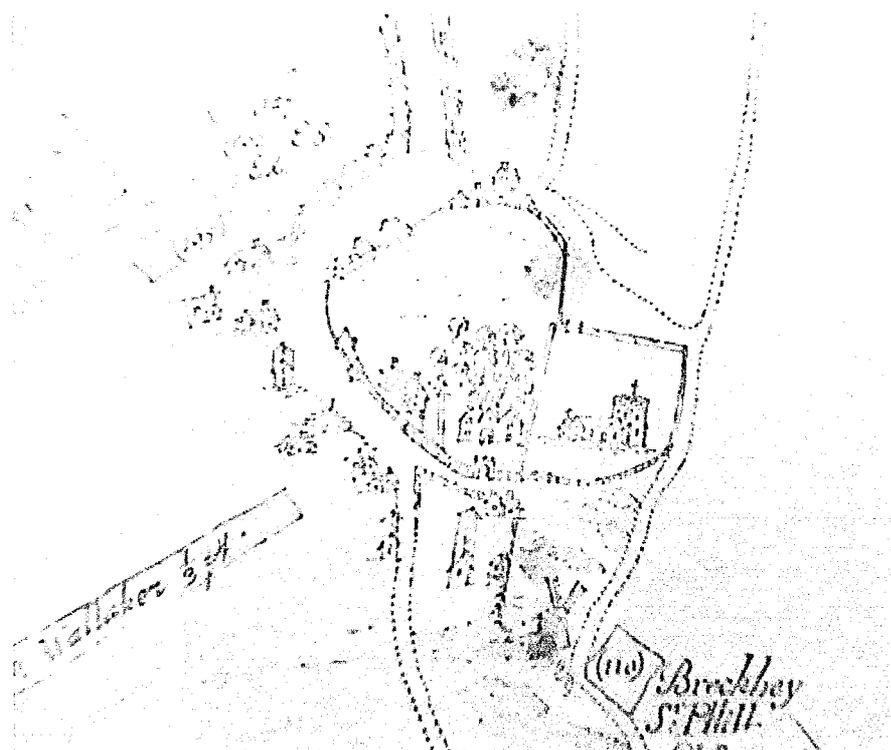


Fig. 3 'A map of the tenements in Wallasey being part of Bidstone Manor' dated 1665.

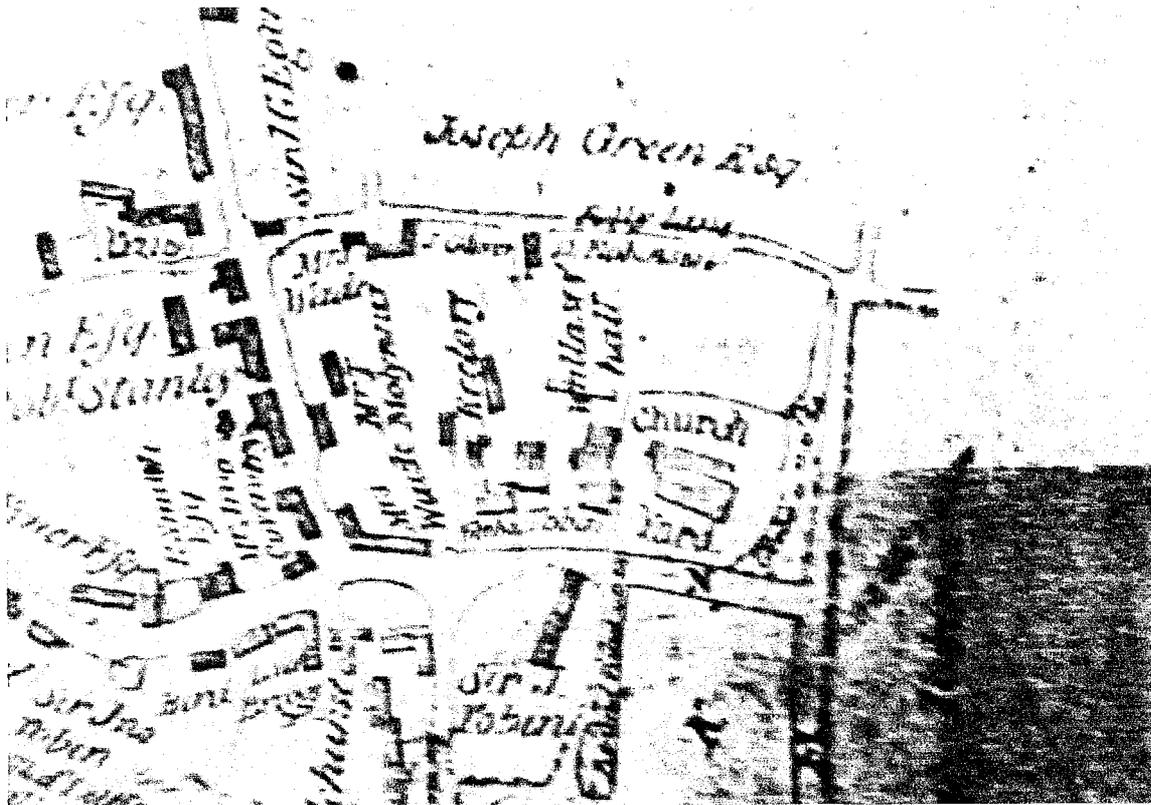


Fig. 4. Wallasey Enclosure Award, 1823.



Fig. 5. Location of evaluation Trenches.

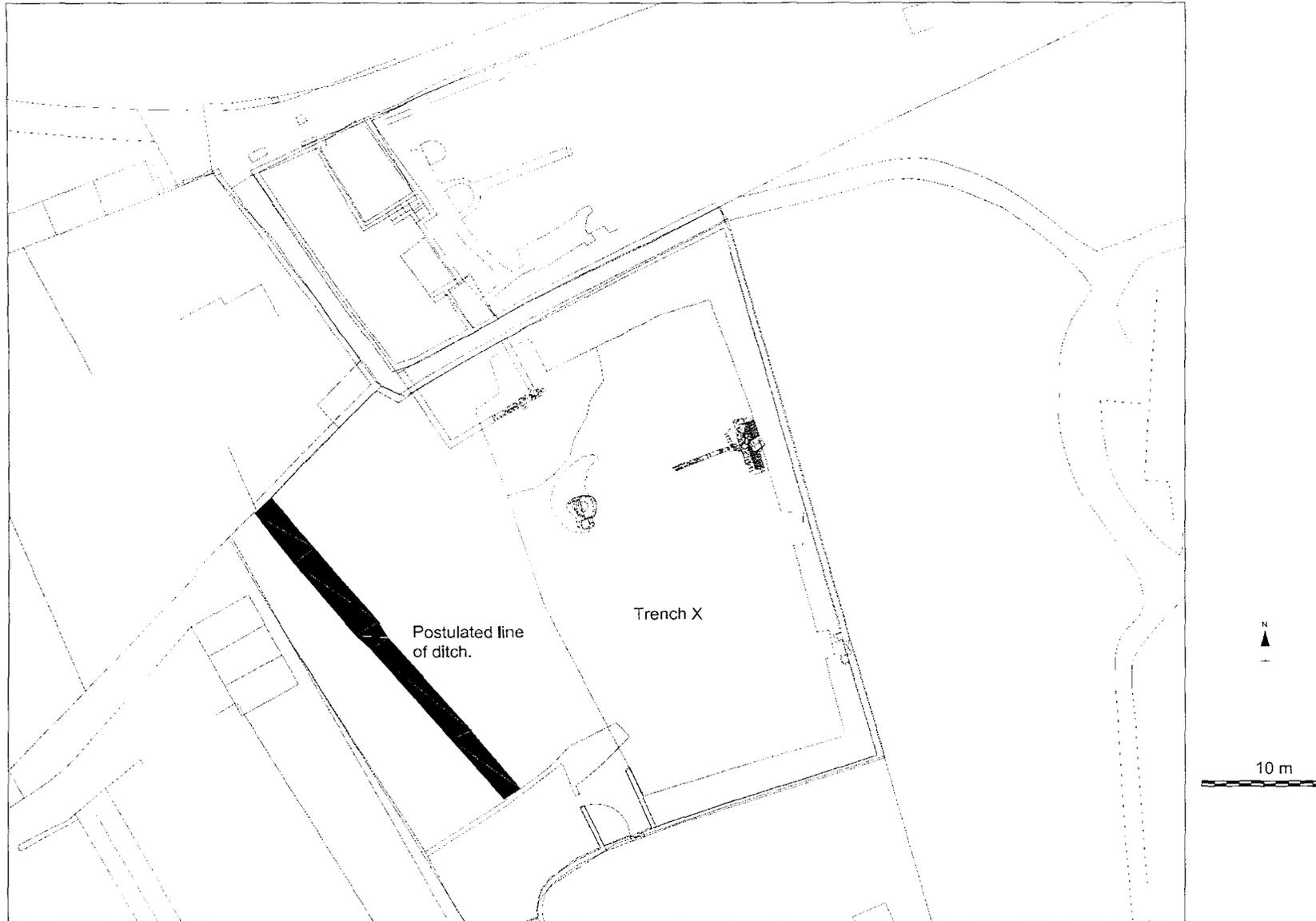


Fig. 6. Location of watching brief and archaeological features.

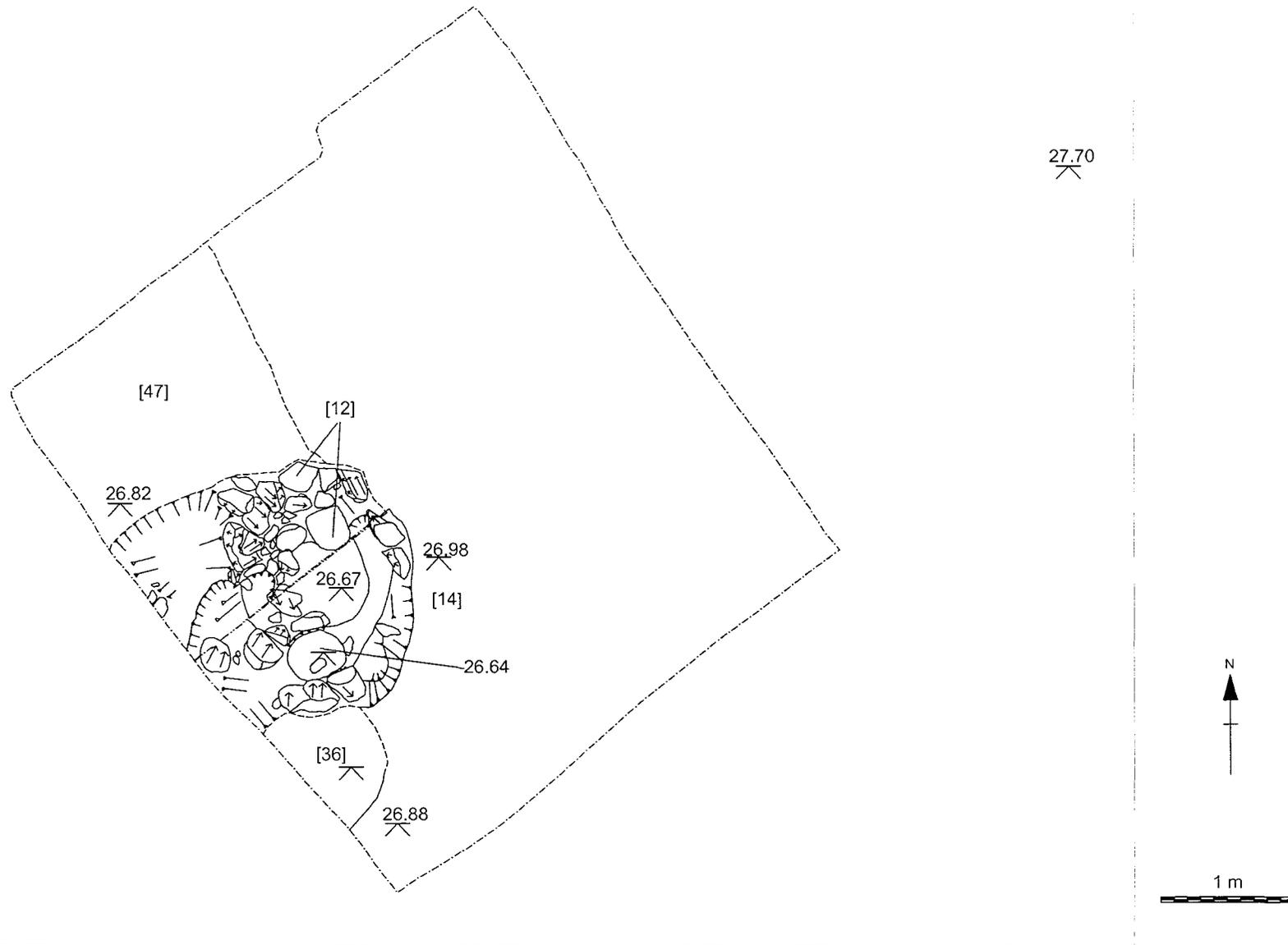


Fig. 7. Plan of stone-packed feature in Trench VIII.

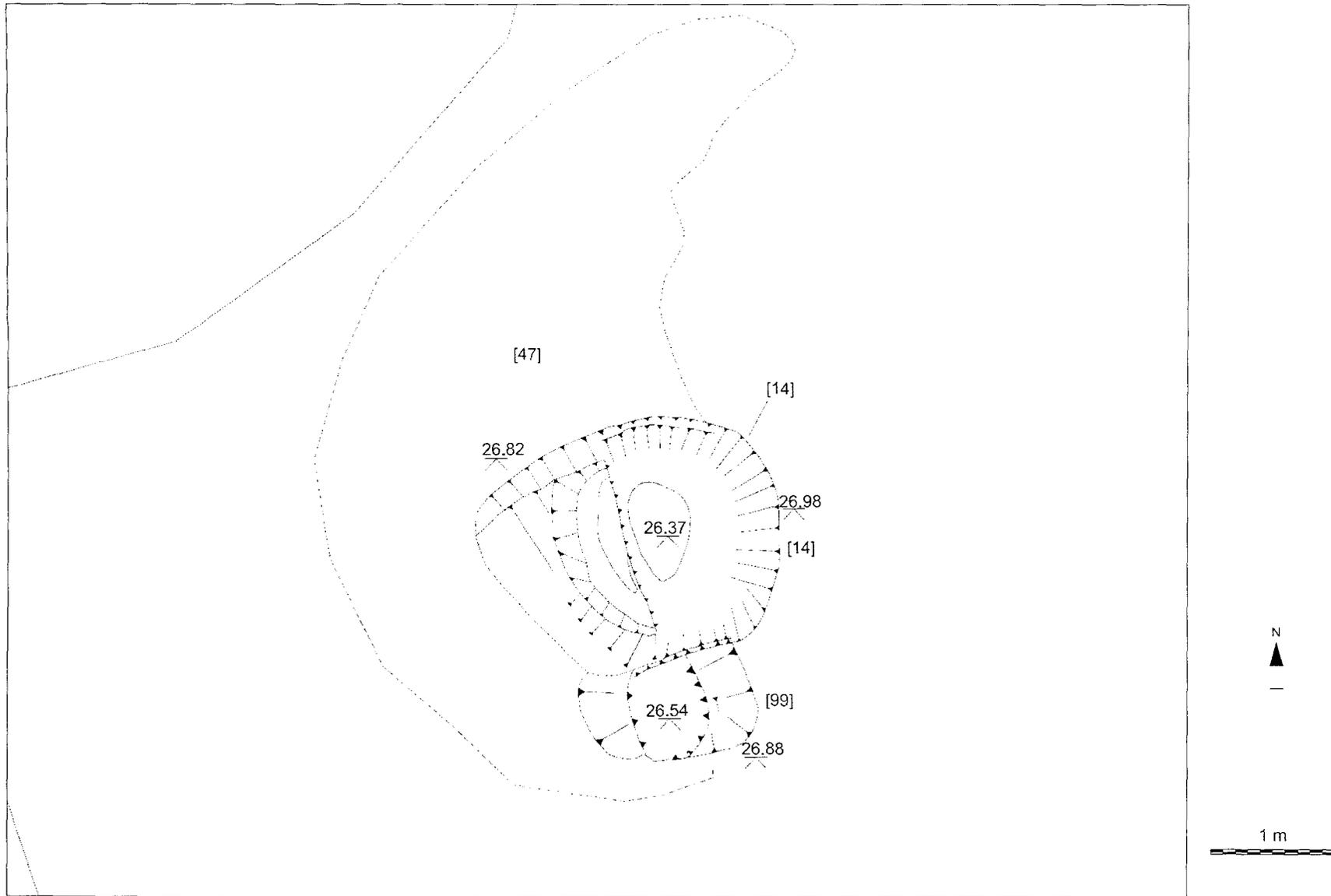


Fig. 8. Plan of cuts 14 and 99.

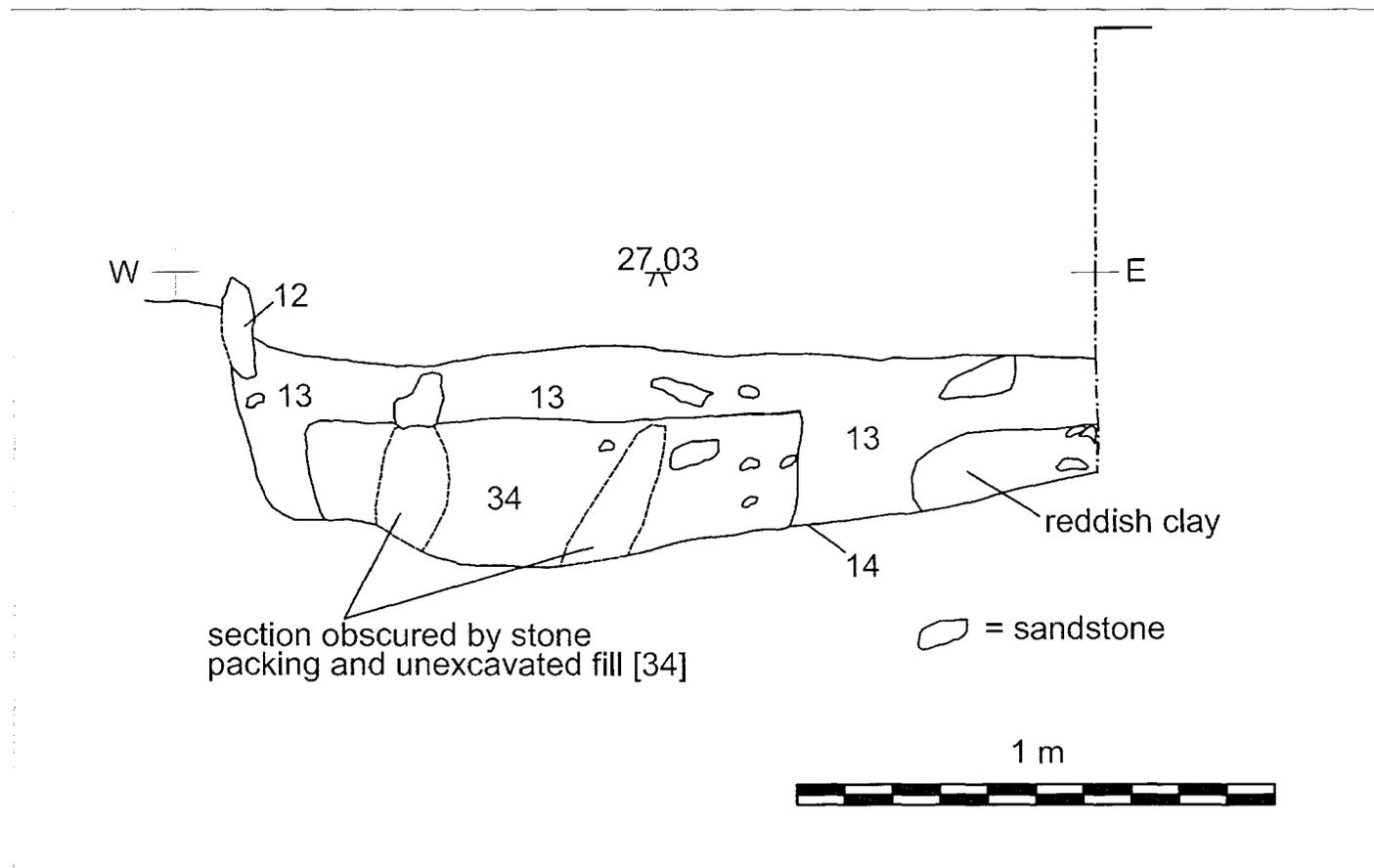


Fig. 9. South-facing section across Context 14.

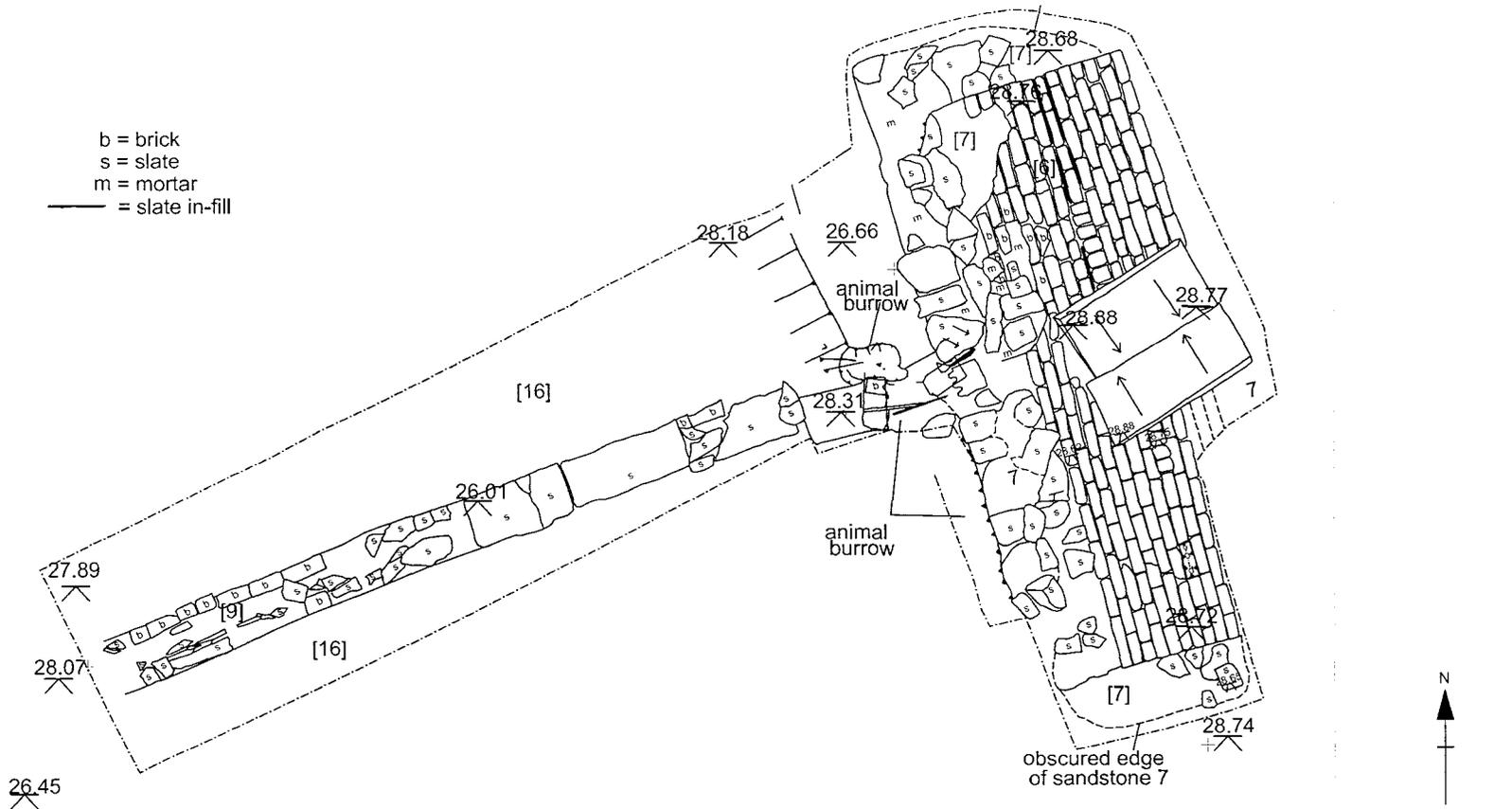


Fig. 10. Plan of water cistern.

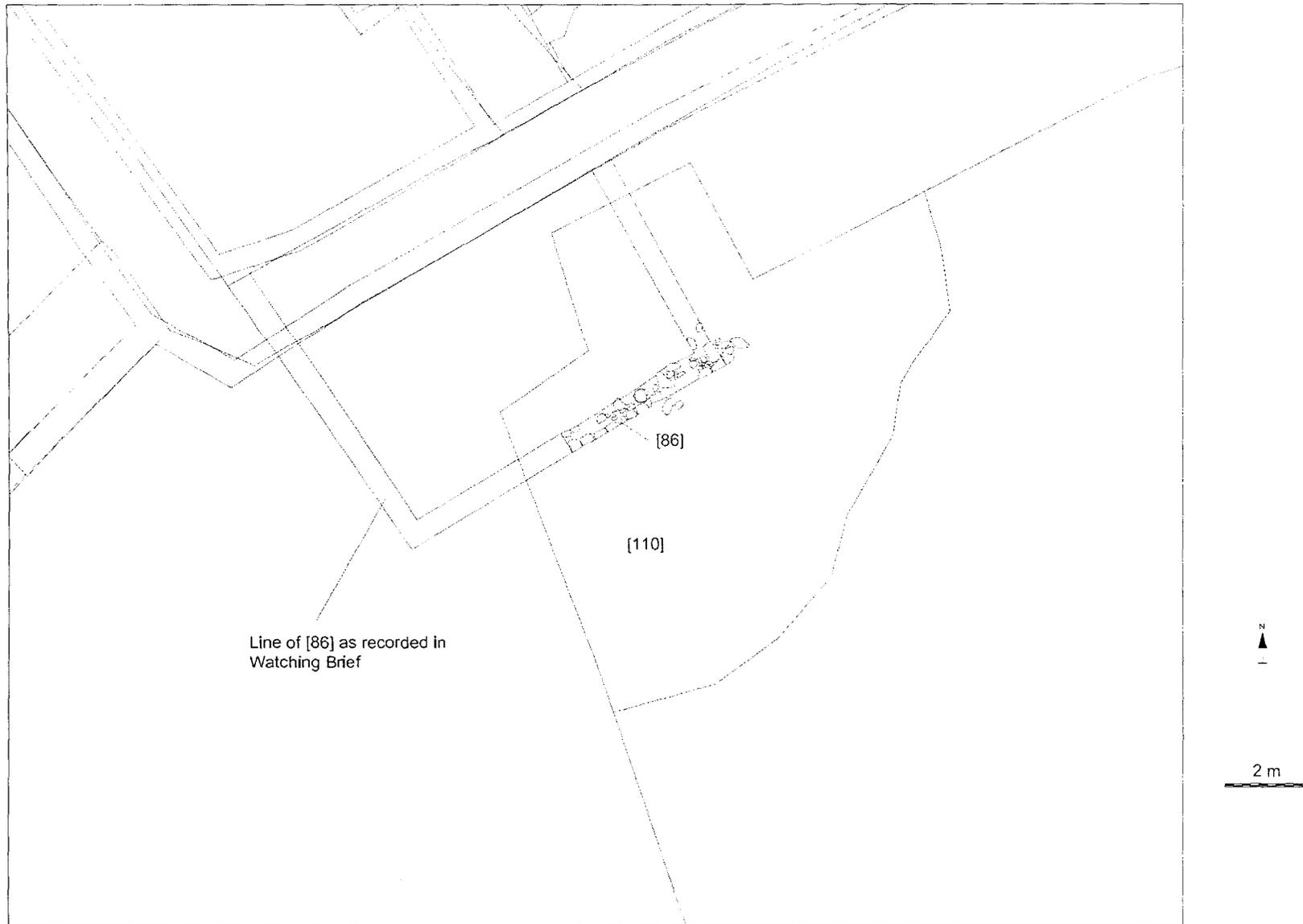


Fig. 11. Plan of excavated features relating to the cottages.

12. Plates



Plate 1. Partially excavated oven.



Plate 2. Stones arranged round central void in Context 14, Trench VIII. View looking north.



Plate 3. Post-excavation view of Context 14 showing scorching to base of cut. View looking south.



Plate 4. Brick lined cistern in Trench VI. View looking north.



Plate 5. Cistern following removal of vaulted roof.



Plate 6. The cottages, c. 1900.

Appendix 1: Radiocarbon Dates

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=23.4;lab. mult=1)

Laboratory number: Beta-315035

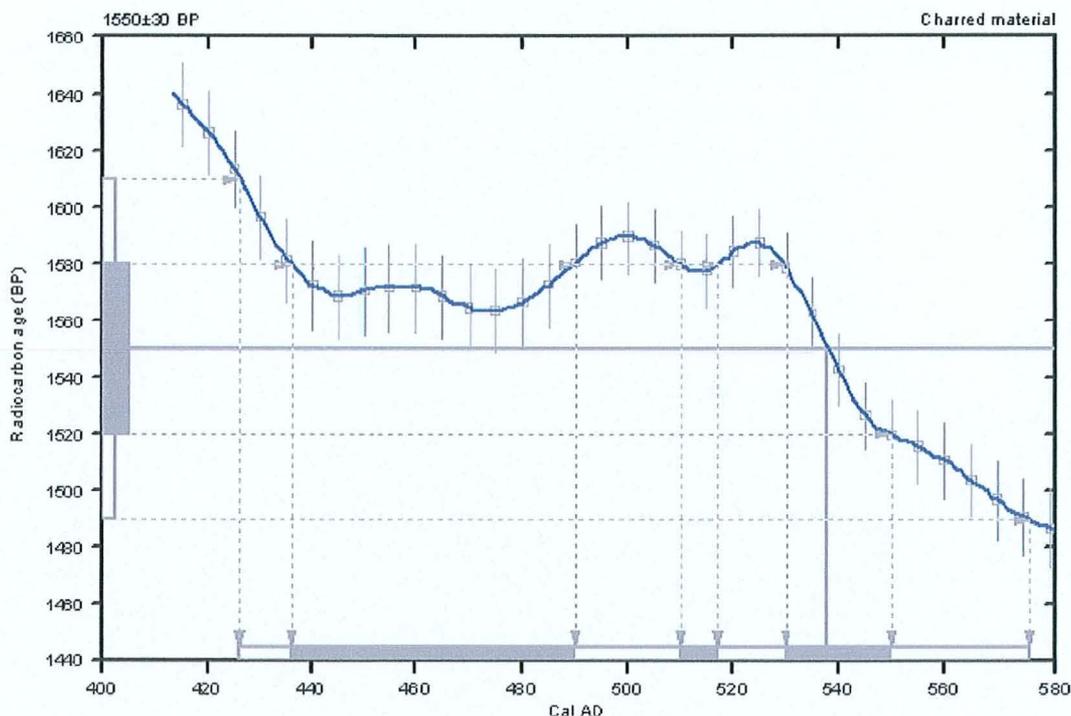
Conventional radiocarbon age: 1550±30 BP

2 Sigma calibrated result: Cal AD 430 to 580 (Cal BP 1520 to 1370)
(95% probability)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 540 (Cal BP 1410)

1 Sigma calibrated results: Cal AD 440 to 490 (Cal BP 1510 to 1460) and
(68% probability) Cal AD 510 to 520 (Cal BP 1440 to 1430) and
Cal AD 530 to 550 (Cal BP 1420 to 1400)



References:

Database used

INTCAL09

References to INTCAL09 database

Haton, et al., 2009, Radiocarbon 51(4):1151-1164, Reimer, et al., 2009, Radiocarbon 51(4):1111-1150

Stuiver, et al., 1993, Radiocarbon 35(1):137-189, Oeschger, et al., 1975, Tellus 27:163-192

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322

Beta Analytic Radiocarbon Dating Laboratory

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.3;lab.mult=1)

Lab or atory number: Beta-315036

Conventional radiocarbon age: 1570±30 BP

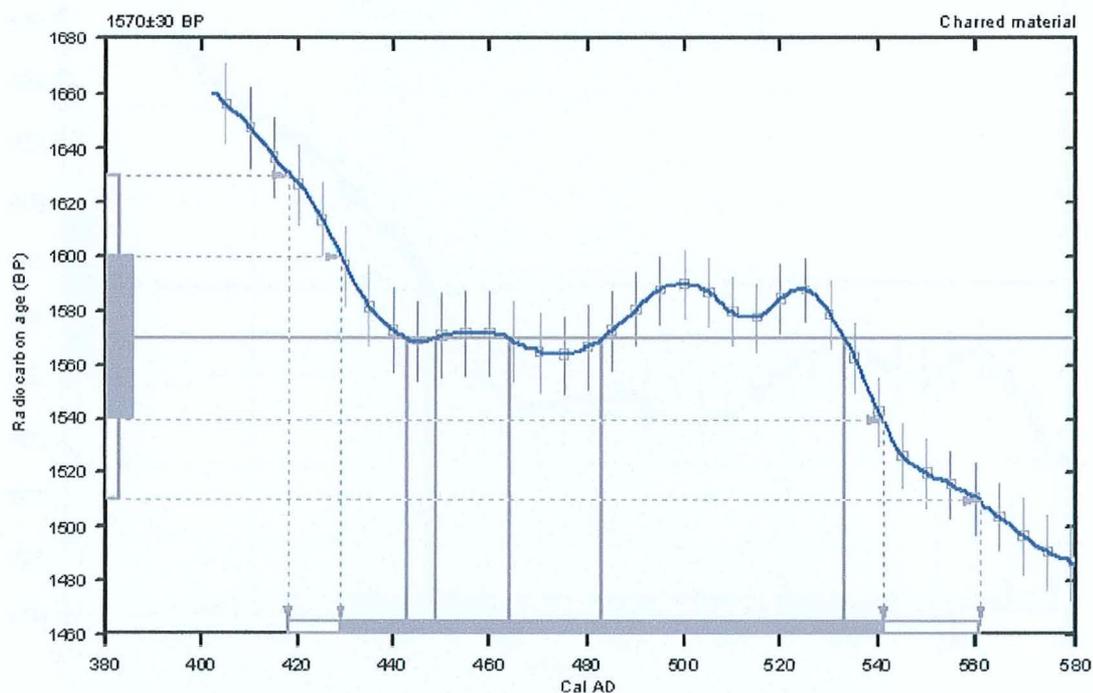
2 Sigma calibrated result: Cal AD 420 to 560 (Cal BP 1530 to 1390)
(95% probability)

Intercept data

Intercepts of radiocarbon age
with calibration curve:

Cal AD 440 (Cal BP 1510) and
Cal AD 450 (Cal BP 1500) and
Cal AD 460 (Cal BP 1490) and
Cal AD 480 (Cal BP 1470) and
Cal AD 530 (Cal BP 1420)

1 Sigma calibrated result: Cal AD 430 to 540 (Cal BP 1520 to 1410)
(68% probability)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton, et al., 2009, *Radiocarbon* 51(4):1151-1164, Reimer, et al., 2009, *Radiocarbon* 51(4):1111-1150

Stuiver, et al., 1993, *Radiocarbon* 35(1):137-189, Oeschger, et al., 1975, *Tellus* 27:168-192

Mathematics used for calibration scenario

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-24.6;lab.mult=1)

Laboratory number: Beta-315038

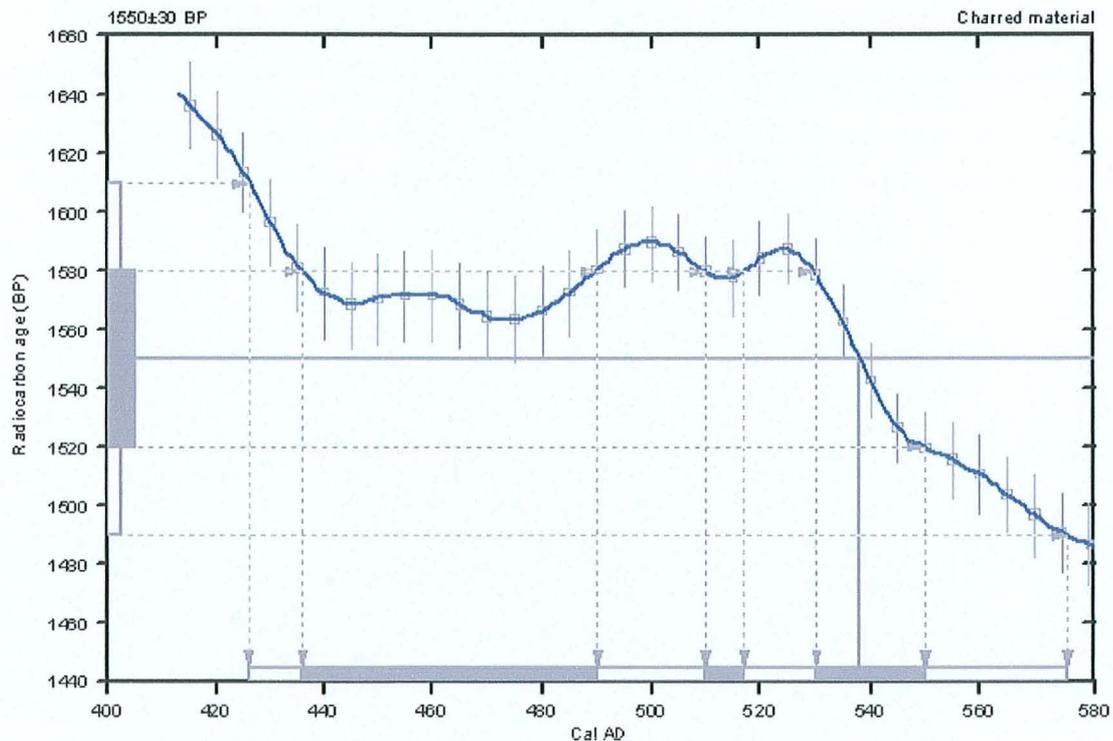
Conventional radiocarbon age: 1550±30 BP

2 Sigma calibrated result: Cal AD 430 to 580 (Cal BP 1520 to 1370)
(95% probability)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 540 (Cal BP 1410)

1 Sigma calibrated results: Cal AD 440 to 490 (Cal BP 1510 to 1460) and
(68% probability) Cal AD 510 to 520 (Cal BP 1440 to 1430) and
Cal AD 530 to 550 (Cal BP 1420 to 1400)



References:

Database used

INTCAL09

References to INTCAL09 database

Heaton, et al., 2009, Radiocarbon 51(4): 1151-1164, Reimer, et al., 2009, Radiocarbon 51(4): 1111-1150,

Stuiver, et al., 1998, Radiocarbon 35(1): 137-189, Oeschger, et al., 1975, Tellus 27: 168-192

Mathematics used for calibration scenario

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