BROMBOROUGH COURT HOUSE:

Excavation Report

Summer 2015

Compiled by J. Kirton BA MA
Big Heritage C.I.C.
Riverside Innovation Centre
Castle Drive
Chester
CH1 1SL

info@bigheritage.co.uk

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Summary

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BROMBOROUGH COURT HOUSE EXCAVATION REPORT

1. INTRODUCTION

1.1. From September to December 2014 Big Heritage C.I.C. and community volunteers undertook five evaluation trenches within the interior of the site known as Bromborough Court House Moated Site and Fishponds, Wirral (centred on NGR: SJ 34496 84189). These trenches were sited based upon resistivity results generated in June 2014 (Kirton 2014). The site is a scheduled monument (SMR 13428). Permission was granted by the land owners, the Land Trust and Historic England (then English Heritage) to undertake excavation. Joanne Kirton, on behalf of Big Heritage C.I.C., was granted Scheduled Monument Consent (Ref: S00089251). The excavation was monitored by Andrew Davison of Historic England.

1.2. This work was undertaken as part of the larger HLF funded 'Discovering Bromborough 2: Moats and Manors', a community archaeology project managed by Big Heritage C.I.C. The intention of the project was to complete a second year of test pitting around the core of Bromborough village and undertake an evaluation of the potential for archaeology on the court house site, whilst providing training for local community volunteers and other interested parties.

2. SITE DESCRIPTON

2.1. Overview

The site is currently on the *Heritage at Risk Register* due to vandalism. However, since the commencement of this project the trend has changed from *declining* to *improving*. The site is primarily comprised of bank and ditch earthworks interpreted as part of a moated manor site (LEN: 1012503; UID: 13428). The bank and exterior ditches survive fully on the western side, partially to the north and south and are completely lost to the east. In addition, there is also

an interior and exterior pond network. The interior of the site is some 6000m² and runs approximately 94m E-W and 116m N-S (See Figure 1). The site is currently heavily overgrown with access limited to those areas that have been cleared for work.

2.2. Location

Bromborough Court House is situated on Wirral in the county of Merseyside. It is located 2 km north of Bromborough Village and 1 km west of the Mersey Estuary. The area is flat and low-lying with access to the estuary to the north of the site. The surrounding area is now largely comprised of industrial buildings and hotels – a process that began in the nineteenth century. To the west of the site the A41, the main road on Wirral, runs north to south. The site of Bromborough Court House is adjacent to Bromborough Pool Conservation Area (www.wirral.gov.uk).

2.3. Geology

The underlying solid geology is Triassic Wilmslow Sandstone Formation and the overlying geology is Devensian Till, which is clayey with sand, gravel and pebbles (British Geological Society, Sheet E096, 1:50,000).

3. BACKGROUND

3.1. Overview of the Documentary Evidence

The site of Bromborough Court House was occupied from at least the seventeenth century when records demonstrate that a building was erected on the site, which stood until 1969 (Bromborough Society 2000, 47). The architectural features suggest it was constructed *c.*1680 in the Dutch style (Chitty *et al.* 1985, 8). In plan, the building was a long straight section with forward projecting wings at each end. It had three floors (Bromborough Society 2000, 48). First-hand accounts of the house's exterior and interior survive, detailing its layout, contents and decoration (Connah 1952, 10; Edwards 1995). The house and its grounds first appear on an Estate Map in *c.*1755. The original map has subsequently been lost but a photograph of

the map still survives in the Cheshire Record Office and a tracing survives in the Merseyside Historic Environment Record (MHER) (See Figure 3).

However, it has long been assumed that the site was the location for previous court houses noted in texts referring to Bromborough. Reference has commonly been made to King Edward I staying at Bromborough Court House in August 1277 (Bromborough Society 2000, 44). Whilst the Close Roll, Fine Roll and Patent Roll survive for that year and note Bromborough on the itinerary for the 12th and 13th of August, no reference to the court house or its surrounding land are made. The first specific reference to the court house is made seven years later in the *Annales Cestriensis,* which states how the building burnt down in 1284. "Also the manor house of Bromborough in Wirral was accidentally burned down on May 5" (Chitty *et al.* 1985, 8; Bromborough Society 2000, 44). Unfortunately, no information is supplied about the location of this structure or its surrounding area. A second court house was reputedly built on the same site, which stood until the seventeenth century when it was demolished (Chitty *et al.* 1985, 8).

The lack of any description regarding the location of either the first or second structures or a physical description of their appearance means that there is no way of linking the area under investigation to the court house noted in these texts. That a court house existed prior to the structure built in the seventeenth century is not disputed, particularly as several references are made to the building throughout the medieval period in the Bromborough Parish Registers, Dean and Chapters Rentals and Hearth Tax Rolls. The problem lies in physically linking the earlier structures to the site currently called Bromborough Court House.

3.2. Overview of Previous Archaeological Investigation

Limited archaeological investigation has been undertaken on the site (Connah 1955-6; Freke 1979; David and Mills 1981; Chitty 1985 and Bromborough Society 2000). No archaeological features were unearthed and no finds pre-dating the seventeenth century were recovered.

- Excavation in 1978 demonstrated that the moats ditch had either been cut or re-cut in the seventeenth century (Freke 1979, 47).

- The only anthropogenic activity to be noted within the interior was a burning horizon. However, no dating evidence was recovered from the context and its extent was not sought (Connah 1955-6).
- Topographic survey suggested that there was an elevated area within the interior but it was not possible to determine if this was natural or anthropogenic (Chitty 1985, 7-9).
- Resistivity survey was also undertaken as part of the same project. The technology was in its infancy but did suggest a concentration of weak low resistance anomalies within the interior towards the western ditch (David *et al.* 1981). Again, it was not possible to determine if this was natural or anthropogenic

Based on the evidence set out above, Big Heritage C.I.C. decided to re-investigate the interior of the site using modern non-invasive techniques and small evaluation trenches.

3.2.1. Resistivity Survey Summary

In June 2014 Big Heritage C.I.C. were given access to the interior of the site when the heavy undergrowth had been partially cleared by the land owners. Resistivity survey was undertaken in two cleared areas (referred to as A and B) (See Figure 2). For a full description of the methodology please refer to the resistivity report (Kirton 2014).

The resistivity survey within the interior of the moated site of Bromborough Court House demonstrated that the technique can be successfully used on this terrain. It proved the presence of both high and low resistance linear features in Area A, which provided clear targets for further work. Area B was harder to interpret due to the quantity of strong high and low resistance anomalies but the uniformity of a group of these features suggested they are anthropogenic and would form a further target for future investigation. Significantly, the results from this area supported the suggestion of anthropogenic activity indicated in the 1979 report and implied that the disturbance was genuine and not the result of the methodology and/or the conditions of the survey. Without invasive investigation it was clear that it would be difficult to determine what the anomalies in Area B were, either. anthropogenic or geological, and it would be impossible to date the features across the site.

3.2.2. Topographic and LiDAR Assessment

Topographic and LiDAR analysis was also undertaken to negate the effect of the heavy overgrowth on the site and limited accessibility. The data analysis conducted largely corroborated the findings of the 1977-78 topographical survey (Chitty *et al.* 1985) and confirms the extant nature of features evident on 1st revision OS mapping, but undiscernible in the field. It did not provide substantive new information but facilitated a rapid comparative study with other known sites of a similar morphology and confirmation of the previous survey's conclusions (for the full discussion please see Duckers 2014).

4. ARCHAEOLOGICAL OBJECTIVES

Based on the results of resistivity survey, LiDAR analysis and previous archaeological investigation undertaken within the interior of the moated site at Bromborough Court House, Big Heritage proposed to excavate five evaluation trenches to a potential depth of 1.2m. These trenches were located in areas that had the potential to provide information on the date, phasing, function and character of the site.

5. METHODOLOGY

The fieldwork comprised the excavation of five trenches of differing size, in the locations shown (see Figure 4). Each trench was located to target features or anomalies identified through resistivity survey.

5.1. Excavation Methods

- As the trench locations had been pre-selected each was geolocated using a Leica 406 Total Station from an established base station, georeferenced with the OS National Grid (NGR).
- The trenches were excavated by hand under the supervision of archaeological staff and followed the CIFA Standard Guidance for Archaeological Excavation 3.3 (2014).

Changes in contexts were recorded as they presented in the trench. This process was undertaken to a maximum depth of 1.2m.

- Deposits were assessed for their paleoenvironmental potential. Two deposits were identified as requiring environmental sampling.

5.2. Recording

- Each context was recorded using pro-forma sheets (deposit/cut/masonry/group). The context sheets were supplemented by level recording, photographs, plans and section drawings.

5.3. On-site Finds Identification and Retention

- All soil was screened for artefacts using sieves with a standard 6mm mesh, with the exception of very heavy clay soils and all artefacts were retained during the excavation process.
- Any finds that were believed to be of particular importance were recorded individually with a unique 'small find' number and record.
- All artefacts excluding metal, slag, fabric and any other material deemed too delicate were washed and dried in preparation for analysis.
- Artefacts were sorted into their material type i.e. ceramic, lithic, metal, plastic, glass etc. and grouped by context.
- Each material from each context was then counted, weighed and bagged with relevant information noted on the bag and a Tyvek label, which was inserted into the bag. This was repeated for each context from each trench.
- Artefacts were then recorded by material and context using an Access Database.
- Each material type was then dispatched for specialist analysis where appropriate.

5.4. Dissemination and Archival Strategy

The archaeological records and finds have been retained by Big Heritage for analysis, reporting and archiving. Upon completion, the project will be signposted on the OASIS website, http://ads.ahds.ac.uk/project/oasis, the report submitted to the Merseyside Historic Environment Record [MHER] and digitally disseminated though the Archaeology Data Service

[ADS]. A copy of this report will also be available through the Big Heritage website (www.bigheritage.co.uk and project blog digbrom.com).

The site archive will be deposited with the National Museums Liverpool (Accession Number: MOL.2015.8), the approved registered museum for the deposition of archaeological archives in Merseyside. The archive was compiled following guidelines supplied by National Museums Liverpool (2014).

5.5. Project Team

The fieldwork and post excavation processing was managed by the Big Heritage Project Manager, Joanne Kirton, supported by Karen Gavin. The report was written by Joanne Kirton and illustrations prepared by Joanne Kirton and Karen Gavin. The finds reports have been written by Olaf Bayer, Rose Broadley, Julie Edwards, David Higgins and Ian Smith. The palaeoenvironmental Report was compiled by John Carrott. The archive has been prepared by Joanne Kirton and Karen Gavin.

6. RESULTS

This section provides an overview of the evaluation results: detailed summaries of the recorded contexts, finds and environmental samples.

6.1. Trenches 1-5

6.1.1. Trench 1 (Figures 5, 6 and 7)

Trench 1 measured 2m north to south and 4m east to west. It was sited to target a low resistance linear running north to south within the interior of the moated area. The natural mid yellowy-orange clay substrate (105) was reached at 0.47m. A number of natural and anthropogenic features disturbed this context, the largest of which was an old tree root system and the subsequent fill 0.7-0.8m in depth (106). A compacted stone spread (104) was found to sit on top of the natural clay surface in the east side of the trench. This was truncated

by a linear cut (108) dug into the natural clay at a depth of 0.25m. This was clearly created to hold a wattle fence, based on the impressions left on the clay surface sides and the obvious spacing of post-holes. This feature correlates with that highlighted in the resistivity survey, which demonstrates that the fence line runs a minimum of 20m north to south. Toward the western extent of the trench a small linear cut (111) at a depth of 0.26m and fill (112) was identified. However, its purpose was not discernible, as it was associated with no other features. A further potential circular cut (114) and its associated fill (113) (approx. 0.43x0.42m) was located in the west facing section. However, this was not evident in plan during excavation, suggesting the cut survives largely intact in the section side. Only further excavation will reveal the purpose of this cut. All contexts were sealed by a light orangey-yellow clayey-silt subsoil 0.2m in depth (102) and a light greyish-brown sandy-silt topsoil 0.23m in depth (101).

6.1.2. Trench 2 (Figures 8 and 9)

Trench 2 measured 2m north to south and 3m east to west. A 1m extension was added to the east side after permission was granted by Historic England. The natural mid browny-orange clay substrate (204) was identified at 0.38m, below which sat the natural boulder clay first encountered at 0.59m (209). The trench was largely void of archaeological features. An old tree root system and the subsequent fill (208) reaching a depth of 0.57m was identified throughout the trench. This was originally identified as a potential cut but once the trench had been extended it was clear that the feature was natural. One cut (205/206) was identified truncating context (204), running north-west to south-east through the trench. This feature was also visible on the ground surface for some 20m. It was filled by several large pieces of rotten wood and by the mid blacky-brown silt subsoil 0.28m in depth (202). The trench was sealed by the dark blacky-brown silt topsoil 0.15m in depth (201). The cut feature likely served as a drainage ditch. In Trench 2 a perched-water table was encountered at approximately 50cm, closely associated with the natural substrate.

6.1.3. Trench 3 (Figure 10 and 11)

Trench 3 measured 2m north to south and 2m east to west. A 1m extension was added to the west side after permission was granted by Historic England. This trench was sited to explore a series of high resistance anomalies identified during the resistivity survey. The natural light greyey-orange clay substrate (303) was encountered at 0.41cm depth. This context was also identified in Trench 4 and Trench 5 (403/504) at similar depths. At this depth a perched-water table was present in both Trenches 3 and 4. Sat within this clay context was a heavily degraded sandstone feature (306). This sandstone feature is seemingly anthropogenic, constructed from sandstone blocks in a linear running NW to SE for 1.4m. The trench was extended to explore a possible return running NE to SW. The extension demonstrated that the linear continued into the western trench extension, at a length of 2.04m, confirming that the feature was likely structural. Several other degraded sandstone spreads were also identified within the trench. However, due to the limited size of the trench it was not possible to identify their function. The perched-water table was responsible for the poor condition of the sandstone feature. It had also caused leaching of the material around the feature (305), creating a dark reddy-brown deposit, comprised of degraded sandstone and silt, mixed together through the leaching process. This material was sampled for paleoenvironmental processing – Sample Number 002. The material recovered from the sample was deemed to have little interpretative value and was comprised largely of modern intrusions. No material was identified as appropriate for dating methods. The sandstone feature was sealed by a mid browny-grey sandy-silt subsoil approximately 0.29m in depth (302) and mid browny-black silt topsoil approximately 0.12m in depth (301).

6.1.4. Trench 4 (Figures 12 and 13)

Trench 4 measured 2m north to south and 2m east to west. This trench was sited to explore a series of high resistance anomalies identified during the resistivity survey. The natural light greyey-orange clay substrate (403) was encountered at 0.48m depth. This context is the same as (303 and 504). At this depth a perched-water table was present, as noted in Trench 3. Cut into (403) was a pit or large post-hole (405) 0.35m in depth. The extent of the cut is unknown as it is truncated by the trench edges on the south and east sides. As no further features were located in Trench 4 it remains unclear what the purpose of this feature is. The fill (404) was

the leached material seen elsewhere on the site in Trench 3 (305) and Trench 5 (505). This consisted of a dark reddy-brown deposit, comprised of degraded sandstone and silt, mixed together through the leaching process. The fill was sampled for paleoenvironmental processing – Sample Number 001. The material recovered from the sample was deemed to have little interpretative value and comprised largely of modern intrusions. No material was identified as appropriate for dating methods. Further leeching was evident across the surface of (403) and was given a separate context number (406). The leached material and cut were sealed by a mid browny-grey sandy-silt subsoil approximately 0.33m in depth (502) and mid blackey-brown silt topsoil approximately 0.15m in depth (501).

6.1.5. Trench 5 (Figures 14 and 15)

Trench 5 measured 1m north to south and 5m east to west. This trench was sited to explore a large high and a large low resistance anomaly identified during the resistivity survey. The natural light greyey-orange clay substrate (504) was encountered at 0.40m depth. This context is the same as (303 and 403). At this depth a perched-water table was present, as noted in Trenches 3 and 4. Within context (504), further evidence of the degraded sandstone noted in Trenches 3 and 4 was uncovered (506), running in a rough linear 1.3m east-west. A second potential linear appeared to run from NW to SE although the extent is unknown as the feature was truncated by the northern trench edge. The degraded sandstone was surrounded by the leached material also present elsewhere on the site (505). To understand the nature of the context (506) the trench will need to be expanded. The leached material and degraded sandstone material was sealed by a mid browny-grey sandy-silt subsoil approximately 0.24m in depth (502) and mid blackey-brown silt topsoil approximately 0.16m in depth (501).

6.2. Finds Overview

In this section a brief summary of the information gained from specialist analysis of the sites material culture will be outlined. For the full reports please see Appendix B.

6.2.1. Animal Bone

There is limited evidence of animal bone on the site. The two identifiable bones were from improved breed cattle. The remaining six bones were unidentifiable, notably all had been burned. The limited collection provides no additional information about the site and there are no further recommendations for the assemblage.

6.2.2. Ceramic Building Material

A total of 185 fragments (1883 g) of ceramic building material were excavated from Trenches 1-5. Contexts (202) and (204) produced the greatest quantity of fragments - 60 fragments, 494 g and 37 fragments, 716 g respectively.

The ceramic building material is predominantly composed of abraded oxidised red fragments, the assemblage is in a very poor condition and the majority of the fragments do not have any surface features to indicate form or date. Those that do, belong to the post-medieval period or later.

There are no further recommendations for the assemblage.

6.2.3. Clay Tobacco Pipes and Marbles

77 fragments of clay tobacco pipes were recovered from the site – 38 bowls, 37 stems and 2 mouthpiece fragments. The earliest examples date from the seventeenth century. The material suggests that the fabric was imported, possibly shaped and fired in Chester. The seventeenth and eighteenth century fragments appear to have been broken and mixed in cultivated soil, as they are highly abraded.

The majority of the pipe fragments dated to the nineteenth century. Their state of survival suggests they were trampled underfoot but the land was not disturbed i.e. for cultivation as seen with the earlier fragments. This indicates that activity on the site changed at some point during the eighteenth-nineteenth centuries.

Comparison with material unearthed during the 1979 excavation suggests parts of the site were being used at different times. Their varying states of survival in specific areas of the site also suggests different uses for the land, particularly in the nineteenth century.

There are no further recommendations for the assemblage.

6.2.4. Glass

A total of 674 fragments of glass were found, weighing a total of 1468 g. The assemblage is entirely Post-Medieval, and largely confined to the twentieth century. Approximately 20% of the glass sherd count is vessel glass, with the remainder being window glass. Almost all of the identifiable vessel glass comes from utility bottles of various kinds.

There are no further recommendations for the assemblage.

6.2.5. Pottery

The assemblage consists of 1207 sherds weighing 4566 g. Post-medieval wares dominate the assemblage. Where form can be discerned tablewares such as plates, dishes, bowls, cups, jugs and storage vessels are most common but a fragment of a jelly mould and flowerpots are also present and a small miniature porcelain plate may be from a dolls tea set or dolls house. The range of wares are typical for the nineteenth and early twentieth centuries being mass-produced types produced in Staffordshire and elsewhere in Britain, along with blackwares and slipwares made in traditional potteries such as those at Buckley, N Wales, Staffordshire and Prescot in South Lancashire. A small number of earlier wares are present as well as fragments imported from the Rhineland and China. Examples of earlier post-medieval wares are late seventeenth/eighteenth century mottled wares which may have been made in Buckley or Staffordshire. Fragments of late fifteenth/sixteenth century Cistercian-type wares are too small to indicate a provenance but production sites at Rainford, South Lancashire, Staffordshire and Yorkshire all supplied the region.

At least one sherd is definitely medieval – a fragment made in a Coal Measure clay is of fourteenth or fifteenth century date, another abraded red earthenware is perhaps medieval but is too abraded to identify precisely.

A piece of Roman pottery has been noted but it is too small to identify or date precisely. It is possible that Roman wares are present amongst some of the very abraded red earthenwares but if so they do not have enough diagnostic features to identify them.

6.3. Palaeoenvironmental Overview by John Carrott

The two sediment samples were of approximately 35 litres (Sample 001) and 20 litres (Sample 002) and were collected from degraded sandstone features within a perched-water table encountered in Trenches 3 and 4; consequently, they consisted largely of fragments of stone with little sediment matrix. Very little material was recovered in the two sample 'flots' and there were no 'ancient' remains, organic or otherwise, of any interpretative value present. Furthermore, some of the remains in both 'flots' were almost certainly modern intrusions (earthworm egg capsules).

Although sufficient charcoal for radiocarbon dating (via AMS) was present in both of the 'flots', none of this material could be recommended for this purpose as identification to species and/or determination of the number of years of wood growth represented was not possible and, consequently, the 'old wood problem' would apply.

The dearth of ancient organic remains recovered precludes any further study.

7. DISCUSSION

The five evaluation trenches have suggested that activity on the site began in earnest during the seventeenth century based on the presence of substantial material culture, including pottery, glass and clay tobacco pipe. This is not unexpected as records demonstrate that the structure demolished in 1969, east of the current area of excavation, was constructed in the mid to late-seventeenth century. The material culture assemblage is also comparable to material recovered from earlier archaeological investigations (Freke 1979). The range of material dating from the seventeenth to twenty-first centuries was all retrieved from the topsoil, subsoil or disturbed contexts and cannot be linked to specific features in the trenches.

A small number of earlier objects were located in comparable contexts. A few sherds of possible Roman material were identified but their level of preservation was so poor that a firm identification could not be made. One fragment of medieval pottery was also identified. However, the presence of this material is limited and cannot be used to suggest Roman or medieval activity. However, the presence of three sherds of Ewloe-type Ware and two sherds of Cistercian-type Ware dating to the fifteenth to sixteenth centuries is indicative of potential activity on the site during this period. This small assemblage is the first evidence, albeit on a small-scale, for potential occupation at the site prior to the seventeenth century. Further evaluation trenches around the original area of investigation will possibly help establish if there is a concentration of activity from this period on the site.

Whilst archaeological features and deposits survive in the study area, none were able to be dated prior to the seventeenth century. This may, in part, be due to the destructive nature of the perched-water table. However, the positive and negative features identified in trenches 3 and 4 suggest activity away from the main seventeenth century building complex. However, the character and function of these features remains unclear, in-part, due to the size of the evaluation trenches.

8. CONCLUSION

The five evaluation trenches have established that resistivity survey has been successful in identifying anthropogenic activity within the interior of the site. As the site is cleared of vegetation it is recommended that further resistivity survey, where appropriate, be undertaken prior to further evaluation trenching.

The 2014 evaluation trenches established that archaeology survived *in situ*. However, the presence of a perched-water table noted in trenches 2, 3, 4, and 5 at c. 50cm below ground-level has significantly affected the preservation of archaeological deposits. Trench 1 was not affected by the perched-water table, consequently archaeological deposits survive well. This suggests that the level of preservation across the site must differ. Further evaluation trenches and/or coring is necessary to establish the extent of the perched-water table and the potential level of preservation across the site.

To characterise the monument, further evaluation trenching is required across the study area. These should be sited based on resistivity results and an appropriate sampling strategy, where geophysical survey cannot be undertaken. Based on the results of further non-invasive and invasive evaluation a decision should then be made whether to consider open-area excavation. This is not recommended at present.

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10. FIGURES

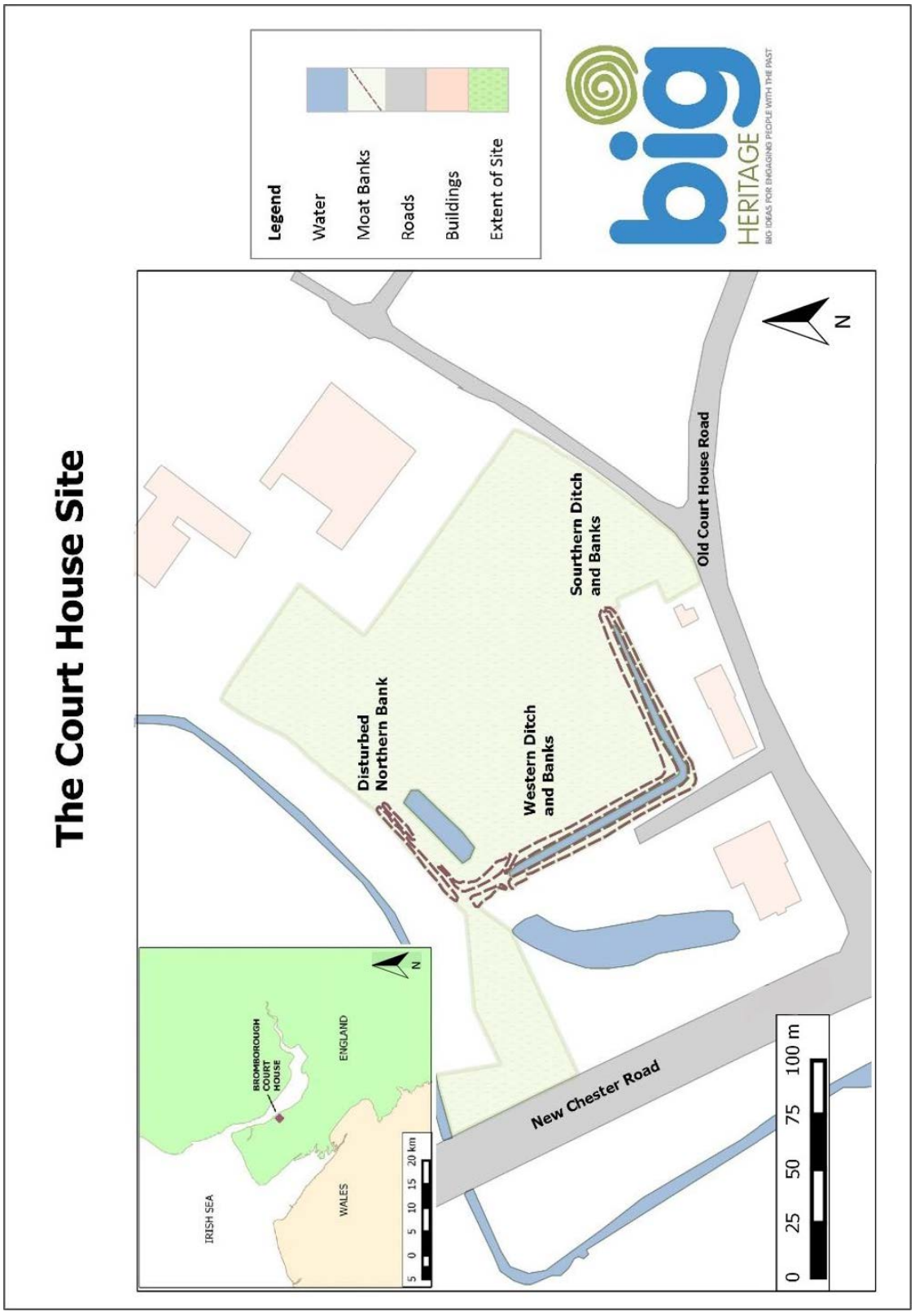


Figure 1: Bromborough Court House location on Wirral and pertinent features noted

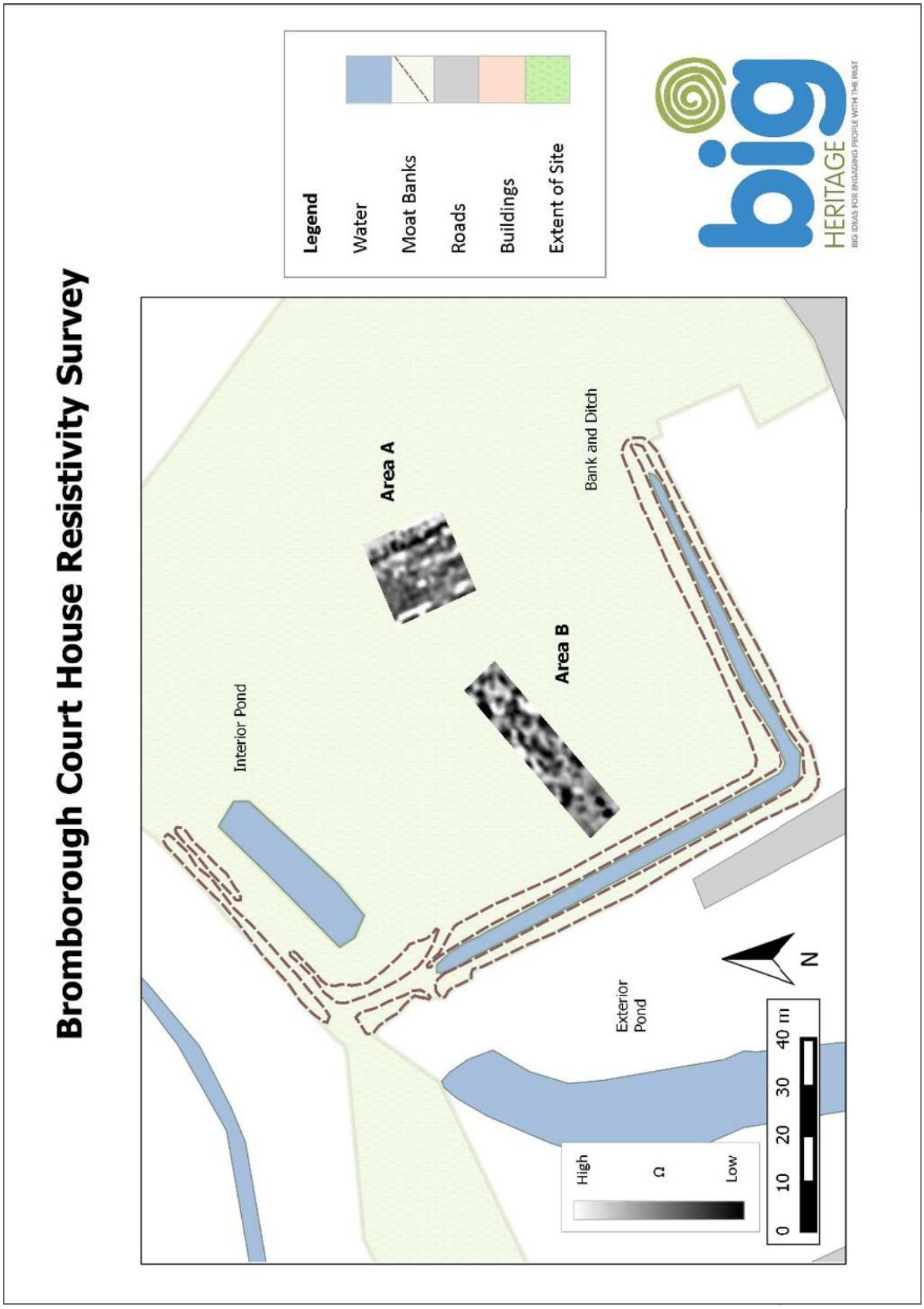


Figure 2: Resistivity Grids: Area A and Area B in relation to ditch and bank

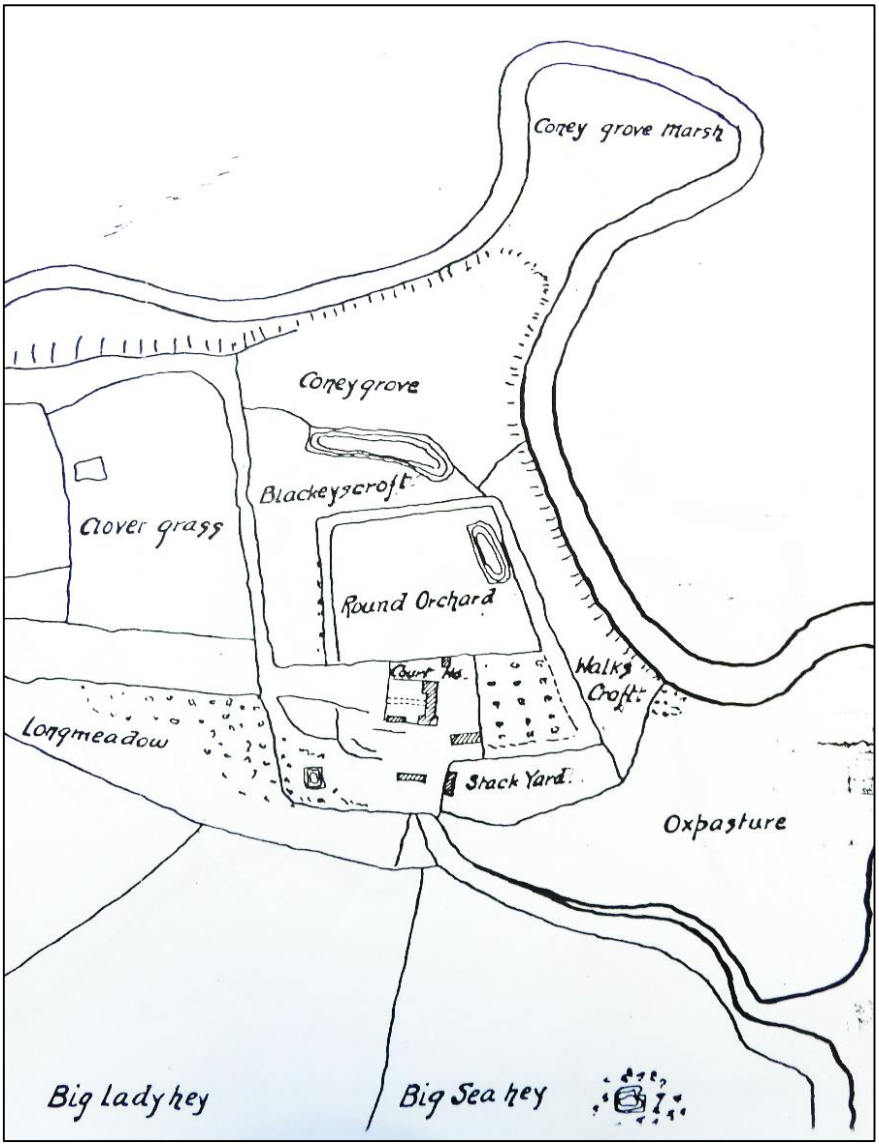


Figure 3: Tracing of the c. 1755 Estate Map (MHER)

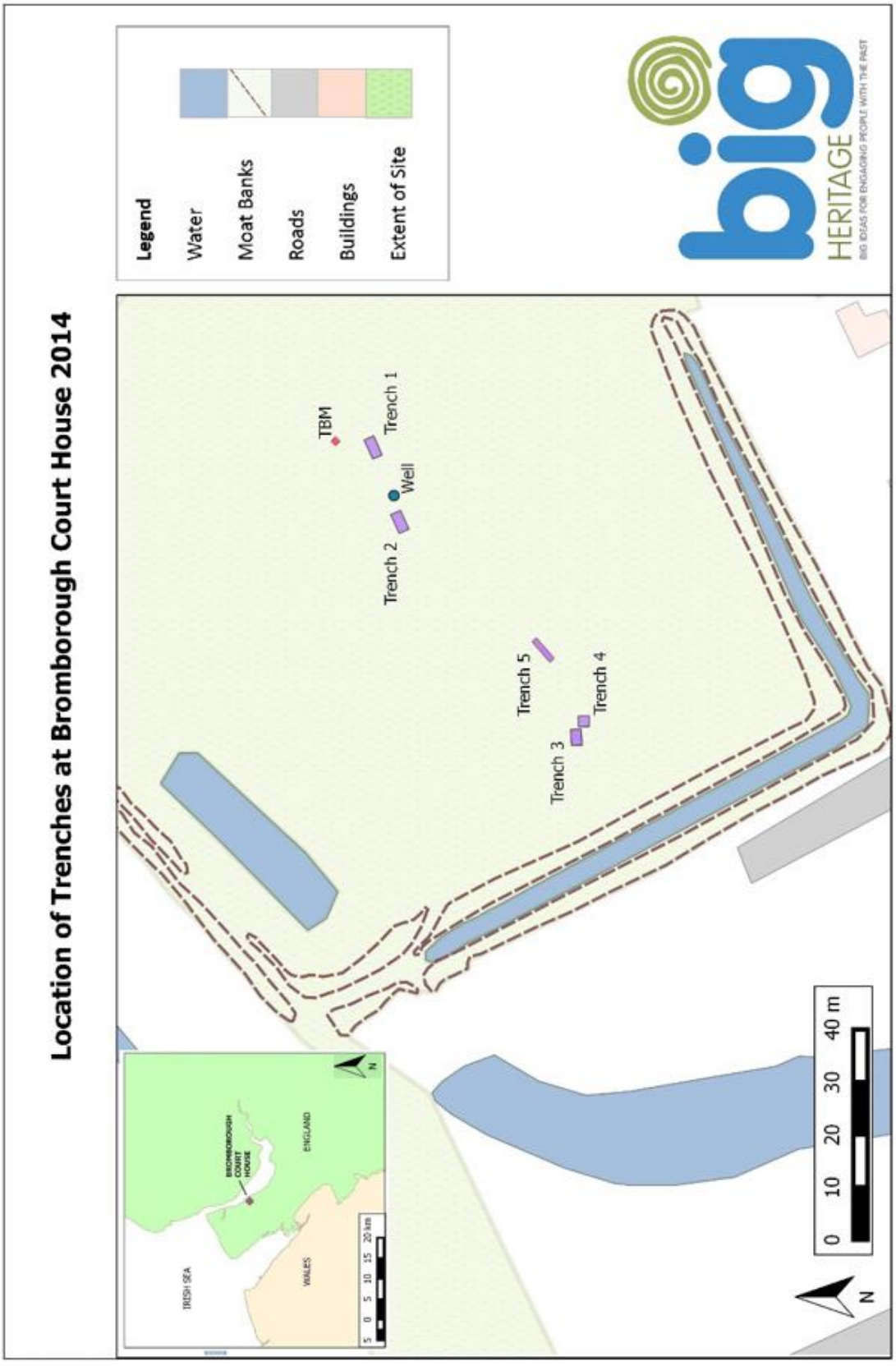


Figure 4: Location of Evaluation Trenches

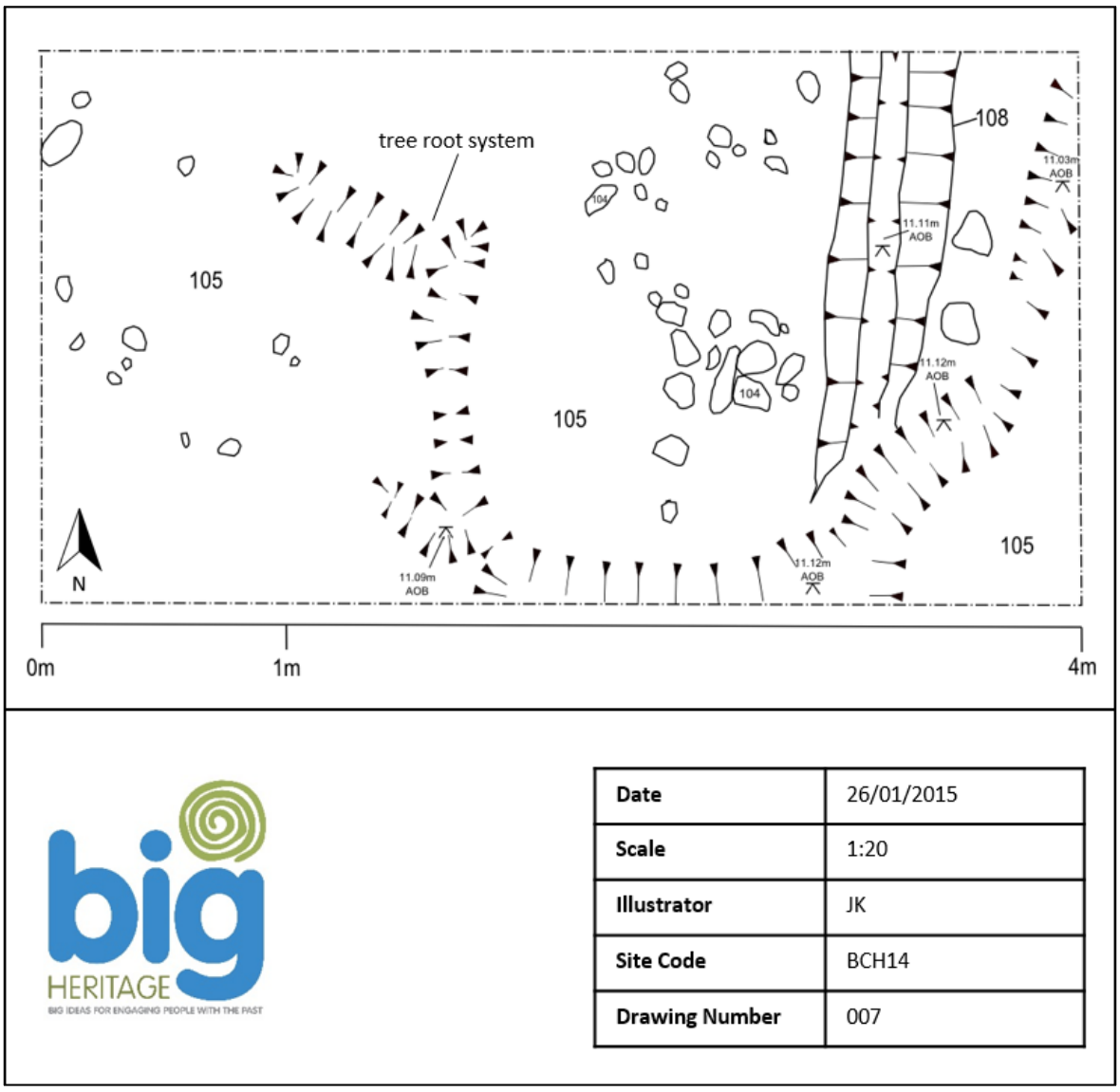


Figure 5: Plan of Trench 1

Figure 6: Cut (108) for fence line and post hole running north to south in Trench 1

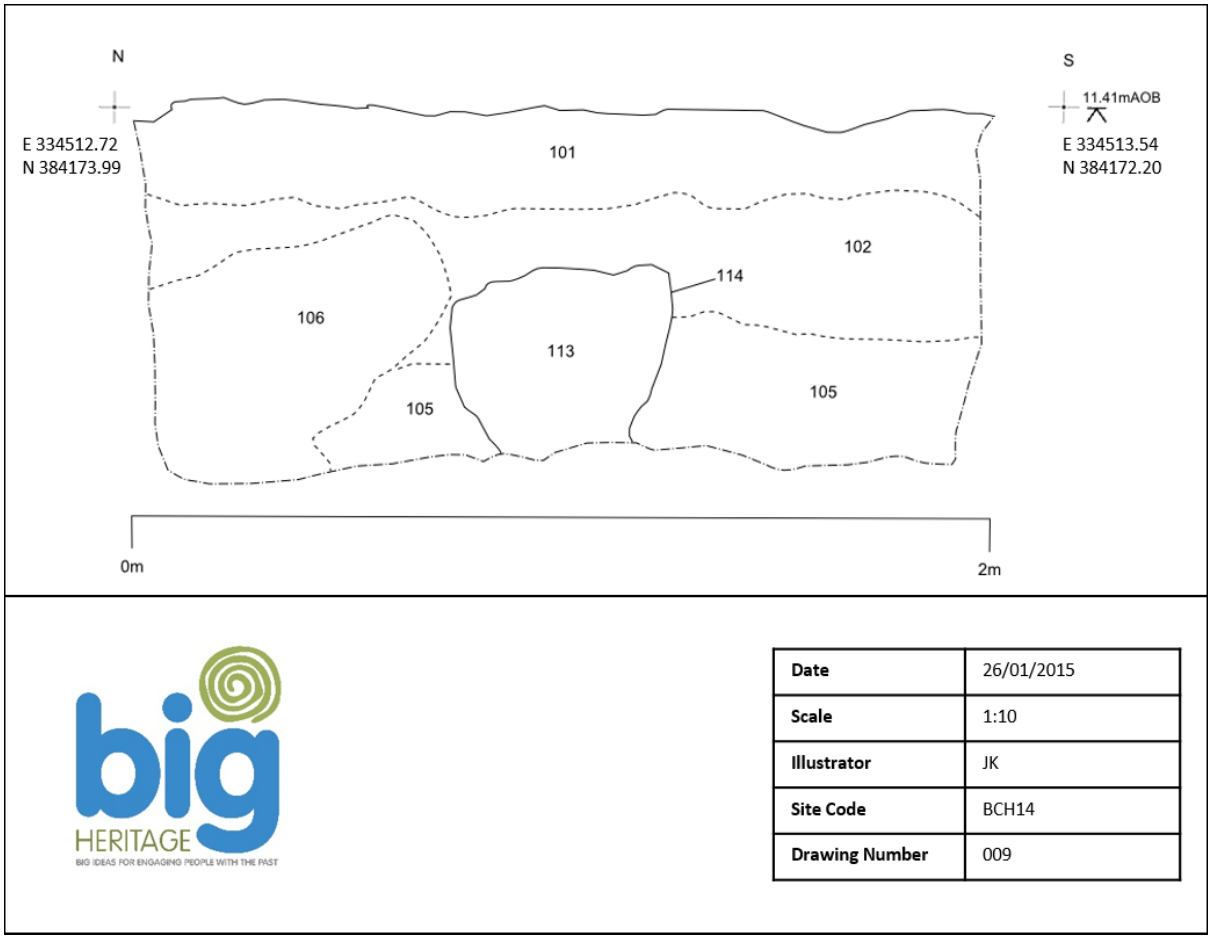


Figure 7: West facing section in Trench 1

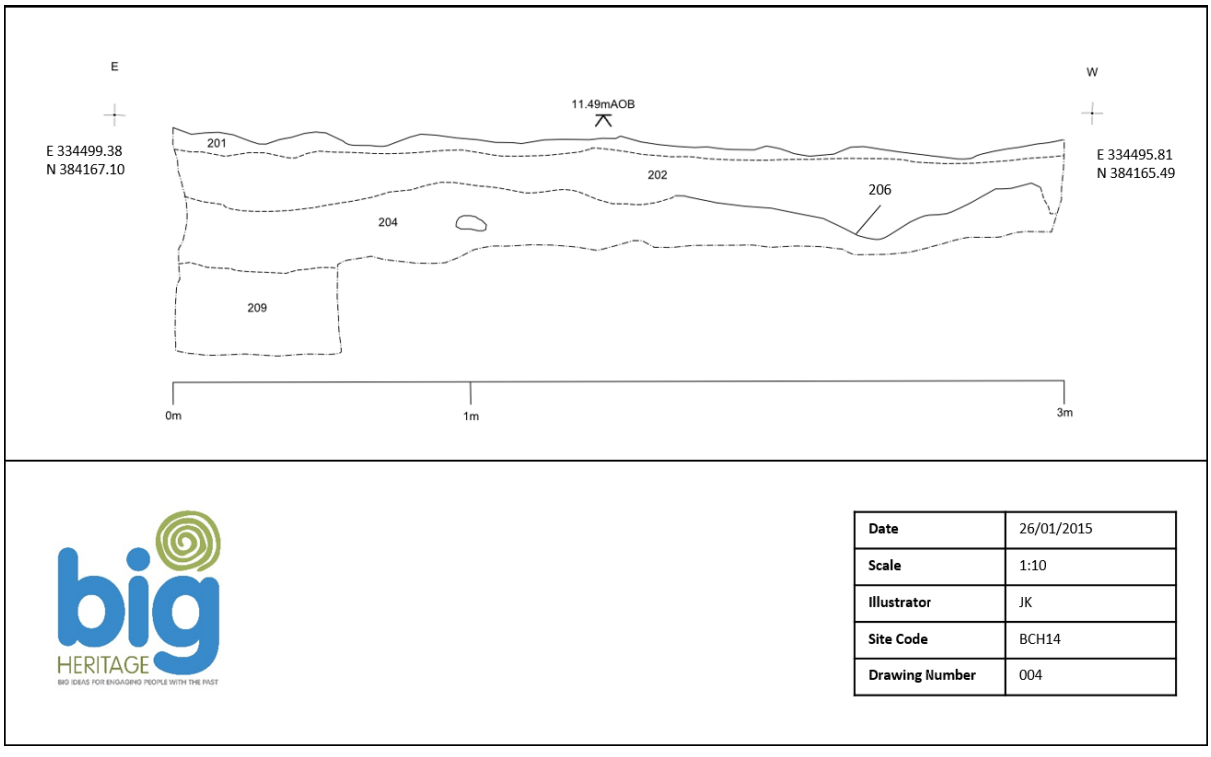
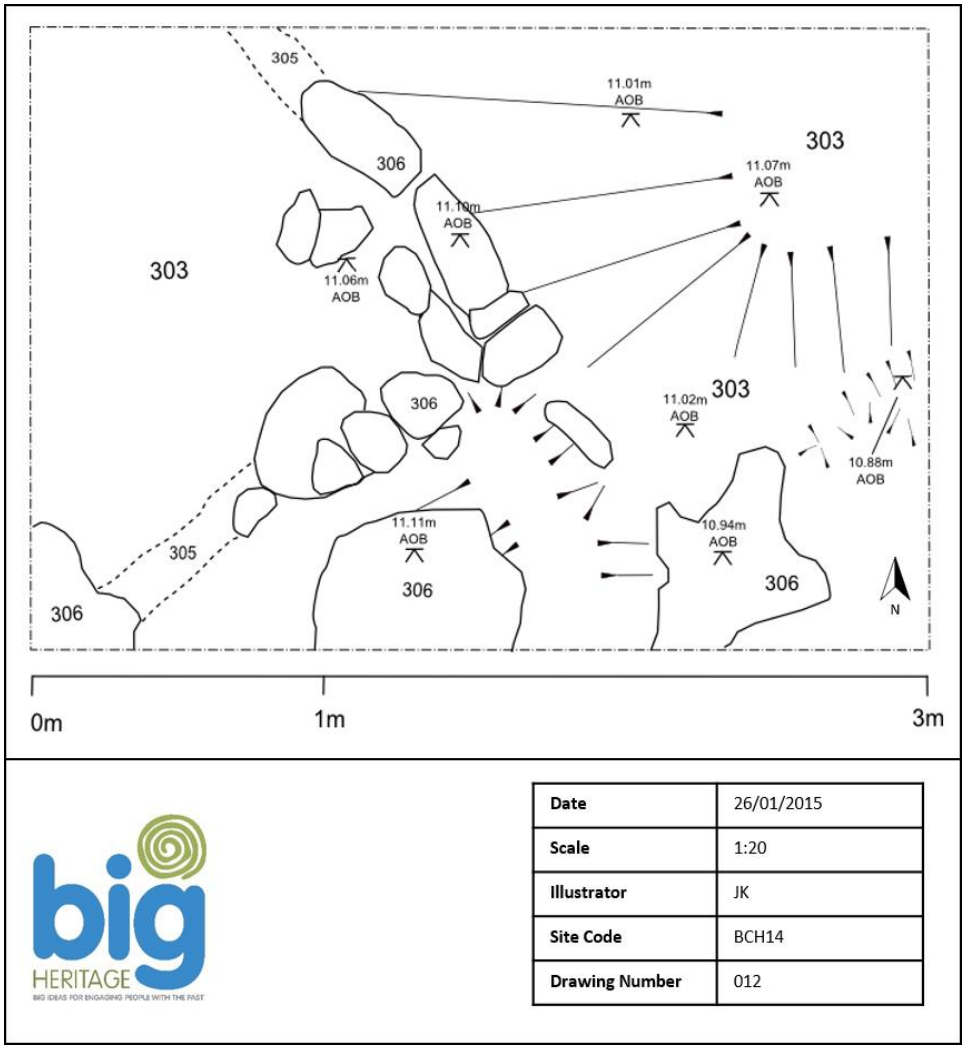


Figure 8: North facing section in Trench 2

Figure 9: East facing section in Trench 2



Date	26/01/2015
Scale	1:20
Illustrator	JK
Site Code	BCH14
Drawing Number	012

Figure 10: Plan of Trench 3

Figure 11: Context 306

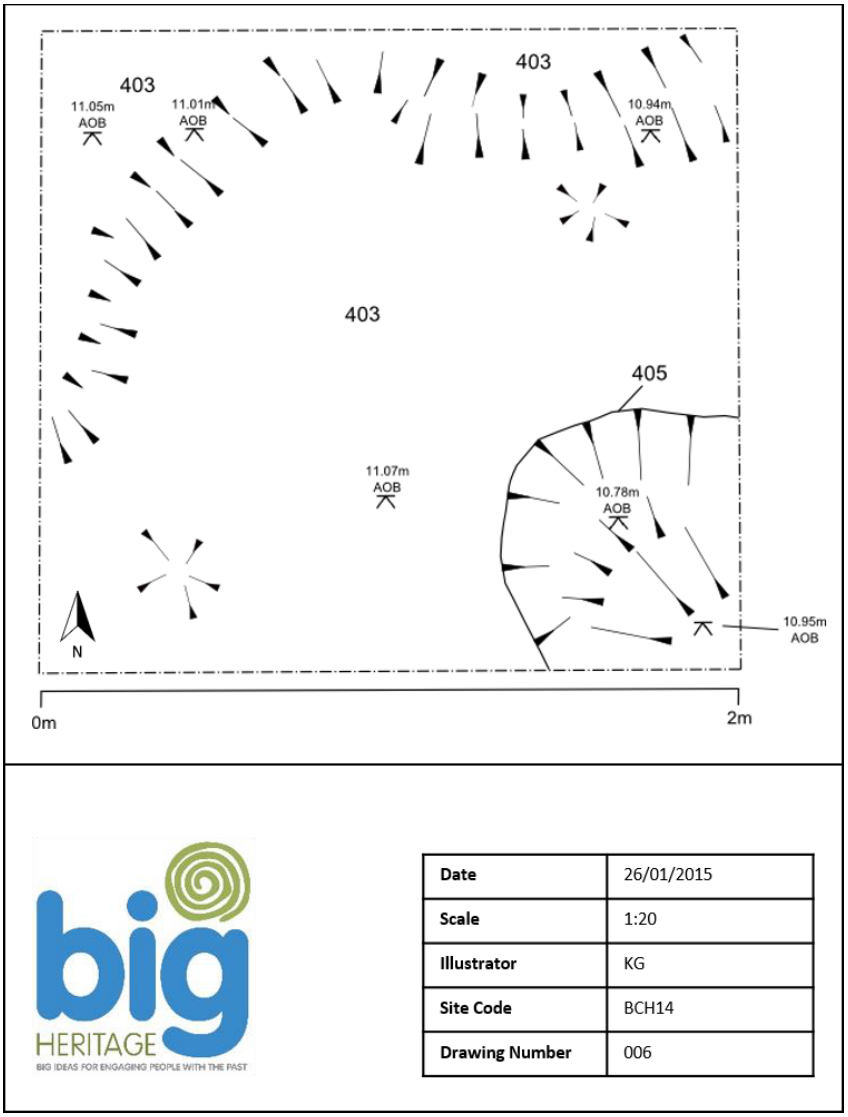


Figure 12: Plan of Trench 4

Figure 13: Trench 4 (403/404)

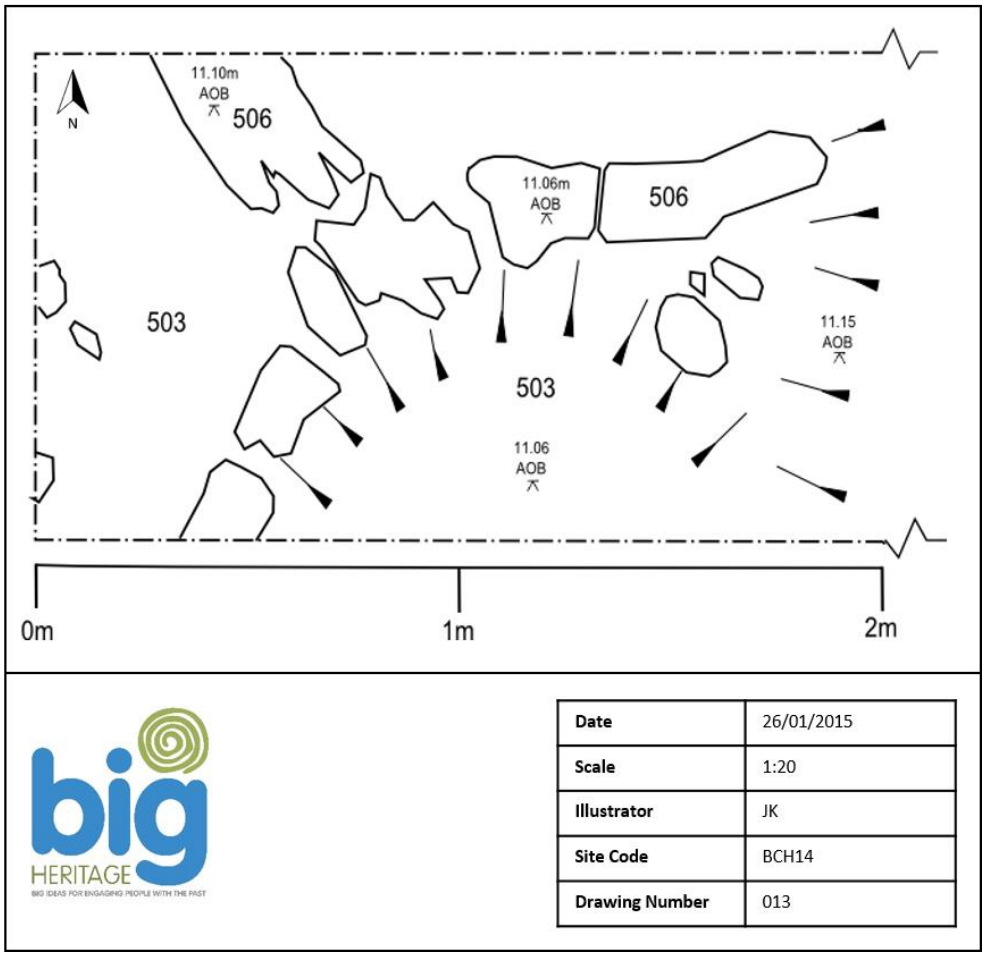


Figure 14: Plan of Trench 5

Figure 15: Context (504)

APPENDICES

11. APPENDIX A: context descriptions

Trench No.	Context No.	Type	Fill of	Context interpretation	Description	L(m)	W(m)	Depth/ thickness	Spot date
1	101	Layer		Topsoil	Light grey/brown sandy silt. Pebbles 7-8cm	4.00	2.00	0.23	
1	102	Layer		Subsoil	Light orange/yellow clayey silt	4.00	2.00	0.20	
1	103	Layer		Subsoil	Light orange/yellow clayey silt. Sandstone and clay inclusions	4.00	2.00	0.04	
1	104	Layer		Sporadic rubble spread	Rubble spread including river/sea pebbles 10-20cm	1.03	2.00	0.20 – depth of largest stone	
1	105	Layer		Natural	Yellow/orange clay matrix around 104	2.93	2.00	Encountered at 0.47	
1	106	Fill		Subsoil	Grey silt/clay with manganese staining. Fill of tree root system	2.00	Min 0.20 Max 0.65	Min 0.70 Max 0.80	
1	107	Fill	108	Fill of cut	Grey/brown silt	2.00	0.18	0.25	Post-medieval
1	108	Cut		Linear cut within subsoil	Cut in light orange/yellow subsoil	2.00	0.18	0.25	Post-medieval
1	109	Void		Void	Context void	N/A	N/A	N/A	
1	110	Void		Void	Context void	N/A	N/A	N/A	
1	111	Cut		Linear cut into 105	Cut into yellow/orange clay	0.45	Max 0.15 Min <0.01	0.26	
1	112	Fill	111	Subsoil	Mid brown silt	0.45	Max 0.15 Min <0.01	0.26	
1	113	Fill	114	Subsoil	Mid brown silt	0.48	unknown	0.42	
1	114	Cut		Rounded cut within section	Unexcavated cut within section	0.48	unknown	0.42	
2	201	Layer		Topsoil	Dark black/brown silt	3.00	2.00	0.15	
2	202	Layer		Subsoil	Mid black/brown silt. Rounded sandstone inclusions 7-8cm	3.00	2.00	Min 0.23 Max 0.28	

2	203	Same as (202)		Same as (202)	Same as (202)	N/A	N/A	N/A	
2	204	Layer		Natural	Brown/orange clay	3.00	2.00	0.21	
2	205	Cut		Ditch	Cut for ditch SE-NW alignment. Same as 206	0.99	Max 0.60 Min 0.30	0.29	
2	206	Cut		Ditch	Cut for ditch SE-NW alignment. Same as 205	1.27	0.35	0.35	
2	207	Void		Void	Context void	N/A	N/A	N/A	
2	208	Fill		Fill of tree root system	Red/brown sandy silt. Rounded pebbles and sandstone fragments	Min 0.55 Max 2.00	Min 0.30 Max 0.70	0.57	
2	209	Layer		Natural	Compact red/brown clay	2.00		Encountered at Min 0.18 Max 0.30	
3	301	Layer		Topsoil	Mid black/brown silt	3.00	2.00	0.12	
3	302	Layer		Subsoil	Brown/grey silt	2.00	2.00	0.29	
3	303	Layer		Clay deposit	Grey/orange	2.00	2.00	Encountered at 0.41	
3	304	Layer		Decayed sandstone	Red/brown	0.60	0.20	Unknown	
3	306	Layer		Structural deposit	Dark brown/red sandstone	1.40	2.00	Unknown	
4	401	Layer		Topsoil	Mid brown/black silt. Rounded sandstone inclusions.	2.00	2.00	0.15	
4	402	Layer		Subsoil	Mid brown/grey silt	2.00	2.00	0.33	
4	403	Natural		Clay deposit	Light grey/orange clay	2.00	2.00	Encountered at 0.48	
4	404	Fill	405	Fill of cut	Dark red/brown silt. Two separate areas comprise 404. Pebbles	0.40	0.45	0.35	
4	405	Cut		Cut	Rounded cut, partially excavated	0.40	0.45	0.35	
4	406	Layer		Degraded sandstone	Dark black/orange silty sand. Two separate areas comprise 406. Sandstone stones 5-10cm	2.0	0.19	Min 10 Max 15	
5	501	Layer		Topsoil	Mid brown/black silt	5.00	1.00	0.16	
5	502	Layer		Subsoil	Mid brown/grey sandy silt	5.00	1.00	0.24	
5	503	Natural		Clay deposit	Light grey/orange	5.00	1.00	Encountered at 0.40	

					clay. Same as 504				
5	504	Same as (503)		Same as (503)	Same as (503)			N/A	
5	505	Layer		Mixed deposit	Dark black/orange firm and loose material surrounding 506. Sandstone stones 5-10cm.	1.24	0.45	Min 0.05 Max 0.10	
5	506	Layer		Structural deposit	Dark brown/red sandstone	1.60	0.80	Unknown	

12. APPENDIX B: finds reports

12.1. Animal Bone by Ian Smith

Introduction and Location

Big Heritage undertook excavations at Bromborough Court House which is a scheduled [1012503] moated and fish pool site (NGR: SJ 334492, 384166) in Bromborough, Wirral, England and was on the "Heritage at Risk Register" in 2014. Community excavations were run by Big Heritage in the autumn months of 2014 and a small group of bones were recovered by hand and are the subject of this report.

The work was commissioned by Joanne Kirton of Big Heritage, Chester. The assessment work was undertaken by Ian Smith on 24th January 2014.

Aim

The aim was to assess the potential and significance of the material and to advise Big Heritage accordingly.

Methods

Fragments were identified using the author's modern comparative collection. Reference was also made to Halstead and Collins (1995). Diagnostic zones of Serjeantson (1996) were recorded for the two identified fragments. The approximate state of preservation was recorded at context level (Baker and Worley 2014) following weathering stages for large mammals first detailed by Behrensmeyer (1978) and repeated in Lyman (1994).

Stratigraphic Integrity

The bone bearing contexts are broadly post-medieval in date, the presence of Victorian material is attested and the presence of some more recent intrusive material cannot be

excluded. The cattle astragalus and femur are from contexts which contain clay pipe and other post-medieval artefacts.

Identifications and preservation states

The identifiable bones (NISP=2) are from cattle (*Bos taurus*) probably of improved breed. The other small fragments (NISP=7) include six that are burnt, calcined and white in colour. The two identified specimens are affected by surface flaking and erosion. The femur is also affected by recent longitudinal splitting which appears to be ongoing.

Measurements

Only one useful potential measurement (smallest diameter or SD of the mid shaft) is available from the femur (although the fusion state is unknown). The shaft is affected by surface damage but nevertheless the obvious relatively large shaft diameter most probably indicates a recent, improved breed of cattle. Only the proximal part of the astragalus survives, which precludes any widely used measurements (Dreisch, 1976). A larger group of remains of improved stock (cattle, sheep and pig) from Bromborough were recorded by Gidney (2014) from test pits excavated by Big Heritage in 2013.

Discussion

The preservation states of the bones recovered here are not unusual in the north-west on relatively shallow clay rich or acidic soils (Brennand *et al* 2007, 181). Amongst all the contexts and specimens the state of preservation is poor, equating approximately to Behrensmeyer (1978) stage 4 or 5 (although the calcined material has been distorted and shrunk by heat, is not affected primarily by weathering).

Potential

The small size and state of the assemblage precludes any wider discussion of species, husbandry or diet. No teeth were recovered and no states of epiphyseal fusion can be determined, the femur being represented by a cylinder. The "primary data" (Baker and Worley 2014, 18) is limited by the state of fragmentation and erosion of bone surfaces. This and the small size of the group limits its potential and significance and the group should be considered a small adjunct to the work of Gidney (2014) and other groups from Bromborough which are to be recorded in the near future (Kirton pers comm).

Recommendations

No further work is recommended.

References

Baker, P and Worley, F. 2014. *Animal Bones and Archaeology: guidelines for best practice*, English Heritage

Behrensmeyer A. K. 1978. Taphonomic and ecologic information from bone weathering, *Palaeobiology* 4, 150-162

Brennand, M., Chitty, G., and Newman, R. 2007. Research Strategy, in M. Brennand (ed) *Archaeological Research Framework for the North West Region*

Driesch, A. von den. 1976. *A Guide to the Measurement of Animal Bones from Archaeological Sites*, *Peabody Museum Bulletins*, Harvard: Harvard University

Gidney, L. 2014. *Discovering Bromborough, Merseyside, Faunal Remains Assessment. Archaeological Services Report 3413*, Durham: Durham University

Halstead, P. and Collins, P. 1995. Sheffield Animal Bone Tutorial: taxonomic identification of the principle limb bones of common European farmyard animals and deer: a multimedia tutorial

Lyman, R. L. 1994. *Vertebrate Taphonomy,* Cambridge: Cambridge University Press

Serjeantson, D. 1996. The animal bones, in S. Needham and T. Spence (eds) *Runnymede Bridge Research Excavations. Volume 2. Refuse and Disposal at Area 16 East, Runnymede*, 194–223, London: British Museum

Table 1. Summary by trench/context/species/anatomical element of recovered faunal remains.

Key: *cf* med mammal=possible medium sized mammal, unid=unidentified

Context	Trench	NISP	Species	Element	Side	Serjeantson (1996) zones	Type	Burnt/White	Approx. weight (g)
101	1	1	cattle	astragalus	left	1234	end	0	15.5
101	1	1	*cf* med mammal	unid	unid		frag	0	<1
202	2	1	*cf* med mammal	unid	unid		frag	1	1
302	3	1	cattle	femur	right	3456	cylinder	0	232
302	3	3	*cf* med mammal	unid	unid		shaft frag	3	2
402	4	1	large mammal	limb bone	unid		shaft frag	1	2
502	5	1	large mammal	limb bone	unid		frag	1	3

12.2. *Ceramic Building Material by Julie Edwards*

A total of 185 fragments (1883 g) of ceramic building material were excavated from Trenches 1-5. Contexts (202) and (204) produced the greatest quantity of fragments - 60 fragments, 494 g and 37 fragments, 716 g respectively.

101	CBM	tile	1	24
101	CBM	tile	1	25
101	CBM	brick?	4	10
102	daub	daub	1	31
102	CBM	brick	7	46
102	CBM	?	6	18
103	CBM	?	5	5
201	CBM	brick	14	155
201	CBM	tile	2	5
201	CBM	?	4	6
202	CBM	brick	52	470
202	CBM	?	8	24
204	CBM	brick	20	152
204	CBM	brick	1	261
204	CBM	brick	1	34
204	CBM	?	13	67
204	CBM-blackware	ridge tile	2	202
302	CBM	?	8	30
401	CBM	brick?	4	45
401	CBM	tile	1	24
402	CBM	brick	2	12
402	CBM	tile?	1	9
501	CBM	brick?	8	39
502	CBM	brick	18	187
502	CBM	tile	1	2

The ceramic building material is predominantly composed of abraded oxidised red fragments, the assemblage is in a very poor condition and the majority of the fragments do not have any surface features to indicate form or date.

Identifiable objects are the remains of two post-medieval unglazed redware tiles – possibly for a floor or other hard surface – from (101) and (401) – and two pieces from a blackware

ridge tile for a roof which is a type that came into production during the 18th century in North Wales and the pieces are similar to types made in Buckley. A piece of tile made from a refractory clay was found in context (101) and was perhaps a floor or yard tile.

Some featureless fragments have fabrics with a texture and range of inclusions commonly seen in post-medieval bricks and identifiable brick fragments are present in the assemblage but they are too abraded and small to identify as to precise form or date.

One piece of abraded daub was identified from context (102).

The high level of fragmentation and abrasion prevents any discussion of the origin, date or function of the assemblage.

12.3. Clay Tobacco Pipes and Marbles by D A Higgins

Introduction

This report deals with a group of clay tobacco pipes that were recovered from five evaluation trenches excavated in 2014 on the site of Bromborough Court House, a scheduled monument situated at Bromborough on the Wirral, Merseyside. The trench numbers can be identified from the first numeral of the context number, Trench 1 starting with 101, Trench 2 with 201, etc. The project was undertaken by Big Heritage C.I.C. of Chester and the site code used was BCH 14.

The pipes themselves were individually examined by the author in February 2015 and an archive record compiled on an Excel worksheet. In the archive record and the following report 'local fabric' refers to pipes made using a slightly off-white fabric, typically with a granular fracture and/or gritty inclusions, which is presumed to have been obtained from the local Coal Measures deposits in south Lancashire or north Wales. In contrast, 'imported fabric' refers to a fine, whiter coloured clay, almost inclusion free, that was probably imported from the south-west of England.

The Clay Tobacco Pipes

A total of 77 fragments of pipe were recovered during this project, comprising 38 bowl, 37 stem and 2 mouthpiece fragments. A description of the finds from each context is given below. Each entry starts with the context number, followed by the number of pipe fragments recovered from that context in brackets. These are presented in a standard formula with the numbers of bowl, stem and mouthpiece fragments being given in that order, separated by slashes, and then the total number of fragments in the group. Thus (7/14/3 = 23) represents 7 bowl fragments, 14 stem fragments and 3 mouthpiece fragments, totalling 23 pieces in all.

101 (9/5/0 = 14) One of the five stems is 29mm long and very abraded but may have been ground against a hard surface at both ends after having been broken, perhaps for use as a piece of chalk to draw with. This piece could date from the eighteenth century and is residual in this group. The other four stems are all of nineteenth century or later types and one has an incuse moulded sans-serif letter 'N' without any border on one side (the other side does not have any surviving lettering). It is not clear whether this is from the start or end of a word, but the latter is perhaps more likely since it could well be the end of the word 'DUBLIN', a popular pattern name for a pipe style at this date. The bowl fragments are all very small, as if from a well trampled surface, but four of them join together showing that they have not been widely scattered since having been crushed. These pieces make up a good portion of a spurless bowl of *c.* 1850-1910 with a large acanthus leaf underneath and a plain rib on the seam facing away from the smoker (the other is missing, but would probably have been the same). The other fragments include part of a thick-walled Irish style bowl with moulded milling, two plain rim fragments and another with two quite broad raised bands around the bowl, parallel with the rim. All of the bowl fragments are typical of forms that would have been current from *c.* 1850-1920.

102 (1/8/0 = 9) Three of the stems are of seventeenth or early eighteenth century date but all three are very abraded and residual in this context. One is made of a local fabric. The other five stems are of mid-eighteenth century or later date and most are likely to date from the nineteenth century. The single bowl fragment is part of a large and thick-walled Irish style

bowl with a deeply hand impressed band of milling at the rim. This may well be an actual Irish import, since hand applied milling was very rarely used in Britain at this date, and probably dates from *c.* 1840-80.

103 (0/1/0 = 1) A tiny fragment from a thin piece of stem, broken in half longitudinally, probably dating from the nineteenth century.

201 (2/1/1 = 4) This group comprises one small fragment from a bowl of *c.* 1810-1900 with simple leaf decorated seams, a thick-walled plain bowl fragment of *c.* 1840 or later and a joining stem and mouthpiece. These make up most of the stem of a short cutty pipe with a trimmed nipple mouthpiece, which dates from *c.* 1840-1900.

202 (13/9/1 = 23) Two or three of the stems could be of late seventeenth or eighteenth century date, but they are abraded and clearly residual in what is predominantly a mid to late nineteenth century looking assemblage. There is a flattened oval mouthpiece with nipple end and six milled bowl fragments from at least three different pipes. These are all thick-walled Irish styles, five of which have moulded milling and one piece hand applied milling. There is no other decoration on the bowl fragments, one of which is the rounded base from a spurless bowl. In addition to the stem/mouthpiece join, there are also two pairs of bowl fragments that fit.

204 (0/2/0 = 2) Two joining stem fragments from a pipe with quite a thick stem and relatively small stem bore (5/64”), most likely dating from *c.* 1680-1740.

301 (3/2/0 = 5) One stem and one bowl fragment are residual fragments of late seventeenth or eighteenth century date. The other pieces are all of nineteenth century or later date, with the latest fragment being part of a bowl with moulded milling dating from *c.* 1850-1920.

302 (0/2/0 = 2) Two rather undiagnostic stem fragments that are hard to date accurately. One piece is probably seventeenth century (but could be later) and the other is of eighteenth or nineteenth century date (very abraded).

401 (4/2/0 = 6) The two stems are of late eighteenth or nineteenth century types. The four bowl fragments are all plain and of a similar date. They comprise three square cut rim fragments from one or more large plain bowls with relatively thick walls and a plain spur fragment (not trimmed). The bowl fragments have a slightly different feel to others from the site and could represent a late eighteenth to early nineteenth century group, but this not certain and they could simply represent a later group of large plain bowls.

402 (0/4/0 = 4) Two very abraded stem fragments of seventeenth century date and two joining stem fragments with a thin very pale yellowish brown glaze coating, which extends over one broken end, showing that the pipe was broken before being tipped and then subsequently used in this state. This type of glazed tip is most likely to date from *c.* 1780-1840.

501 (2/0/0 = 2) Two small bowl fragments. One has very faint and small leaves decorating the seam of quite a thick-walled bowl and is of a general nineteenth century type. The other has part of an oval incuse sans-serif stamp facing the smoker with the lettering GAR. . . surviving. This was probably a stamp reading GARIBALDI PIPE (or similar), a popular pattern name around 1860-90.

502 (4/1/0 = 5) All these fragments are likely to date from the nineteenth century with the latest *c.* 1840-1900. There is one plain stem fragment and one plain bowl fragment. The base of a spurless bowl has a deep oval stem and a pattern of random dots starting near the bowl and covering the surviving portion. This may have been intended as a crudely modelled acorn cup. The other two fragments are fluted, perhaps from the same bowl with evenly spaced narrow flutes. One piece comes from the bowl junction, which could have been spurless, and

the other from the rim, showing that the flutes stopped about 6mm below the rim, and parallel to it.

Discussion of the Pipes

A summary of the pipe evidence is given in Table 1, including date ranges for the groups from each context and details of the marked and decorated pieces recovered.

Tr	Cxt	B	S	M	Tot	Range	Latest	Mark	Type	Pos	Decoration
1	101	9	5		**14**	1700-1920	1850-1920	N	IM	SS	acanthus leaf and rib x 2; moulded milling x 1; raised bands x 1
1	102	1	8		**9**	1610-1900	1840-1880				actual milling x 1
1	103		1		**1**	1800-1900	1800-1900				
2	201	2	1	1	**4**	1810-1900	1840-1900				leaf seams x 1
2	202	13	9	1	**23**	1680-1920	1840-1920				moulded milling x 5; actual milling x 1
2	204		2		**2**	1680-1740	1680-1740				
3	301	3	2		**5**	1680-1920	1850-1920				moulded milling x 1
3	302		2		**2**	1610-1900	1700-1900				

4	401	4	2		**6**	1780-1900	1780-1900				
4	402		4		**4**	1610-1840	1780-1840				glazed x 2
5	501	2			**2**	1810-1900	1860-1900	GAR…	IS	BF	leaf seams x 1
5	502	4	1		**5**	1800-1900	1840-1900				fluted x 2; dots x 1
Tot		**38**	**37**	**2**	**77**			**2**			**19**

Table 1: Context summary showing the Trench (Tr) and Context numbers (Cxt) followed by the numbers of bowl (B), stem(S) and mouthpiece (M) fragments recovered, together with the total (Tot). The range shows the overall spread of dating for all the pipes represented followed by the date of the latest pieces present. The marks are transcribed followed by their type (IM = incuse moulded; IS = incuse stamped) and position (SS = sides of the stem; BF = on the bowl, facing the smoker).

Several of the contexts produced stem fragments of seventeenth or eighteenth century date but no recognisable bowl forms were recovered. All of these early fragments were very abraded, partly as a result of adverse soil conditions that has made the fragments rather soft and powdery, and partly because they appear to have been well broken and mixed, as if in a cultivated soil. One of the stems was made of a local fabric, but the others were all relatively fine and probably imported. This may suggest that pipes were being brought primarily from Chester, where imported fabrics were used from an early date, as opposed to south Lancashire, where an important pipemaking industry developed using local clays (Higgins 2008a). The early fragments were too abraded to determine surface finish, such as burnishing, and almost all these pieces were residual in their contexts.

The majority of the pipe fragments, however, date from the nineteenth century and, in particular, from *c.* 1840-1890. These pieces were also very fragmented (no whole bowls were recovered) but it was notable how many joins were present amongst the fragments. This would be consistent with a trampled surface into which pipe fragments were crushed but not subsequently disturbed. The pipe deposition on this part of the site contrasts with the areas examined in 1979, where the pipes were found to primarily date from *c.* 1820-50 (Higgins 1987, 20-21; the range given in 1987 was *c.* 1810-60, but this can now be tightened at both ends). The 1979 finds included several distinctive local types of mark and decoration characteristic of the second quarter of the nineteenth century, such as scalloped decoration, a stag's head motif facing the smoker, moulded shields containing the makers' initials and panel decorated bowls, none of which were present amongst the 2014 finds. The 1979 finds were also much more complete, showing that not only were different parts of the site being used for discard at different times but also that the nature of the archaeological deposits in these areas differs as well.

The nineteenth century pipes that were recovered in 2014 were mainly plain but with a notable number of the fragments having milled rims (9 out of 19 decorated or glazed fragments). These were generally thick walled bowls of 'Irish' style and two of the pieces had hand applied rather than moulded milling. These are likely to have come from actual Irish imports as opposed to the moulded examples, which are just as likely to have been made by English makers catering for the demand for this style. The stem with an incuse moulded 'N' may well be from an Irish style pipe marked 'DUBLIN', many of which were also made by British manufacturers. Irish style pipes seem to have been the favoured form in use when this material was deposited, with only small numbers of other mould decorated forms represented. There two fluted fragments may well come from the same pipe as do the two with acanthus leaf decoration. There is one fragment with horizontal bands on the bowl, one with dots (probably in imitation of an acorn) and two with simple leaf decorated seams. The only other marked piece is part of a bowl stamp, probably from a 'Garibaldi Pipe'.

The two mouthpieces both come from short-stemmed cutty pipes with nipple ends and the majority of the fragments recovered probably came from pipes of this type, including one or two that had spurless bowls. All of the pipes recovered are common 'run of the mill' types that would have been in everyday use during the nineteenth century. The Irish style pipes in particular were favoured by working men because of their robust nature and there is nothing amongst this assemblage that stands out as being particularly special.

In summary, there is some evidence for smoking on the site from the seventeenth century onwards, but the majority of the pipes from this area were deposited during the third quarter of the nineteenth century. This contrasts with other areas of the site and shows that it is not possible to extrapolate the nature or date of the finds from one area to another. In this area the pipes appear to have been trampled into a surface, which does not seem to have been disturbed much since. The pipes include a range of typical forms for the area and represent cheap, everyday pipes that are most likely to have been smoked by working men, with Irish styles being particularly favoured.

The Marbles

The excavations also produced two marbles, perhaps indicating that children were also playing in this area. These are hard to date but are most likely to have been produced during the nineteenth century, particularly given the date of the bulk of the pipes and the fact that one of them appears to be a machine ground stone example, which has been finished with three red painted lines around it. A similar pattern was observed in Chester, where thirteen marbles recovered from excavations at 25 Bridge Street appeared to be primarily associated with post-1800 deposits (Higgins 2008b, 259). The two marbles from Bromborough are as follows: -

401 A rather irregular handmade clay marble with a diameter varying between 13.0 mm and 14.2 mm. This has been made of pale buff coloured clay with occasional streaks of darker

brown clay. There are occasional very fine sandy inclusions in the fabric visible under a lens. Surface very abraded.

502 A very small marble made with quite a good spherical form and a diameter of 10.9 mm. This is made of quite a dense, heavy material (presumed to be stone) with a white slightly crystalline/granular surface. The small size and good form of this marble suggest that it was mechanically ground and it has been finished with three fine parallel lines of red pigment around its middle.

At Chester, the majority of the marbles were found to have been made of stone with only a small number being of clay. The stone marbles ranged in size from 13.9 mm to 20.0 mm, emphasizing how small the Bromborough example is in comparison. There were only two examples that were certainly made of clay from Chester and these ranged from 16.3 mm to 16.5 mm. Both were made of marbled red and white clays like the Bromborough example. Two clay marbles have also been recorded from excavations at Castle Rushen Stores on the Isle of Man (Higgins 2008b, 96-97). These were both made of a fine white pipe clay and ranged from 15-18 mm in diameter. Although they are of a broadly similar size to those from Chester and Bromborough, their different fabric may well indicate that they came from a different source.

References

Higgins, D. A., 1987, *Some Clay Pipes from Cheshire and Merseyside*, North West Archaeological Trust, Liverpool, Report No 3 (22pp).

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12.4. Glass by Rose Broadley

Overview

A total of 674 fragments of glass were found, weighing a total of 1468 grams. The assemblage is entirely Post-Medieval, and largely confined to the twentieth century. Approximately 20% of the glass by sherd count is vessel glass, with the remainder being window glass. Almost all of the identifiable vessel glass comes from utility bottles of various kinds.

Aim

The aim was to assess the potential and significance of the material and to advise Big Heritage accordingly.

Discussion

The earliest and most interesting fragments are from a utility bottle that appears black in reflected light (C202). The shape and condition of the rim and neck date the manufacture to between 1820 and 1870. This is the only glass from the site that can be confidently dated to before the mechanization of the glass industry at the turn of the nineteenth to twentieth centuries. A large neck and shoulder and nine body sherds from the same or a very similar vessel were also found in the same context, as was the narrow rim and neck of a small and very pale blue bottle. The base and a body sherd from another black utility bottle came from

C201, as well as twenty-one sherds from C101, seventeen from C102, four in C204, two in C501, and one each from C103, C301 and C401.

The sherds from a range of other utility bottles in different colours and shapes were also found: a pale green base with a rounded end and straight edge (C401); the corner of a pale blue base with three vertical planes meaning that the bottle would have been eight-sided (C102); and one green and two colourless sherds with traces of moulded lettering or designs, but with too little surviving for identification (C101). However, these are difficult to identify or date precisely due to the lack of legible moulded lettering or other distinguishing features. They are all twentieth century however, and probably from the first half of that century. The glass assemblage also features a glass marble from a Codd-necked bottle, which were invented in 1872 especially for carbonated drinks. However, the period of greatest use was the first half of the twentieth century, which is the likely date for this example. Utility bottles were used for containing a wide range of liquids, including perfumes, medicines, and chemicals as well as alcoholic and non-alcoholic beverages. It is likely that the black bottles contained alcoholic drinks, and the remainder contained medicines or chemicals, with the exception of the marble, which indicates a carbonated and probably soft drink bottle. However, this distinction was far from absolute.

The vast majority of the identifiable vessel sherds in this assemblage are from bottles. However, it is possible that a handful of sherds represent drinking glasses or vases. The only clear case is a colourless rim sherd with a grid of inverted prisms moulded from one centimetre below the rim and a visible mould seam (C101), dating to the first half of the twentieth century.

The majority of the window glass is modern, thin and colourless, although there are a number of thicker colourless sherds with an obscuring pattern of very fine parallel ridges on one side (five in C102, one in C302, one in C101), which are also twentieth century in date.

Recommendations

The potential of the assemblage for further research is considered to be very limited, and no further work is recommended.

12.5. *Lithic by Olaf Bayer*

Overview

A total of 2 potential lithic artefacts were found in the topsoil of Trench 5 (501) and subsoil of Trench 1 (102).

Aim

The aim was to assess the potential and significance of the material and to advise Big Heritage accordingly.

Discussion

The lithic from (501) is a possible fragmented unmodified struck flake. The lithic from (102) is a small unmodified struck flake. The presence of such lithic material is not unexpected, as two additional flints were found within the grounds of Bromborough Courthouse and at Shore Field (S. Nicholson pers comm). Within the parish of Bromborough, a Neolithic arrowhead was discovered in a garden at Croft Avenue, and four prehistoric find spots were discovered prior to development at Cowpasture Wood (NGR: SJ 353 824), although no evidence of settlement was revealed (LUAU 1994). During the 2013 test pitting project two further lithic artefacts were recovered from Bromborough Village. The first was a Mesolithic bladelet and the second, a Neolithic arrowhead (Duckers, Kirton and Paton 2014).

Recommendations

The potential of the assemblage for further research is considered to be very limited, and no further work is recommended.

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12.6. Pottery by Julie Edwards

Introduction

This report describes an assemblage of 1207 sherds, 4566 g of pottery recovered during excavations by Big Heritage at Bromborough Courthouse, Bromborough in 2014.

Methodology

The pottery has been quantified in line with the minimum standards of the Medieval Pottery Research Group (MPRG 2001), that is by sherd count and weight according to ware type and where possible form within context groups; the data has been recorded in an Excel spreadsheet. The terms used to identify the wares are those employed in the CWAC Historic Environment Team fabric reference collection modified for the post-medieval period by the common ware names recommended by the Potteries Museum during an English Heritage sponsored training course in 1999. Forms have been defined as far as possible using terms recommended by the Medieval Pottery Research Group (MPRG 1998).

The pottery has been divided and bagged by ware type within context groups except for the smaller assemblages where the pottery was returned to the same bag. It is possible that some of the wares classified as C19th/20th whitewares i.e. fine white glazed earthenwares may be from the plain areas of decorated wares but unless there is an obvious sherd join with a decorated fragment it is not possible to identify such wares and they have been bagged separately.

This report summarises and discusses the assemblage, detailed information can be found in the archive record.

Condition

The pottery assemblage is very fragmentary and consists of small and very small fragments which are often too small and abraded to identify accurately to ware type and form. No vessels can be partly or totally reconstructed from the fragments although some pieces are clearly from the same vessels and sometimes join to form larger fragments of a vessel. Unglazed and medieval fragments are the most abraded and on some the surfaces and any diagnostic features have been totally worn away making the pieces unidentifiable.

Range

Post-medieval wares dominate the assemblage. Where form can be discerned tablewares such as plates, dishes, bowls, cups and jugs and storage vessels are most common but a fragment of a jelly mould and flowerpots are also present and a small miniature porcelain plate may be from a dolls tea set or dolls house. The range of wares are typical for the nineteenth and early twentieth centuries being mass-produced types produced in Staffordshire and elsewhere in Britain, along with blackwares and slipwares made in traditional potteries such as those at Buckley, N Wales, Staffordshire and Prescot in South Lancashire. A small number of earlier wares are present as well as fragments imported from the Rhineland and China but this is not unusual as both areas exported large quantities of ceramics to Britain during the post-medieval period. A few tin-glazed ware fragments were possibly made in London, Bristol or Liverpool although a Low Countries source cannot be excluded. One piece of transfer-printed porcelain may be an example of eighteenth century Liverpool porcelain which is not commonly found on excavations. Examples of earlier post-medieval wares are late 17th/18th century mottled wares which may have been made in Buckley or Staffordshire. Fragments of late 15th- 16th century Cistercian-type wares are too small to indicate a provenance but production sites at Rainford, South Lancashire, Staffordshire and Yorkshire all supplied the region.

At least one sherd is definitely medieval – a fragment made in a Coal Measure clay is of 14th or 15th century date, another abraded red earthenware is perhaps medieval but is too abraded to identify precisely.

A piece of Roman pottery had been bagged with the ceramic building material, it is too small to identify or date precisely. It is possible that Roman wares are present amongst some of the very abraded red earthenwares but if so they do not have enough diagnostic features to identify them.

The principle groups are summarised below.

Description

Trench 1: 417 sherds, 1603 g

The topsoil and subsoil layers (101) and (102) layers produced the largest quantity of pottery in this trench (411 sherds, 1594 g); the remainder was found in the, subsoil layer (103), tree root fill (106) and fill of cut within the subsoil (108).

Transfer-printed wares and undecorated 19th/20th century whitewares dominate the assemblage by sherd weight and count but blackwares, unglazed red earthenware flower pots and brown salt-glazed stonewares contribute a sizeable but lesser component by weight. Sherd size prevents many of the transfer-printed designs being identified and dated more closely but blue Chinese inspired patterns including Willow pattern are common; purple, black, green and brown patterns are also present and include floral, foliage and abstract patterns and some rural or outdoor scenes. Black and blue transfer prints were introduced in the second half of the 18th century but other colours did not appear until during the first half of the 19th century. Other decorated wares include blue, green and purple sponge prints, painted wares, blue banded factory slip wares, relief-moulded smear glazed stonewares and Jasper-type wares as well as a late 18th or 19th century trailed slipware vessel.

The wares present are largely domestic in character but some of the storage wares may have had a commercial use. Sherd size prevents the vessel type of many of the fragments from being identified however vessels for serving food and drink can be recognised and include cups, mugs, a tea-bowl, plates, bowls, dishes, jugs and a large transfer-printed lid potentially from a tureen. Storage wares include blackware jars and large dishes – one jar fragment has a deposit that may be paint and could have been used as a paint pot; cylindrical whiteware

jars, stoneware bottles including a black leading bottle fragment and a possible mottled ware chamber pot. All the unglazed redwares appear to be flower pots of various sizes.

The wares represented were mostly made and used in the nineteenth and early twentieth centuries however some such as creamwares, blackwares, brown salt-glazed stonewares span the eighteenth and nineteenth centuries. A small number of earlier post-medieval wares are present such as late seventeenth/early eighteenth century tin-glazed wares, late seventeenth – mid-eighteenth century mottled wares, seventeenth century yellow ware, an eighteenth century white-salt glazed stoneware and an eighteenth century Jackfield-type ware (a refined black-glazed ware). Four fragments are much earlier in date. Three sherds of a Ewloe-type ware (SF- 1008/1009/1010) probably from North East Wales is common in the 14th and 15th centuries but some evidence from Chester suggests these wares may continue into the 16th century (Edwards 2008). One very small piece of Roman pottery (SF – 1011) was identified, the piece has a fine white/cream fabric with what appears to be the remains of a buff colour coat on both surfaces however the piece is too abraded to identify as to ware or date (G.Dunn pers comm.).

Table1: Trench 1

101	11	Blackware	14	169
101	11	Bone china	16	31
101	11	Brown salt-glazed stoneware	3	22
101	11	C19th/20th painted ware	1	3
101	11	C19th/20th whiteware	99	307
101	11	C19th brown glazed ware	2	8
101	11	C19th buff ware	6	19
101	11	Creamware	12	17
101	11	Factory slipware - banded ware	2	11
101	11	Notts-type stoneware	1	3
101	11	Pearl-shell edged	1	1
101	11	Porcelain	2	1
101	11	Sponged ware	6	15
101	11	Stoneware	1	1
101	11	Transfer Printed Ware (TPW)	59	109
101	11	TPW-Flow blue	5	37
101	1	Unglazed redware	34	300
102	12	Black slip-coated ware	1	2
102	12	Blackware	15	105
102	12	Bone china	2	1

102	12	Brown salt-glazed stoneware	4	98
102	12	C19th/20th painted ware	1	1
102	12	C19th/20th whiteware	46	106
102	12	Ewloe-type Ware?	3	21
102	12	Factory slipware - banded ware	1	1
102	12	Glazed redware	1	1
102	12	Jasper-type Ware	4	4
102	12	Mottled Ware	7	32
102	12	Pearlware	5	18
102	12	Self-coloured Ware	3	31
102	12	Slipware-trail	2	3
102	12	Smear glazed stone ware	1	13
102	12	Smear glazed stone ware - Cypls Type	9	32
102	12	Sponged Ware?	1	1
102	12	Tin-glazed Ware	6	7
102	12	Transfer Printed Ware (TPW)	29	53
102	12	TPW-Flow blue	4	8
102	12	Yellow Ware	1	1
102	27	Roman - Possible	1	1
103	13	Jackfield-type Ware	1	1
103	13	C19th buff ware	2	1
103	13	C19th/20th whiteware	1	1
106	14	Self-coloured ware	1	2
108	15	Blackware	1	4

Trench 2: 375 sherds, 1390 g

Pottery was recovered from the topsoil and subsoil layers (201) and (202) and one fragment from layer (204) a natural layer, which has been heavily disturbed by tree-roots.

Transfer printed wares and undecorated 19th/20th century whiteware fragments dominate the assemblage by sherd count and weight but blackwares are the greater by weight, these are largely concentrated in (202) and there are slightly more present than in Trench 1. There is a much lesser quantity of unglazed redwares (largely flowerpots) than in Trench 1 and they are only present in contexts (202) and (204). The transfer printed patterns include 'Asiatic Pheasants' a very common print that was popular from the 1840s, Willow pattern, 'Fibre' a popular abstract design of the late 19th and early 20th centuries and unidentified floral, foliage and abstract geometric prints. Blue, purple, green, black, brown and grey prints are present. The border transfers on one purple printed plate have been misaligned so that the pattern is

not continuous, this suggests that the plate may have been sold or acquired as a second. Other decorated wares include fragments painted with stripes and bands and flowers; Bone China with blue or violet sprigged flowers which date from c.1820; factory slipwares with bands of green, brown and blue; sponged wares with cut sponge motifs in green and purple dating from the 1830s; blue painted and printed porcelains and blue painted tin-glazed wares. Trailed slipware dishes are also present.

The assemblage is very similar in character to Trench 1 and the pottery consists of predominantly household wares which are largely factory produced tablewares for eating and drinking, these include cups, saucers, bowls, plates, an egg cup, a jug and fragments of a late 19th century brown-glazed teapot. The blackwares include fragments of what appear to have been large storage jars and bowls or dishes as well as smaller cups or mugs, the latter may be 17th or 18th century in date. Less common but not unusual in assemblages of this date are a plain miniature porcelain plate of poor quality which is perhaps from a dolls service or dolls house and the head of a man with a bouffant hairstyle which is probably from an ornamental figurine. All the unglazed redwares appear to be flower pots of various sizes, one has an applied horizontal handle and may have taken the form of a jar.

Fragments of a 19th century stoneware Selters mineral water bottle were found in (202) and (204) Mineral water like today was popular largely because sources of clean drinking water were not widely available until the late 19th and early 20th centuries, imports from Germany and Low Countries arrived in tall cylindrical stoneware bottles similar to those used more recently for gin.

Whilst the majority of the assemblage spans the late 18th to early 20th centuries some earlier wares are present and include the following. Two fragments of Westerwald stoneware from (202) and (204) appear to be from globular mugs or round-bodied jugs, one piece has sprigged decoration this and the forms suggest they are probably seventeenth century in date. Blue and grey Westerwald stonewares continued to be imported into the UK long after the brown salt-glazed Rhenish stonewares were replaced by English stonewares, they are commonly found as jugs, chamberpots and mugs. The handle from a mottled ware cup dates from the late 17th to the mid 18th century. A small fragment of white salt-glazed stoneware is also from the 18th century as is a fragment from an 18th century tin-glazed ware bowl with blue floral decoration, a possible fragment of 18th century Liverpool porcelain with a blue transfer print.

A Chinese porcelain cup and a fragment from a large press moulded slipware dish are of 18th or 19th century date.

In general it is difficult to comment on the type of households that may have used this pottery but the Liverpool porcelain would have been from a reasonably comfortably off household as perhaps were the tin-glazed wares and Westerwald stoneware.

Table 2: Trench 2

201	16	Blackware	3	44
201	16	Bone china	5	16
201	16	Brown salt-glazed stoneware	1	6
201	16	C19th brown glazed ware	2	21
201	16	C19th buff ware	2	9
201	16	C19th/20th decorated ware	4	36
201	16	C19th/20th whiteware	19	69
201	16	Factory slipware - banded ware	3	7
201	16	Mottled ware	1	3
201	16	Pearlware	1	8
201	16	Porcelain	3	5
201	16	Sponged ware	1	1
201	16	TPW	8	8
201	16	TPW-Flow blue	1	3
201	2	Unidentified	2	3
201	16	White salt-glazed stoneware	1	1
202	17	Blackware	20	279
202	17	Bone china	13	18
202	17	C19th brown glazed ware	4	10
202	17	C19th buff ware	7	21
202	17	C19th/20th decorated ware	7	18
202	17	C19th/20th whiteware	95	196
202	17	Factory slipware - banded ware	9	24
202	17	Mottled ware	1	13
202	17	Notts-type stoneware	1	5
202	17	Porcelain	3	6
202	17	Selters bottle	5	42
202	17	Slipware-trailed	1	2
202	17	Sponged ware	1	1
202	17	Stoneware	7	39
202	17	TPW	58	211
202	17	TPW-Flow blue	2	2
202	17	Westerwald stoneware	1	6
202	3	Unglazed Redware	2	14

202	3	Unidentified	1	1
202	3	TGW	1	1
204	4	Unglazed redware	3	18
204	18	Agate ware	1	5
204	18	Black ware	12	52
204	18	Bone China	2	2
204	18	C19th/20th whiteware	31	33
204	18	Chinese porcelain	1	5
204	18	Creamware	5	13
204	18	Mottled ware	1	4
204	18	Porcelain	1	4
204	18	Selters bottle	1	12
204	18	Slipware-trailed	1	32
204	18	Sponged ware	2	7
204	18	Tin-glazed ware	1	5
204	18	TPW	10	38
204	18	TPW - Blue Ware	2	2
204	18	Westerwald stoneware	1	3
204	4	Unglazed Earthenware	4	6

Trench 3: 139 sherds, 557 g

Pottery was retrieved from the topsoil and subsoil deposits (301) and (302). Transfer-printed wares, C19th/20th whitewares and blackwares are the most numerous wares by sherd count and weight.

A similar range of wares and vessel forms are present as in Trenches 1 and 2 but there are significantly fewer flowerpot fragments. Transfer printed designs include 'Asiatic Pheasants', Willow pattern, 'Fibre' Flow Blue as well as fragments of other unidentified designs. Less common wares are a piece of probable Chinese porcelain with a European inspired blue transfer print and two pieces of Westerwald stoneware with a scheme of decoration that suggests a 17th rather than 18th century date. A tiny blue decorated porcelain fragment may be English rather than a Continental or Chinese import.

A small fragment of a late medieval ware made from a white firing Coal Measure clay is possibly a Ewloe-type ware from North East Wales whilst an abraded red earthenware is difficult to identify but a Roman date cannot be discounted.

Table 3 Trench 3

301	Black slip-coated ware	1	1
301	Blackware	5	55
301	Bone china	4	17
301	Brown salt-glazed stoneware	2	43
301	C19th/20th decorated ware	1	1
301	C19th/20th whiteware	13	69
301	Factory slipware - banded ware	5	7
301	Glazed earthenware	1	3
301	Porcelain	1	16
301	Salt-glazed stoneware	2	6
301	stoneware	1	28
301	TPW	17	73
301	TPW-Flow blue	2	6
301	Unglazed redware	2	5
302	Blackware	11	113
302	Brown salt-glazed stoneware	1	1
302	C19th/20th whiteware	28	37
302	Creamware	4	9
302	Ewloe-type pink/white ware	1	1
302	Factory slipware - banded ware	4	4
302	Glazed earthenware	1	1
302	Mottled ware	2	3
302	Porcelain	1	1
302	Slipware-trailed	1	13
302	stoneware	1	2
302	Tin-glazed ware	1	1
302	TPW	20	34
302	TPW-Flow blue	3	4
302	Unglazed redware	1	1
302	Westerwald stoneware	2	2

Trench 4: 135 sherds, 637 g

Pottery was retrieved from the topsoil and subsoil layers (401) and (402). A similar range of wares and forms are present in these contexts as was found in the topsoil and subsoil deposits in the other trenches. These represent domestic vessels for use at table or in the kitchen or with a storage function although some such as the jug described below may have been for display. Transfer printed wares and 19th/20th century whitewares predominate and a similar range of printed patterns are represented i.e. ‘Asiatic Pheasants’, ‘Fibre’ and Willow patterns.

Most of the assemblage is composed of a range of 18th – 20th century pottery such as factory slipwares, sponged ware, Bone China, and stonewares, the latter include part of the handle of a large storage vessel.

Four joining sherds from a highly decorated tall narrow 19th or early 20th century smear-glazed stoneware vessel, possibly a jug or tankard, were found in (402). The vessel has relief-moulded decoration depicting a male figure in a late medieval costume with a helmet at his feet. The decoration may be a theatrical scene or a romanticised view of a medieval scene and was probably inspired by 16th century Siegburg stonewares from the Rhineland.

Earlier post-medieval wares are represented by late 17th-mid 18th century mottled wares. The remains of two Cistercian-type ware cups, commonly in use in the late 15th and 16th centuries were found in (402) these along with a small abraded red earthenware which is possibly medieval are the earliest wares to be found in this trench.

Table 4: Trench 4

401	19th brown glazed ware	2	1
401	19th buff ware	4	52
401	Blackware	1	33
401	Bone china	7	15
401	Brown salt-glazed stoneware	1	81
401	C19th/20th whiteware	24	86
401	Factory slipware - banded ware	6	7
401	Porcelain	2	2
401	Salt-glazed stoneware	1	1
401	Slipware-trailed	1	22
401	Smear glazed stoneware	4	52
401	Sponged ware	3	4
401	TPW	28	94
401	Unglazed redware	7	39
401	Unidentified	2	2
402	19th buff ware	1	1
402	Blackware	4	32
402	Bone china	5	14
402	C19th/20th whiteware	3	3
402	Cistercian-type ware	2	3
402	Creamware	4	6
402	Factory slipware - banded ware	2	7
402	Glazed earthenware	1	34
402	Mottled ware	1	1

402	Pearl-shell edge	2	5
402	TPW	15	38
402	Unglazed redware	1	1
402	Unidentified	1	1

Trench 5: 149 sherds, 379 g

Pottery was recovered from the topsoil and subsoil deposits (501) and (502). A similar range of wares are present in these contexts as was found in the topsoil and subsoil deposits in the other trenches. Transfer printed wares and C19th/C20th whitewares predominate.

Identified vessel forms are cups, saucers, plates, dishes, bowl, a possible brown glazed teapot fragment, flowerpots and a transfer printed mug with the remains of a black printed motto, although not enough survives to identify the wording. Whilst no storage wares have been identified these are probably represented amongst the pieces of blackware and brown-glazed stoneware. A small fragment of jelly mould is an example of a vessel that can definitely be identified and associated with food preparation.

With the exception of one very abraded redware fragment which could perhaps be Roman the wares in the assemblage fall into the date range of the late eighteenth – early twentieth centuries. Unlike the other trenches no early post-medieval wares appear to be present.

Table 5: Trench 5

501	19th buff ware	6	29
501	Blackware	4	39
501	Bone china	1	1
501	Brown salt-glazed stoneware	3	25
501	C19th/20th whiteware	34	61
501	drainpipe	1	13
501	Factory slipware - banded ware	7	9
501	Slipware-trailed	8	12
501	Smear glazed stoneware	1	14
501	Sponged ware	7	8
501	Stoneware	1	1
501	TPW	14	32
501	TPW-Flow blue	1	1
501	Unglazed redware	1	4
502	Blackware	8	62
502	Bone china	2	2

502	C19th brown glazed ware	1	2
502	C19th/20th whiteware	19	25
502	Creamware	1	1
502	Glazed earthenware	2	1
502	TPW	6	7
502	TPW-Flow blue	2	1
502	Factory slipware - banded ware	1	1
502	Sponged ware	1	1
502	19th/20th decorated ware	1	2
502	Unglazed redware	8	25

Discussion

The pottery found during the excavations is similar in character and range as that found elsewhere in the Cheshire/Wirral region from topsoil and sub-soil deposits close to or within later post-medieval settlements.

The high level of fragmentation and abrasion suggests re-working and re-deposition of soils, the pottery may have originally been deposited as a result of domestic rubbish dumping or may have been intentionally added to the soil to assist drainage, either in the context of gardening or agricultural activities.

Whilst the occupation and activities suggested by the presence of the pottery span the 19th and 20th century earlier occupation or activity on or in the vicinity of the site is suggested by the presence of potential Roman and medieval pottery and the late 15th-16th century Cistercian-type wares.

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13. APPENDIX C: palaeoenvironmental evidence

12.1 Assessment of biological remains from 'flots' from two sediment samples collected during excavations at Bromborough Court House, Bromborough, Wirral, Merseyside (site code: BCH14)

By John Carrott, Palaeoecology Research Services

Overview

An archaeological excavation was undertaken by Big Heritage C.I.C. and community volunteers at Bromborough Court House Moated Site and Fishponds (scheduled monument SMR 13428), Bromborough, Wirral, Merseyside (NGR SJ 34496 84189) between September and December 2014. This work was undertaken as part of the larger HLF funded 'Discovering Bromborough 2: Moats and Manors', a community archaeology project managed by Big Heritage C.I.C. The intention of the project was to complete a second year of test pitting around the core of Bromborough village, together with an evaluation of the potential for archaeology on the court house site, whilst providing training for local community volunteers and other interested parties.

Five evaluation trenches were excavated in an area assumed to be the interior of the medieval moated manor (although artefactual evidence recovered subsequently suggested a 17th century or later date) and encountered stone spreads, fence lines, possible drainage ditches, pits or post-holes, and what appeared to be constructed features formed from sandstone blocks (now heavily degraded).

Two 'flots' from sediment samples ('GBA'/'BS' *sensu* Dobney *et al*. 1992) processed by the excavator were submitted to Palaeoecology Research Services Limited (PRS), Kingston upon Hull, for an assessment of their bioarchaeological potential.

Methods

The two sediment samples were of approximately 35 litres (Sample 001) and 20 litres (Sample 002) and processed using a 2 x 1.3 mm mesh. The samples were collected from degraded

sandstone features within a perched water-table encountered in Trenches 3 and 4 and, consequently, consisted largely of fragments of stone with little sediment matrix.

The small 'flots' recovered did not appear to contain uncharred 'ancient' organic remains and were dried prior to submission to PRS. Each was examined for macrofossils and other remains present using a low-power microscope (x7 to x45 magnification). The components of the 'flots' were recorded either as actual counts or via a five-point semi-quantitative scale: 1 – few/rare, up to 3 individuals/items; 2 – some/present, 4 to 20 items; 3 – many/common, 21 to 50; 4 – very many/abundant, 51 to 200; and 5 – super-abundant, over 200 items/individuals.

The residue fractions from the processed samples were not submitted for assessment

Macrofossil remains were identified by comparison with modern reference material (where possible), and the use of published works (e.g. Cappers *et al*. 2006 for plant remains). Remains were identified to the lowest taxon possible or necessary to achieve the aims of the project. Charcoal identifications were attempted for a small number of larger fragments, all of which were over 4 mm. Pieces were broken to give clean cross-sectional surfaces and the anatomical structures were examined using a low-power binocular microscope (x7 to x45) and higher magnification where necessary (x150). Identifications were made by comparison with modern reference material where possible, and with reference to published works (principally Hather 2000 and Schoch *et al*. 2004). Nomenclature for plant species follows Stace (1997).

Concretions present in both 'flots' were examined for microfossils using the 'squash' technique of Dainton (1992). Originally designed specifically to investigate the content of eggs of intestinal parasitic nematodes, this method routinely reveals other microfossils, such as pollen and diatoms, which were also recorded if present. The slides were scanned at x150 magnification and at x600 where necessary.

During recording, consideration was given to the suitability of macrofossil remains for submission for radiocarbon dating by standard radiometric technique or accelerator mass spectrometry (AMS).

Results

The results are presented below in context number order. Context information and descriptions of the sampled sediments follow the information provided by the excavator.

Context 305 [Trench 3; undated]

Sample 002

Dark reddish-brown deposit, composed of degraded sandstone and silt, formed from leaching of sandstone structure (306) owing to a perched-water table.

The tiny 'flot' (~2 ml; 1.5 g) was mostly composed of small fragments of coal (to 5 mm), cinder (to 5 mm) and charcoal (to 7 mm); all abundance score 2. Other components were five small stones, two pieces of slag and a single indeterminate wood fragment (all to 5 mm), together with two concretions (to 8 mm), one earthworm egg capsule and the seed 'head' from a winged sycamore (*Acer pseudoplatanus* L.) seed (i.e. missing the 'wing').

The charcoal present was sediment encrusted and identification attempted for the two largest fragments yielded little information. Both fragments exhibited distorted cell structures, a rather vitrified appearance and considerable mineral impregnation; the largest could not be identified even in part but the other fragment was of a ring-porous species. There were no roundwood fragments present for which the number of years of wood growth represented could be determined.

The 'squash' subsample from the concretion was mostly inorganic, with a little organic detritus (mostly burnt, i.e. ash). No interpretatively valuable microfossils were present.

Context 404 [Trench 4; undated]

Sample 001

Dark reddish-brown deposit filling rounded pit or large post-hole (405) and composed of degraded sandstone and silt; formed from leached sandstone owing to a perched-water table (as seen in Context 305, above, and also Context 505 in Trench 5).

The tiny 'flot' (~2 ml; 1.5 g) was mostly composed of coal (to 5 mm) and fragments of indeterminate wood (to 8 mm); both abundance score 2. Other components were a stone (to 12 mm), one piece of cinder (to 6 mm) a concretion (to 23 mm), three earthworm egg capsules, a single calcined indeterminate bone fragment (to 6 mm) and six small pieces of charcoal (to 8 mm – but all bar the largest less than 5 mm).

The charcoal present was sediment encrusted and identification was attempted for the largest fragment only. Some mineral impregnation was evident and the fragment could be identified as of a diffuse-porous species but not more closely. There was roundwood charcoal present for which the number of years of wood growth represented could be determined.

The 'squash' subsample from the concretion was entirely mineral, although this perhaps incorporated a little (abundance score 1) mineral-replaced organic detritus. No interpretatively valuable microfossils were present.

<u>Discussion and statement of potential</u>

Very little material was recovered in the two sample 'flots' and there were no 'ancient' remains, organic or otherwise, of any interpretative value present. Furthermore, some of the remains in both 'flots' were almost certainly modern intrusions (earthworm egg capsules).

Although sufficient charcoal for radiocarbon dating (via AMS) was present in both of the 'flots', none of this material could be recommended for this purpose. Identification to species and/or determination of the number of years of wood growth represented was not possible and, consequently, the 'old wood problem' of radiocarbon dating the charcoal, whereby any date returned could be far earlier than the charring event but by an unknown number of years (the carbon content of the wood being fixed at the time of its growth), would apply.

Recommendations

The dearth of ancient organic remains recovered from the samples precludes any further study.

Unless required for purpose other than the study of biological remains, the two sample 'flots' may be discarded.

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14. APPENDIX D: trench location information

Trench 1

	NE Corner	NW Corner	SE Corner	SW Corner
Easting	334512.726	334509.139	334513.545	334509.896
Northing	384173.994	384172.348	384172.187	384170.576

Trench 2

	NE Corner	NW Corner	SE Corner	SW Corner
Easting	334498.568	334494.996	334499.388	334495.816
Northing	384168.976	384167.351	38416.107	384165.491

Trench 3

	NE Corner	NW Corner	SE Corner	SW Corner
Easting	334457.684	334454.643	334457.806	384132.559
Northing	384134.761	384134.548	384132.776	334454.766

Trench 4

	NE Corner	NW Corner	SE Corner	SW Corner
Easting	334460.261	334458.227	334460.286	334458.255
Northing	384133.242	384133.208	384131.189	384131.152

Trench 5

	NE Corner	NW Corner	SE Corner	SW Corner
Easting	334474.399	33440.481	334475.114	334471.194
Northing	384142.065	384138.678	384141.321	384137.94