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Excavations at Whitewall Brake Romano-British Site. Caerwent Training Area Defence Training Estate Wales & West NGR: ST 4753 9114

Adam Clapton

ULAS Report No 2017-071

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Summary

*From 2011-2017 excavations took place over 5 seasons at Whitewall Brake Roman site **(MM152)** on the Caerwent military training area in South Wales. Work took place under the Operation Nightingale initiative from 2011-2014 and in 2017 by archaeologists from University of Leicester Archaeological Services (ULAS). The work was commissioned by Landmarc Support Services Limited in order to establish the nature, extent, depth and significance of the heritage assets within the local and regional context in order to inform future management of the site by Defence Infrastructure Organisation and CADW.*

A total of 16 trenches were excavated over 5 seasons with 10 trenches producing in situ Roman deposits. Trench 1 was the largest excavated trench and produced several Roman walls, floor surfaces and evidence of multiple rooms within the structure. Trenches 8, 9 and 12 revealed evidence for a substantial hypocaust room in the south-west corner of the site, along with abundant tesserae and fragments of a mosaic floor. Trenches 8 and 10 revealed a large section of the southern façade wall of the complex with further evidence of Roman structures present in Trenches 5, 6 and 7. Finds recovered suggest the site dates from the 3rd century through to the late 4th - early 5th century.

Evidence for post-Roman activity was also recorded. Potential medieval structures were seen in Trench 1, with Trench 17 also producing a dry stone wall of a probable medieval-post medieval date. Along the southern boundary of the site dry stone cairns and walls were also recorded, further evidence of use of the site in the post-Roman period.

Post-1938 military use of the site was seen in the form of a number of sangars and surface debris indicating the presence of exercising soldiers in recent decades.

The archive will be held by Chepstow Museum in Monmouthshire under an accession number to be confirmed.

Introduction

This report details the results of excavation of evaluation trenches at Whitewall Brake on the Caerwent Training Area in South Wales between 2011 and 2017. The site comprises the earthworks and buried remains of a large Romano-British building, or complex of buildings located in a clump of woodland known as Whitewall Brake in the southern sector of the training area. Scheduled Monument Clearance (SMC) for the work was granted by CADW for each season of fieldwork.

The work from 2011-2014 was conducted by a combined team organised by Diarmaid Walshe of the Defence Archaeology Group (DAG) in collaboration with the University of Leicester (UoL) and was jointly directed by Prof Simon James (UoL) and Phil Abramson and Martin Brown (MOD/DIO). One of the principal objectives of this investigation was involvement in archaeological fieldwork as a means of aiding the recovery of current service personnel and veterans suffering from mental and physical injuries, as part of DAG's Operation Nightingale. Personal accounts, an assessment of the quality of the site work and a positive approach to the work by all participants for the duration of the site work suggest that, as in previous years, this objective was met.

Follow up work was conducted by University of Leicester Archaeological Services (ULAS) in March 2017 under Scheduled Monument Clearance (SMC) and was supervised by Andrew Hyam (ULAS) under the direction of Vicki Score (ULAS), (Fig 1).

The excavations confirmed the presence of undisturbed, in-situ Roman deposits, generally less than 0.20m deep, in some cases exposed in the present ground surface. The excavations suggest a Roman building complex with the presence of a hypocaust in the south-west corner pointing to a structure of possible high status. There is a general dearth of dating evidence, although the small assemblage recovered suggests the main period of activity on the site was during the later Roman period between AD 250 and 400.

Figure 1: Excavations under the Operational Nightingale initiative in 2014 (left) and recording in Trench 17 by ULAS in 2017 (right)

Site Description, Topography and Geology

The Caerwent Training Area occupies low lying countryside which forms the transition zone between the floodplain of Caerwent brook and the hills of Old Red Sandstone and the estate varies from a height of 100 OD in the northern hills to 10m OD in the south. The Romano-British building is a Scheduled Monument (MM152) and lies within the small wood of Whitewall Brake (also known as Castle Tump) situated within the Caerwent Training Area (ST 47533 91146; Fig. 2).

The scheduled area is located at approximately 40m aOD within an area of woodland on a south facing slope and occupies an outcrop of rock sloping steeply to the south towards the railway line incorporating several terraces thought to have been created to provide a suitable

platform for the building complex. A quarry and limekiln are situated to the west, while to the east, the scheduled area dips gradually to a watercourse. Military buildings border the northern edge of the monument and a former railway track, also associated with the military use of the site, runs along the southern edge of the scheduled area. It overlooks the nearby Roman Town of *Venta Silurum* (modern Caerwent) which is located some 600m to the south (Fig. 3).

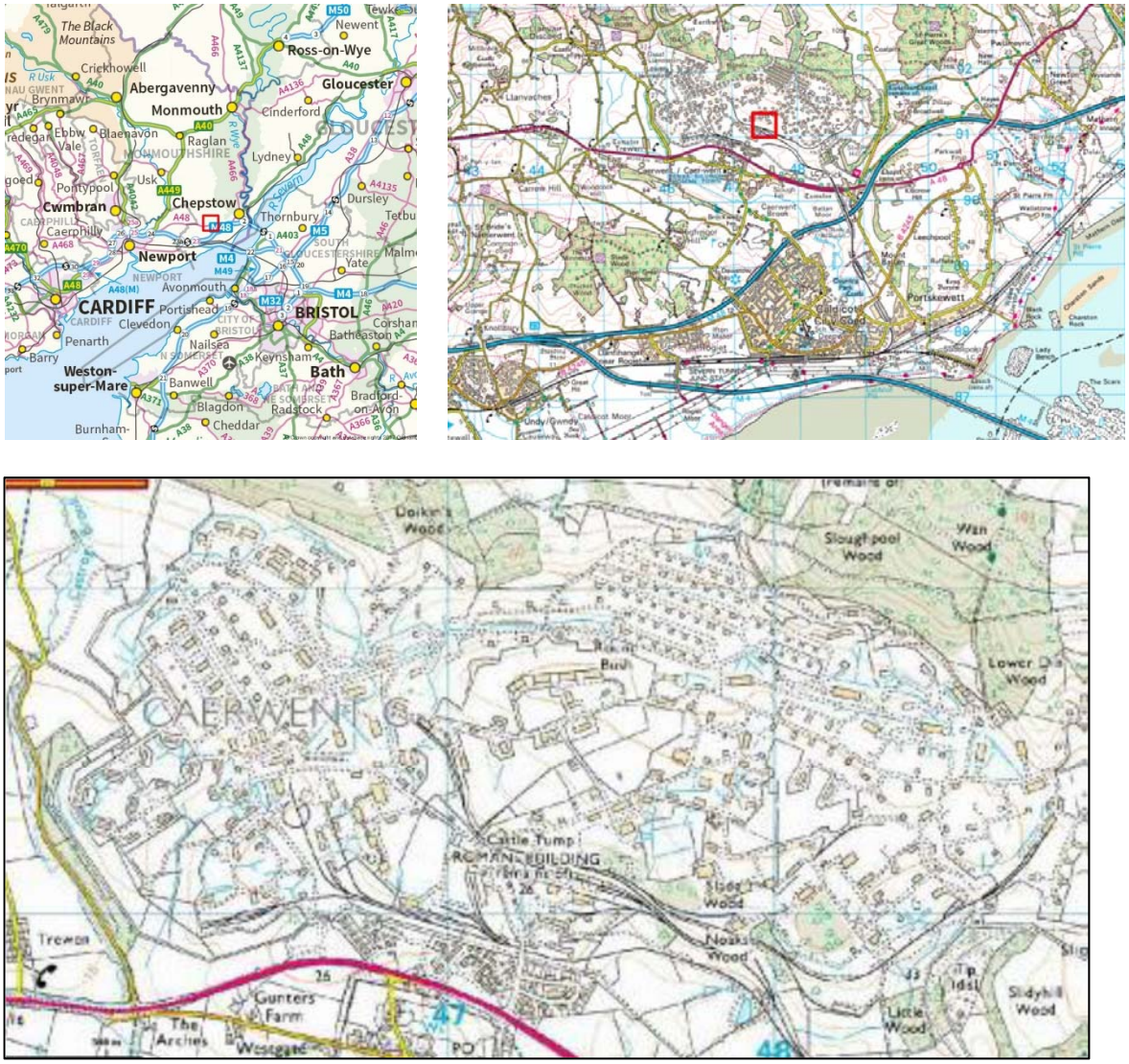


Figure 2: Whitewall Brake (Castle Tump), Caerwent: Site location

Early maps show that the wooded area of Whitwell Brake was one of several small woods in the area within the fields to the north of Caerwent with a small out-building just to the north-west of the site (Fig. 4). Further north was a much greater wooded area with the village of Dinham directly to the north. With the exception of the addition of a few farms and the creation of the road around Caerwent to the south, the area remained largely unchanged until the building of the Propellants Factory in 1939 which consumed the village of Dinham. In the 1960s the factory was closed down and became a storage area (RAF Caerwent). It is now a major training area covering over 1,500 acres (6.1 km2).

This landuse has contributed to the site's survival and the preservation of the buried remains. However the site has suffered from some damage due to increased turbation caused by vegetation, including the presence of trees growing on the walls and the core of the site itself which is causing the structural remains to deteriorate considerably. There is also evidence of limited dumping and small scale military activity on the main part of the site. These issues have led to a gradual decline in the condition of the site (Brown & Walshe 2012).

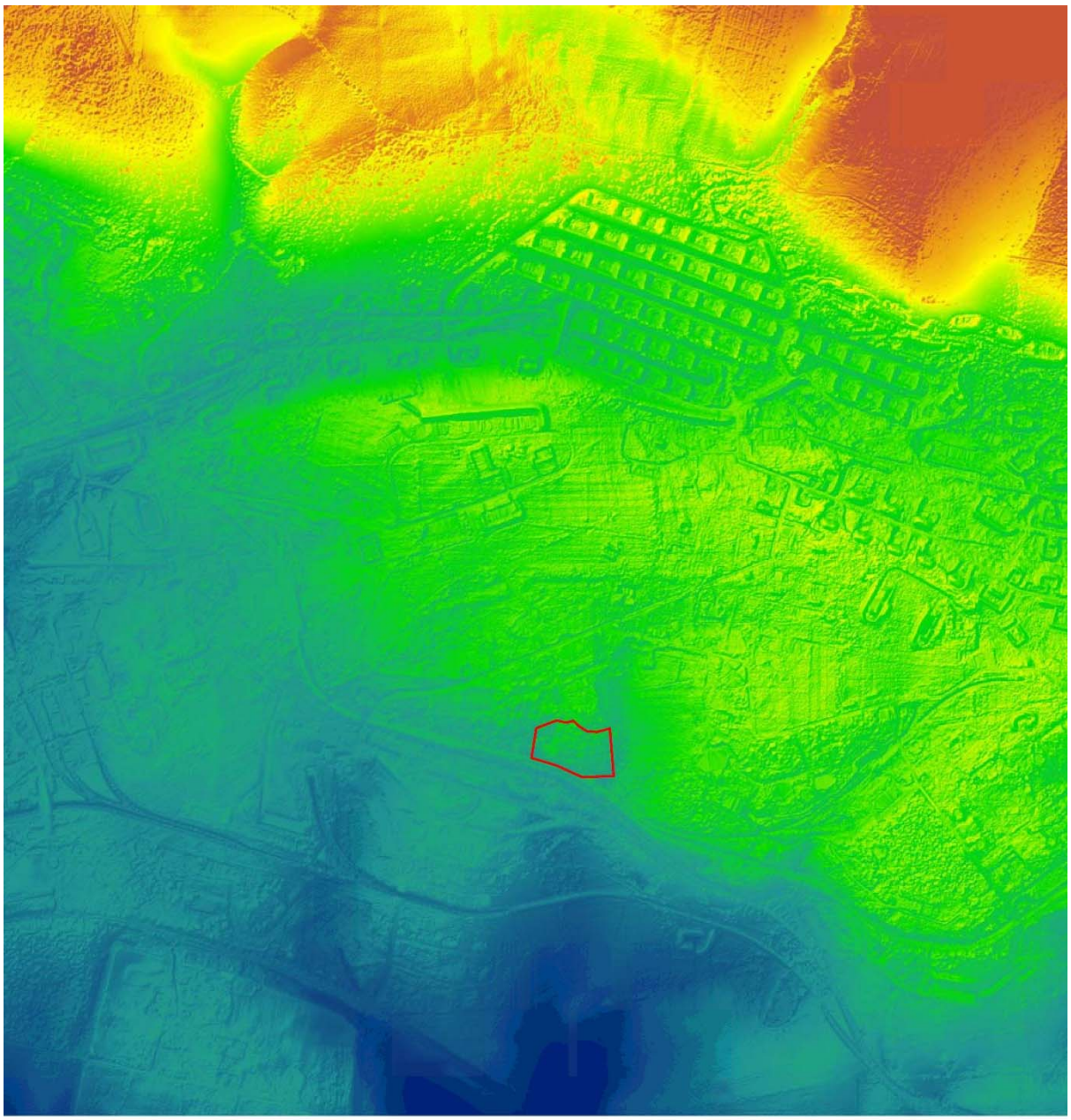


Figure 3: Digital Elevation Model showing the position of Whitwell Brake (outlined in red) in the general landscape with higher ground to the north and overlooking the Roman Town of *Venta Silurum* to the south-west.

Surface indications for the building include linear, grass-covered embankments – interpreted as probable wall lines - visible stretches of dressed-stone walling, circular grass-covered mounds or cairns and areas of tumble re-arranged to form small, drystone enclosures. These last probably post-date the Roman activity on the site and are probably post-medieval or modern features.

The geology of the training area is varied. The solid geology of the Old Red Sandstone plateau on the higher part of the training area comprises the Carboniferous Series including Lower Dolomite, Crease Limestone, Drybrook Limestone, Lower Drybrook Sandstone, Whitehead Limestone and Triassic Mercia Mudstone. The survey shows that the majority of the training area is situated on carboniferous rocks except in the southern area where Triassic strata overlie them. All these rock types are limestone apart from a small outcrop of sandstone. These strata dip to the south at an angle of no greater than 10 degrees except in the south where they have been affected by faulting. The scheduled monument lies mostly on Mercia Mudstone although a limestone band runs to the west and is visible in the quarry section.

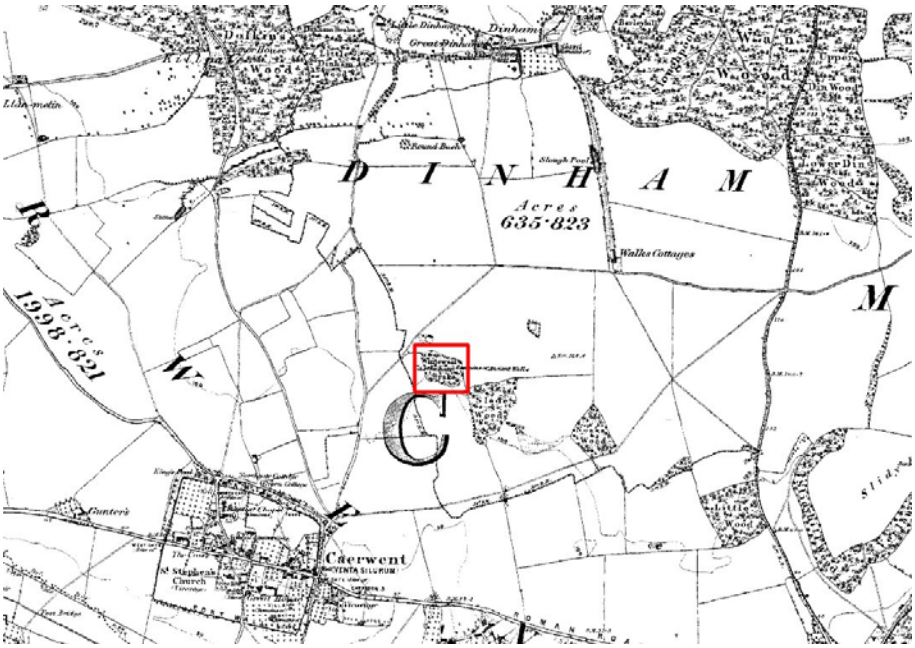


Figure 4: 1887, 1:10,560 OS map showing the location of Whitwell Brake.

Archaeological and Historical Background

There is some evidence that the area was utilised prior to the arrival of the Romans. There are two Bronze Age burial cairns within the Training Area and Llanmelin hillfort lies on the high ground to the north-west.

The Roman town of *Venta Silurum* (modern Caerwent) was founded in AD75 as a market town for the local tribe of the Silures and lies on the Roman road between Caerleon (*Isca Augusta*) and Gloucester (*Glevum*). It continued in use until the 4th century and still contains large sections of intact Roman town wall.

The Glamorgan Gwent Archaeology Trust (GGAT) Historic Environment Record (HER) identifies the monument at Whitwell Brake as a Roman villa site (Ref: **01034g**) excavated in the latter half of the 19th century by Mr Colston. Unfortunately, with the exception of a site plan said to be deposited at the National Museum of Wales all records and artefacts from this work appear to have been lost. The plan (currently unavailable) shows the south and east sides and half of the north side of a possible courtyard (shown on modern OS maps – see Fig. 5). Divisions along the east side suggest a range of rooms of varying sizes with longer undivided spaces to north and east and a single room in the south-west corner. The plan shows that the whole of the building complex was not uncovered and the buildings probably covered a much greater area.

Finds from the excavations included a 6ft square mosaic pavement with a black and white chequer design approximately 1'6" x 1'. In a letter to the National Museum of Wales, dated May 1913, one of Colston's former excavators said that they had found "some coins, yellow and terracotta coloured pottery and tessellated bits of pavement" (quoted in Tuck 2005). It has not been possible to locate these documents.

Ordnance Survey (OS) maps past and present show Whitewall Brake under woodland for at least 130 years and the site appears to have been largely unaffected by the military activity around it. There are no military buildings within the scheduled area and few surface indications of military earthworks (i.e. foxholes, slit trenches, etc.), although there are ephemeral traces of training activities in the form of surface debris.

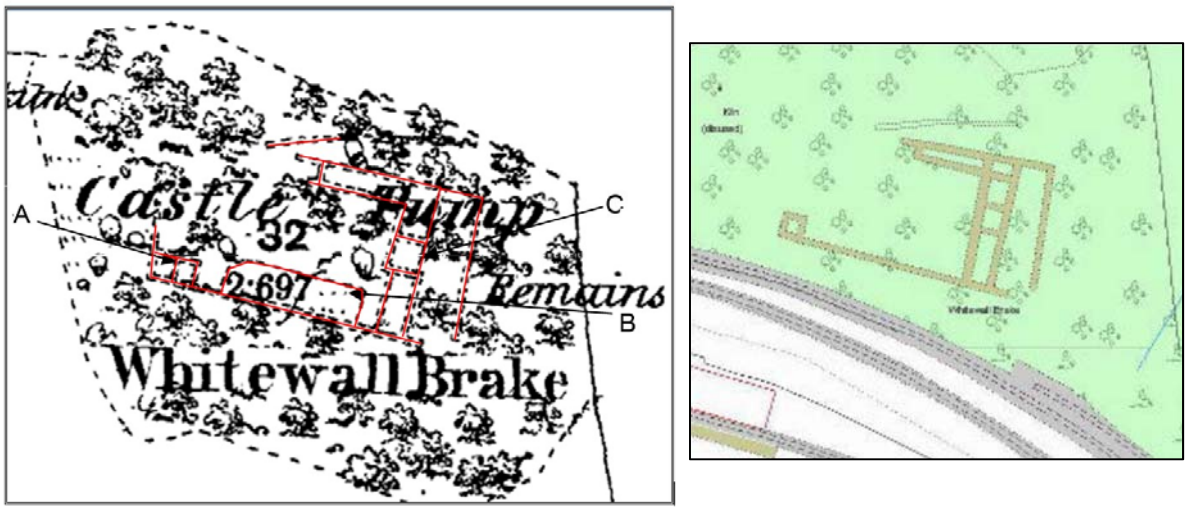


Figure 5: Whitewall Brake, Caerwent: Detail of the remains shown on the 1st edition OS map (left with plan outlined in red) and current OS plan (right). The letters identify some differences between the two (from Abramson et al 2014).

A: Two square rooms are depicted in the southwest corner of the complex, with the western wall running for a short distance northwards at an obtuse angle;

B: A rectangular enclosure is depicted butting the southern boundary wall;

C: A corner is shown in the central room of the eastern corridor.

Changes in the plan on subsequent maps are thought to represent copying interpretations rather than wholesale resurvey (Abramson et al. 2014, 7).

The Caerwent Training Area occupies over 600 hectares (6.1 km2) within the site of the former Royal Naval Propellant Factory, constructed by The Admiralty immediately prior to the Second World War in 1938. The site has also been used as an RAF base storing munitions for US forces in Europe and is now a training area, primarily used by the Army. The guided weapons static firing bay, 'Nitro-Glycerine Hill' and several other components of the propellant factory have been scheduled.

Archaeological Objectives

The objectives of the 2011-2014 work (as stated in Abramson et al. 2014, 8) was:

'to obtain information on the condition, extent and degree of survival of the building in order to inform the future management of the site by Defence Infrastructure Organisation and Cadw. In tandem with this objective was the aim of recovering material to provide information on the function of the building, its date of construction, phases of use and final abandonment. Attention was also paid to any indications of later activity on the site, including the possibility of ephemeral post- or sub-Roman occupation, down to evidence of modern, military-era usage, some evidence of which was visible as surface debris'.

The main objectives of the 2017 archaeological work were:

- To identify the presence/absence of any archaeological deposits.
- To establish the character, condition, extent and date range of any archaeological deposits.
- To record any archaeological deposits.
- To establish the relationship of any remains found to the surrounding contemporary landscape.
- To recover artefacts and ecofacts to determine the function of the building, its date of construction, phases of use and final abandonment and compare with other assemblages and results
- To collate the results and that of all of the earlier data into a single archive and report.

A written scheme of investigation (WSI) was written detailing the requirements designed in accordance with current best archaeological practice and the appropriate national standards and guidelines (ULAS 2017). ULAS is a registered post holder (RPO) with the Chartered Institute for Archaeologists (CIFA) and all work was undertaken in accordance with their *Code of Conduct* (2014) and *Standard and Guidance for Archaeological Field Evaluations* (2014);

Whitewall Brake is a Scheduled Monument (MM152) designated under the terms of the 1979 Ancient Monuments and Archaeological Areas Act (As Amended). All works were carried out following discussions with Cadw and were granted a Scheduled Monument Clearance, the Crown's parallel system to Scheduled Monument Consent. The support of Cadw is gratefully acknowledged.

Methodology

Following on from initial investigation and survey in late 2011 and early 2012, excavations at Whitewall Brake were undertaken over four seasons from 2012-2017 as detailed in Table 1.

Between 2012-2014 the work was run under the Operation Nightingale initiative with guidance from University of Leicester. The work was undertaken by hand, by professional civilian archaeologists supervising Service personnel, veterans and University of Leicester archaeology students. Initial site clearance including removal of scrub overgrowth and fallen tree clearance was undertaken by Landmarc Support Services Ltd prior to the commencement of any archaeological work on site and the trenches were covered and partially backfilled (Fig 6).

Between December 2011 and January 2012 five test-pits were excavated in areas of tree bowls. Three pits within the Scheduled area were excavated (Fig. 7; Brown and Walshe 2012). One test-pit on the line of the eastern wall (roughly in the area of Trench 3) found the top of a mortared wall 1m thick. Finds included stone roof tiles with nail holes and a House of Constantine coin and pottery from the mid-3rd century onwards were recovered (Brown and Walshe 2012). The other two test-pits recovered no obvious archaeological deposits although a degraded copper alloy coin (Barbarous Radiate, probably 3rd Century), a few pottery fragments and some wall plaster with a red-pink wash were recovered. Two pits, excavated to the east outside the main area found no associated archaeology.

Geophysical surveys including resistivity and magnetometry of the site were undertaken in 2013 by Cranfield University with results seeing limited success (see results below).

The 2012 excavations focused on nine separate trenches, 1-7 and 9-10. The 2013 excavations looked at six trenches, extending Trench 1 and 9 from the previous seasons work and opening new Trenches 12-15. Season 2014 continued work from previous excavations on Trenches 1, 9, 12, 14 and 15 whilst opening new Trenches 16 and 17 (Fig. 7). Trench 2 lies to the east of the area shown and here is no Trench 11.

During the course of the investigations between 2011-2014, trenches were opened in areas where it was thought that Colston had undertaken his investigation, although in the absence of any Victorian trench location plans, it was something of a hit and miss process to accurately locate and positively identify any of his trenches.

Figure 6: The site in 2011 (left) and Trench 1 before excavations by ULAS in 2017 (right)

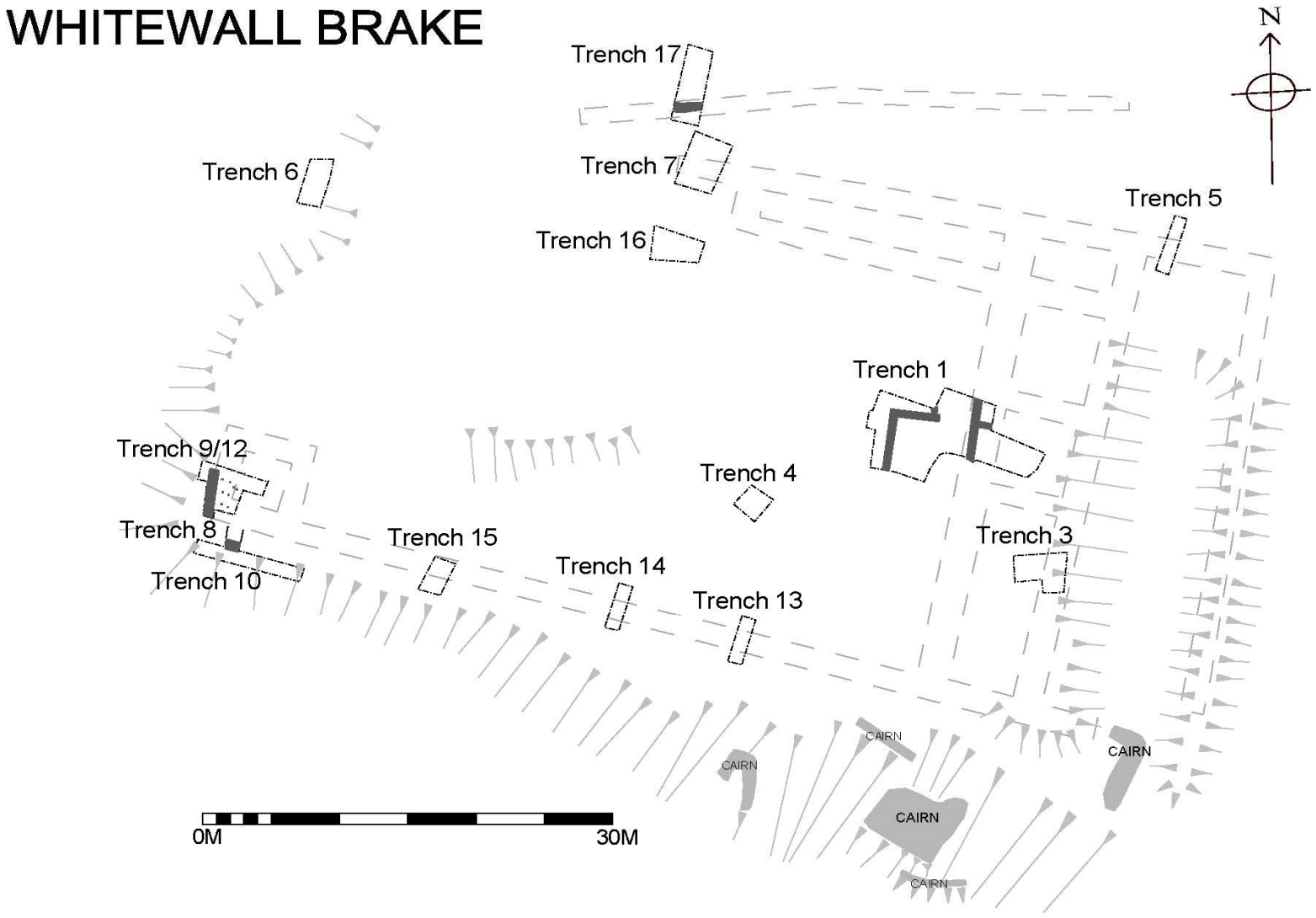


Figure 7: Trench locations 2011-2014 overlaid onto current OS map depiction of site

The 2017 excavations took place from February 20th - 3rd March and were run by professional archaeologists from ULAS. The excavations by ULAS in 2017 focused on three trenches, Trench 1, 9/12 and 17. As agreed by CADW, two separate sondages were excavated in Trench 1, Sondage 1 measuring 2m by 2m and Sondage 2 1.7m by 1.m (Fig. 8). A further 3.2m by 1.5m sondage was excavated in Trench 9/12 (Fig. 9) and further work was completed in Trench 17 (Fig 10).

All of the trenches were uncovered and cleaned and fully recorded prior to any excavation taking place. All of the trenches (including those from previous excavations) were surveyed using a total station and located onto the Ordnance Survey National Grid.

A photographic record, utilising high resolution digital data capture, was maintained during the course of the fieldwork and included:

- the site prior to commencement of fieldwork;
- the site during work, showing specific stages of fieldwork;
- General working shots
- Photogrammetry used to create 3D models as a visual aid.
-

Upon completion of the work, all remaining trenches were backfilled by ULAS at the request of Cadw. All trenches were backfilled by hand using protective teram over archaeological deposits to aid preservation and prevent further damage. Trench 1 due to its size was backfilled using a small mini digger under supervision from ULAS.

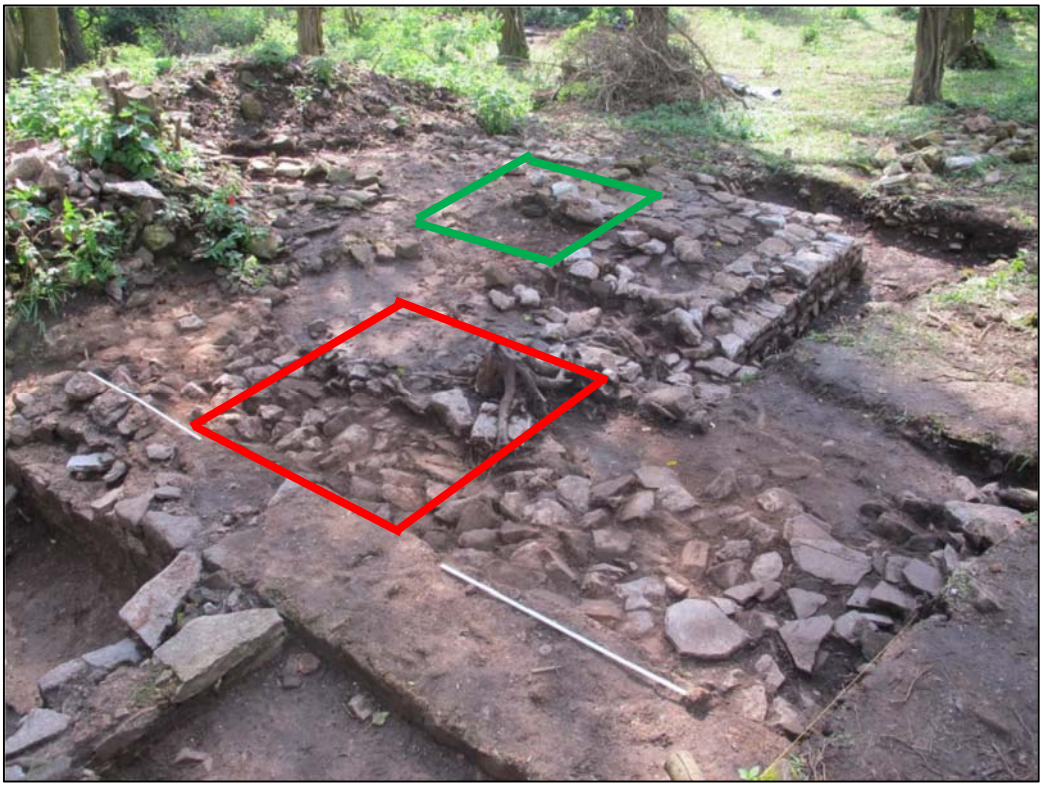


Figure 8: Location of Sondage 1 (red) and Sondage 2 (green) in Trench 1 prior to excavation in 2017

Figure 9: Sondage location in Trench 9/12 prior to excavation in 2017

Figure 10: Trench 17 sondage location prior to excavation in 2017

Table 1: Details of the fieldwork undertaken.

Date	Dug By	Fieldwork	Site Code	Source
Dec 2011-8th Jan 2012	Martin Brown (DIO) UoL Peter Masters (Cranfield)	Geophysical survey Some tree clearance 5 test-pits dug by hand.	CRWB12	Brown & Walshe February 2012
23rd March-1st April 2012	UoL Phil Abramson (DIO) Op Nightingale Veterans	Trenches 1-10 (NB Trench 2 not excavated).	CRWB12	Brown & Walshe March 2012
25th March- 6th April 2013	UoL Peter Master (Cranfield) 135 Geographic Squadron Phil Abramson (DIO) OP Nightingale Veterans	Geophysical Survey – Resistivity & Magnatometry Extension of Trenches 1 and 9 Trenches 12-15	CWB13	Abramson et al September 2013
22 Apr and 4 May 2014	UoL Phil Abramson (DIO) OP Nightingale Veterans	Extension of Trenches 1, 9, 12, 14 and 15 Trenches 16 and 17	CWB14	Abramson et al 2014
20th February - 3rd March 2017	ULAS Phil Abramson (DIO)	Topographical Survey Excavation of sondages in Trenches 1 and 9/12. Excavation of trench 17.	CWB17	Clapton 2017

Results

This section represents the results of excavations at Whitewall Brake from 2011-2017. During this time various surveys and a total of 16 trenches of varying size were excavated over 5

separate seasons under the combined work of the Defence Archaeology Group (DAG) under the initiative of Operation Nightingale in collaboration with University of Leicester (2011-2014) and in 2017 by University of Leicester Archaeological Services.

Geophysical Survey

A geophysical Survey was undertaken in 2012 (Brown and Walshe 2012, 26) by Peter Masters of Cranfield University. Four 20 x 20 squares were surveyed with a gradiometer which confirmed the presence of the ranges to the north and south of the courtyard. An outline of an orthogonal-shaped structure (a type often associated with high-status shrines, dining/reception rooms or possibly baths) within the main body of the Roman structure was also noted, of which robbed-out walls are visible on the ground (Fig 11).

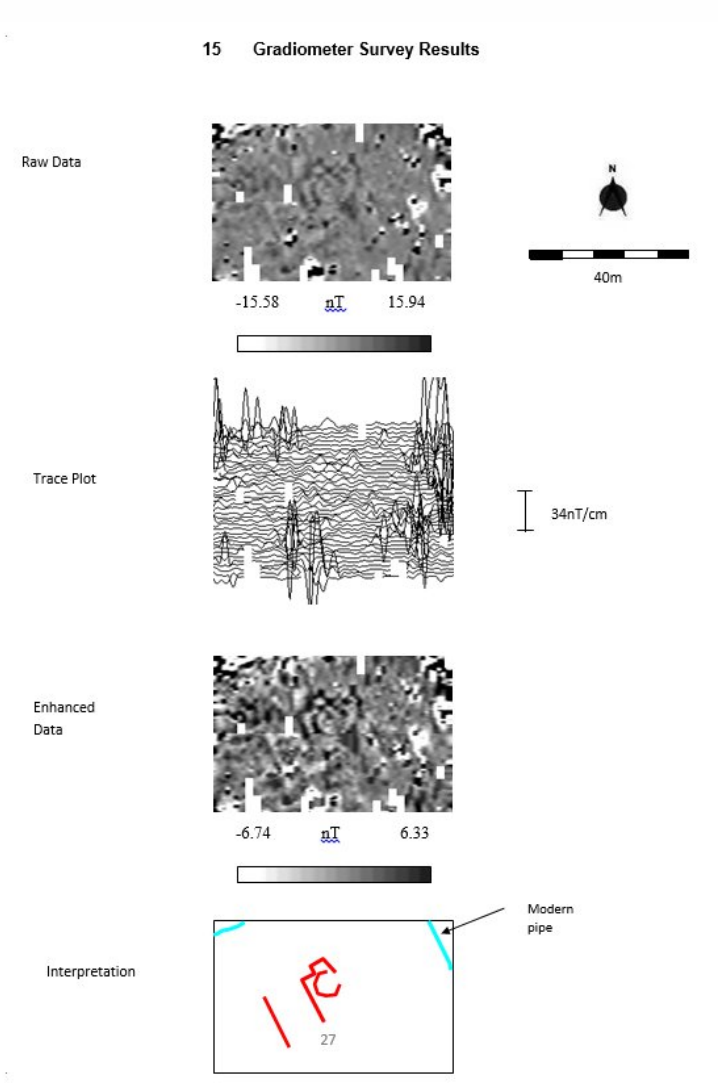


Figure 11: Results of the 2012 geophysical survey (taken from Brown and Walsh 2012).

Resistivity and magnetometry survey was also undertaken in 2013 across the site and surrounding area. The results were largely negative suggesting that geophysical survey was not a suitable method for identifying the outline of the building and archaeological features perhaps due the amount of demolition debris and trees across the site (Fig 12).

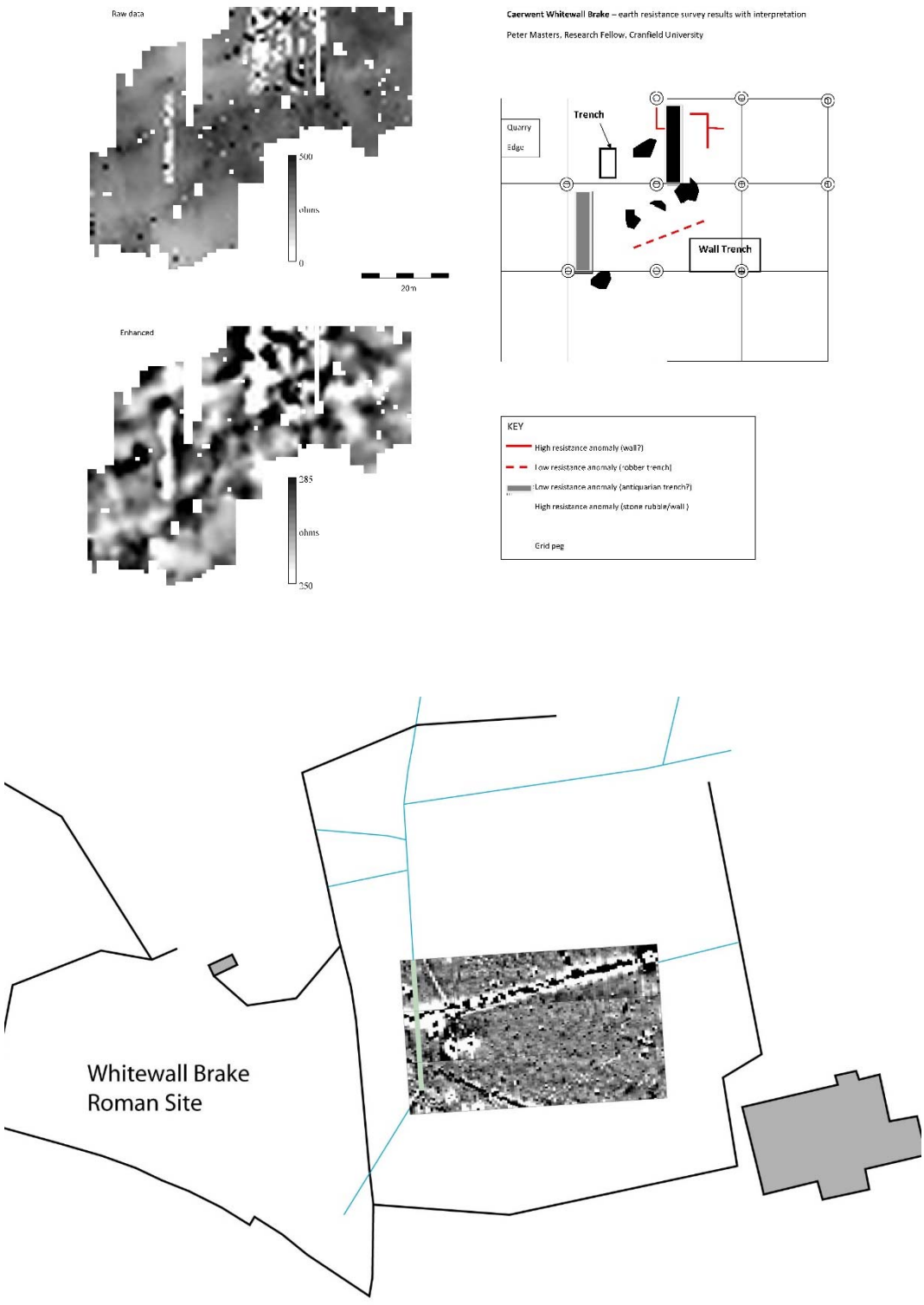


Figure 12: Results of the 2013 geophysical survey.

LIDAR Surface analysis and topographical survey

LIDAR analysis was also undertaken in 2017. Filtered 0.25m DTM data is available for the area, but whereas the processed hillshade data provides generally good results for the surrounding areas, the filtered data through the woodland areas does not provide good results (Fig. 13).

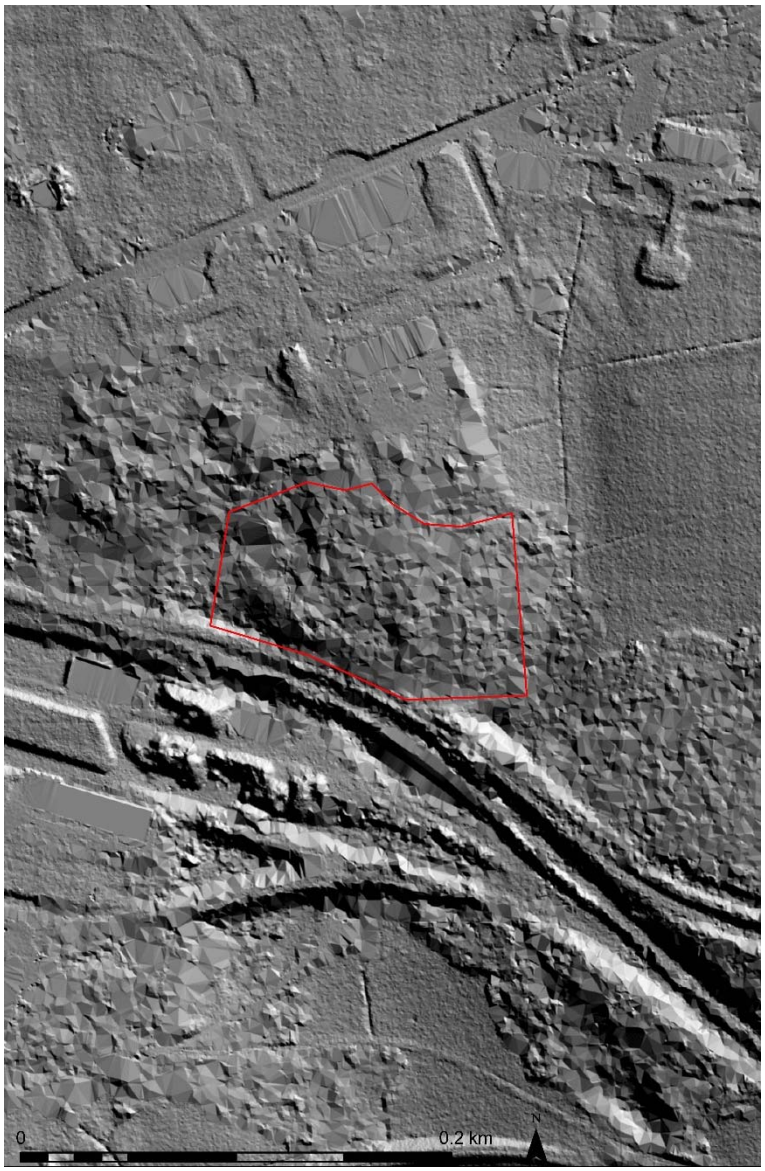


Figure 13: Filtered 0.25m DTM data (Hillshade: azimuth:045, altitude: 030, exaggeration:2). Whitwell Brake outlined in red.

In 2017 ULAS undertook several profile surveys across the site (Fig. 14), to clarify and enhance the LIDAR and highlight the topographical nature of Whitewall Brake. The site shows a gentle slope from the northern to the southern boundary with an approximate gradient of 7m over a length of more approximately 72m. Across the width of the site from north-west to south-east the site appears to be relatively level, at least on its western half, with a gentle slope away towards the eastern edge. There appears to be a flat terrace where the hypocaust room is located, perhaps showing evidence of landscaping to accommodate this structure.

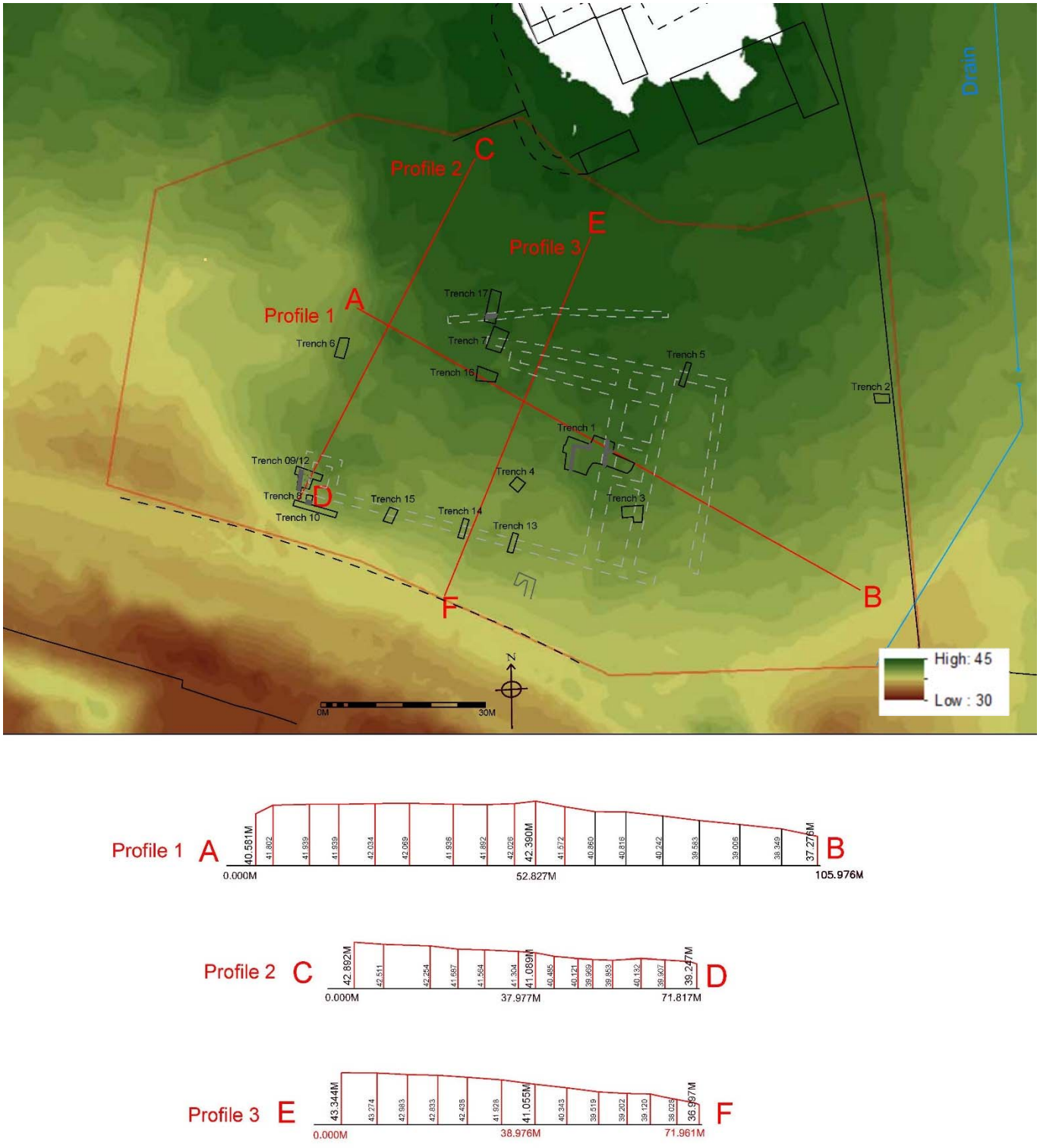


Figure 14: Digital elevation model of the area (created from the 0.25m LIDAR data), and profiles across site.

The site consisted of a heavily wooded area with surface indications showing some grass covered embankments, areas of stone rubble and some surface debris from recent military activity.

Topsoil depths varied across site with some in-situ Roman deposits present at ground surface. Some areas of the site showed signs of heavy truncation, mainly attributed to Mr Colston's investigations in the late 19th century and to activities of a limekiln and quarry of similar date to the immediate west.

The nature of topsoil and subsoils varied across the site and are detailed accordingly in each trench description.

Trench 1

Trench 1 was initially opened in 2011 and was continued in 2012, 2013 and again in 2017. It straddles the apparent range of rooms indicated on the OS plan of the Roman complex, overlooking the apparent hollow way on the east side of the complex. Surface indications, in the form of a well-marked ridge alongside the hollow way containing stonework indicative of buried walls, from which several trees were growing, confirmed this as a place to focus attention. This trench was the largest area excavated on site and the final size measured approximately 10m by 5m (Fig. 15).

In 2011-12 a very well built masonry foundation [113] was encountered on a north-south orientation, on the expected line of a wall. It measured 0.6m in width with limestone bonding; there also appeared to be a plaster facade remaining on some areas of the wall (Fig. 16). The trench was extended to the east which encountered large amounts of rubble debris including stone roof tiles. Wall [113] appears to be solid made from faced stones bonded with lime mortar.

It was anticipated that, if there was a range of rooms along the east side of the complex, these would lie to the west of [113]. The western extension found the northern and western walls [117] and [122] of a room standing to a height of 0.7m with at least four courses of stonework surviving (Fig 17). The first course of the structure was a foundation course laid directly onto natural earth (111) sat overlying the bedrock which was a further 0.2m lower. This appears to have been the reason for a crack in the foundations of the west wall [122]. An attempt to repair the foundations using mortar as reinforcement suggest this happened in an early phase (Fig. 17). The walls appear to be bonded with lime mortar with small inclusions.

The stone appears to be locally sourced limestone with blocks approximately 0.2m x 0.1m x 0.3m to 0.3m x 0.2m x 0.3m. The reason that the building foundations were built on the earth rather than bedrock is unknown. It could be evidence of a lack of understanding of construction techniques, sub-standard working practices or attempts to cut costs or time although the use of good quality building stone and the actual wall construction would suggest this was not the case.

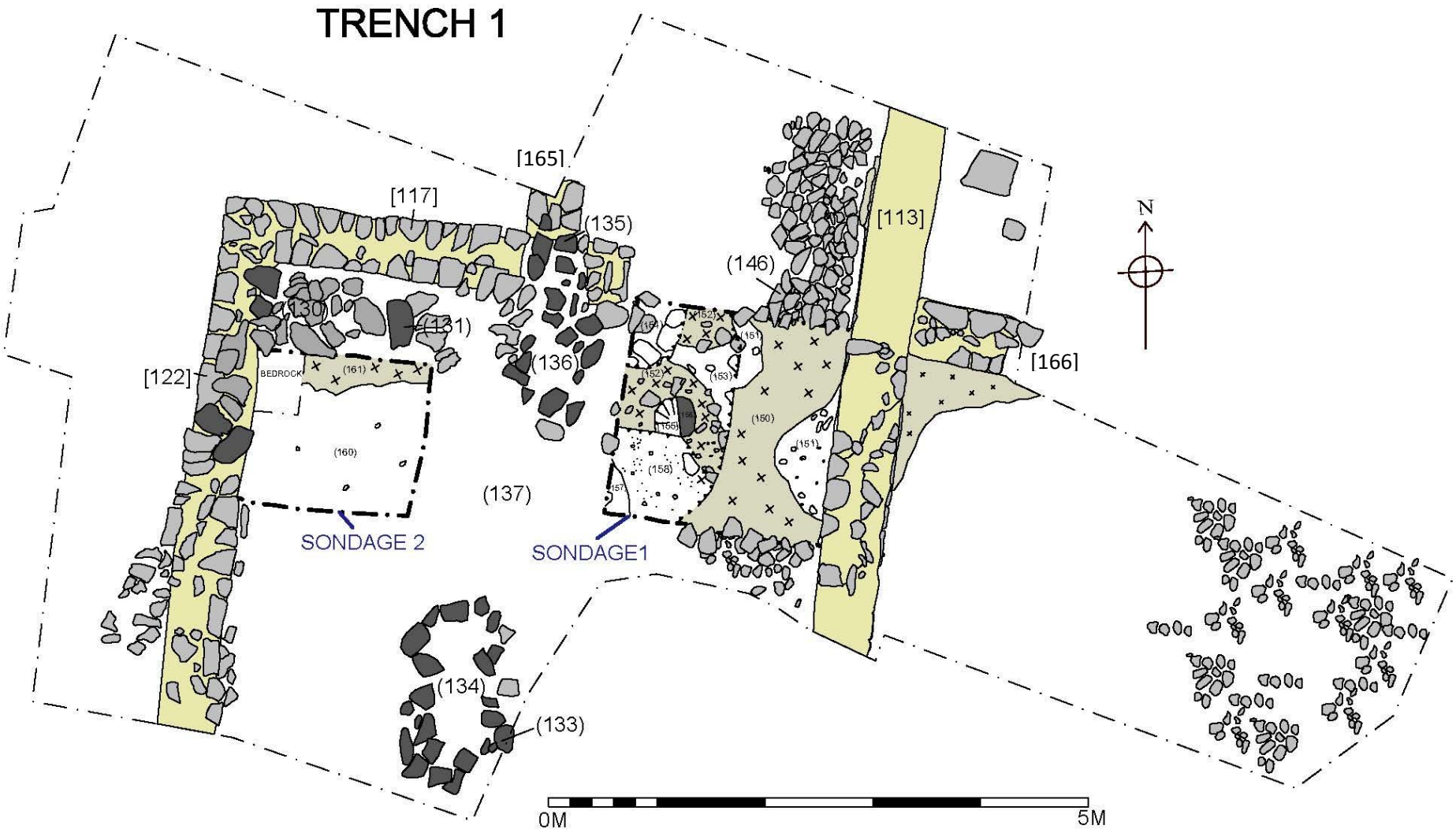


Figure 15: Overall plan of Trench 1

Figure 16: Western wall [113] being cleaned in 2017 looking south-west (left) and at the east facing section which shows traces of plaster.

Figure 17: Walls [117] and [122] forming the north-west corner in 2012 looking east (left) and detail of the foundations of [122] laid onto the earth and the crack in the foundation plinth (right).

Approximately 4.2m of wall [122] was uncovered and it continued south beneath the southern section of the trench. It was approximately 0.55m in width with faced stones on both the inner

and outer surfaces, with a rubble core matrix and bonded with lime mortar. Wall [117] measured 3.2m in length and was also 0.55m in width, bonded with [122] to create the north-west corner of an apparent room. Another narrower wall [165] abuts wall [117] running parallel to [113] and [122]. This wall does not appear to be bonded to [117] and is made from stones mortared together in a similar construction method to [113] rather than the rubble core construction of [117] and [122]. This suggests that the western room represents a later phase added onto wall [165]. This suggests a possible projecting room with a narrow, up to 2m wide space running north-south, perhaps a corridor.

The uppermost surviving courses of wall [117] comprises the showy white imported stone which gives the site its name and could be interpreted as marking the approximate Roman ground level. The fact that the walls are faced suggest that the upper layers are superstructure, although the walls are rather narrow and very level which might indicate that they supported a timber structure.

Walls [117] and [122] and all features described above had been overlain by a deposit of moderately sized limestone rubble within a matrix of dark soil (110) and (132), interpreted as abandonment or demolition horizon. Beneath this in the north-west corner of the interpreted room and partially overlying the top course of a wall [122] was a spread of flat stones (130) bounded by a ring of larger stones (131) to creating a sub-circular feature measuring c. 1.4m north-south and 1.2m east-west (Fig 18). There was a gap in the eastern quadrant of the feature with a noticeably larger stone set on either side of the gap. It was suggested that because of the circular shape, consisting of reused Roman building material and the flat stone base that this could be a later hearth or oven base. Traces of red staining on some stones possibly as a result of intense heat are consistent with this suggestion but are inconclusive. Another possibility for its function is that the construction represents a small dry-stone building or cell. No dating evidence was recovered in relation to this feature, although it was evidently created only after the Roman walls [117] and [122] had already been reduced to their current height.

Figure 18: Flat stones (130) and larger stones (131) overlaying wall [122] looking south

A second similar stone setting [135] (136) was also recorded adjacent to walls [117] and [165] on the northern edge of the apparent room (Fig. 19). This measured 1.2m north-south and 0.9m east-west. It appeared to cut into the uppermost courses of Roman wall [117] and therefore

post-dates the demolition of the Roman structure. This feature was excavated in 2014 to provide a window into the stratigraphy and possibly Roman floor levels and to investigate whether it might be a grave. In the event no diagnostic finds or human remains were recovered and the feature appears to be cut through a series of rubble deposits, suggesting any floor layers has either been disturbed or lie at a deeper level.

Figure 19: Structure [135] truncating wall [117] looking south

Excavations in the southern corner of the trench in 2013 found a setting of medium-sized, roughly-cut stones (133). Lying just below the modern ground surface, this formed a sub-rectangular feature measuring 1.80m north-west to south-east and 0.70m wide with a shallow infill of moderately loose silty sand (134), 0.10m deep. A small fragment of possible human cranium was recovered from the fill, together with an iron object, and an abraded piece of 3rd century pottery (Abramson et al 2014, 11).

After the removal of the uppermost deposits of topsoil and jumbled rubble (139) just west of wall [113] in 2014, a substantial but discontinuous deposit of mortar (143), averaging 0.05m in depth but in places thicker, was found in a band roughly 1m wide. The excavators suggested that the layer of mortar may represent demolition of the Roman wall; as the stones were levered out, adhering mortar was knocked off and accumulated as a trampled deposit along its line. Alternatively it could be deliberately laid floor surface as a second layer of tightly packed stones (146) forming a rough surface was revealed beneath the mortar. No dating evidence was recovered for these phases. Excavation in this area also revealed wall plaster still in situ at points on the west face of wall [113].

Figure 20: Roughly laid surface (146) adjacent to wall [113].

Further work was also undertaken on the extension east of wall [113], downslope into the hollowway (Fig. 21). The area, initially opened in 2012 and continued in 2013 and 2014 hoped to inspect the elevation and foundations of [113] to gain further chronological data and to confirm the limits of the Roman site. The excavations found another wall [166] running east from [113]. This wall clearly abuts [113] suggesting at least two phases of construction in this area and indicates that there were rooms on both sides of wall [113]. Unfortunately this wall runs beneath a large mature tree preventing further excavation and excavations to the east of [113] revealed only apparent demolition deposits (Fig. 21), although traces of a possible mortar surface could be seen in the north-west corner of the walls.

Figure 21: Extension of Trench 1 east of wall [113] looking west

In 2017 University of Leicester Archaeological Services continued work in Trench 1, focusing on two sondages within the excavated area. Sondage 1 was located immediately to the west of wall [113] measuring 2m by 2m with the aim of establishing the relationship of the east-west wall [117] and wall [113] along with recording any internal floor surfaces. Sondage 2 was located across the possible hearth feature (130) adjacent to the inside face of [122] and measured 1.75m by 1.5m (Fig 15).

In Sondage 1 the removal of stone surface (146) exposed another apparent mortar surface (150), similar to (143) seen in 2014 excavations (Fig. 22). This appeared to abut [113] and survived for up to 1m east of the wall, comparable to the width of (146) above (Fig. 22). Immediately beneath this a mid-reddish brown sandy-clay layer measuring 0.12m in depth was recorded (151), perhaps a make-up or bedding layer for (150). As with (150) and (146) this layer appeared to extend about 1m from [113] but no further across the sondage. Below this a somewhat disturbed dry mortar layer was encountered (152). Where surviving this appeared to be present across the entire sondage (Fig. 23) and appears to overlay a makeup or bedding layer (153) of silty clays with stone rubble, similar to (151). A single sherd of Roman pottery was recovered from this layer dating to the second or third century.

Cutting layer (152) was a sub-circular posthole [155] measuring 0.35m in diameter and 0.3m in depth. This was filled with a dark greyish-brown silty-sand with some packing stones present. No finds were recovered from [155] but it was sealed by demolition layers above suggesting it was contemporary with the Roman structure (Fig. 24).

In the south-west corner of the sondage where the mortar surfaces did not surviving, the level was reduced further to reveal a loose sandy rubble layer (154) up to 0.1m in depth, perhaps relating to a makeup layer during the buildings construction. An in situ brownish-yellow fine sand surface (158) was encountered below this (Fig. 22). Excavations were stopped at this level in Sondage 1.

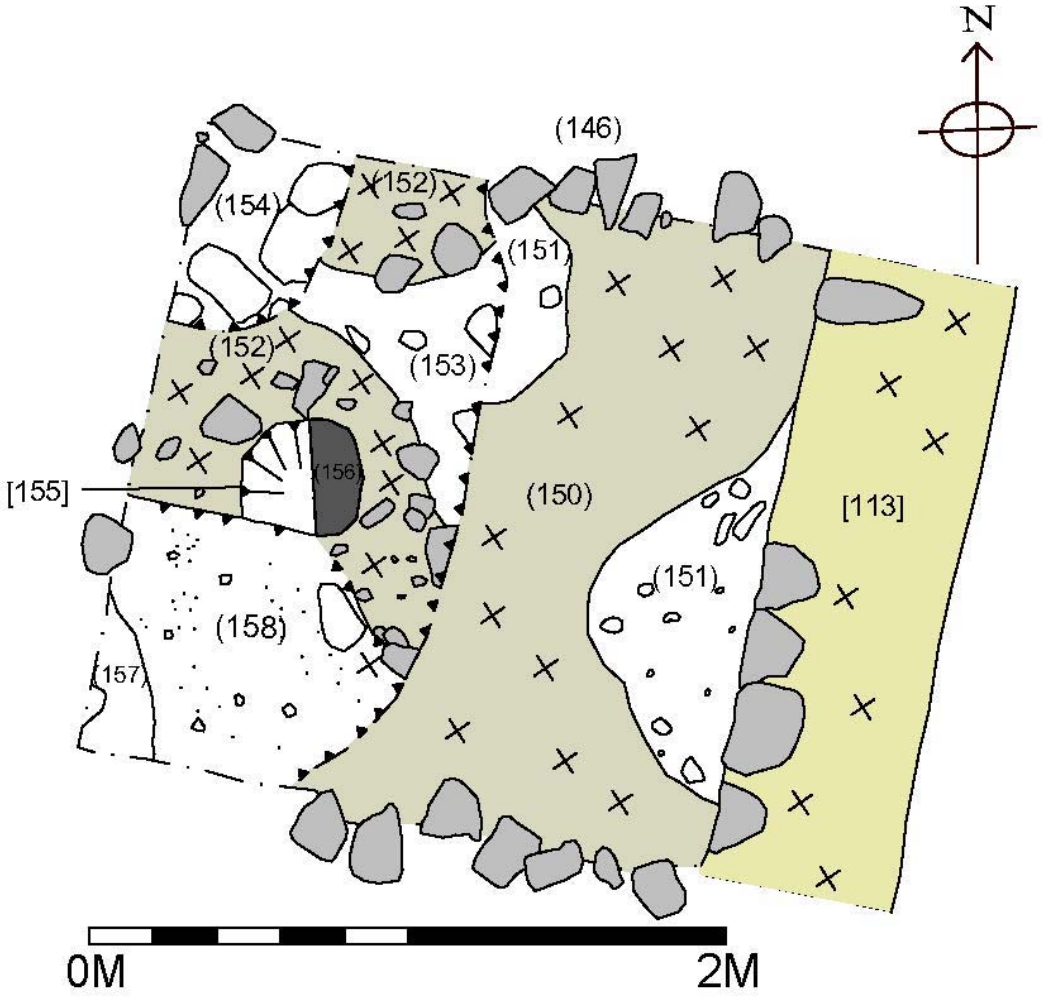


Figure 22: Plan of Sondage 1

Figure 23: Mortar surfaces (150) (152) and posthole [155] looking south

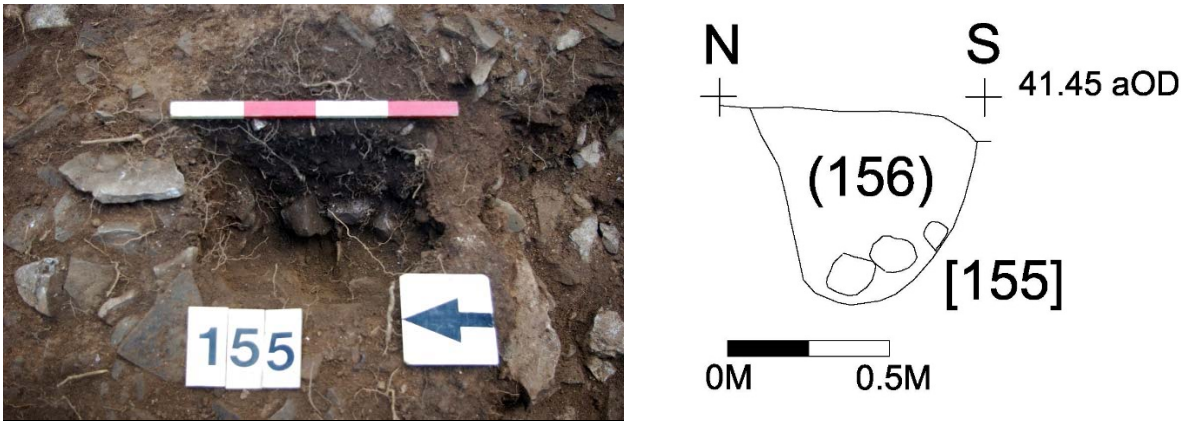


Figure 24: Posthole [155], plan and section.

In Sondage 2 the removal of possible hearth (130) recorded in 2014 revealed no further deposits associated with this feature, and it appears to remain only as a single course of flat stones (Figs 25-26). Below this two apparent demolition layers were recorded, (159) and (162). These appeared to be layers of rubble, silty sand, broken mortar and stone and (159) contained two sherds of pottery dating to the mid-3rd to 4th century along with three fragments of animal bone with signs of butchery.

Truncating (159) and seen in the north facing section of Sondage 2 a posthole was evident [163], measuring 0.5m in width and 0.49m in depth. This was filled with a dark greyish-brown, silty-sand (164) containing small fragments of building rubble and mortar (Fig 26). This post dates the demolition or collapse of the Roman structure, due to its truncation of demolition layer (159) but pre-dates the stone surface above (130) perhaps indicating several phase of use of the building post-demolition.

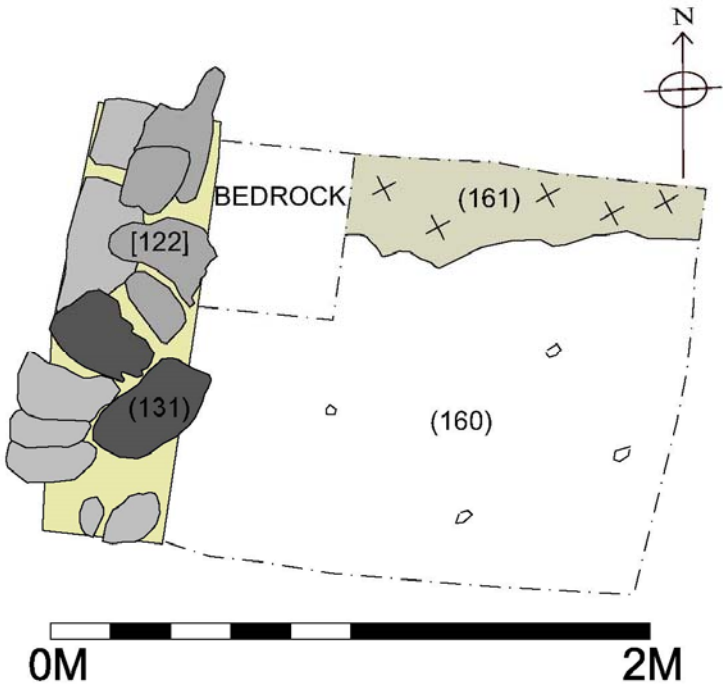


Figure 25: Plan of Sondage 2

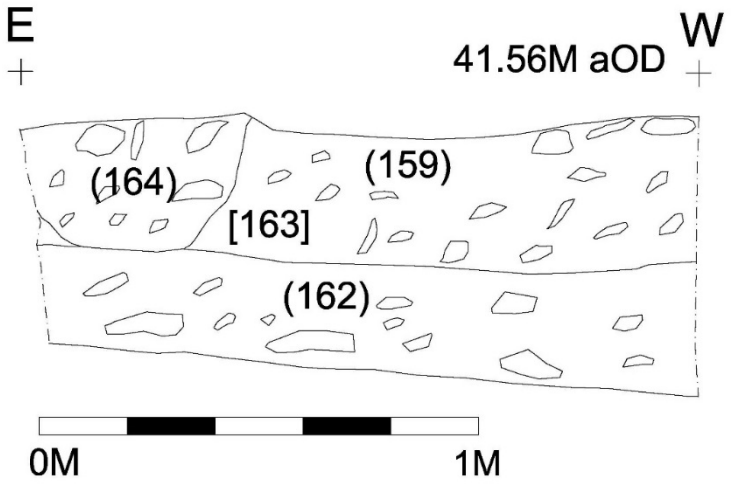


Figure 26: Elevation of north facing section of Sondage 2 in Trench 1 showing demolition deposits.

Surviving in the northern half of Sondage 2 below demolition layer (162) a lime mortar floor surface was recorded (161) surviving at a depth of 0.06m, although this appears to have been badly damaged by the collapse of the building. Beneath this was an interface layer (160) laid onto the natural bedrock. This was 0.15m in depth and consisted of a dark reddish-brown fine sand, similar to (158) seen in Sondage 1 (Fig. 27).

Figure 27: Internal face of wall [122] along with mortar surface (161) and layer (160). Also note the flat stones (130) interpreted as a hearth structure post-dating the wall to the right.

The west section of Sondage 2 revealed the internal face of wall [122], surviving up to 5 courses in depth, bonded with a lime mortar (Figs 27 and 28). The wall appeared to be constructed on top of a natural outcrop of bedrock in this section although excavations on the eastern side suggested that the rest of the wall was constructed on natural earth above the bedrock.

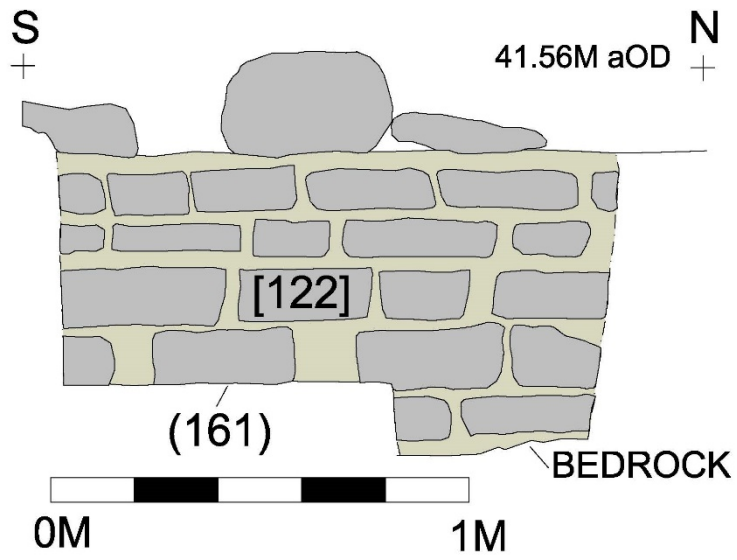


Figure 28: Elevation of wall [122]

Trench 2

Trench 2 was excavated in 2012 and located on the north-eastern edge of the scheduled monument area. Its aim was to identify the origin, date and nature of a probable wall of unknown date running north-south parallel to the eastern boundary of the wooded area.

On investigation the interpreted wall appeared to be a scatter of stones (202) dumped against a natural outcrop of bedrock, and not an architectural feature (Fig. 29). This could be attributed to field clearance. Further excavation down to bedrock found no other archaeological deposits or finds.

Figure 29: Trench 2 looking west

Trench 3

Trench 3 was located in an area that had previously seen disturbance from use as a military fire trench. The trench was excavated to the extents of this previous truncation and expanded to 3m north-south by 2m east-west (Figs 30-31).

The topsoil (300) consisted of loose earth and military debris. Immediately under this a layer of loose silts and stones was seen (301/302) which appeared to be part of an antiquarian spoil heap, which along with corrugated iron sheets that were removed during the opening of trench supported the theory that this area was used as an 'Army field shelter' which had since collapsed. A cut for this feature [303] with a loose fill (304) could be also be seen in the section.

In the south-west corner of the trench large fragments of wall plaster (mostly plain white but with a few red painted examples) were recovered, along with individual pieces of tesserae. These were ceramic and between 2-5cm in size with mortar on the surface. Due to the antiquarian and military disturbance these were not in situ but from the 19th century backfill.

The trench was excavated to bedrock through multiple layers of modern disturbance (to a depth of 1.4m) down to bedrock. Two features were recorded at the base of the trench. The first feature appeared to be a large irregular cut measuring 1.6m by 1m (314). No finds were found and it could either be disturbance from previous excavations or more likely a result of the natural geology. The second feature appeared to be a posthole of a roughly square shape with fill [315] yielding pig bones but no other features. There is no dating for this feature and it could be modern.

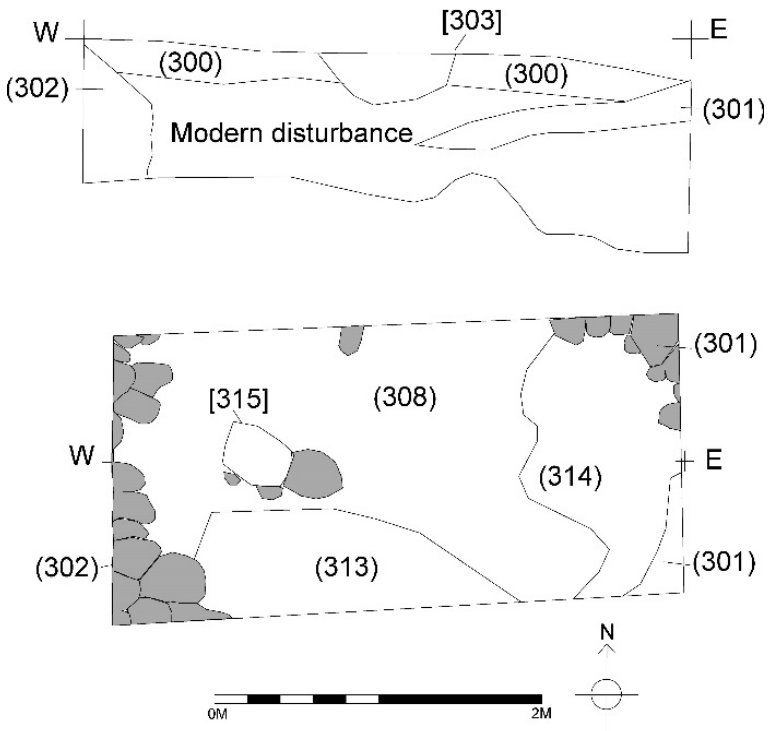


Figure 30: Trench 3 plan and south facing section.

Figure 31: Trench 3 looking south with (314) to the left of the picture.

Trench 4

Trench 4 was opened to investigate tree disturbance toward the south-east corner of what is interpreted as part of the courtyard area of the complex and measured 2m by 2m (Fig. 32).

An initial topsoil (400) of up to 0.1m in depth was removed consisting of root disturbance, leaf litter and loose soil. Under this was a further layer (401) made up of rubble with small stone fragments and a greyish-brown soil. Directly under this was a compact clay and gravel layer (402) which appeared to follow the contours of the natural bedrock. Under this sat a further compact gravel layer (403).

A sondage was excavated in the south-east corner of the trench through (403) and yielded only natural soil layers with no finds (404; Fig. 32).

The rubble and compact gravels in this trench suggests possible landscaping of the area within the boundary walls of the complex, with the stones perhaps suggesting a levelling layer to create a flat area within the boundary walls of the structure. No ceramic building material or wall plaster was found in this trench and the small amount of pottery recorded is from the topsoil and rubble layer (401). The lack of finds suggest that this area lay outside the footprint of the main buildings.

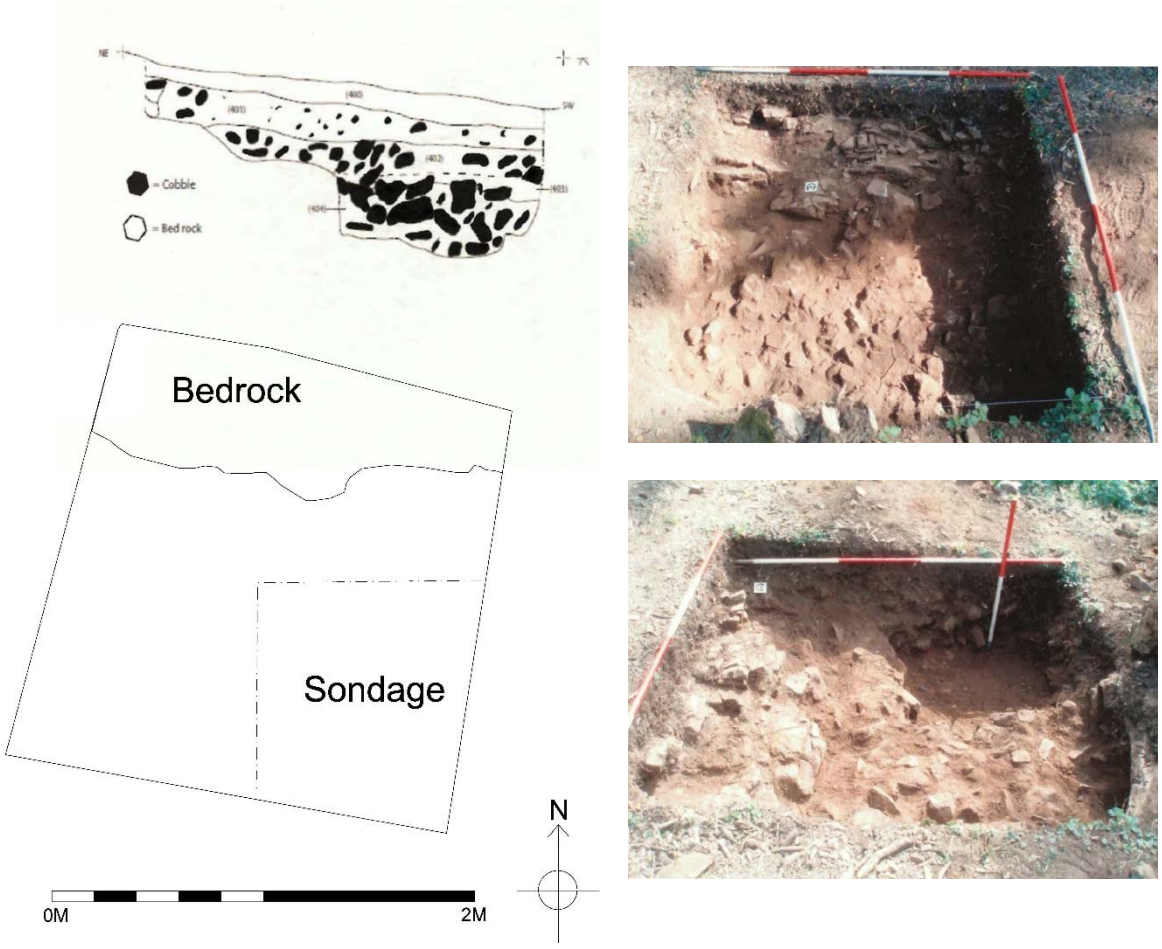


Figure 32: Trench 4 plan and east facing section (left) and before (looking north) and after (looking east) excavation of sondage (right).

Trench 5

Trench 5 was located to the north-east of the scheduled area to investigate a distinctive hollow which appeared to sit in between two interpreted wall lines and measured approximately 4m by 1m (Fig. 33).

Topsoil (501) was removed to a depth of 0.28m down onto natural bedrock. At the southern end of the trench a rubble and soil layer (506) was recorded, continuing to a depth of 0.49m below ground level with no finds. This lay either side of a wide dry stone wall of rough construction (503) and 2 to 3 courses high and 2 courses wide. To the south of (503) rubble and soil layer (506) appeared to continue down to natural bedrock. No finds were recovered from the trench and the original excavators suggested that the wall could represent landscaping outside the main building complex.

Figure 33: Trench 4 looking north with wall section 503.

Trench 6

Trench 6 was located in the north-west corner of the site with the aim of investigating the interface between the Romano-British building and the limekiln quarrying dated the 18th-19th century. This area provided a good opportunity to get a good section of archaeological strata in the area without any undue intrusion. The trench measured 2m by 2m.

A dark sterile topsoil (600) was initially removed, which on the northern side of the trench was truncated by a red sandy soil (601) attributed to quarrying activities. Finds including fragments of mortar, CBM and tesserae were recovered from it.

Alongside (601) a robbed-out wall was recorded running east-west [602]. A foundation cut [603] for the wall was identified, filled by (604) a red sandy soil presumably dating to after the robbing of the wall (Fig. 34).

In areas of the trench undisturbed by antiquarian quarrying immediately under (600) a layer of disturbed mortar, rubble and roof tile up to 0.15m thick was recorded. This was interpreted as collapse perhaps from a nearby associated structure.

Cutting the natural bedrock at a depth of 0.23m were a number of additional features. A vertical cut [607] containing fill (606) was seen at the south-east end of the trench, whilst a layer of reddish-brown soil was also recorded in this area.

Figure 34: Trench 6, plan looking north (top) and north facing section of trench.

Trench 7

Trench 7 was located on the north edge of the site and was placed over a previously disturbed area attributed to antiquarian investigations. The trench measured 2m by 2m and also showed evidence of heavy tree throw disturbance (Fig. 35).

Below a dark topsoil layer (701) approximately 0.1m deep, a rubble layer was recorded (702) containing building stones and wall plaster. The remains of a door lock (possibly Roman) was also found. A possible robber trench (703) running east-west was also seen, although no dating was recovered from this feature.

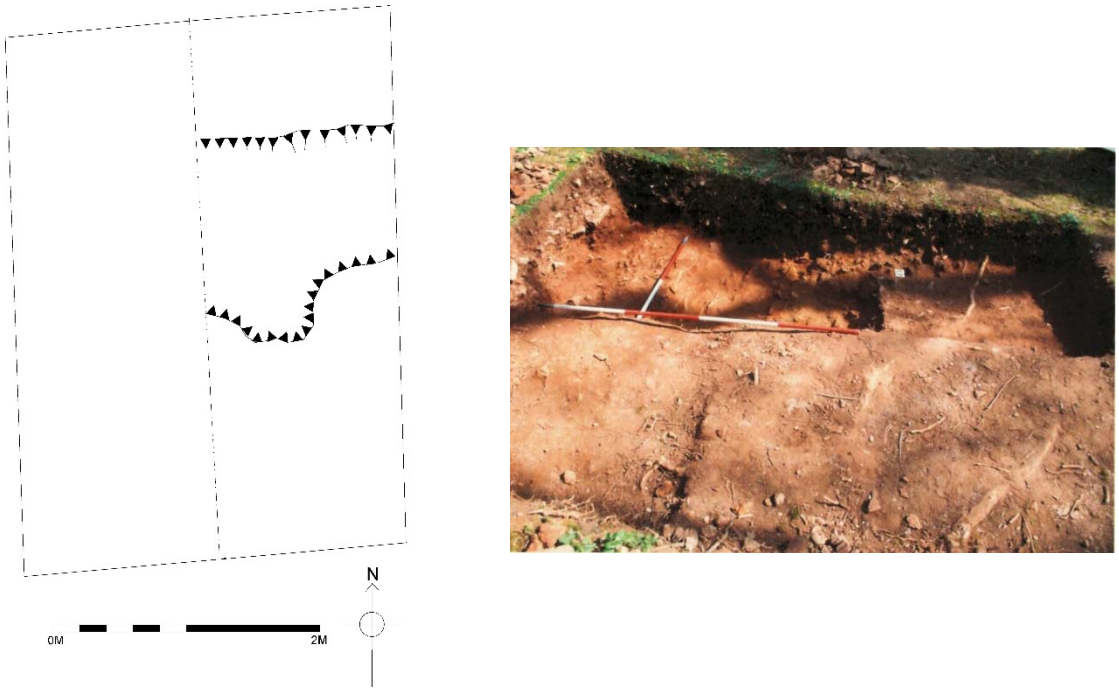


Figure 35: Trench 7 plan and photo looking east.

Trench 8

Trench 8 was a small area largely comprising of cleaning and recording of a small section of the south facing façade wall of the complex, situated just to the south of Trench 12. Beneath the topsoil three horizontal stone pillars were recorded immediately to north of the standing wall. These were interpreted as pilae, the remains of hypocaust system relating to the same system as explored in Trench 9 and 12 (see below for details).

Figure 36: Trench 8 looking west during excavation (left) and in 2017 (right).

Trench 10

In the south-western corner of the site the standing remains of a Roman wall [167] can be seen up to 0.75m above the ground surface. Trench 10 was not a trench as such but rather clearance of the overlaying topsoil and surface debris from the wall structure (Figs 37-38). The limestone facing stones appear to be well dressed and are exposed for 8m east-west. Initial surveys of the site suggest a feature called 'The square room' in this area along with a square shaped hollow attributed to 19th century antiquarian activities. Spoil from these antiquarian activities cover some of the Roman wall in this area. Two large trees were removed from this area to prevent any further damage from root activity.

Figure 37: Trench 10 south facing section showing wall [167] following excavation

Figure 38: Trench 10 wall [167] in 2017

The wall was initially thought to form a corner with the perpendicular wall [804] in Trenches 9/12. Observations during the 2017 excavations however, indicated that the southern boundary wall of the Roman complex, extends westwards beyond Trench 9/12. During excavation in 2017 it was noted that the angle with the wall in Trench 9 was not 90o and further investigation showed that the wall continued westwards up to 3m beyond the interpreted south-west corner of the site where the hypocaust room in Trenches 8, 9 and 12 is located (Fig. 39).

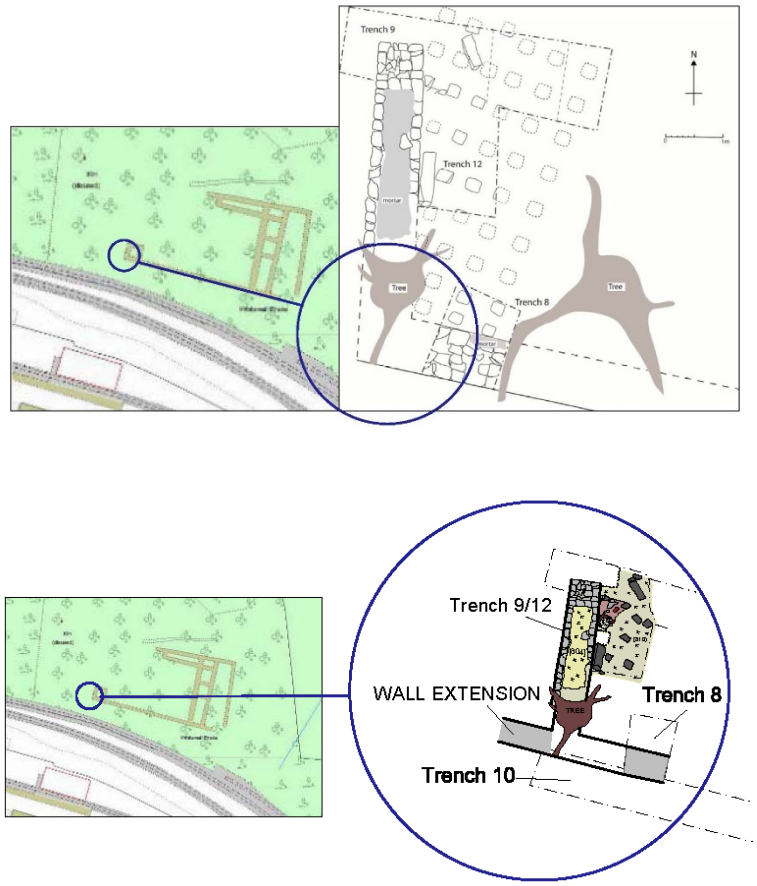


Figure 39: Original suggested layout of the south-west corner of the complex (top) and re-interpreted layout (below).

The extent of the wall beyond this point is unknown, though the site topography drops away at this point possibly due to quarrying in the 19th century, hinting that further Roman structures may now be lost. Further excavation also found a small, square post-hole at the western end (Fig. 40).

As a consequence, rather than the north-south wall [804] seen in Trench 9/12 being the western-most extent of the Roman complex, the discovery of the southern boundary wall extending beyond this point shows the complex extended further, information not apparent until this point. This is reinforced by the remnants of the wall running east-west encountered in Trench 6, which suggest that structures might have continued beyond the western boundary of the site now lost to 19th century quarrying.

Figure 40: Southern wall extending west beyond the interpreted south-west corner of the complex

Trenches 9 and 12

In the south-west corner of the projected complex an apparent hypocaust room was investigated initially in 2011 and again in 2012, 2013 and 2017. Three separate trenches were opened in this area, Trenches 8 (discussed previously) and Trenches 9 and 12 (Fig. 41).

Trench 9 comprises the southern half of a sloping depression thought to represent a partially backfilled earlier intrusion, likely the Victorian quarrying activity which brought the site to antiquarian attention. Trench 9 was opened in March 2012, further examined in 2013 and again in 2017. The trench measured 5m east-west and 1.5m wide north-south was filled with loose rubble deposits (801) (803) similar to those recorded in nearby Trench 12.

Trench 12, first opened in 2012, measured 1.5m by 1.5m and was situated immediately adjacent to a north-south wall [804] that formed the western wall of the room. Three upright stone pilae and one fallen example were recorded in the trench and a further two upright pilae could be seen in the northern and southern sections. The pilae were encased within loose stone rubble (802) containing a substantial quantity of tile, wall plaster and tesserae. A small amount of pottery and animal bone was also recovered.

In 2013 the baulk between Trenches 9 and 12 was removed and treated as an extension of Trench 12 (Trench 9/12; Fig 42). This revealed a small amount of hypocaust structure still in situ, comprising of a broken stone slab sitting on top of one of the pilae, bearing mortar bedding for the presumed mosaic floor. Along with hundreds of loose white, grey and red tesserae several small fragments of mosaic, comprising of mosaic cubes still embedded in fine mortar, attached to a coarser mortar subfloor were also found (Fig 43). Pottery sherds were recovered from the two trenches indicate a date spanning the 3rd and 4th centuries.

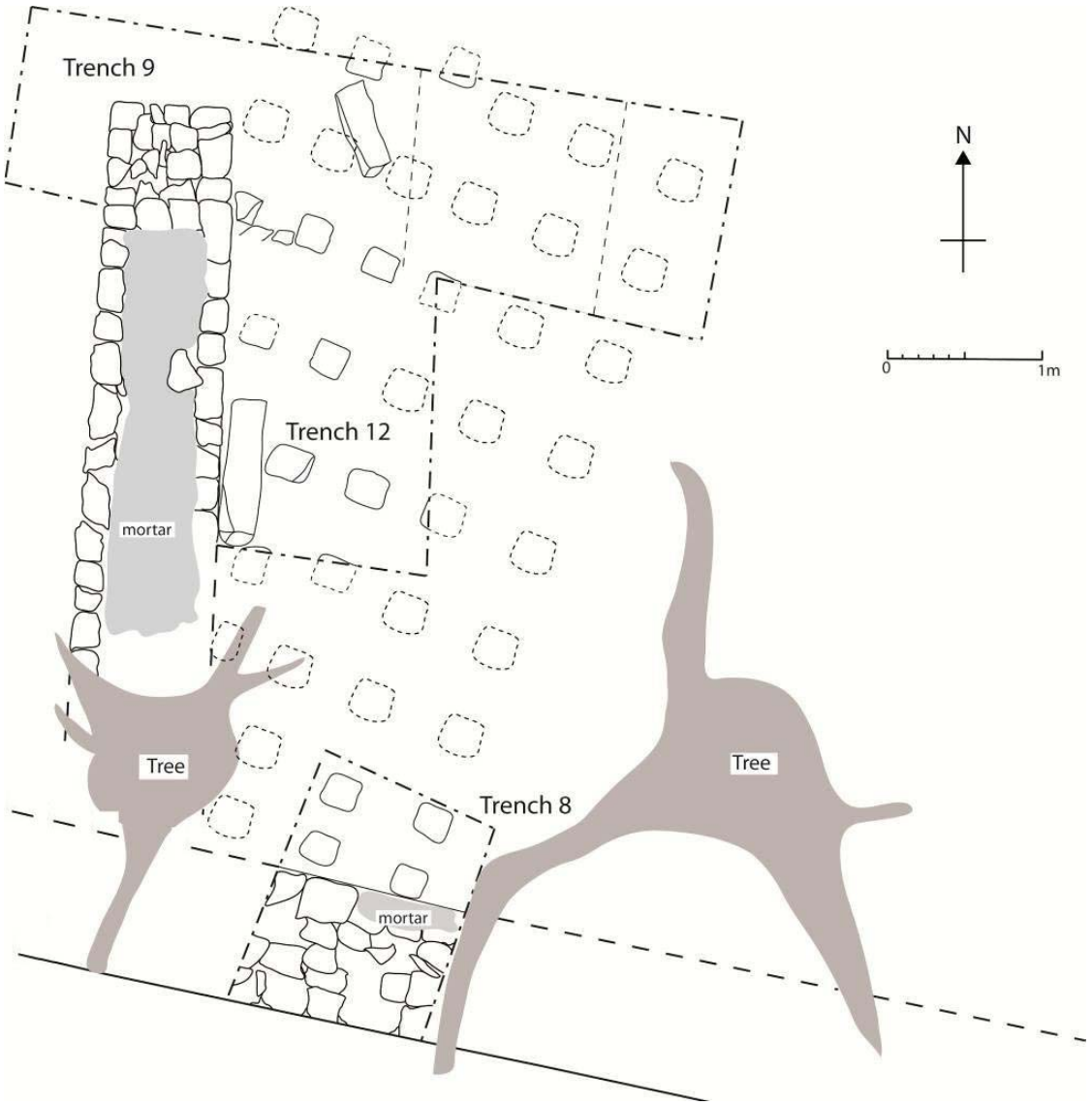


Figure 41: Plan showing Trenches 8, 9 and 12 along with projected wall lines and pilae distribution

The tile fragments from Trenches 9 and 12 were at first thought to have been tegulae used on the roof of the hypocaust building. On closer examination it was observed that the flanges of the tegulae, rather than being straight, appeared to have been purposefully fashioned to create a series of crests or peaks. It has been suggested that these types of tile were fixed to the wall of the hypocaust and acted as an alternative to the box flue tiles normally used to vent the hot air up the walls of the room. As well as significant quantities of wall plaster and tesserae, several large broken stone flags were recovered, interpreted as remains of the floor which were supported by the pilae and upon which the mosaic floor would have been laid.

Figure 42: The conjoined Trenches 9 and 12 in 2014 looking south

Figure 43: Detail of floor slab in situ on pyla looking west (left) and fragments of polychrome mosaic from Trench 12 (right)

In 2017 Trench 9/12 was revisited with the aim of continuing excavation down through apparent demolition rubble to establish the construction techniques related to the upstanding stone pilae and to attempt to determine the relationship between the western and southern wall and the hypocaust pilae stacks. A sondage measuring 3.2m north-south by 1.5m east-west covering the area of Trench 12 was excavated to establish these aims (Fig. 44).

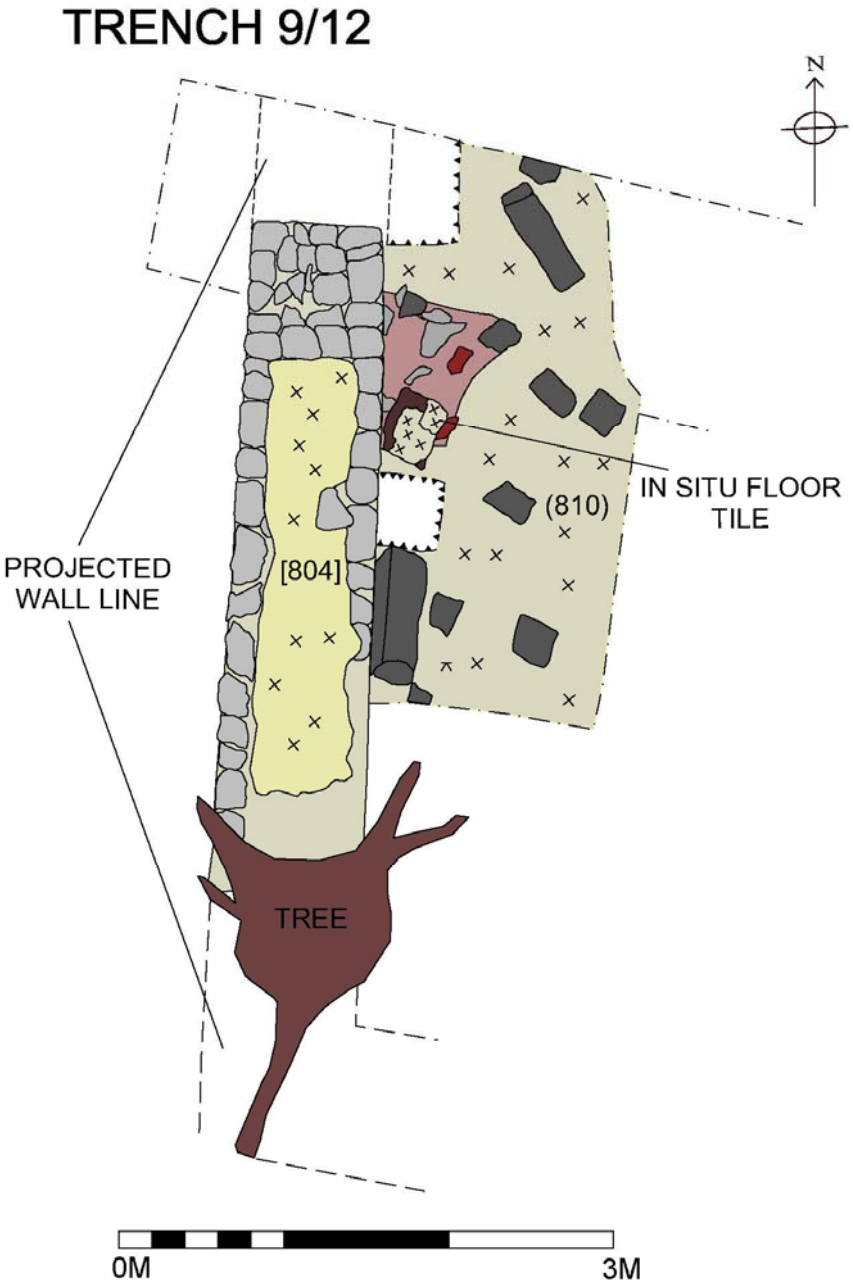


Figure 44: Plan of Trench 9/12

The relationship of western wall [804] to the southern boundary wall seen in Trenches 8 and 10 is uncertain. Initially it was thought to form the corner of a room, but further exploration proved that not only was the orientation wrong, but that the southern wall continued beyond

wall [804] (see Trench 10 above). Wall [804] was up to 0.9m wide with 3.45m in length visible in Trench 9/12, truncated to the north by antiquarian activity. A total of 12 courses in height were recorded and two small test-pits showed it to continue a further five courses below the level of (810) though to be the hypocaust floor level. It is roughly faced creating a flat internal wall on its east face, bonded with a yellowy-green lime mortar. No construction cut was recorded and the wall appears to be built directly onto the bedrock (Figs 45-46).

Figure 45: Wall [804]. Also note the antiquarian truncation (top right) and pilae in the foreground

Under demolition layers (805) and (806) a mottled white pinkish-brown dry sandy mortar mix layer (810) was revealed (Fig. 47). This appeared to abut the western wall [804]. No evidence for truncation from the pilae was seen in this layer and a sondage through (810) against the face of [804] and taking in the edge of a standing pyla seemed to suggest this dry mortar mix was laid around the pilae as a 'cementing' procedure, as opposed to the pilae being placed into a pre-dug hole (Fig. 48). Layer (810) was 0.03m – 0.05m in depth and appeared to be consistent throughout the sondage.

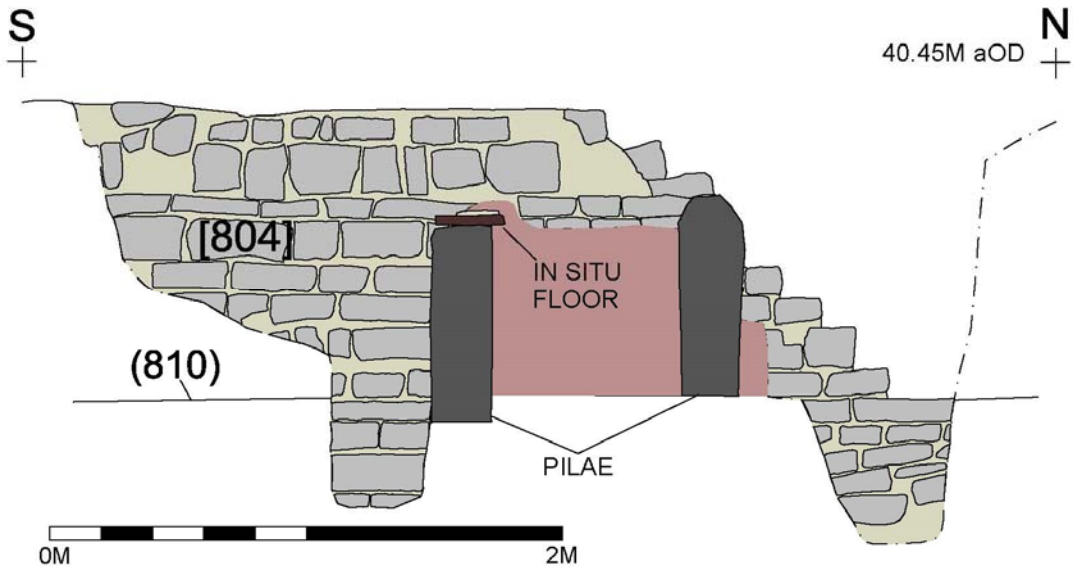


Figure 46: Elevation drawing showing wall [804]

Beneath (810) a makeup layer (811) consisting of a reddish-brown silty-clays with occasional small-larger angular stones was seen, this was apparent in the initial sondage against [804] and confirmed in a second sondage against [804] to the north. This measured 0.5m in depth and abutted wall [804] perhaps indicating a foundation level on which (810) and the pilae were constructed. Two sherds of pottery were recovered from this layer dating to the mid third century onwards, along with 4 small sherds of animal bone. Under this natural bedrock was reached on which [804] appears to have been built (Figs 48 - 49).

No evidence for scorching was recorded on the pilae and no soot or ash deposits were found (this kind of evidence might be expected within a hypocaust system due to the intense heat experienced in a hypocaust system).

Figure 47: Dry mortar mix (810) in Trench 9/12

Figure 48: Sondage through (810).

Figure 49: Trench 9/12 looking south

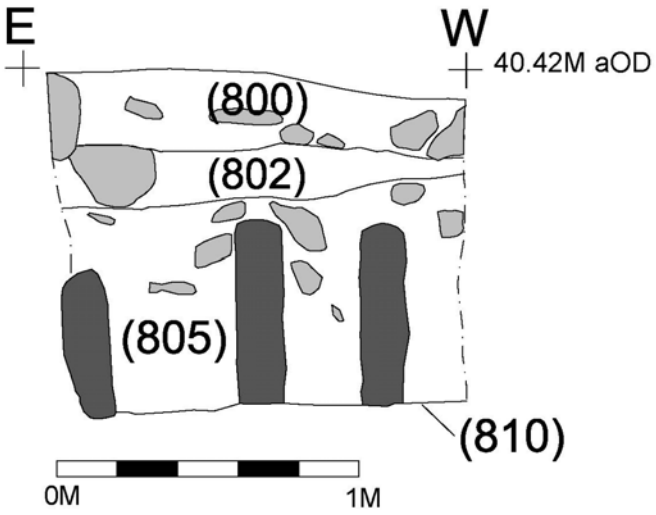


Figure 50: Section showing southern face of Trench 12 (pilae in dark grey)

The relationships and phasing of this area are difficult to determine. The pilae lie on a strange diagonal orientation to wall [804] and it seems unlikely that these were constructed as part of the same phase. It seems more likely that the pilae are contemporary with wall [167] to the south which has a similar alignment although as only a small section of this was excavated it is hard to be certain. The most obvious scenario is that hypocaust was constructed for a room orientated off the southern wall. This was either never finished or allowed to go out of use shortly after it was finished. North-south wall [804] must have been inserted at a later date although the lack of evidence for a cut through bedding layer (810) is slightly puzzling - although with it being a dry mix, it could have spread into the backfill of a narrow cut. The fact that wall [804] is faced probably suggests that the hypocaust still contained a void and therefore there was a need for solid construction using faced stones and the possibly in situ floor slab suggest that perhaps this flooring was laid after the wall construction and subsequently robbed, although why the new wall lies at a different angle to the hypocaust and wall [167] remains a mystery. This sequence suggests a relatively short amount of time between the changes:

1. Hypocaust pilae constructed against southern wall [167].
2. Hypocaust not finished and abandoned probably before the floor slab was laid on top.
3. New wall [804] inserted into the void between the hypocaust pilae which are then backfilled and the floor slabs laid on top to create a smaller room on a different angle.
4. Walls demolished, floor slabs robbed and area allowed to infill.

Trench 13

Trench 13 was opened in 2013 and was located towards the south-east corner of the site along the projected southern boundary wall of the complex. The trench measured 2.5m north-south and 1m wide east-west.

Flat bedrock was encountered at the base of this trench at a depth of 0.8m. This was overlain by a succession of stone rubble deposits (901-902) consisting of small-medium sized angular stones within a moderately loose silty-sand matrix with mortar inclusions (Fig. 51).

No direct evidence for a boundary wall was found although the presence of rubble may indicate structure nearby. All finds from the trench were from the upper deposits and were largely of 3rd-4th century in date.

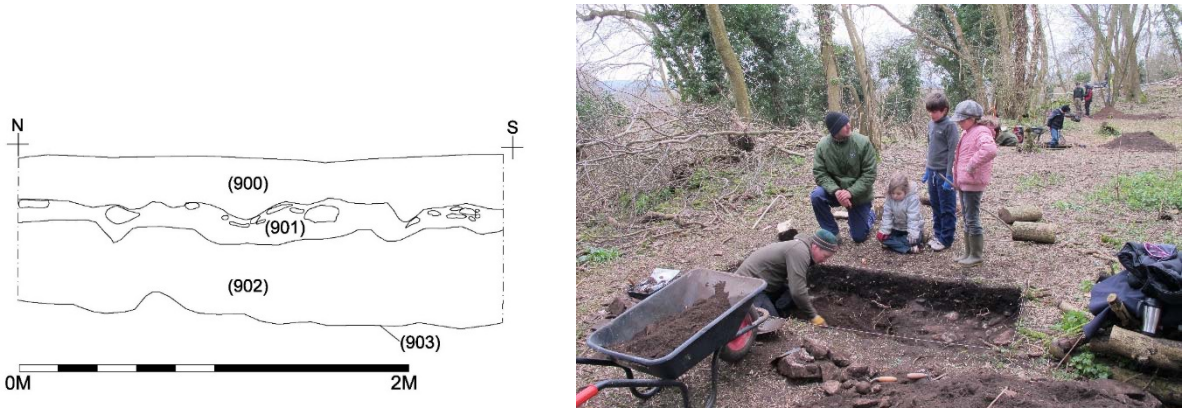


Figure 51: West facing section of Trench 13 (left) and trench under excavation (right)

Trench 14

Trench 14 was located to the west of Trench 13 along the projected southern boundary wall line of the complex and was opened in 2013 and continued in 2014. It measured 2.5m north-south and 1m east-west.

Loose large angular stones were recorded (931) immediately below the topsoil (930). The stones were distributed fairly evenly throughout the trench and as with Trench 13, could be indicative of a structure close by. Under this at the north end of the trench was a line of stones that could possibly be a toppled dry stone wall, overlying what appeared to be a rough surface of stones and cobbles (933). Beneath this was a mortar layer – possibly bedding for the rough surface (934) (Fig 52).

Two of the three pottery sherds recovered from this trench were medieval in date and were from (931), a single Roman sherd was also recovered from this context and was 3rd-4th century in date.

Figure 52: Trench 14 being excavated (left) and excavated (right) looking south

Trench 15

Trench 15 was located towards the western end of the projected building complex and was approximately 6m from the projected line of the complex's southern boundary wall. This trench was opened in 2013 and measured 2.5m north-south and 2m east-west.

At a depth of 0.8m a mortar surface (963) immediately adjacent to, and to the north of, a possible wall trench [967] was recorded. A posthole [964] could be seen truncating the mortar surface in the northwest corner of the trench. These deposits were sealed by a loosely compacted dark brown sandy-soil (962) and a relatively deep deposit of limestone rubble (960) and (961) beneath the topsoil (Figs 53-54). Deposits (960) and (962) overlaying the mortar surface produced pottery dating to the 3rd-4th century.

Figure 53: Trench 15 in 2013 showing mortar surface in the northern half of the trench and a probable robbed wall to its south. Posthole [964] is in the northwest corner of the trench (looking north)

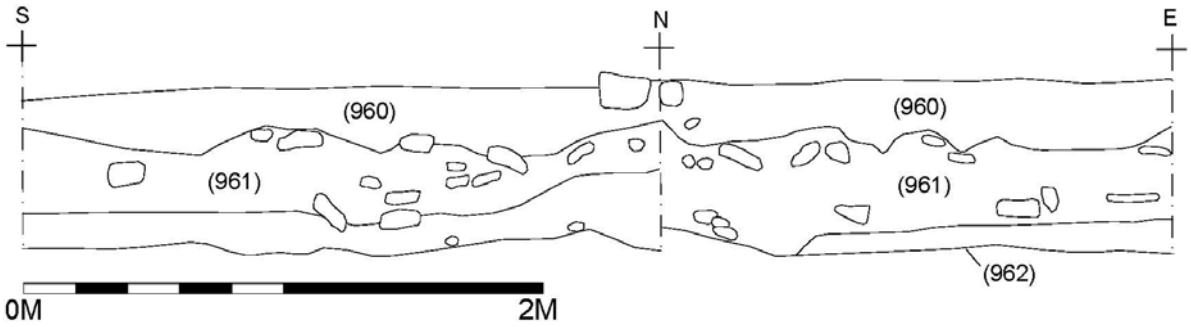


Figure 54: North and west section of Trench 15

Trench 16

In 2014 Trench 16 was opened to the south of the now completed Trench 7. It measured 5m by 2m and was positioned over what was thought to be an un-located antiquarian trench. At this point an L shaped depression in the ground surface could be seen, which corresponds to the general projected alignment of known Roman foundations and perhaps represents a northern wall to the complex. Surface indications in the form of rubble also indicate the wall line turns 90 degrees at this point, also reflected in the ground depression. It was also noted that 10m to the south another possible fragment of in-situ wall could be seen on the surface lining up with the possible 90 degree turn.

Topsoil (1001) was removed from the depression and produced quantities of modern material including metal fittings and broken glass, perhaps suggesting the presence of a military 'fire' trench, taking advantage of previous truncation by antiquarians and subsequently used as a rubbish dump. Below these modern deposits the piles of stones visible on the surface continued (Fig. 55). This material (1001) produced several sherds of Romano-British pottery and was suggested by the excavators to represent demolition material possibly from walls although the truncation from the tree root activity in this area made it difficult to identify the nature of the rubble.

Figure 55: Trench 16 looking south

Trench 17

Trench 17 was opened in 2014 and continued in 2017 measuring 6m by 2 m. It was positioned to the north of Trench 7 and Trench 16 over another apparent collapsed wall line showing on the ground surface as a slightly raised ridge. This appears to be on an alignment slightly different to that of the interpreted regular orthogonal main Roman complex. The aim of the trench was to establish the nature and date of this feature which it was thought could post date the Roman occupation on site (Fig 56).

Topsoil and surface rubble (1100) was removed to reveal a wall of dry stone construction (1101) approximately 0.7m wide and extending north-east for approximately 50m on the line of the linear mound. The wall appeared to be made up of re-used stone of variable size surviving 4 courses in high, crudely constructed with no visible dressing (Figs 57-58). Deposit (1100) appears to surround both sides of the wall and also continues beneath it. Presumably the wall cuts through this deposit although no wall cut was visible (Fig. 59).

Figure 56: Trench 17 in 2014 looking east

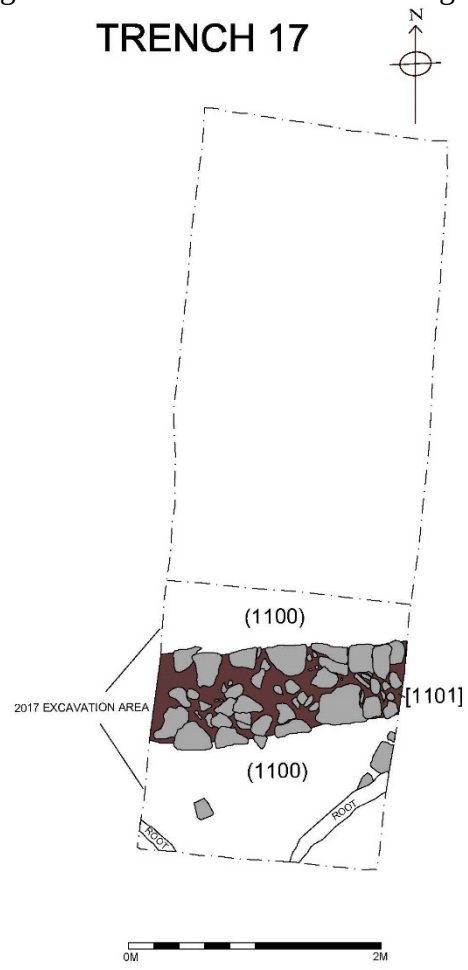


Figure 57: Plan of Trench 17

The orientation of the feature, absence of finds, rough construction and nature of deposit (1100) seems to suggest that this feature is probably post Roman in date, perhaps late medieval or post-medieval. Its construction, orientation and apparent isolation on site suggests possible use as a field boundary or livestock enclosure wall.

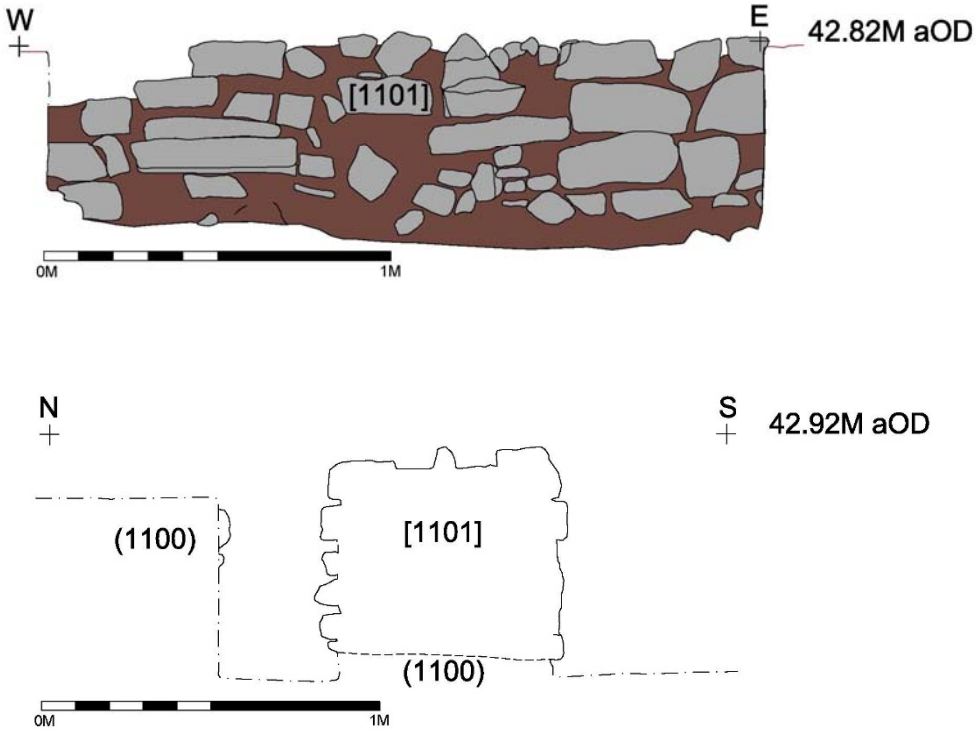


Figure 58: Elevation (top) and profile section (bottom) of wall [1101]

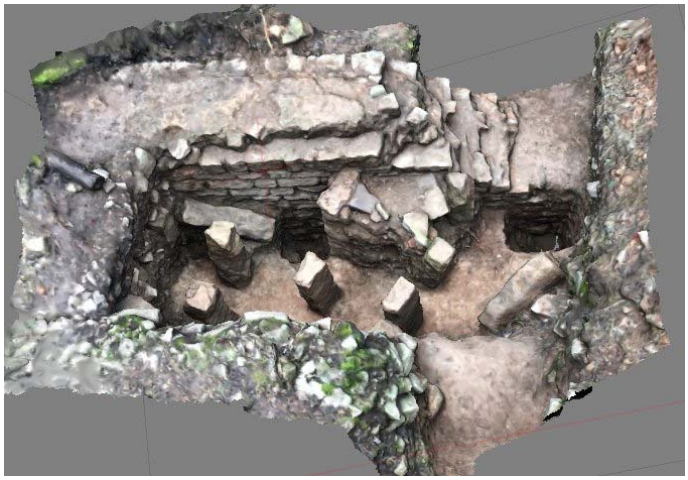
Figure 59: Trench 17 showing wall (1101) looking east

3D Modelling

The stone structures presented an ideal opportunity to use 3d photogrammetry using Agisoft Photoscan Professional software. The three 2017 trenches were photographed and processed to provide 3D moveable models (Fig. 60). The actual models can be viewed and rotated on ULAS's 3D images page:

Trench 01 https://sketchfab.com/models/899dd3c2526a48d48d2a4b5c1cf98d1f
Trench 09/12 https://sketchfab.com/models/5a88c58f624c4e7ca91528fea07e9b9f

Trench 01: 3D images



Trench 9/12: 3D images

Trench 17: 3D images

Figure 60: 3D imagery of the 2017 trenches created using Agisoft Photoscan Photogrammetry software.

Post-medieval activity

Flanking the southern boundary of the site to the south of the projected Roman complex several visible dry stone structures can be seen (Figs 61-62). These appear to be constructed of reclaimed stone, similar to the wall seen in Trench 17. Mounds or cairns of stone tumble, probably re-used stone from the Roman complex are also visible in this area.

Figure 61: Dry stone structure south of the Roman complex looking north-east

Figure 62: Mounds of stone tumble looking south

The nature of these structures appear to suggest these are post-medieval in date, most likely of an agricultural nature perhaps for livestock control and management of the land.

Prehistoric and Roman Pottery - *Nicholas J. Cooper*

2012-2014 Excavations

Two pottery reports have been compiled for the pottery found in the excavations between 2012 and 2014 (Appendix 1: September 2013 and May 2014). Around 154 sherds were found in 2012-2013 (mostly small sherds with a mean weight of 2179g), although only 34 sherds (weighing 596g) came from the trenches and another 34 sherds (weighing 887g) in 2014. Nearly all were either unstratified from topsoil or post demolition contexts and many were abraded suggesting re-deposition or residuality. The specialist report found that the assemblage dates from the mid-3rd century to the early 5th century with two possible medieval sherds. The assemblage was dominated by local coarse wares, typical for a rural site including South Wales Grey Ware, Black Burnished ware type 1 and Severn Valley Ware similar to pottery found from Caerwent Town. The pottery suggests activity on site dates to the later Roman period. It was noted that there was no Caerleon ware which should have been present if the site was active before the mid-3rd century. There was also a sherd from a fish dish of a type not produced before AD 395 (Appendix 1: Brown and Walshe 2013, 19, 23). The few fine wares recovered include three small 2nd century Samian fragments, Oxfordshire mortaria fragments and with only eight decorated examples. Most of the pottery seems to be from jars suggesting domestic activity and some evidence of use including limescale and sooting was found on a few of the sherds. The specialist report also noted re-firing of some sherds dating to the late 3rd – early 4th century possibly indicating a local fire on site (Brown and Walshe 2013, 24).

2017 Excavations

A total of five sherds of Roman pottery (37g) were recovered from stratified contexts (153), (159) and (811). Additionally a handmade sherd of prehistoric date was found unstratified. The material has been classified in accordance with the Standard for Pottery Studies in Archaeology (Barclay *et al.* 2016) with reference to the National Roman Fabric Collection (Tomber and Dore 1998) and quantified by sherd count, weight and EVEs.

Prehistoric Pottery

A single sherd (13g) from the shoulder of handmade jar (diameter 180mm) manufactured in an angular quartz-tempered fabric (inclusion size 0.5-2mm) (Fabric Q1), was recovered unstratified. The external surface is lightly burnished and the internal surface has traces of carbonised cooking residue. Probably of Iron Age date.

Roman Pottery

Table 1 presents the full quantified record of the Roman pottery from 2017.

Table 1: Quantified record of Roman pottery from CW17

Roman Pottery from Caerwent 2017						
Context	**Fabric**	**Form**	**Type**	**sherds**	**weight**	**EVEs**
T1: 153	GW5	Jar	Bead rim	1	8	0.07
T1: 159	BB1	jar	HB20.1	1	9	
T1: 159	BB1	dish	?HB59	1	10	
811	GW1	jar	BB1 copy	2	10	
			Total	**5**	**37**	**0.07**

Context (153) – a bedding layer for a dry mortar layer in Trench 1, contained the rim of a small (diameter 80mm) shouldered jar with a bead rim in a medium-coarse grey ware fabric (Fabric GW5), probably manufactured locally in South Wales and dating to the second or third century. Given the fact that there is only a single sherd and the disturbed nature of the deposits in this area it could be residual.

Context (159), a post-building demolition layer in Trench 1 contained sherds from two, more diagnostic, vessels in black burnished ware category 1 (BB1) from south-east Dorset. The first is a cooking pot of Type 20 (Holbrook and Bidwell 1991, 95), with a band of obtuse lattice, dating from c.250 into the fourth century. The second is from a dish with a base diameter of about 200mm and inscribed loops on the underside, which may belong to Type 58 or 59 dating from the middle of the second through to the fourth century (Holbrook and Bidwell 1991, 111, fig.32).

The two jar sherds from Trench 9/12 (811) are intriguing as they occur in a coarse grey ware fabric (GW1) which is very close to BB1 but are from wheel-thrown vessels, probably imitating BB1 cooking pots, as one has a trace of obtuse lattice, again suggesting a mid-third century date onwards. Similar vessels have been recovered during the excavations in 2013 and 2014 and are considered to have been produced at the local kiln on Pill Farm Estate, 3km away (Walshe 2013, 18). Context (811) is a make-up layer for the mortar layer attributed to the construction of the hypocaust and therefore suggests a mid-3rd century date for its construction.

Despite the relative paucity of pottery from the site, most trenches contained some (although much unstratified). Overall, the assemblage would appear to reflect the same generally middle to later Roman date of occupation, identified during the previous work.

Roman Building Material - Jenni McNulty and Heidi Addison

Ceramic Building Material

A total of 36,449g of ceramic building material (CBM) was recovered from four contexts and one unstratified across CWB14 and CRWB12. These have been classified by type and quantified by fragment, weight and corners (Tables 2-3).

Table 2: Quantified record of Roman ceramic building material from CWB14. *retained sample

Context	Type	Frag.	Weight (g)	Corners	Comments
Trench 09/12 (805) demolition layer	Tegula Imbrex Boxflue* Misc.	1 1 9 2	195 222 4895 477		
Trench 09/12 (806) demolition layer	Tegula Boxflue* Misc.	7 14 14	2440 6674 1634		
u/s	Misc.*	1	169		Pawprint on surface
Total			**16706**		

Table 3: Quantified record of Roman ceramic building material from CRWB12. *retained sample

Context	Type	Frag.	Weight (g)	Corners	Comments
Trench12 (802)	Tegula Imbrex* Boxflue* Misc	1 2 31 3	451 613 13712 1061	 2 	 Warped Some frags warped
(804), TR12	Boxflue*	4	3906		
Total			**19743**		

The CBM includes fragments of channel-like imbrex tiles probably mostly from the ridges of a steep roof covered with nail-hung stone ‘slates’, fragments of which are plentiful on the site (see below), rather than Mediterranean style shallow – pitched flat tegulae, although standard tegula was also recovered in Trench 12.

Fragments were found in the demolition deposits within the hypocaust, and apparently deriving from the heating system, which specialist Dr Phil Mills suggests represent ‘half-box flue tiles’, generally thought to be a phenomenon of the first century AD, which would be a surprise at Whitewall Brake given other evidence from the site (Abramson et al 2014, 21).

However, it appears that similar tiles are known at Caerleon (Gwent and Glamorgan Archaeological Trust, pers. comm.), and certainly at Caerwent itself; examples were found in Room 1 of House VIIIN, in an apparently late Roman context (Fig. 21: Archaeologia LIX (1904) Fig. 10, p109: we are grateful to Mark Lewis for this reference).

One fragment of lime mortar painted wall plaster was recovered from context (805) from CWB14 weighing 435g. The paint was heavily abraded and it was not retained.

Roman Roof Slate

A total of 6,975g of Roman roof slate was recovered from Trench 1 (CRWB12) and has been classified by type and quantified according to count, weight, width and length from hole (Table 4).

Table 4: Quantified record of Roman roof slate from CRWB12. *retained sample

Context	Type	Count	Weight (g)	Length from hole (mm)	Width (mm)	Comments
Trench 1 (Topsoil)	Diamond*	1	3050	310	250	Nail still present in hole, Fig. 63
	Diamond*	1	3925	310	285	Fig. 64
	Diamond	1	n/a	n/a	n/a	Nail still present in hole, Fig. 62
	Diamond	1	n/a	n/a	n/a	Fig. 62
Total			**6975**			

Figure 63: roof slate group from CRWB12 (25). Photo: Heidi Addison ULAS

Figure 64: slate sample from CRWB12 (25). Photo: Heidi Addison ULAS

Figure 65: retained slate sample with nail still intact from CRWB12 (25). Photo: Heidi Addison ULAS

The stone roofing slates have been discussed in detail in the interim reports (Brown and Walshe 2012; Appendix 1). This suggested that the Whitewell Brake limestone roof slabs were held in place by a nail through one corner with each row of slabs overlapping the one below like the scales of a fish (Fig. 65). Roof slates of this type were inconsistent in size and the largest stones were used along the edge of the roof to project rain water away from the building with smaller pieces used in courses towards the ridge.

Figure 66: Reconstruction of stone slates from Brading Roman Villa (Isle of Wight). Image Simon I Hill, Oglander Roman Trust. From Brown and Walshe 2012.

The interim report suggests that there was a significant area of stone clad roofing at Whitewall Brake which implies supply networks for materials from the load-bearing timbers required for the roof and the foresters who maintained estate woodlands, to the skilled workers making and laying the roof covering. Frost would be a cause of decay in such roofs, which would require them to be regularly scraped to remove the moisture-bearing moss. Regular maintenance could

ensure the survival of the roof for several hundred years, as medieval churches and barns demonstrate.

Worked Stone

A total of 15,334g of Roman worked stone was recovered from topsoil/unstratified contexts from CRWB12 and CWB14. These have been classified by type and quantified according to count and weight, (Tables 5-6).

Table 5: Quantified record of Roman worked stone from CWB14. *retained sample

Context	Type	Count	Weight (g)	Comments
u/s – no context info on bag	Column Stone*	1	2230	Concentric banding decoration

Table 6: Quantified record of Roman worked stone from CRWB12. *retained sample

Context	Type	Count	Weight (g)	Comments
Trench 1 (100) topsoil	Worked stone	5	n/a	Fig. 65
	Quern*	1	3404	Grooving on top, Fig. 67
	Quern*	1	9700	Central hole visible, Fig. 66
Total			**13104**	

Figure 67: group of five worked stones from CRWB12 (100). Photo: Heidi Addison

Figure 68: Quern stone frag from CRWB12 (100). Photo: Heidi Addison ULAS

Figure 69: Quern stone frag from CRWB12 (100). Photo: Heidi Addison ULAS

The Animal Bones - Jennifer Browning

A small number of animal bones from stratified contexts were recovered from the excavations at Caerwent. The following bones were recovered from two sealed Roman deposits; (811) a construction layer within the hypocaust room of Trench 12 and (159) a Roman demolition layer within a building (Trench 01). Cattle and sheep were positively identified within the assemblage and butchery marks were present.

Although the assemblage is extremely small (n=7), the state of preservation suggests that bones survive well at the site. Therefore should any work be carried out at the site in the future, the recovery of animal bones may provide significant information to aid in site interpretation

Table 7: Catalogue of animal remains

Context	Preservation	No	Taxon	Element	Notes
159	good	1	Sheep/goat	metacarpal	Proximal shaft and epiphysis (fused)
159	good	1	cattle	metatarsal	Proximal (fused), butchery marks
159	fair	1	Large mammal	vertebra	Body, with butchery (cut mark)
811	good	1	Large mammal	Rib shaft	
811	fair	3	indeterminate	Shaft fragments	Gnawing

Discussion

The survey and excavation work conducted at Whitewall brake has advanced our understanding of the Roman masonry constructions at the site. Due to the obstacles on site including tree cover, metal debris, soil conditions and geology, along with the sparseness of physical finds, survey techniques such as magnetometry, resistivity and remote sensing are not particularly effective. The excavations have however, given some insight into the plan of the Roman structures, the size of the footprint of the complex (much larger than initially thought), and the chronology and phasing of the activity on site.

Pre-Roman deposits

There is evidence for prehistoric activity in the wider area with two Bronze Age burial cairns within the Training Area. However, there is no evidence for any earlier activity at Whitewall Brake and the single sherd of probable Iron Age pottery found is an anomaly but could suggest some earlier activity in the vicinity.

Earlier Roman Activity

Some earlier Roman pottery was found on the site (e.g. 2nd century Samian sherds) suggesting there was some activity here during this period. However, none of it was associated with structures or other features.

The Roman Building

Plan and Date

There are Roman walls remaining over an area of roughly 60m east-west by 30m north-south. The excavations suggest a rectangular plan with a northern boundary wall roughly parallel with the known southern 'white wall' façade and slightly further south than suggested by the OS mapping. A possible eastern wall was also found in Trench 1 although a short section of wall extending to the east of this suggests structures beyond this point as also indicated by the early OS maps. These suggested that the eastern boundary wall lay c. 7-8m further east with a series of small rectangular rooms along the eastern side. Although Trench 3 found no evidence for this eastern wall it was disturbed by modern activity.

The western boundary is unknown due to disturbance by 19th century quarrying. The fragment of wall in Trench 6 does not line up with the post-hole at the visible end of the southern wall and there could easily have been a similar bank of rooms along the western side mirroring the eastern side.

Although the excavations provided a relatively small window into the overall plan of the complex, the suggestion is of a courtyard surrounded by rooms. Courtyard houses or villas are relatively well-known in Roman Britain and although the full plan of the Caerwent complex remains unknown the orthogonal plan and subdivided eastern side shares similarities with several known examples (Rowe 2015). The small fragment of wall in Trench 1 hinting at a corridor might suggest a walkway or veranda around part of the inside of the complex such as the villa at Chedworth (Glos; Rivet 1969, 62-63 Fig. 2.5).

The term villa means 'farm' in Latin and the British courtyard villa is thought to have been a development from a farm with the farmyard surrounded by building developing into a more elegant and unified structure (Rivet 1969, 64). There are a number of villas along this stretch of the south Wales coast and Glamorgan has the highest concentration of villas in Wales (Rowe 2015, 79) (Fig. 70). The nearest is probably the Five Lanes Roman Villa close to the Roman *civitas* at Caerwent. This is a small winged corridor structure running north to south, comprising five rooms in a line with one room projecting eastwards from the ends forming the wings.

Ely Roman Villa which was excavated in the late 19th – early 20th centuries contained a rectangular house with projecting wings with a large yard thought to be occupied in the 2nd – 4th centuries (Scott 1993, 67, Rowe 2015; Fig. 71). At Llantwit Major the 2nd – 4th century villa measured approximately 78m x73m and had a double courtyard with ranges of buildings round an inner courtyard to the west and an outer yard on the east (Scott 1993, 67). Local limestone and sandstone was used for construction along with Pannant sandstone slabs for the roof and Painted wall plaster and patterned mosaic flooring was identified. In the case of Caerwent with its isolated grandeur overlooking the town to the south, it is more likely that the courtyard is more of a garden-court perhaps with views over the lower are to the south.

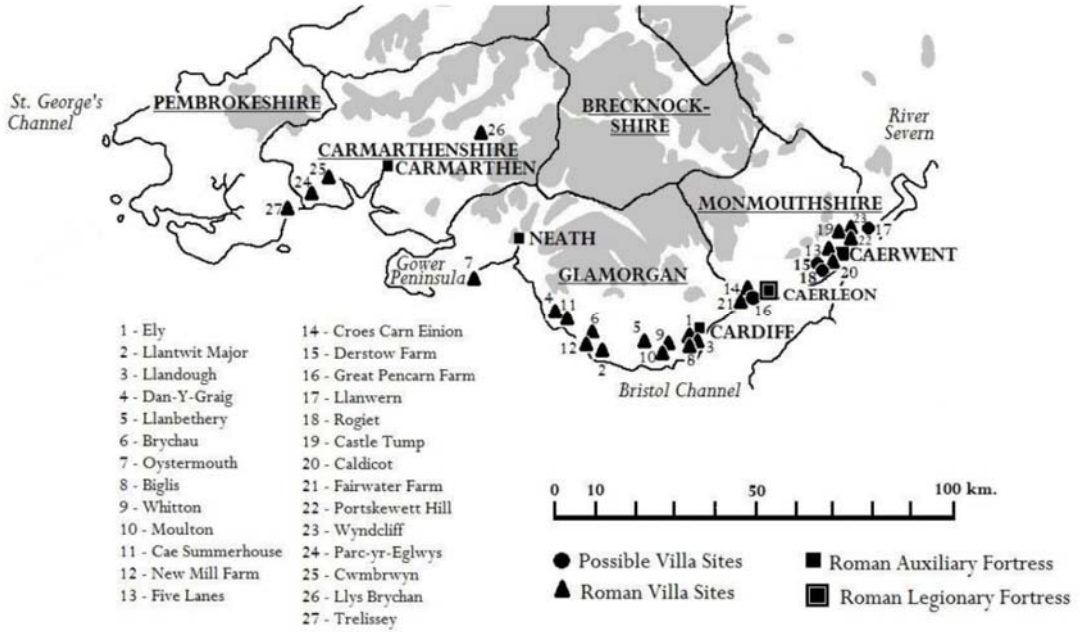


Figure 70: Roman Settlements in South Wales (from Rowe 2015, Fig. 4.2)

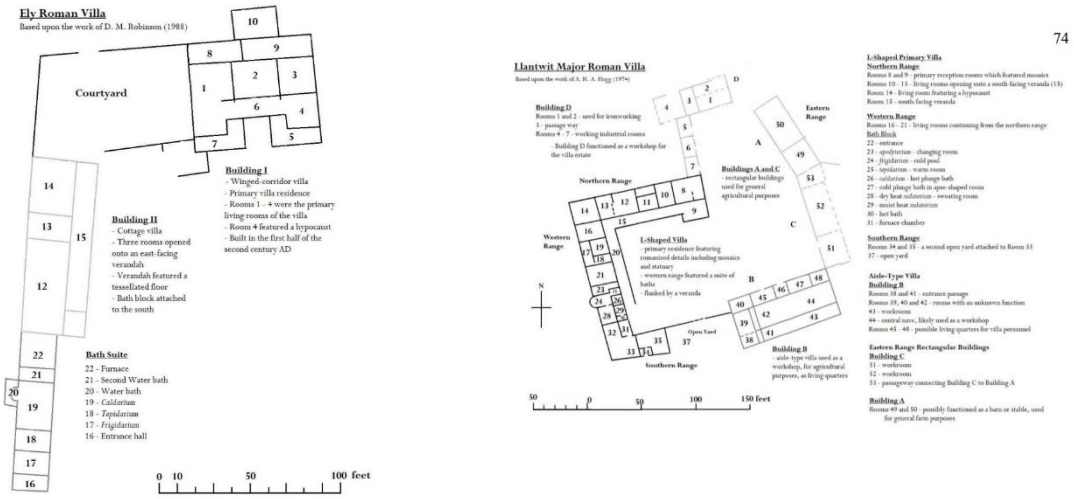


Figure 71: Plans of Ely and Llantwit Major Roman villas

Within this orthogonal complex evidence two structures were identified. Trench 1 has evidence for a room with faced walls and evidence for possible floor surfaces. The fact that parts of the wall are made from white stone indicates it was meant to be visible and therefore probably faced into the courtyard area. The limited excavation evidence suggests at least two phases of building work.

The room in Trench 9/12 is more difficult to interpret. The hypocaust suggests a heated room perhaps attached to the southern boundary wall, but it appears to never have been completed or used and the later wall is at a different angle suggesting that the structures in this area were completely remodelled although perhaps not very long after the abandonment of the earlier phase. The standard layout of villas consisted of a rectangular building of brick and /or stone divided into rooms with baths located in a separate building (Salway 2002).

The construction appears to be fairly standard for the later Roman period. It should be noted that the walls are relatively narrow for substantial buildings especially the northern and southern boundary walls. The internal walls could of course simply be platforms for wooden superstructures. Both ceramic roof material and stone roof tiles were found on site, which could again suggest different phases. Stone roofing slabs are identical to those used on the roof of Caerwent's forum basilica in the later 4th century (P. Guest, pers. Comm).

Trench 1 shows evidence of lack of construction knowledge (failure of the building foundations on Trench 1) and repair. There is little evidence for flooring in Trench 1 other than mortar bedding. There are several mortar levels suggesting either several phases or different levels of floors. Trench 12, however not only retained fragments of the stone slabs that overlay the hypocaust system but also produced quantities of mosaic tesserae and small chunks of broken mosaic. The polychrome mosaic fragments, and the characteristic flue tiles recovered from Trench 9/12 are consistent with a fourth-century date for the visible Roman constructions.

In 2014 a fragment of what appears to be a 0.3m diameter column capital or base was recovered from the south-west of the site, further suggesting the possibility of a colonnade (Fig. 79), perhaps associated with the courtyard.

Figure 72: Fragment of probable column capital or base, original diameter c. 0.3 m

The lack of dating from stratified contexts makes it hard to say a great deal beyond the fact that the main activity appears to be late 3rd – 4th century. The limited pottery assemblage also indicates a later Roman floruit for the site. The lack of Caerleon Ware suggests a foundation date after Caerleon was abandoned in the late 3rd century, although the occurrence of earlier pottery on site does suggest some kind of activity before this. The withdrawal of the Roman army from Wales in the late 4th century would have left the area vulnerable to attacks and the loss of the legions would have resulted in a decline in economy (Rowe 2015, 100)

The presence of an early 5th century BB1 dish also indicates occupation of the known structures continued after AD400. There are indications of several phases and the presence of roof tiles suggests at least some structures were completed; however, the absence of the usual types of rubbish associated with occupation (pottery, animal bone, charcoal etc.) would perhaps indicate that the site was modified several times before completion and then abandoned before any sustained use. There is evidence elsewhere for 'squatter occupation' – for example at Llantwit Major where hearths were found overlying Roman mosaics along with piles of refuse and some of the later features such as the stones and possible hearth oven in Trench 1 could be related to the ecomonic decline of the area.

The Roman walls were at some stage thoroughly demolished, the hypocaust room being razed, perhaps to recover metal clamps holding flue tiles to walls and large stone slabs forming the floor over the hypocaust and bedding for the mosaic. The date of the demolition of the Roman structures remains uncertain, although the apparent suggestions of features present in Trench 1 that seem to have been created after the Roman walls had been robbed to their current level suggest some post-Roman activity on site, although no dating evidence for these features was

recovered. Even post demolition, it seems probable that Roman masonry, especially the large wall along the southern scarp edge, remained visible on the surface down to modern times, giving the site its name.

Function and nature

The presence of a hypocaust along with painted wall plaster, high quality stone roofing, faced stone walls with cut masonry and evidence for mosaics indicates a building of high status, however archaeological artefacts are remarkably sparse. There are few coins or metal objects and surprisingly little pottery. This remains puzzling and hard to explain. One suggestion is that site was simply short lived and did not have time to accumulate much dateable material. Other possibilities are that the site was kept exceptionally clean and that cultural material was disposed of elsewhere in middens around the site as yet undiscovered.

The 2017 excavations in Trench 9/12 seemed to suggest the hypocaust system was never actually used. No evidence for heating was found on any of the Pilae, and no evidence for soot or burning was recovered from deposits above the surface of the hypocaust structure. If the system was subject to the heat expected in a hypocaust, signs of scorching and burning should be evident. Conversely the multiple surface deposits in Trench 1 hint at a multi-phased structure used over a period of time. It is possible that the hypocaust was an early construction that was abandoned, perhaps due to a change in circumstances or finance. Unfortunately relationships between different areas of the complex has yet to be secured so this remains a tentative conclusion. The function of the Roman complex remains elusive, to the point that we cannot be certain if the remains represent civilian or military, domestic or religious site.

Seen from the south it Whitewall Brake occupies a dominant landscape position and is likely to have been a highly visible element within the landscape. As such, this site may be regarded as materialising power, status and wealth. The size of the complex and its location on a prominent ridge overlooking Carewent town as well as the white stone which would have been a visual indication of perceived wealth and status would also suggest an influential site, such as perhaps a government building, or ownership by someone of some social standing and/or power. However, if the site represented a major suburban residence there should be many more and types of finds.

The proximity of Whitewell Brake to the town of Caerwent along with the Five Lanes and another possible settlement at Caldicot suggests that they were essentially satellites to the Roman town (Rowe 2015, 90) and are situated on high quality agricultural land which could easily support either arable or pastoral farming.

It has also been suggested that the prominence of its location, a brilliant white structure on a knoll overlooking the Roman town is perhaps suggestive of an alternative hypothesis, that it is a sanctuary complex similar to Lydney or Uley and a number of other sites flanking the lower Severn. Lydney is a temple site that continued into the 5th century, similarly situated in a prominent position, on a steep bluff overlooking the Severn estuary (Casey and Hoffman 1981). The presence of Bronze Age barrows in the area might also have made this a preferred location for a ritual site. However, if so, it might reasonably have been expected to have encountered many more coins, votive deposits and other diagnostic remains - over 8000 coins were

recovered from Lydney, although it remains a possibility that careful cleaning of the site has led to deposition of material elsewhere.

Trade and Industry

The assemblage of artefacts includes ceramics form a wide range of kilns across Roman Britain, as well as imported Samian ware from Gaul. The pottery assemblage, although relatively small suggests that most of the vessels were locally sourced, however the paucity of artefacts makes it hard to say anything definitive. Cattle and sheep bones were recovered and butchery marks were present indicating some domestic activity but again the assemblage is too small to provide any significant interpretations.

With regards placing the structure within a regional, economic and trading context, Building materials and techniques are, unsurprisingly, closely related to those observed in later Roman *Venta Silurum*. However in the absence of further material evidence it is not yet possible to establish the nature of the relationship, beyond presumed intervisibility, between the building at Whitewall Brake and the nearby town at *Venta Silurum*, although it is assumed that the presence of the nearby market town and associated road system would have had a bearing on the location of the complex at Whitewall Brake.

Post-Roman deposits

The excavations have found that some area of the site were still be used after the structures had been demolished. In particular, the flooring in Trench 1 that overlies the walls suggest that this structure was re-used although there is no real evidence to date this activity. These may also be associated with the stone cairns on the southern boundary of the site. A rectangular enclosure shown butting against the southern boundary wall of the Roman building is depicted on the 1880 OS map, and suggests a possible agricultural purpose. No obvious evidence for this enclosure has survived, although the dry stone structures adjacent to the southern boundary wall are still visible, perhaps further suggesting agriculture and land management in this period. Evidence in Trench 17 also suggests the re-use of Roman material on site probably in the post-medieval period, with evidence of a dry stone wall structure running roughly east-west to the north of the Roman complex, again suggesting field division as a consequence of livestock management or farming.

A further important part of the site's archaeological history comprises traces of post-1938 military activity. Although the scheduled area has long been officially out of bounds to military training, nevertheless a number of sangars and other signs of the presence of exercising soldiers in recent decades were evident, including the characteristic trace of consumption of military rations, an empty tabasco sauce bottle.

Condition of the archaeology

With regards to the condition of the monument, the strategy of small-scale evaluation trenches has confirmed the significant structural Roman remains are present *in situ* just below the ground surface and in some areas still exposed. It has shown that, by and large, these are in relatively good condition, sealed beneath demolition deposits with little truncation. Where mature trees are situated above archaeology, such as on the wall of the hypocaust room in

Trenches 9/12, the roots appear to have grown and spread along the upper course of stonework rather than embedding in and lifting up the whole wall. Nevertheless, in these cases significant damage to the archaeology is still inflicted, especially when such trees topple.

Archive

The site archive consists of a site indices, context sheets, plan and section drawings, digital photographs, assorted field notes, survey data, pottery and ceramic building material. The archive will be held by Chepstow Museum in Monmouthshire under an accession number to be confirmed. The site will be published as a note in *Britannia*.

Acknowledgments

All involved in the project are very grateful to Peter Davies, Assistant Commandant at Caerwent Training Area, and his staff, for affording us the use of facilities on site. We are also grateful to Cadw and Landmarc Support Services for their support and assistance during the project.

Extended thanks is also given to Martin Brown, Phil Abramson and Guy Salkeld of the DIO for their input, guidance and expertise throughout the project.

ULAS would like to thank Prof. Simon James for his work throughout the project and for his expertise, assistance and input in the 2017 excavations.

Thanks is also extended to Sgt. Diarmaid Walshe and the Operation Nightingale initiative for their previous work at Whitewall Brake and in turn they would like to extend their appreciations to Dr Phil Mills and Dr Peter Guest for their assistance with the project.

Work from 2011-2014 was undertaken by personnel mainly comprising of placement students from University of Leicester and serving and veteran military personnel on Operation Nightingale. Fieldwork in 2017 was supervised by Andrew Hyam with assistance from Donald Clark and Adam Clapton. Vicki Score managed the project.

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Appendix 1: Finds data from interim reports

The Stone Roofing Slates February 2012

The use of stone for roofing has been recorded at Roman sites throughout England and Wales and there are examples in many types of rock. These sites include Purbeck limestone at Encombe and Norden near Corfe Castle, Collyweston Slate at Irchester and Apethorpe and Cotswold stone slates at Ditchley and Shakenoak, while Pennant sandstone has been frequently recorded around Bristol and as far afield as Cardiff and Wroxeter.

There are two types of limestone from which the slates could have been made. However each type requires a different method of production: the first is to extract the stone from near the surface of the ground and then, in the next few days, split it while it still contains natural moisture, while the other method is to mine blocks of limestone and expose them to rain and frost which gradually split the stone along its natural grain. The result is a slate that is much thinner and more regular than the first method. Examination of slates from Whitewall Brake may reveal their method of manufacture, as well as the source of the stone.

Rectangular stone slabs used on roofs were often held in place by a nail through one corner and each row of slabs overlapped the one below. This meant that the whole roof looked rather like the scales of a fish (see below)

Figure 73: Reconstruction of stone slates from Brading Roman Villa (Isle of Wight). Image Simon I Hill, Oglander Roman Trust

The nature of the stone means that it is impossible to supply slates of consistent sizes; smaller slates are far more numerous than larger slates. Due to the fact that the Romans did not normally have guttering on their buildings, the roof was required to throw the rain water well clear of the walls. To get maximum projection the largest stone slates were used along the edge of the

roof while the smaller pieces are used in courses towards the ridge, ensuring the maximum use of resources.

To prepare a building with a stone roof it would require wooden purlins to be fixed along the roof from which the slates will be hung. The slant of a stone roof would be between 48º and 55º, against 65º for thatch. Each slate had a hole or holes cut through near the top to enable its fixing to the purlins by nails or pegs.

The roof raises a number of issues about the structure at Whitewall Brake. The number of slate fragments recovered suggests that there was a significant area of roof covered in stone slates. Such a roof implies a network of supply from the load-bearing timbers required for the roof and the foresters who maintained estate woodlands, to the skilled workers making and laying the roof covering. The roof also has implications in terms of maintenance because frost is the main cause of decay in such roofs, so they should be regularly scraped to remove the moisture-bearing moss. Regular maintenance could ensure the survival of the roof for several hundred years, as medieval churches and barns demonstrate. Clearly, the roof has a significant value and shows how the building had links into the hinterland that connected a variety of locations and people to the edifice. As such it can be seen as a statement of a combination of elements of wealth, power and social standing and should affect the wider interpretation of the site.

Figure 74: Limestone roof slate

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Pottery Report September 2013

The Pottery Assemblage

Sgt. D Walshe

Introduction

A small assemblage of Roman pottery, in addition to eight medieval pieces, totalling 154 sherds, weighing (2179g), was recovered from ten trenches on the site. All of the pottery was examined, sorted and recorded in accordance with the guidelines laid out by the Study Group for Roman Pottery (Darling 1994). The assemblage was examined under a hand held lens of 8x and 30x magnifications with built in scales. Digital pictures of both the fabric and inclusions were taken using a VSM-004 microscope, with 400x magnification and inbuilt LED lighting.

Sherds were sorted within context by fabric, with un-sourced wares of the same type, e.g. grey wares, grouped together. Details of form, decoration, use, wear and date were recorded along with any other information deemed important including weight and quantity. Due to the small quantity of sherds it was not possible to undertake Estimated Vessel Equivalents (EVEs).

Assemblage Composition

The assemblage is comprised primarily of small sherds, with a mean weight of 13g, although the nature of recovery (small focused trenches as opposed to extensive open-area excavation) is likely to have influenced this and the quantity found. There appears to be a relatively low density of sherds which perhaps points to a non-domestic function for the site, or equally, careful site curation with off-site dumping of refuse at locations yet to be identified. Both abraded and unabraded sherds were present suggesting a degree of residuality as well as deposition contemporary with breakage. No complete or semi complete vessels are present and only three sherds could be conjoined.

The assemblage broadly dates from the mid/later 3rd to the early 5th century AD, with an apparent peak in the late 3rd to mid 4th century. Eight sherds dated to the 12th/13th century and two sherds could date to the early medieval period, but the individual pieces are not diagnostic enough to confirm this. A small range of vessel fabrics were identified (Table 1), with local coarse wares dominating the assemblage, representing 95% in total (Fig 1).

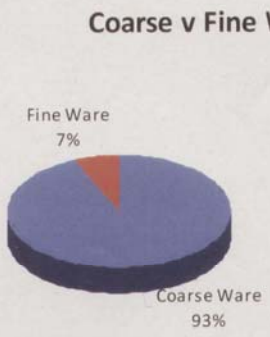

Figure 1: The breakdown of Coarse versus Fine Ware for all contexts.

16

This is typical for Roman rural sites but not what one would expect for a high status building. Grey wares were the most commonly occurring fabric type, representing 45% (weight) 47% (qty) of the assemblage (Figures 2 and 3).

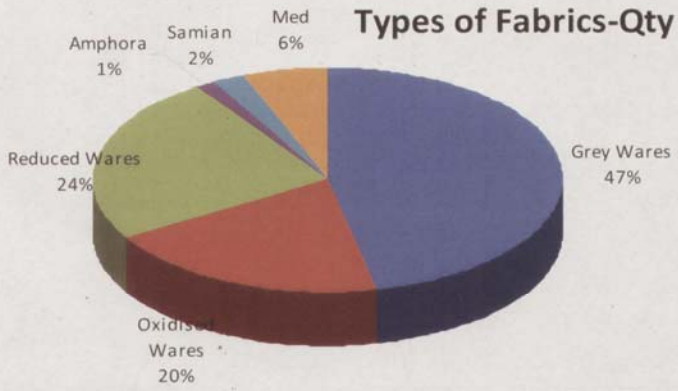

Figure 2: The types of fabrics by quantity

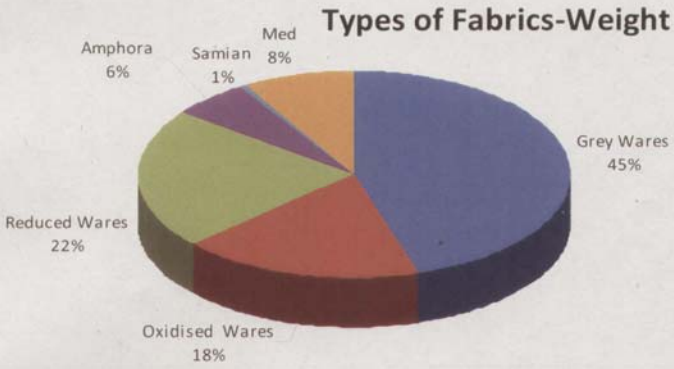

Figure 3: The types of fabrics by weight

The remainder of the fabric assemblage is almost equally divided between oxidised and reduced wares with a smaller percentage of other fabrics types including the medieval fabrics (Figures 2 and 3)

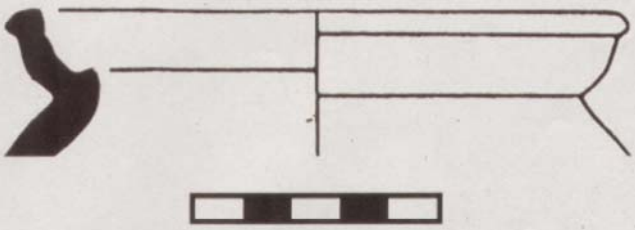

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Figure 4: South Wales Grey Ware Jar (Context 802, Trench 12) (Walshe)(Scale 5cm)

Within the above category there were a number of different sub fabrics, many of which were produced locally, as is the case for most Roman coarse wares. The coarse ware fabrics included a small number of local grey wares including the ubiquitous South Wales Grey Ware (SWG) (Figure 4), local copies of wheel-thrown Black-Burnished ware Type 1 (BB1) which probably come from the nearby local kiln of Pill Farm Estate 3km away. The remainder are sourced from nationally known kilns producing BB1 and Severn Valley Ware (SVWOX).

The range and proportions of the coarse wares present on the site can also be paralleled at other sites in the vicinity including Caerwent Town (Webster 1993a, 227-9; Compton and Webster 2000, 200-02). However Caerleon wares on the site are notable by their absence, in comparison to similar sites nearby.

Excavation at Caerwent Town, by Time Team in 2009, shows a similar pattern in which both SWG and BB1 were the most common fabric. The interesting point of interest is the BB1 fabric was identified as originating from the Dorset Kilns, rather than local copies. As our examples of Local BB1 were only identified by 30x magnifications examination, I suspect that there will be locally produced BB1 in the Time Team assemblage if it was re-examined. The presence of a local type of BB1 is discussed further on in the pottery report.

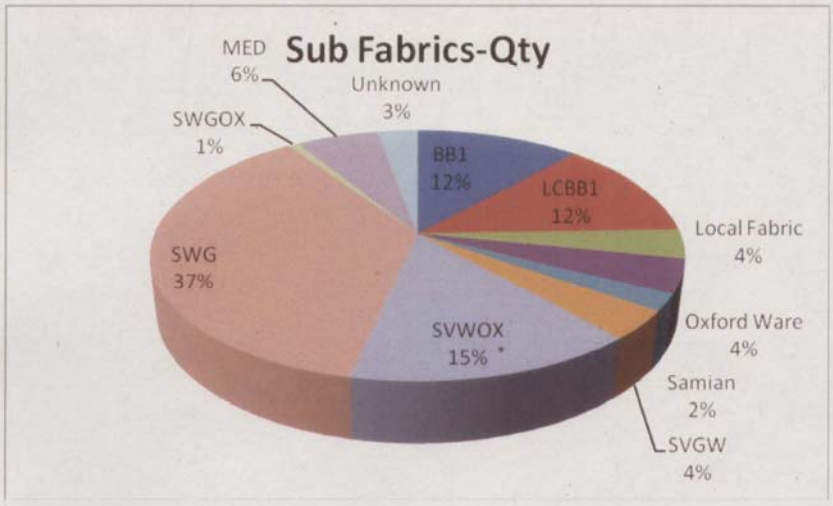

Figure 5: Break down of sub fabric by quantity

The large proportion of Severn Valley Ware is to be expected on a site near the production areas across the Severn. I have identified one of the sherds (context 960,T15) to be from the Leadbury kiln which is located in Herefordshire. We know that in the mid-1st-century, its distribution was largely confined to sites in the Severn Valley in the Gloucester region; with smaller kilns production sites on Claudio-Neronian military sites such as the Fortress at Caerleon which is only 17 miles from the site. Across the river and from sites dated to the 2nd and 3rd century around Caerwent, pottery assemblages of this fabric can account for over 70% of the sherds found (Webster, 1976). What we also know with confidence is that the distribution shrinks and becomes confined to the Severn basin by the 4th century.

Based on the small percentage in the assemblage this would suggest a late occupation of the site. This is also supported by the lack of any Caerleon ware which should have been present if the site was active before the mid-3rd century.

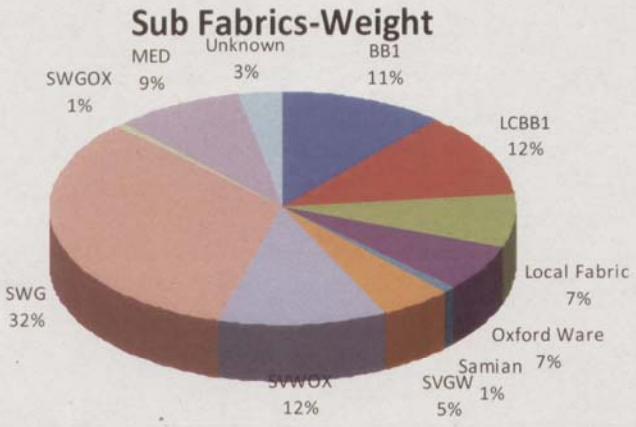

Figure 6: Break down of sub fabrics by weight

Fine wares represented just 7% of the assemblage by count, including both Romano-British wares and a small number of imported wares including Samian (see Fig 1). Three sherds of Samian (12g) were recovered, with Central Gaulish Samian sherds being the only source of production for these pieces. Two of these sherds were small and abraded, with the one exception being a medium sized decorated rim (Curle 11) with leaf decoration (Fig. 7). All the Samian sherds date to the 2nd Century.

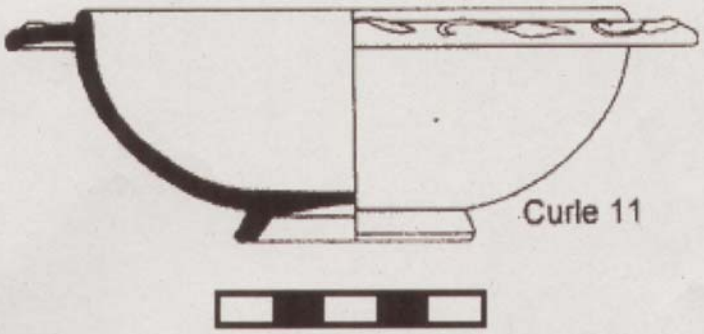

Figure 7. Type Curle 11(Context 4)- P.A.Tyler (Scale 10cm)

Only one fabric type of Romano-British fine ware was identified, which came from the Oxfordshire pottery industry which was producing colour-coated wares. This industry became the most dominate producer of fine wares in southern England in the late Roman period. What drove the development and growth of this industry was the demise of the Samian production areas and a demand for a higher quality of tableware. The range of product was varied including mortaria, flagons, bowls dishes and beakers in both plain and decorated ranges. The industry copied a number of Samian forms (31, 36,37 and 38) but the potters never attempted to copy moulded production methods (De la Bédoyère, 2004, pp 35)

One of the shards is a copy of a DR 31 (C51) bowl (Fig 8). Two of the shards are white ware mortaria one of which has been so heavily burnt that it has refired the fabric. The presence of Oxfordshire mortaria is of interest, The early Romano-British mortaria production industry went into terminal decline at the end of the 2nd Century. However this vacuum in the market was filled by the mortarium potters of the Oxfordshire industry which became dominant in this area of production after 250AD.

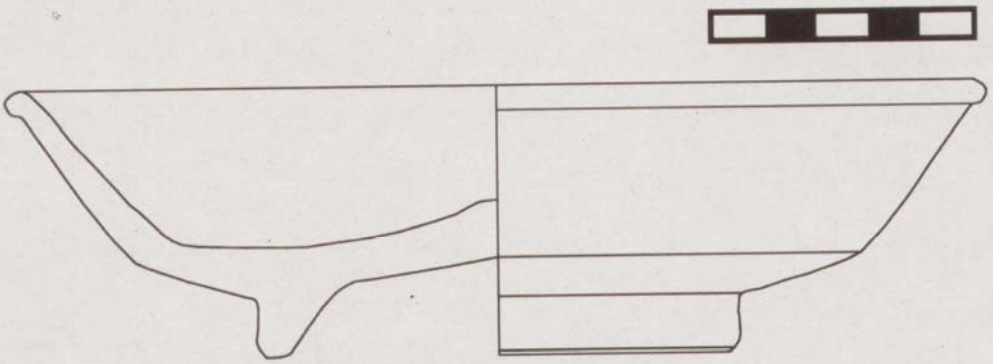

Figure 8: Copy of DR 31 bowl (Context 401)(Walshe) (Scale 5cm)

The range of vessel forms identified was fairly varied, with all the forms identified. Jars were the most frequently occurring totalling 72% (qty) and 63% (weight) of the total assemblage (Fig 9 and 10).

Within this category there were a variety of different types of jars, including inverted rim jars as well as hooked necked jars with rims. Rim diameters ranged from 10cm to 32cm, highlighting different functions from storage to the preparation and serving of foodstuffs.

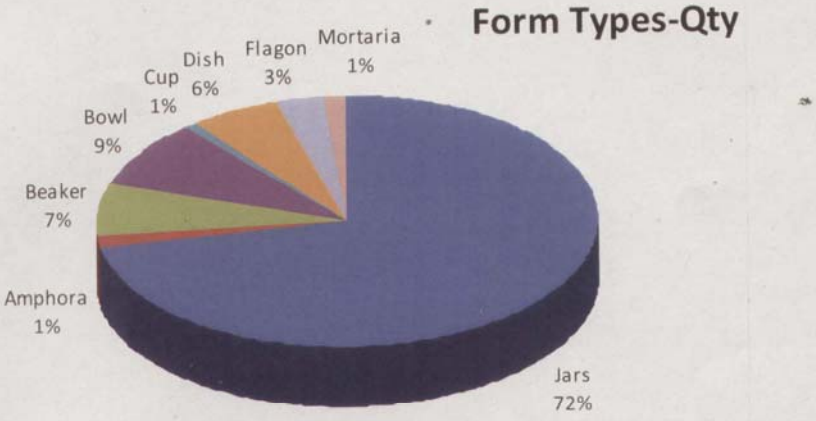

Figure 9: Form type based on quantity for all contexts.

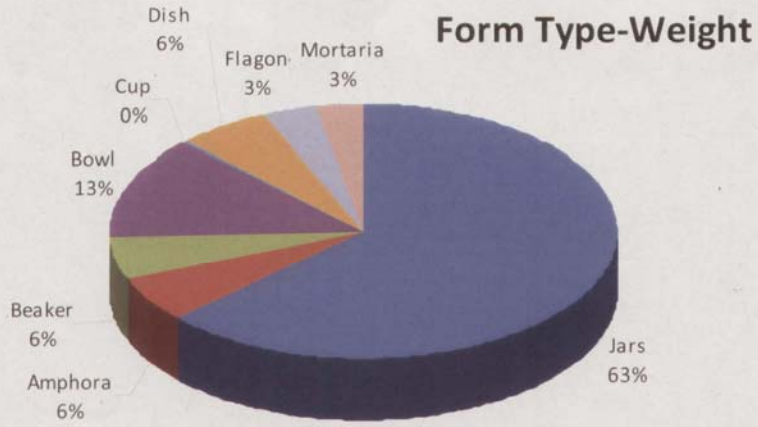

Figure 10: Form type based on weight for all contexts.

Other vessel forms were not as well represented as jars - 7% (qty) 6% (weight) of the forms found were beakers, including an unusual mid-3rd to 4th Century indented neck beaker (context 301). 15% (qty) 21% (weight) were of open form type with bowls been the most popular type (Fig 9 and 10).

Local copies of BB1 are a noted presence in the assemblage and comprise 12% of all fabrics found. While these sherds appear to be classic BB1 they are not handmade like normal BB1 but wheel thrown. Additionally the inclusions in our samples differ from the identified examples of BB1 found on the site. The BB1 samples have good quantities of well-sorted sub-angular quartz. Along with these are small amounts of shale, quartzite, limestone, clay pellets, opaques and heavy minerals (Figs. 11 and 12).

Figure 11: BB1 Local copy inclusions

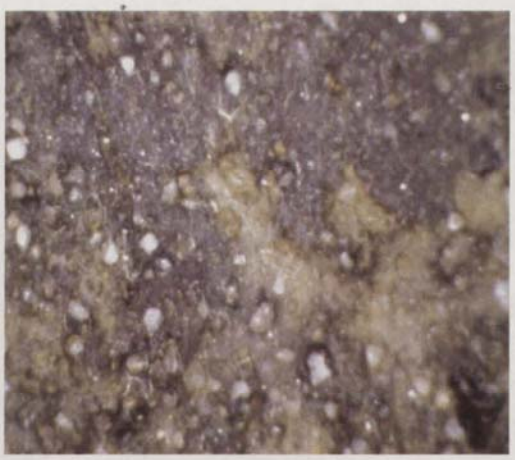

Figure 12: BB1 inclusions

The forms are mainly jars; however we also have examples of beakers, bowls and dishes. I believe from the inclusions that the source of this fabric as well as our sherds of SWG, is the nearby Romano British kilns at Pill Farm Estate NGR ST472877 at Caldicot just 3km away.

Excavation on this site in 1990, found kilns that were producing a variety of fabrics including a type of grey ware along with a black-burnished style cooking pot. The majority of our sherds match the production forms found at the kilns including narrow-mouthed jar; s-shaped bowl and flagons of which a good example was found in context 301, T3. The presence of copies of BB1 could provide evidence that a travelling potter from the Dorset pottery industry was at work at the local kilns.

If we look at other examples of kilns producing BB1-type fabrics outside the primary production area, it was to supply a military customer. An example of this can be seen at Rossington Bridge in South Yorkshire. The products of this kiln have been found on the Antonine Wall which could indicate an attempt to capture a share of military pottery contracts. We also see a similar industry at Muncaster which was also producing BB1 types for military contracts. A kiln at Catterick was also producing BB1 type fabrics possibility for the military facility nearby (De la Bédoyère, 2000).

The inclusions in our local BB1 copies are poorly sorted, with large amounts of smooth gains of quartz. Other inclusions are black and red-brown iron-rich pellets, mica, fine-grained sandstone, quartzite, feldspar and clay pellets which indicates poorly sorted clay (Figs: 11 and 12).

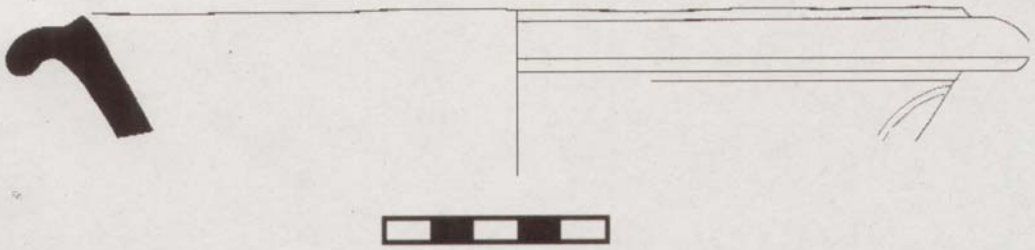

Figure 13: Large bead and flange bowl in local BB1 fabric (Scale 5cm)

One sherd was noted as having lime scale (furring) on the interior, which is an indication that this particular pot was used for holding/boiling water (Context 962, T15). A further three sherds had evidence of sooting on the exterior suggesting that it had been used over a fire.

Eight sherds (5.2% of the assemblage) were noted as being decorated, with combing and latticing being the most commonly occurring types. This decoration is common in the output of the south Wales industry and is mainly seen in the fabric of SWG and local copies of BB1. The most common decoration was obtrusive latticing and combing which helps with the dating. We know that obtrusive latticing became the norm after AD 220 on BB1 vessels so again pointing to a date of mid-3rd century onwards (Brown and Vince 1984, pp. 94-114)

The relatively small number of decorated wares is not unexpected from rural Roman sites, however we would expect a higher number of decorated vessels on a site of this type.

Trench Analysis

All ten trenches contained Romano-British pottery, albeit in varying quantities (Appendix A). Two trenches stand out as containing the largest quantities of pottery. These trenches contained thirty four sherds, weighing 596g, with the majority in a fresh condition. The material from these trenches reflected the dating from the other trench assemblage. The majority of sherds were middle to late 3rd century AD in date, up to the end of the Romano-British period. An interesting piece was a fresh shard of a BB1 fish dish (Fig 14), a type that was not produced before AD 395 (Lybb, Pers. comm.) which pushes the dating of this building securely to the early 5th Century.

Fig 14: BB1 Fish dish (PAS)

It is of note that there is no apparent stratigraphic relationship between the different contexts, with the earlier dating sherds occurring alongside later dating sherds, although this is probably primarily because most excavated contexts were from demolition phases and post-abandonment refashioning of the site.

Discussion

The assemblage of Romano-British pottery recovered from the trenches at Caerwent is of great interest in terms of the quantity and also the nature of the pottery. It suggests a Roman structure with origins in the late Roman period (mid-3rd-early 5th century AD), with a peak in the mid-4th century AD.

The heavy bias of jars compared to other forms would normally strongly point to a site of domestic function. However the architectural pretension of the building, its position and its small amounts of pottery excavated would contradict this view.

The assemblage is somewhat untypical of a Roman rural high class structure and the lack of pottery points us away from a rural villa site. The fabrics and forms identified suggest that most of the pottery was obtained from the local area possibility from an unknown kiln. However, the site did have access to goods from outside of the immediate local area, including a small number of fine wares which can be seen in the presence of wares from the Oxfordshire industry but not from any other source. I would like to note that again they are unrepresented in the assemblage for a site of this type. The presence of two types of amphora fabrics show that the site did have access to imported products but again the lack of imported fine wares of is puzzling for a site of this status.

The sizable presence (23% of fabrics) of both BB1 and a local copy is of interest especially when combined with the lack of Caerleon ware and the pottery dating for the site. BB1 is connected as we have discussed with the Roman military and the fact our site is dating to occupation after 250-270 AD could point to a connection with the closure of Caerleon Fortress. Does the presence of BB1 fabric suggest some military connection with the site?

Another interesting feature of the pottery assemblage is the presence of a number of sherds, which exhibited evidence of intense burning to such an extent, that it changed the fabric type by re-firing. This provides evidence albeit very slight at this time, that the building may have suffered a major fire of unknown cause. These burnt sherds can be dated to a period from AD 250-350, but I would suggest a date between 290 and 320.

Overall due to the small assemblage, which is very unusual for a site of this type, it is difficult to make concrete conclusions as to interpretation of the pottery. However as further excavation is undertaken which will provide additional sherds it will become possible to make a more informed discussion on the nature of the assemblage and its contribution to an interpretation the site.

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De la Bédoyère, G, 2000, 'Pottery in Roman Britain', *Shire Archaeology*, p. 49

Roman pottery - May 2014 -Diarmaid Walshe

A small assemblage of Roman pottery was recovered from the site, totalling 34 sherds, weighing (887g).

All of the pottery was examined, sorted and recorded in accordance with the guidelines laid out by the Study Group for Roman Pottery (Darling 1994).

The assemblage was examined under hand held glass of 8X and 30X magnifications with built in scales. Digital pictures of both the fabric and inclusions were taken using a VSM-004 digital microscope, with 400 X magnification and inbuilt LED lighting.

Sherds were sorted within context by fabric, with un-sourced wares of the same type, e.g. grey wares grouped together. Details of form, decoration, use, wear and date were recorded along with any other information deemed important including weight and quantity. Due to the small amount of sherds it was not possible to do estimated vessel equivalent.

Assemblage Composition

The assemblage **(Fig. 1)** is composed primarily of small abraded sherds, with a mean weight of 11g, although the nature of recovery as per previous excavations (small focused trenches as opposed to excavated features or surface striping) is likely to have influenced this and the quantity found. However, as the previous year's report noted, I would have expected substantially more sherds than has so far been uncovered which would point to a non-domestic site.

27 of the sherds were noted as being abraded/heavily abraded, suggesting that they had not been deposited straight after breakage, or else may have been re-deposited or residual from earlier features or occupation.

I also noted that no complete or semi complete vessels are present and that, apart from two conjoining sherds, none of the fragments relate to each other. The assemblage broadly dates from the mid 3rd century AD to the mid 4th century AD, with an apparent peak in the late 3rd to mid-4th Century AD which matches the assemblage from the previous excavations. Early fifth-century forms are present.

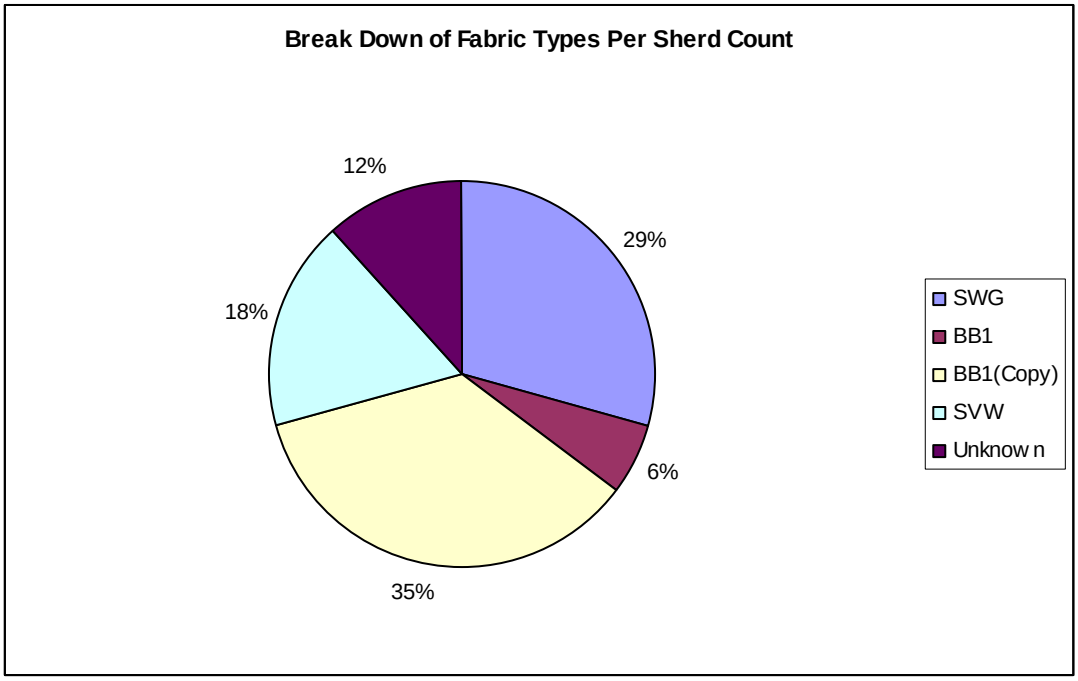

Figure 1: Break-down of fabric types per count

As was noted in the previous report local copies of BB1 are found in the assemblage comprised 35% of the sherds found. The sherds appear to be classic BB1 in terms of form and decoration; however they are not handmade like normal BB1 but wheel thrown. Additionally the inclusions in our samples differ from the identified examples of BB1 found on the site and match previous samples taken form other seards included in last year's report.

The BB1 samples have good quantities of well-sorted sub angular quartz. Along with while the remaining inclusions are small amounts of shale, quartzite, limestone, clay pellets, opaques and heavy minerals (Fig. 2)

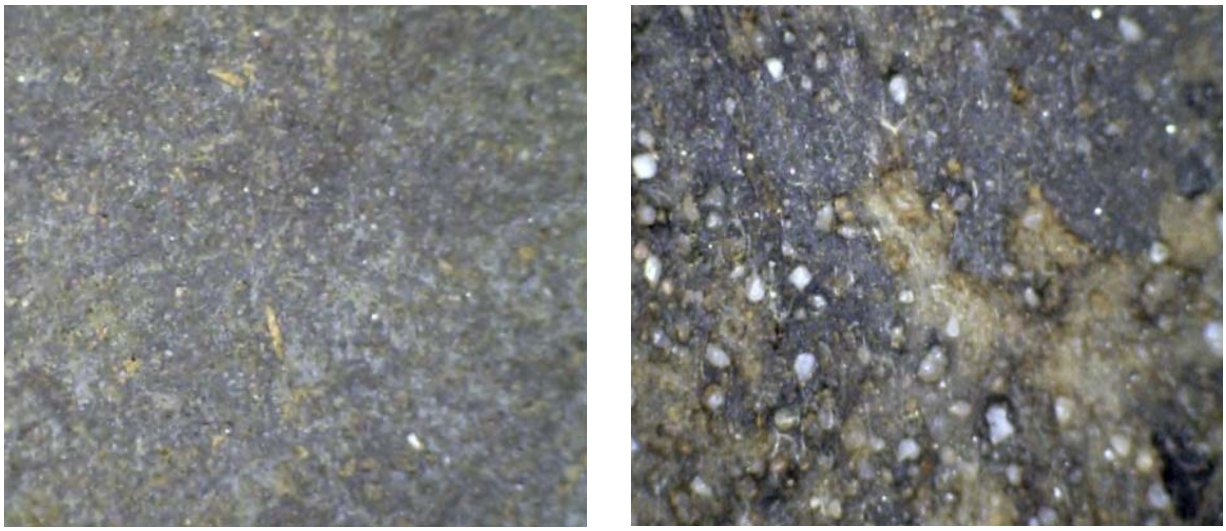

Figure 2: Local copy inclusions (left) BB1 inclusions (right)

Small Finds Analysis - March 2012

For initial analysis of coins on the site we use Reece periods, named after the pre-eminent Romano-British numismatist, Richard Reece. He divided the Roman period in 21 periods (Sam Moorhead has added two more) for the purpose of comparing different sites. However for the purpose of the site study we will only use the 21 division up to Theodosian II.

All coins were found either by excavation or metal detecting and were recorded on a small finds record sheet and entered into the small finds register. A handheld GPS was used to fix the finds sports within the trenches or spoil to provide a 8 fig grid reference

All finds were washed, in fresh water, dried and conserved on site.

Each coin was photographed to publication level using a 14 mpix digital camera.

A total of 20 roman coins were recovered from the site with the majority centred on the mid-4th century (Fig. 1). In fact apart from a late 1st century issue the dating spread of the coins go from the late 3rd to the mid-4th century, which also matches the chronology of the small amounts of pottery found on site.

Due to the small assemblage of Roman era coins found so far on the site it inappropriate to use

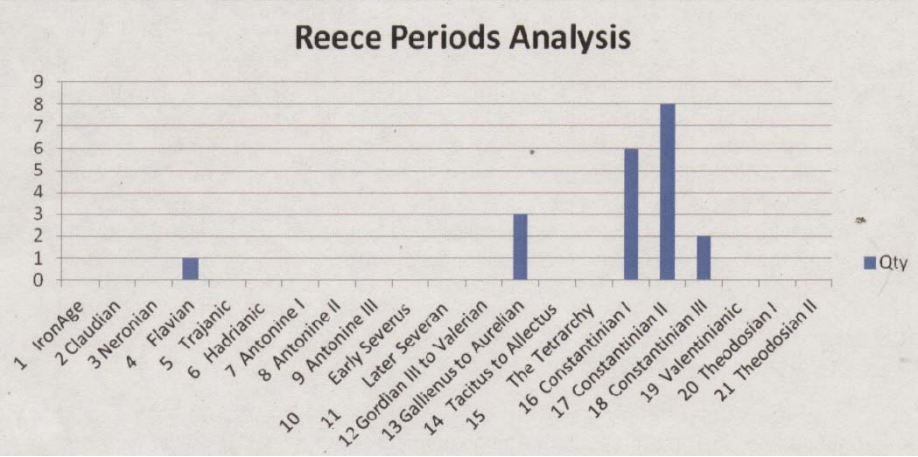

Figure 75: The dating spread of coins found on site

them as a way of providing firm dating evidence for the site, However it does suggest that the site was mainly in use from the late 3rd Century to the mid-4th century. It however must be born in mind that as we were re-excavating late 19th century trenches that the larger and more easily identified 1st and 2nd century coins could have been removed from the site by these antiquarians.

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