

CAMBRIDGE INDEPENDENT ARCHAEOLOGY CIA4 (NWBV10)

Report on a limited evaluation excavation of Roman building at Nine Wells, Whittlesford

Rodney Scarle

(with contributions from Archaeology RheeSearch Group, Peter Cornelissen, William Hughes, Stephen Reed and Robert Skeen)

Summary

Another limited excavation was undertaken in 2010 of the site centred on TL 452 475, which has now been extensively surveyed by the Archaeology RheeSearch Group. The area includes the assumed location of tumuli known as the Chronicle Hills that were levelled in the early 19th century and lies north of a scheduled site in the adjacent field. The focus of attention was a rectangular feature lying amidst an area of much geophysical disturbance that is just to the south of the U-shaped feature excavated in 2009, which has been interpreted as a Roman temple. Its foundations comprised flint pebbles.

Initial indications were that this area of disturbance marked the site of a substantial Roman building, with the rectangular feature being a possible bathhouse. For example, a concentration of tile has been found by field walking.

Trenches were placed over and around the rectangular area. All the trenches yielded building demolition material comprising brick, roof and hypocaust tile, mortar/plaster, opus signinum and tesserae. The edge of a tessellated floor was uncovered at the considerable depth of just over a metre. From the small areas excavated, a considerable quantity of material was recovered. For example, the total weight of roof tile amounted to 69 kilograms.

The result of some limited metal detecting on nearby higher ground is reported.

Background

In 2002, the Archaeology RheeSearch Group commenced surveying the field that lies east of the Hoffer Brook and near its source, the springs called Nine Wells in the parish of Whittlesford. One of the aims was to locate the remains of tumuli known as the Chronicle Hills (see references 1 and 2). In 2009, the excavation team explored a U-shaped feature, revealing the foundations of a building believed to be a Roman temple or mortuary enclosure. A report (see reference 3) was written and a copy deposited with the Heritage and Environment Record (HER) at Shire Hall. In 2010, further surveys were made, revealing an even more extensive area of features including a possible villa complex, trackways and, tentatively, what may be the location of the tumuli. However, the excavation in 2010 was to explore the feature to the south of the temple site, centred on the rectangular area of high resistance (see figure 1). Surface finds of roof and hypocaust tile suggested that a substantial Roman building had stood at this location. Supporting evidence was provided by a vertical “slice” resistivity plot across the rectangular area (see figure 2). A steep-sided feature with a high resistance fill is clearly seen.

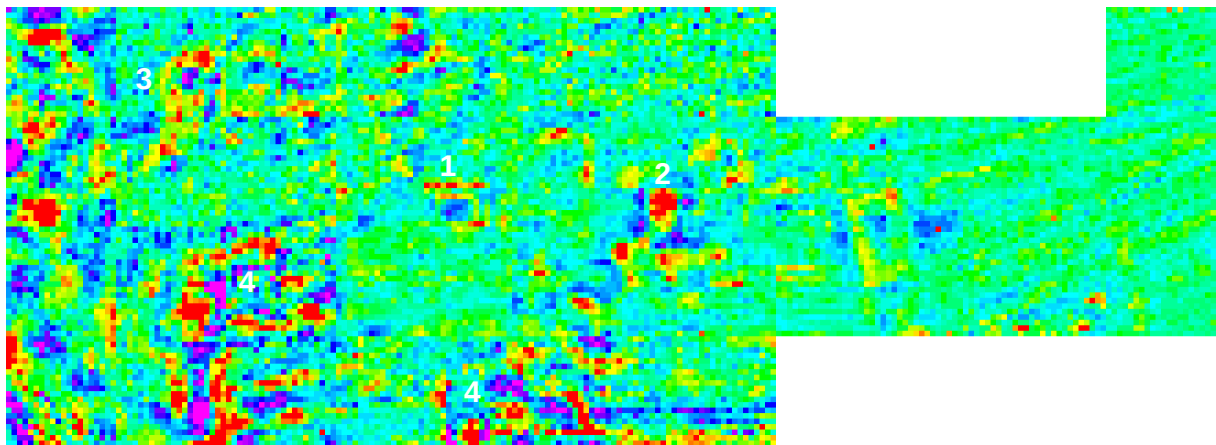


Figure 1 Resistivity survey (1 = temple site excavated in 2009; 2 = site excavated in 2010; 3 = possible site of the tumuli; 4 = further areas of disturbance revealed in 2010. Survey area = 225 by 82 metres. North is to the left, at an inclination of ca. 30 degrees)

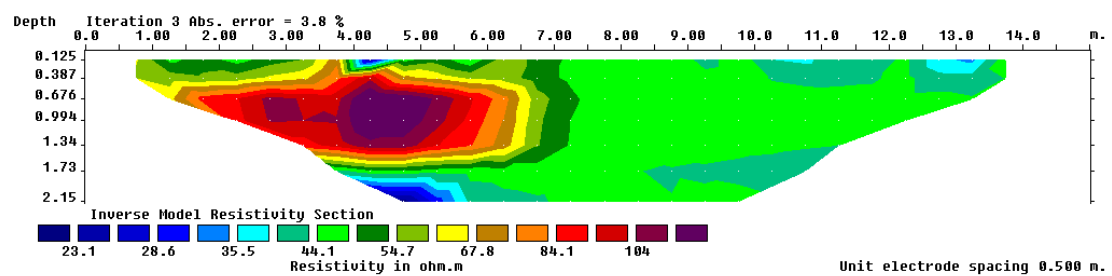


Figure 2 A vertical "slice" resistivity plot across the rectangular area showing as high resistance

The Excavation

The strategy was to dig one by one metre square trenches over the area of disturbance seen on the resistivity survey, focussing on the high resistance rectangular feature. The trenches might then be extended as necessary, within the time and resource limitations of the small team. The site was given the code NWBV10.

The same datum points that had been established by the survey group were used to lay out base lines, i.e. the x- and y-axes of a grid. Figure 3 shows this grid and the trenches that were dug, superimposed on the resistivity survey. The trenches could then be designated as per the following example.

Trench A 10-11:- a 1 by 1 metre trench in the “A” column and from 10 to 11 metres along the y-axis.

GPS readings for the trenches were taken and their grid references are given in table 1.

An initial mistake was made interpreting the scale of the survey (1 metre survey squares were incorrectly taken as 0.5 metre squares). As a result, the first trenches dug (phase 1 trenches) were further away from the high resistance target than planned. This was rectified by digging the phase 2 trenches.

Trenches and spoil heaps were checked with a metal detector. Finds were bagged, washed and sorted (see tables 2 – 7).

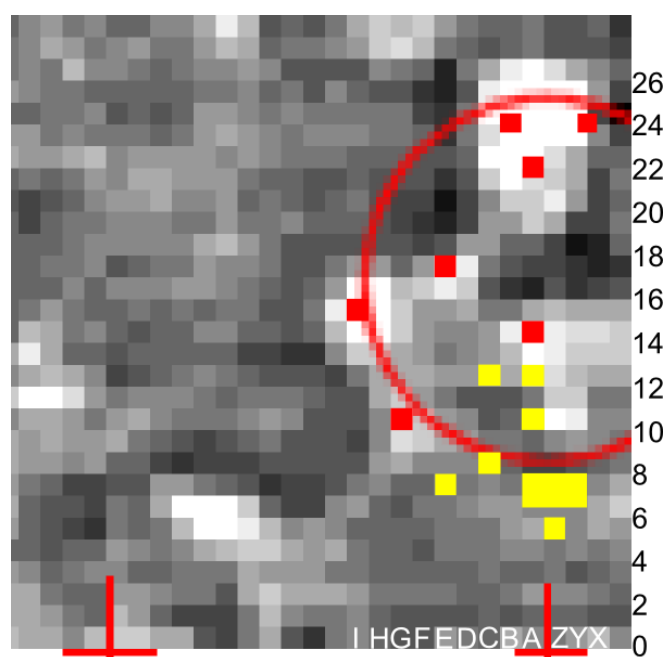


Figure 3 Trench plan (yellow = 1st phase, red = 2nd phase)

The test pit grid

	I	H	G	F	E	D	C	B	A	Datum line B		Z	Y	X	
24								B235 345					YX234 245		24
23															23
22									A215 225						22
21															21
20															20
19															19
18															18
17					E1718										17
16															16
15	I1516														15
14									A1415						14
13															13
12							C1213		A1213						12
11															11
10									A1011						10
9															9
8								C89							8
7					E78										7
6															6
5												Z56			5
4															4
3															3
2															2
1															1
0															0
	I	H	G	F	E	D	C	B	A	Datum line B		Z	Y	X	

Trench A 10-11

This trench was planned to be placed on the edge of the high reading area of the geophysical survey at A 20-11, but due to the mistake that was made interpreting the scale of the survey, where the 1 metre survey squares were incorrectly taken as 0.5 metre squares, it actually covered a low reading area. It was however adjacent to a high reading area at Z 10-11.

The trench was excavated to natural chalk at a depth of 1.11 metres.

Plough earth had depth of 0.30 to 0.32 metres, then below, down to the natural, was a high density of demolition building materials:- mortar, opus signinum, roof tile, flue tile, brick, 24 tesserae and 15 pieces of painted plaster, with just 2 pieces of pottery. Significantly, one of these pieces was identified as a square gaming counter. Note should be made that two other gaming counters were found in the nearby trench C 12-13. See discussion section for the significance of these gaming counters. Other finds included fragments of stone tile, charcoal, bone and nail.

Trench A12-13

This trench was excavated down to a general depth of 0.6 metres, with a sondage (0.25 x 0.25 metres) dug in the western corner, in which natural chalk (a Roman floor level?) was encountered at a depth of 1.13 metres. See figure 4.

Below the plough soil of depth 0.30 to 0.34 metres was a *demolition* layer extending down to 0.6 metres. This comprised soil lightened in colour by the admixture of degraded mortar and opus signinum, and with incorporation of tile, brick and tesserae. Some burnt patches in the northern segment of the trench were seen at depth 0.45 to 0.50 metres. From 0.6 metres down to natural, there was another demolition layer, but of a darker colour.

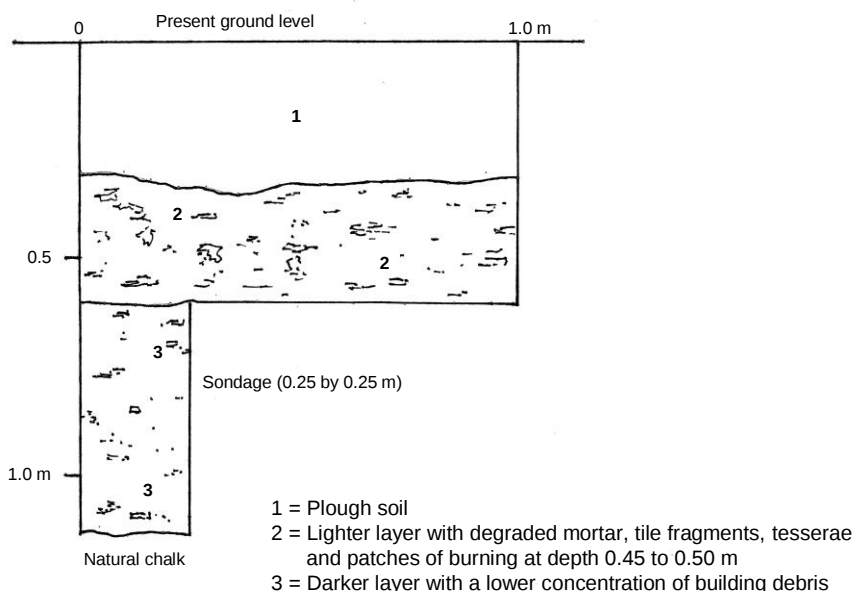


Figure 4 Section of trench A 12-13 (1.0 by 1.0 metres) viewed from SE, looking NW

Trench A 14-15

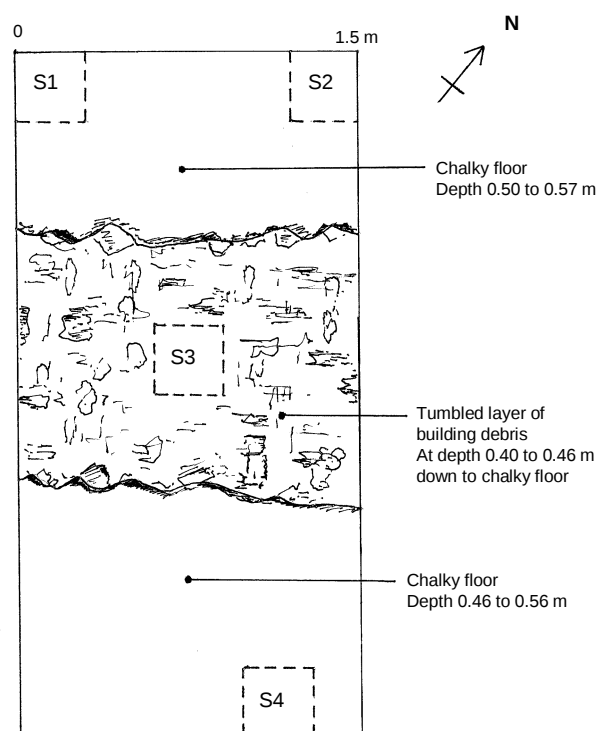
This was only excavated down to 0.35 metres, which was just below the plough soil.

Trench A 21.5-22.5

This was only excavated through the plough soil at depth of 0.3 metres.

Trench AZY 6.5-8.0

This became the largest of the trenches excavated following the extension and amalgamation of adjacent 1.0 x 1.0 metre trenches (A 6.5-7.5 and Y 6.5-7.5). Within the footprint, four sondages were dug to establish the natural chalk below the demolition layers. See the trench plan, figure 5.



Depths of sondages:- S1 = 0.76, S2 = 0.64, S3 = 0.55, S4 = 0.77 metres

Figure 5 Plan of trench AZY 6.5-8 (3.0 by 1.5 metres)

Below the dark plough soil of depth 0.25 to 0.30 metres, lighter coloured brown and orange-brown demolition layers were again encountered down to a natural chalk (floor?) level at 0.46 to 0.58 metres depth. However, the fill from the south western sector of the trench appeared darker, which was attributed to a greater organic content. The fill in the eastern part of the trench was noticeably more compact.

The concentration of the building debris varied across the trench, as shown in the plan and trench sections, figures 6 and 7. Notably, a densely packed tumble of roof and flue tile and brick fragments stretched in a layer across the central section of the trench from a depth of 0.40 to 0.45 metres down to the natural chalk. Degraded opus signinum and mortar, with plastered mortar fragments, in considerable quantities, were incorporated into these demolition layers. Plastered mortar was found at 0.42 to 0.58 metres depth, with a large section of red plaster in the south eastern corner and with smaller pieces in the north eastern corner, mainly white. Of note was the residue of a mortar overcoat on some of the plastered surfaces, suggesting that the walls had been refurbished at some stage. A small number (12) of tesserae were recovered. Some of the flue tile shows evidence of smoke/burning. Some flecks of charcoal were found at 0.30 to 0.42 metres depth in the southern part of the trench.

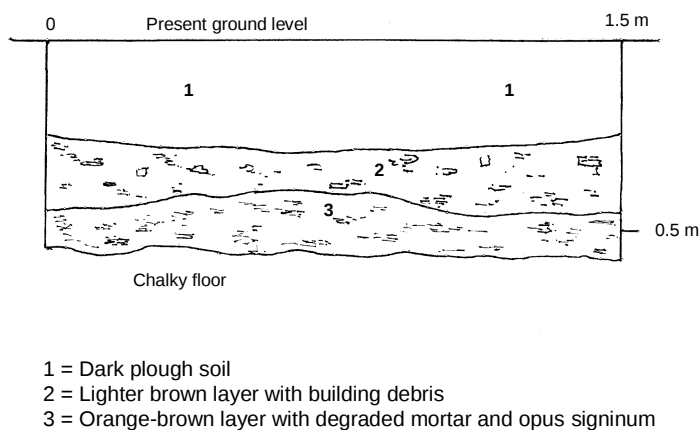


Figure 6 Section of trench AZY 6.5-8 viewed from NW, looking SE; 1.5 metres wide

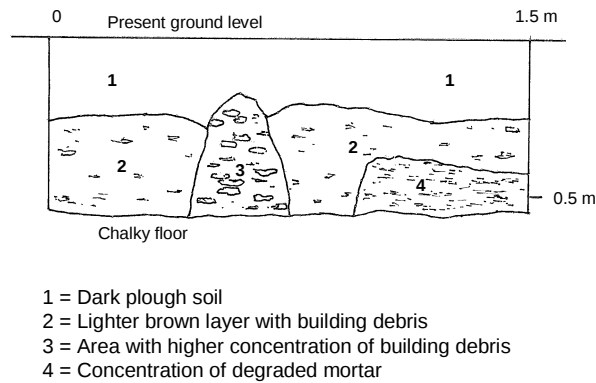


Figure 7 Section of trench AZY 6.5-8 viewed from SE, looking NW

Trench B 23.5-24.5

From below the plough layer this trench exhibited evidence of a slip or infill of a deeper cut or hollow. Defined layers are evident in the profile (see figure 8). Generally, the fill comprised a loose mix down to 1.10 metres depth where a possible surface was identified, but it was very friable. However, the most interesting feature was the gulley or cut into the (probably) natural chalk, 0.15 metres from the northern edge of the trench, from 1.10 metres depth down to 1.50 metres (see figure 9). Finds included 52 large red tesserae with a mix of tile and opus signinum, concentrated at 0.90 to 1.10 metres depth. Some tesserae were found in small groups of 3 or 4.

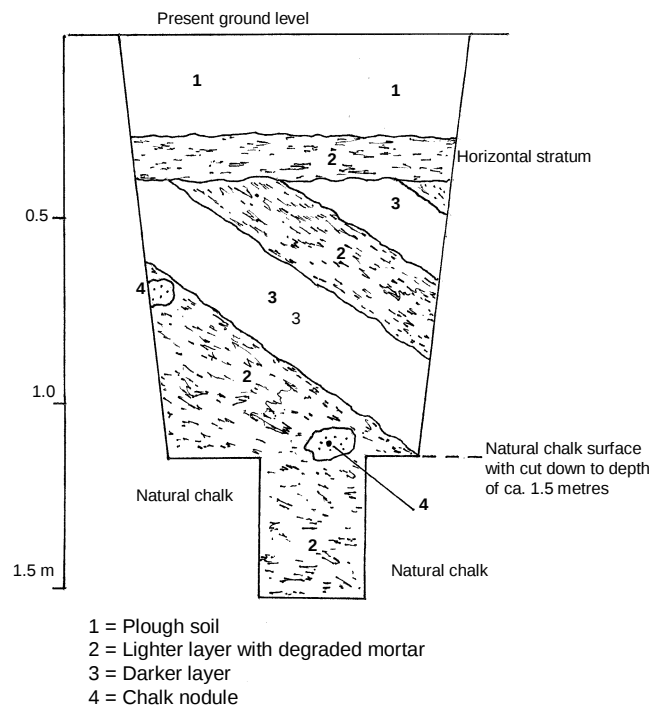


Figure 8 Section of trench B 23.5-24.5 viewed from NE, looking SW

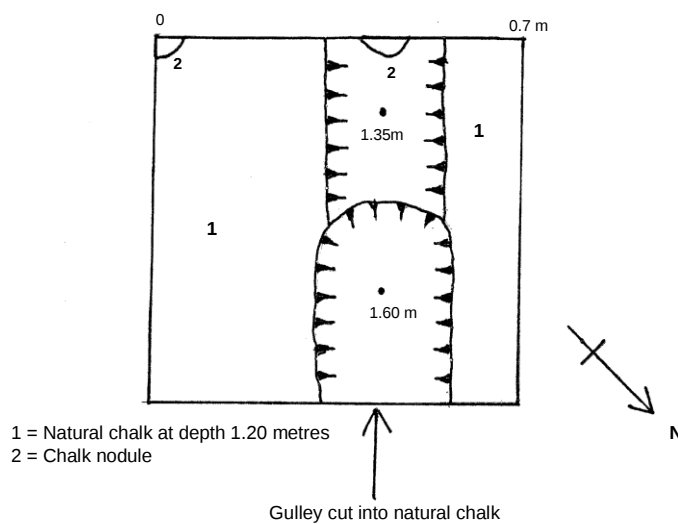


Figure 9 Plan of trench B 23.5-24.5 (trench narrows from 1.0 m square to 0.7 m square at bottom)

Trench C 8-9

This trench was not fully dug down to natural, but again was found to contain building debris below plough soil (see figure 10).

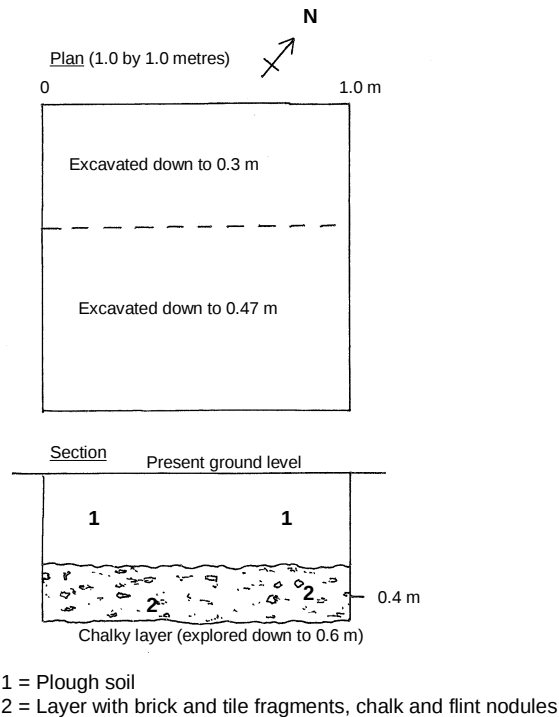


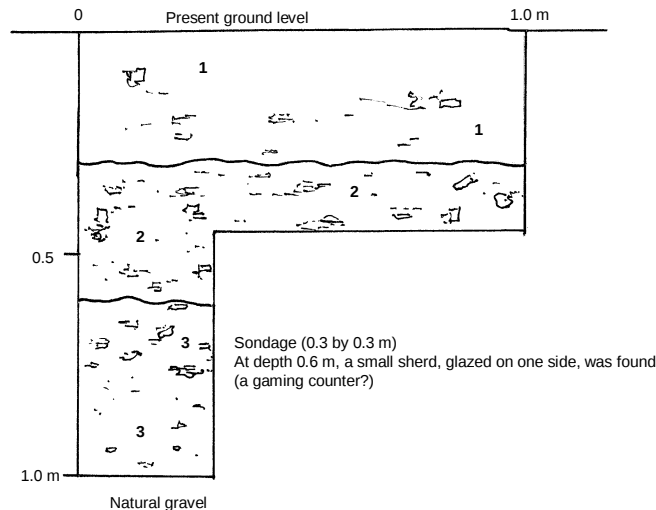
Figure 10 Plan and section of trench C 8-9

Trench C12-13

This trench was excavated in a similar manner to that of the adjacent trench A12-13, with again a sondage placed in the western corner (see figure 11).

The demolition layers below the plough soil were also of similar composition and appearance to those in trench A12-13. However, the concentration of building debris was lower and no burnt patches were seen.

Two sherds of pottery were found, which may have been fashioned for use as gaming counters. Intriguingly, one piece, found at a depth of 0.6 metres, comprises a dark fabric with a thin, dark green glaze on one side. An “X” had been scored into the glazed face, with an “A” scored into the unglazed face. A sherd of buff coloured mortarium was also recovered.



- 1 = Dark plough soil with some building debris
- 2 = Lighter brown layer with building debris
- 3 = Darker brown layer; building debris reducing with increasing depth

Figure 11 Section of trench C 12-13 (1.0 by 1.0 metres) viewed from SE, looking NW

Trench E 7-8

This was one of the first series of trenches. The excavation followed the standard approach of a one metre square test pit. Soon after digging through the plough layer (which extended to 0.30 metres depth) a number of large broken roof and box flue tiles were found in the northern corner. The pit was taken down to a depth of 0.40 metres, at which point the tiles appeared to have been deliberately stacked together and began to look like a potential pillar, possibly supporting a hypocaust (see figure 12).

The test pit was therefore extended to create a further one metre square extension overlapping (by 0.5 metres) into the northern corner. The extended pit was excavated to a depth of 0.52 metres, at which point it became evident that the main cluster of tiles was loose and not mortared together. Further tiles lay at the northerly edge of the extended trench. At 0.52 metres depth the soil had a chalky clay appearance and seemed to be the natural ground surface.

The only other find of significance was a well preserved metal pin or nail. This was found just below the plough layer in the trench extension.

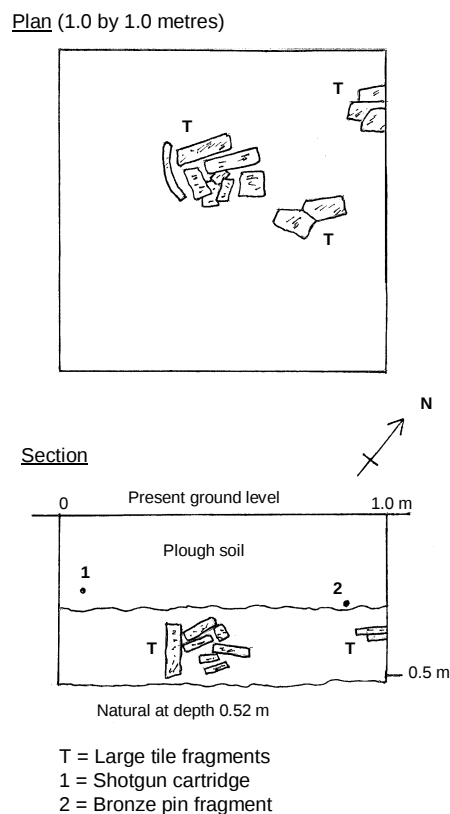


Figure 12 Plan and section of trench E 7-8

Trench E 17-18

This 1.0 by 1.0 metre trench was excavated to a general level of 0.3 metres, with a 0.5 by 1.0 metre sondage to depth of 0.7 metres along the eastern side, and a further 0.5 by 0.5 metres sondage to 1 metre depth in the north-eastern corner. The excavated material contained undifferentiated demolition debris (tile, stone, degraded mortar, opus signinum and plaster). At the bottom of the latter sondage a tessellated area with mostly small white tesserae was found (see figure 13). This was left in situ. Loose tesserae were found in the adjacent area.

The mosaic floor found at 1 metre depth consists mainly of white tesserae, with a small section of red border. It appears to extend beyond the edge of the excavation. The mortar presumably originally present has almost completely decayed. Adjacent to the well-preserved area there is a high concentration of similar disordered tesserae. The tesserae are 10-15 mm square and are composed of hard chalk, with an applied cap (see figure 14).

Stone occurs amongst the demolition debris in the form of broken roof tiles and other fragmentary building material. These consist of grey sandstone with wavy cleavage. Microscopic thin-section examination reveals quartz grains of fairly uniform 0.1-0.2 mm dimensions, with calcite cement shown by a chemical stain test to be of a ferroan (iron-containing) type.



Figure 13 Tessellated floor found at a depth of 1 metre at the bottom of trench E 17-18



Figure 14 Examples of the loose tesserae from trench E 17-18 (note the “capped” tesserae)

Trench I 15-16

The plough soil included 17 large red tesserae. The general consistency of the fill below the plough layer was relatively loose and below 0.60 metres depth opus signinum and plaster were incorporated, but there were no distinguishable contexts. Finds were sporadic throughout the trench and at varying depths, with a large sherd of Hadham ware mortarium in the south western corner. It would appear that this trench was on the edge of the main demolition area and it can therefore be assumed that this marks the northern edge of the building. A sondage in one corner eventually reached 1.30 metres in depth without reaching natural.

Trench YX 23.5-24.5

This trench was placed at the edge of the high reading area astride the 24 metre line along which a resistivity section survey was made (see figure 2).

After the usual plough earth with a depth of approximately 0.3 metres there were successive demolition layers of building material, first a horizontal layer about 0.20 metres thick, then layers laid at a downwards angle of approximately 25 to 30 degrees from the surface down to a flat layer of mortar at a depth of 1.04 to 1.09 metres across the trench. These contained many kilograms of mortar, opus signinum, roof tile, flue tile, brick, plus 69 tesserae, 13 pieces of painted plaster and 8 pieces of pottery (see figure 15). The mortar layer at the bottom was only approximately 1 cm thick and underneath was natural chalk at 1.05 to 1.10 metres. It is presumed that this was a floor level, possibly the base for a mosaic floor or hypocaust floor. (However, see discussion paragraph for a fuller review including the significance of the sloping demolition layers and flat mortar floor). There was one small piece of black pottery embedded in the “floor” surface at a depth of 1.04 metres. Other finds included 15 oyster shells, 2 nails, 1 bone, charcoal, and a much corroded radiate coin of the 3rd century whose issue was not discernable. Although this coin was found on the spoil heap it was known that it was within 5-10 cm from the bottom of the trench.



*Figure 15 Sloping layers of debris between a chalk floor and the bottom of trench YX
23.5-24.5*

Trench Z 5-6

This was the most westerly of the trenches dug. Below the plough soil of depth 0.28 metres, the brown layer containing building debris was again encountered. At a depth of 0.4 metres, this layer became very dark. A sondage was dug into the dark layer down to 0.65 metres, where natural chalk was encountered (see figure 16). This dark layer comprised organic matter that had accumulated in wet conditions and contained some charcoal and chalk.

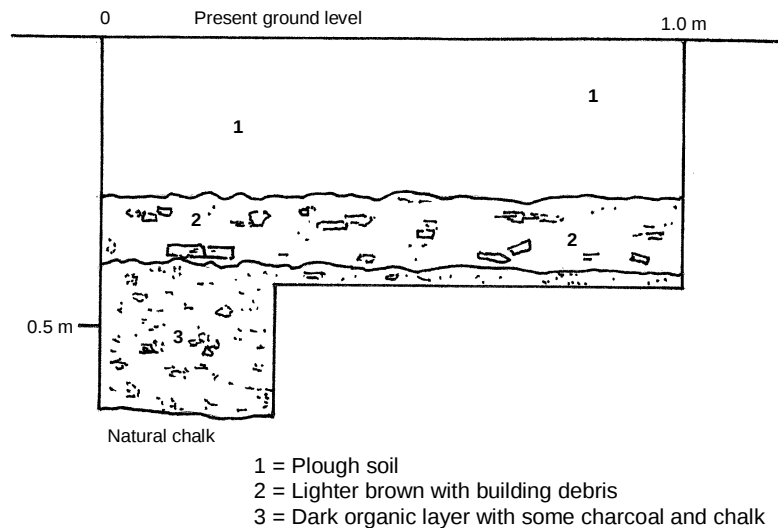


Figure 16 Section of trench Z 5-6 (1.0 by 1.0 metres) viewed from SW

Finds by Metal Detectorists

A team of metal detectorists, independent of the excavation team, obtained permission to search in the same field. Their finds were handed over for evaluation and subsequent recording by the local Finds Liaison Officer. Although precise locations are not known, the items were found on the higher part of the field to the east and north of the excavation, where the survey found indications of trackways.

Finds Summary (see figures 17 and 18 for images of some of the items)

- Coins, tokens and jettons (27) including a corroded tribal bronze coin of the Catuvellauni (Spink S.272), bronze and silver Roman coins of the 3rd and 4th centuries, medieval silver hammered coins, a silver sixpence of Elizabeth I and a 17th century trade token
- Bronze items – a Roman brooch, a Saxon pin, foot of a pot, handles, buckle, hinged tab, crotal bell, ring(?) and miscellaneous pieces of thin sheet
- Buttons (16)
- Thimble
- Iron hook with ring
- Lead – lead weight, lead shot (45 grams), miscellaneous pieces (334 grams)



Figure 17 Detector finds – Catuvellaunian bronze coin of Rues (left) and 4th century Roman coins, House of Constantine (right)



18 Detector find – Saxon pin

Figure

Discussion

The excavation confirmed that a substantial building of high status stood on the site. It had been comprehensively demolished at some time (or times) and the ground levelled. The building must have been one of several at this strategic Roman site near a track of the Icknield Way where it both fords the Hoffer Brook and meets another track running north-south. This can be deduced from the known history of the site (the levelling of the tumuli and sepulchres in the 19th century) and the geophysical surveys. Indeed, the resistivity surveys undertaken in 2010 suggest that there may be an even more extensive complex of buildings in the field. The trackways must have been in use over a very long time, into the medieval period and beyond, judging by the finds from the detectorists.

One theory proposed by Mark Hinman, who gave professional advice during the excavation, was that the building had been demolished sometime in the third century as the climate became wetter. The settlement was then moved to the higher ground in the field to the south, which has been scheduled as a villa site based on aerial photography.

Although the small areas afforded by the trenches provided no clues as to the layout of the building, the evidence does suggest that it may have been a bathhouse. This evidence can be summarised as:-

- The quantity and type of building debris, particularly the hypocaust tile, the tesserae, the plaster and opus signinum. Opus signinum forms a water-resistant layer and some of the plaster and tesserae were found bonded to this material. Fragments of blue painted plaster suggest a watery context (see figure 19). However, no evidence of the hypocaust itself was found.
- The sloping tip lines of the building debris seen in trenches placed over the high resistance rectangular feature could be the result of the filling up of the bath during levelling operations.
- The depth of the natural chalk below current ground level varied. For trenches placed over lower resistance areas, the depth was approximately 0.6 metres. For trenches placed over high resistance areas, the depth was below 1 metre, suggesting that this may have been the level of the bath floor. The portion of tessellated floor uncovered was at this lower level.
- The amount of pottery recovered was low, suggesting an essentially non-domestic function. Two small sherds may have been used as gaming counters, which might tenuously be taken as evidence of leisure activity around the bath (refer to the discussion below).



Figure 19 Examples of painted wall plaster fragments (plaster was applied to mortar or opus signinum)

Some plaster fragments showed signs of being over coated with mortar. This might be interpreted as some repair or refurbishment or, perhaps, a change of use of the building, to some lower status function.

So far, the site has yielded limited dating evidence. A surface find of an East Gaulish Samian pot sherd near the high resistance rectangular area provides a date of AD 160 – 200. A single coin found in trench YX 23.5-24.5 provides a date of about AD 270. Therefore, the building may have been in use until the late third century.

Layers of building debris were encountered in all the trenches, whether over high or low resistance areas. Over 120 kilograms in total were recovered. Although the concentrations and constitution of the debris varied, little more can be deduced other than the demolition had been thorough, without any signs of the building having burnt down.

'Gaming counters' from Trench C 12-13

As reported in the excavation section of the report, two pottery sherds, which had been fashioned for use as gaming counters, were found in trench C12-13. Both are around 2mm by 2mm. One is buff ware and is definitely a Roman fabric. The other is green glazed and marked with a scratched 'X' on the glazed side and an 'A' scored into the unglazed face. It is impressed or scored with a line pattern. The fabric is grey and appears slightly oxidised near the surfaces (see figure 20).

The glazed piece was initially identified by the pottery specialist at Oxford Archaeology East as possibly medieval, 13th to 15th century. However, it would be unusual to find two gaming counters in the same context originating from widely different periods. Other options have

been reviewed. Glazed Roman period ware is not common but there are several possibilities (see references 4 and 5). These include, for example:

- Lyon ware (AD 43-70). This usually has a lustrous dark greenish-brown colour coating and can have decoration formed from plastic clay.
- Central Gaulish glazed ware (also AD 43-70) has a shiny, consistent glaze from yellow to brown but usually green. Decoration is varied but can include lines. It is finer than Romano-British glazed ware.
- Romano-British glazed ware. The South East group is the most widely distributed of all Romano-British wares and extends from the Thames Valley to cover Cambridgeshire. The fabric is generally a medium grey, sometimes partly oxidised red-brown, fairly hard with some quartz and mica. One example was found in Cambridge (a cremation burial with Samian which indicated a date probably around the middle of the second century). It is described as soft medium grey fabric, with medium olive-green glaze.

While the piece in question is too small to easily identify, it seems to have a glaze consistent with these Roman period examples, particularly the Romano-British glazed ware whose fabric also appears to offer a close match.



Figure 20 Glazed ware “gaming counter”

There is considerable scope for further excavation of the site. In particular, the edge of the tessellated floor, aligned east-west, needs chasing and its relationship to any nearby wall foundations needs establishing. Further evidence for the function (bathhouse?) of the building needs to be sought.

References

1. Cambridge Chronicle, November 13, 1818
2. Taylor, C and Arbon, A in P.C.A.S. XCVI, 21-40

3. Hughes, W and Scarle, R, "Report on a limited excavation of a Roman temple at Nine Wells, Whittlesford" (copy submitted to the H.E.R. at Shire Hall)
4. Green, Kevin, "Imported fine wares in Britain to AD 50", BAR 57, 15-30
5. Arthur, Paul, "The lead glazed wares of Roman Britain", BAR 57, 293-356

Acknowledgements

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To the Archaeology RheeSearch Group for the high quality surveys and their general encouragement.

To Mark Hinman for his professional advice.

To Steve Wadeson of Oxford Archaeology East for his help in pottery identification.

Table 2 Trench finds

Table 3 Trench finds (continued)

[illegible]

Table 5 Trench finds (continued)

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Table 6 Trench finds (continued)

