

MILL END ROMAN VILLA, HAMBLEDEN: GEOPHYSICAL SURVEY AND ASSESSMENT

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A geophysical survey was carried out in Thames Field, Mill End, Hambleden. This field is the location of a possible Roman villa, the outline of which was previously seen as parchmarks. Both magnetometry and resistivity methods were used, which confirmed the size and shape of the structure as well as the nature of surrounding archaeological features. The structure is undoubtedly a villa with an enclosure ditch. There were no associated buildings or pits shown by the geophysics, which might have functioned as workshops, grain stores or middens, although pits (possibly pre-Roman) can be seen nearby in aerial photographs.

INTRODUCTION

Thames Field, Mill End is located next to the River Thames, just south of the village of Hambleden and off the A4155 Henley to Marlow Road (Fig. 1). The parchmarks in the grass field had been noted in drought years from 1921 onwards and the outlines shown in 1975 were later drawn and interpreted by Mike Farley (1983). The parchmarks occur in the northern end of Thames Field at NGR SU 7865 8483, located about 60 metres from the river bank. This area can be clearly seen as a raised bank in the modern field. The site was scheduled in 1979 (revised in 1996) as National Monument No. 27152.

The parch marks show an outline which is very similar in size and shape to a Roman villa, as interpreted by both English Heritage and Mike Farley. The inference is that the wall foundations are still in place, creating less water retention over the rubble or stone, leading to the regular reappearance of marks in drought years. The parchmarks were photographed on several occasions during the years 1945 to 1990 (Fig. 2).

RESISTANCE SURVEY

Methods

The survey conformed to English Heritage guidelines (EH 2008) under Section 42 Licence No. SL00000295. The equipment used was a TR Systems resistance meter. The equipment was set to the following parameters:

20 m x 20 m grids

Pitch 1.0 m

Filter 1.5 s (semi-rural)

Logging mode: automatic

Grids were laid out for a N-S survey method in anticipation that the magnetometer would be required at a later date. The work was undertaken by Chiltern Archaeology volunteers as part of the *Romans in the Hambleden Valley* project. Grids were merged within the TR System software package and images were processed with the minimum of enhancement (Fig. 3). The work formed part of a much larger survey which included fields north of Mill End and included Yewden villa, with which it was undoubtedly linked during at least some part of the Roman period.

In addition to the normal resistance surveying, the enclosing ditch was selected for a further survey to produce a vertical profile and hence determine the shape and depth of this feature. The method involved a 20m traverse across the ditch using the TR resistance meter and 20 probes (marked on Fig. 3). The resulting data was downloaded and processed in the 'Res2Dinv' program, supplied for the TR meter and a vertical profile obtained. The array of 20 probes provided images to a depth of 3.5m.

Resistance Results

The weather conditions were highly variable during the survey, ranging from drought to torrential rain, which made calibration of grids difficult. This has resulted in some mismatch in the shading of adja-

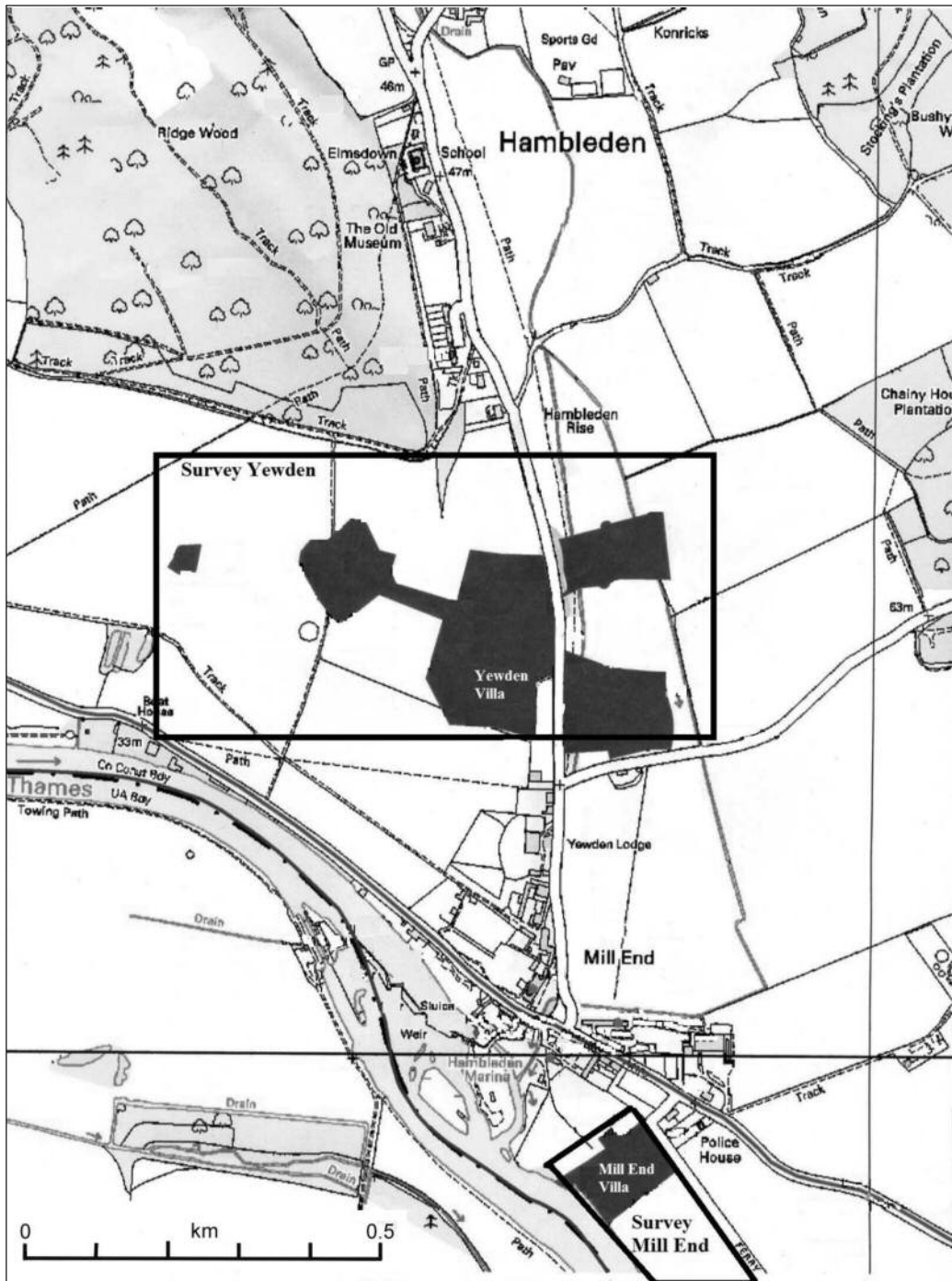


FIGURE 1 Map of the Hambleton Valley from the village of Hambleton in the north to Mill End in the south showing the full extent of the geophysics surveys within boxes. Scheduled areas = dark grey blocks.
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FIGURE 2 Aerial photograph of Mill End showing: 1. parchmarks of a winged corridor villa (walls outlined as pale marks); 2. dark linear ?enclosure ditches; 3. Four cross-cutting circular features, pre-enclosure ditch, and hence presumed pre-Roman. This area is littered with pits. The linear white to dark line cutting across the whole area between 1 and 2 is a modern drain. The image has been cropped from NMR photograph SU78 84/27, taken 31st May 1990. © Crown Copyright NMR

cent grids. Nonetheless, archaeological features were clearly defined (Figs 3 and 4). The structure is that of a winged villa, orientated northwest-southeast and measuring approximately $51 \times 21\text{m}$ at the widest points. A number of phases may be indicated by the small sub-divisions of the living space. Rooms range from the smallest at $5 \times 3\text{m}$ to the largest open area of $10 \times 8\text{m}$. Postholes for roof supports are present in two areas and there are two high resistance regions, indicating that a hard floor is intact in at least two rooms. These may be tessellated floors, as recorded at nearby Yewden (Eyers 2011).

The processed results of the ditch traverse from the 2-D inversion electrical imaging technique are shown in Figure 5. The 20-probe array, spaced at 1 metre intervals across the ditch, provided imaging down to 3.5m. The uppermost layers are typical of loamy and sandy soils and the lowermost depths showed a high resistance geological layer (undoubtedly gravels). The ditch itself may be

interpreted from the vertical profiling to be about 2.5m wide at the surface, reaching a depth of 1.5m. The minor depression at 14-15m in the traverse is the result of patchy soil changes in this area.

MAGNETOMETRY SURVEY

Methods

The survey conformed to English Heritage guidelines (EH 2008) under Section 42 Licence No. SL00000483. The Bartington 601 gradiometer was used within the same 20m grid layout as the resistance survey, working on a north-south alignment. The work was undertaken by Berkshire Archaeological Research Group volunteers under Andrew Hutt with assistance from Chiltern Archaeology. Data was processed using Snuffler.

Magnetometry Results

Magnetometry results are not as clear over the villa

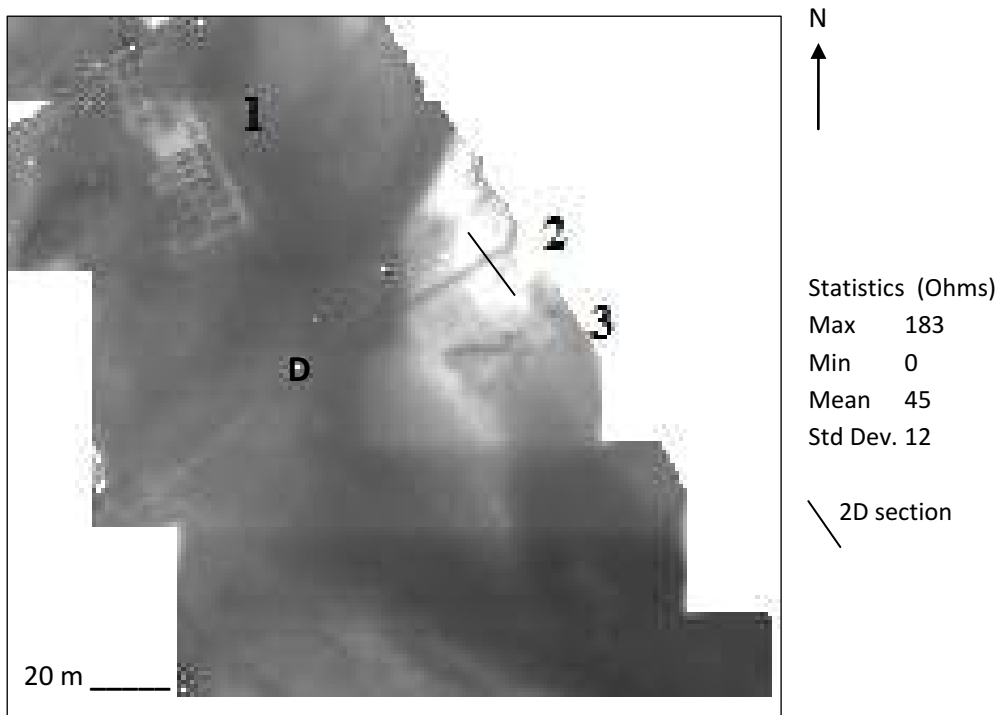


FIGURE 3 Resistance survey results of Thames Field, Mill End, showing: 1. The outline of a winged villa, 2. The enclosure ditch; 3. An irregular feature of unknown type, but which is associated with iron and other slag. D = modern drain cover

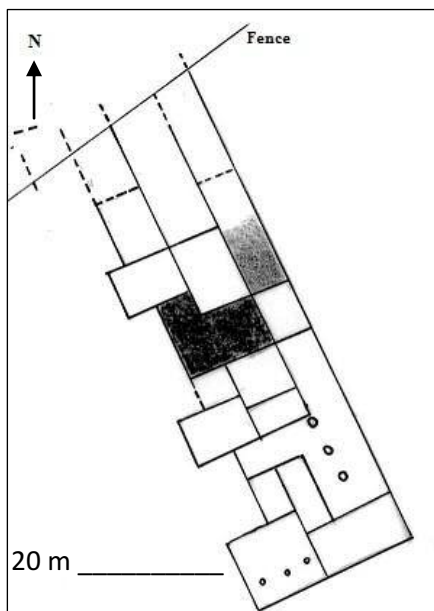


FIGURE 4 A sketch outline of the villa walls and internal features seen from the resistance results of Figure 3

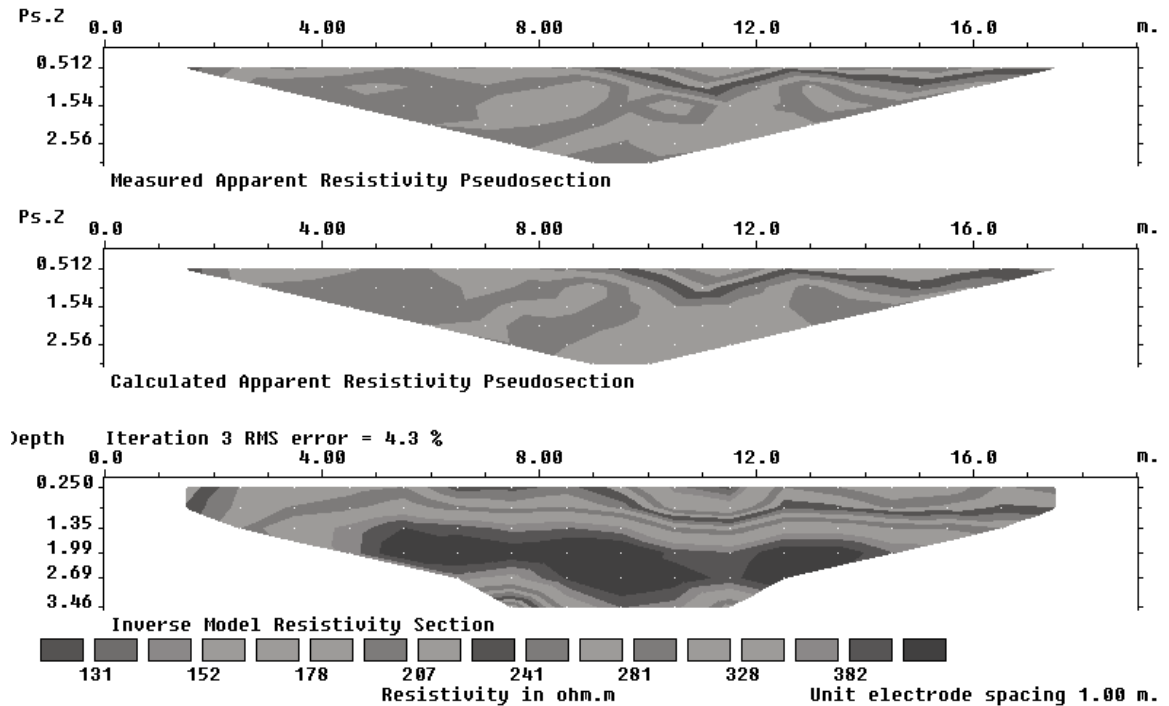


FIGURE 5 Vertical profile of the enclosure ditch at the northeast end within Thames Field, Mill End, position marked on Figure 3. (a) Measured values; (b) calculated values (c) interpreted model

a successful technique, but nonetheless the villa features are defined fairly well. The area covered by magnetometry survey was slightly less than the resistance coverage due to metal fencing which would have interfered with the magnetometer results. Magnetometry showed up the enclosure ditch very well, revealing two ditches in parallel on the NW-SE section past the rear of the villa (east side). This technique also strongly highlighted the irregular feature on the eastern edge of the survey, which was also seen on resistance.

METAL DETECTING SURVEY

A metal detecting survey, supervised by Frederick Reed, was undertaken in Thames Field outside the scheduled area. Each detectorist had two archaeological assistants (one for digging targets, and one for bagging, labelling and taking GPS coordinates and depths). No precious metal or copper alloy objects were found in the field. There were,

however, large numbers of iron objects. Only some of these were investigated. These were usually nails, which were located over much of the non-scheduled land, with a concentration nearer the edge of the scheduled area and the villa. In addition, small pieces of iron slag and ‘clinker’ were found in the area of the irregular feature on the eastern boundary of the survey area (Figs 3 and 6). For this reason it has been postulated that this might be a demolished furnace or waste area near to one (Eyers 2011). The lack of metal objects, other than nails and slag, is likely to be the consequence of intense metal detecting activities on this land over many years. For instance, a passer-by reported to the detecting team that a large number of coins had been found on the river side of the villa about 20m west of the north wing. The coins were reported as being a range of denominations and ages, but no useful or more detailed information was gained.

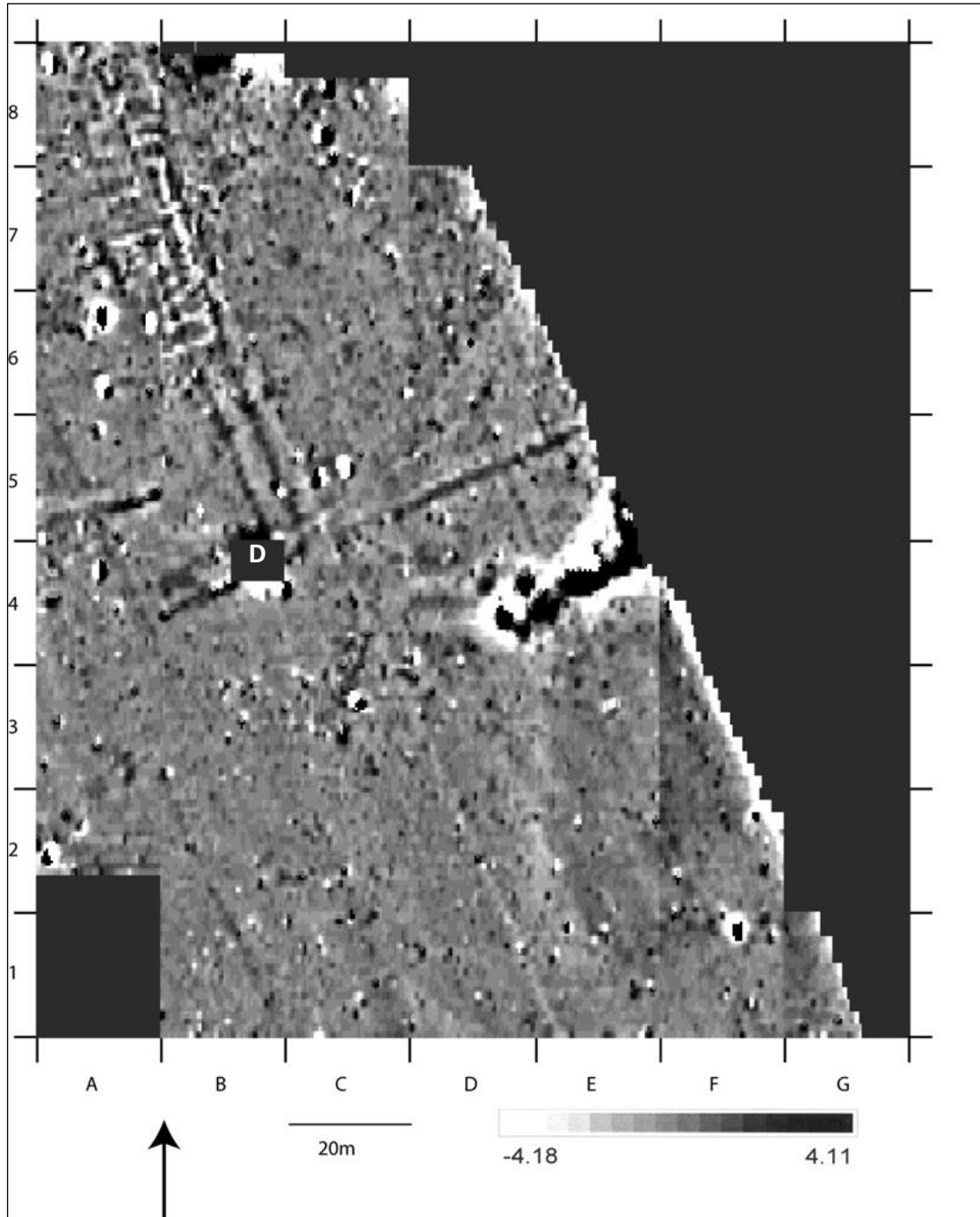


FIGURE 6 Results of the gradiometer survey of Thames Field, Mill End. The square void with white 'D' in the centre of the grid is the modern drain

DISCUSSION AND INTERPRETATIONS

Mill End villa is roughly parallel to and about 60m from the modern bank of the Thames. The geophysics confirmed earlier interpretations from parchmarks in Thames Field, Mill End as showing the location of a Roman villa.

The resistance results proved that the villa outline is that of a winged corridor type. The position of the north wing of Mill End villa is inferred, based on the symmetry normally seen in Romano-British winged villas. The villa wall structure becomes less defined towards the north fence line in Thames Field, and is not visible north of the fence either by aerial photography or resistance methods. Several reasons combine to reduce the visibility of the structure at the north end. Firstly, a disturbance by the emplacement of the present fence and part removal of a previous hedge

(affecting both sides of the fence); secondly, a lowering and levelling of the land surface to the north of the fence with concurrent disturbance (pre-scheduling). It is not clear if the structure has been completely removed to the north of the fence; heavy rainfall following a dry period did not help resolution of the geophysics. Any structure that remains may be badly damaged. Despite the likelihood of northern wing damage, other features are remarkably well preserved. For instance, the location of large holes for posts which would support part of the roof and a large area of intact solid floor are both visible from the resistance results.

A reconstruction of the villa is suggested in Figure 7, based on the floor plan as well as the limited finds known from the site and knowledge of the local building styles (e.g. using Yewden villa for typical building materials). The structure indicated is that of an elegant winged villa.

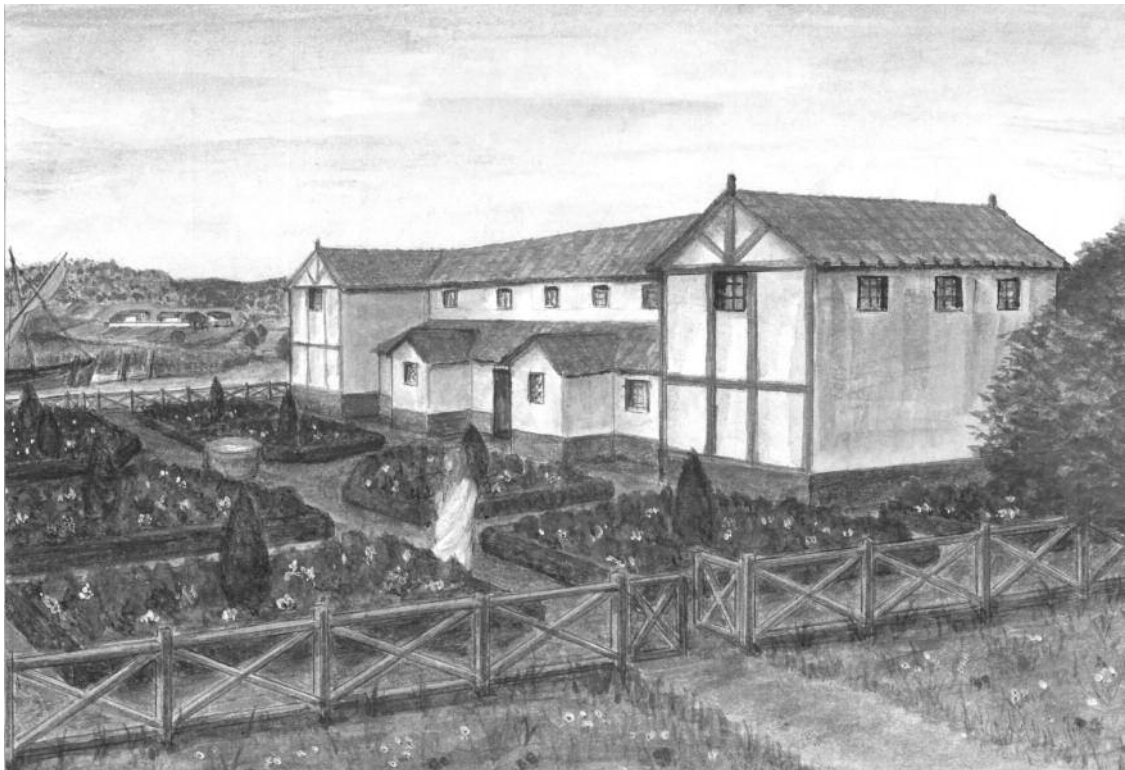


FIGURE 7 Artists reconstruction of Mill End villa based on the parchmark footprint and limited surface finds. Artist: Tony Eustace, based on computerised reconstructions by Alison Jewsbury. © 2011

The scheduling document describes the “buried remains of several associated structures that lie between the principal building and the river”. It also describes a “large 18 × 7m structure c.16m south of the main building” along with a description of further small structures. These are not visible on any of the aerial photographs available at present and the National Monuments Records source is not quoted in the scheduling information. Magnetometry during this survey showed this to be where double ditches traverse the site, including one double ditch.

It would be surprising if there were no associated structures with the villa, but none were indicated on this occasion by the geophysics, or by aerial photographs currently within the NMR or local HER collections. At first it was considered that a lack of geophysical results for associated structures might be due to a similarity in character of any feature with the geology and soil characteristics. However, this was rejected on the grounds that the geology changes reasonably rapidly across the site from loamy soils and clay-rich horizons to sands and gravels.

The results bring into question the relationship between Mill End and nearby Yewden villa. Yewden has been proved to have a number of accessory buildings, structures, wells and pits. The Yewden complex was established in the early 1st century and continued into the early 5th century. Mill End must have been contemporaneous with Yewden at some time in the Roman period. Our understanding of the relationship between these two intriguing villas would be greatly enhanced if dates for Mill End could be properly established. It would be a reasonable assumption that Mill End was a secondary villa with a different function to the Yewden complex and that the two were linked by ownership. Further work to investigate the possibility of control of trade by Mill End villa has surprisingly implicated Yewden villa in this activity due to a large number of styli (96) and a Samian inkwell excavated from the villa complex. Mill End is potentially residential, higher status and built from the profits derived from the activi-

ties at Yewden. Only an excavation will shed light on these suggestions. In this respect, the search for quays, loading/unloading areas and lost haulage or personal items on the river bed was undertaken as a series of dives into the river Thames during 2010. The dive work is currently being interpreted and written up for future publication, but nothing of note was discovered along the Mill End bank of the river. However, recent work involving the Yewden site and surrounding fields indicates a track leading from Yewden to the river at a point disturbed by later bank reinforcing, a weir and other infrastructure. Mill End is thus shown as bypassed by the track and hence, by implication, trading activities.

ACKNOWLEDGEMENTS

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