## ARCHAEOLOGICAL EVALUATION OF THE ROUTE OF THE A4103 ROMAN ROAD IMPROVEMENTS, HEREFORDSHIRE

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Project 2231 Report 1000

HSM 32103 (Non-intrusive fieldwork) HSM 32104 (Intrusive fieldwork)

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# Archaeological Evaluation of the Route of the A4103 Roman Road improvements, Herefordshire,

## Chris Patrick, Laura Griffin, Andy Mann and Elizabeth Pearson With contributions by Northamptonshire Archaeology and Stratascan

## Part 1 Project summary

An archaeological evaluation was undertaken upon the route of proposed road improvements along the A4103 Roman Road, Hereford, Herefordshire (NGR SO 465 424 to 488 423: Fig 1), for Halcrow Group Ltd who are acting on behalf of Herefordshire Council. The proposed road improvements will consist of the widening of 2km of the existing A4103 Roman Road between Stretton Sugwas (SO 465 424) and the junction of Tillington Road (SO 488 423). The scheme includes the realignment of the Yazor Brook and a new roundabout just to the east of Stretton Sugwas where the A4103 will join the A480. Lengths of the existing road will be retained at Stretton Sugwas and by the Bovingdon Caravan Estate, where the new road will run to the north. The majority of the proposed works are directly on or immediately adjacent to, the course of a former Roman road. The Archaeological Advisor for Herefordshire Council considers that sites of archaeological interest may be affected by the proposed road improvements.

The present A4103 is thought to overlie a stretch of the original Roman Road that once linked the Roman towns of Stretton Grandison and Kenchester, 17km to the east and 2km to the west of Stretton Sugwas respectively. The road was built in the 1<sup>st</sup> century AD soon after the Conquest but is thought to have been in decline by the 3<sup>rd</sup> century AD. The evaluation set out to test for the survival of the original Roman road beneath the present road surface and to test the adjoining fields for roadside settlements and features of the earlier prehistoric landscape.

The combination of evidence from the use of ground probing radar on the road and the trenching in the adjoining fields suggested that the original Roman road and its associated features survived in a good state of preservation beneath the present A4103. The radar survey identified an earlier road structure, part of which is thought to be the Roman road, buried 0.25-0.5m beneath the present road in 11 of the 12 locations tested along the route. This earlier road was approximately 5m wide and 0.75m thick with ditches on either side. Roman activity was also present at the Stretton Sugwas where a trial trench located the site of iron working. Also present was pottery that suggested that domestic activity was close by and that the deposits probably represented part of a Roman rural settlement set a few hundred metres back from the road. A large pit containing Roman pottery was also discovered close to the road at Stretton Sugwas, which may be related to the construction of the road. A mound under the road to the west of the Yazor Brook that was suggested as being of possible interest was also investigated. Sample trenches identified two linear features but no dating evidence was recovered.

## Part 2 Detailed report

## 1. Background

#### **Reasons for the project**

An archaeological evaluation was undertaken on the route of the proposed A4103 Roman Road improvements, Hereford, Herefordshire (NGR SO 465 424 to 488 423, Fig. 1), on behalf of Halcrow Group Ltd who are acting on behalf of Herefordshire Council. The proposed road improvements will consist of the widening of the existing A4103 Roman Road between Stretton Sugwas (SO 465 424) and the junction of Tillington Road (SO 488 423). The scheme includes a new roundabout just to the east of Stretton Sugwas where the A4103 will join the A480 and the realignment of the Yazor Brook. Lengths of the existing road will be retained at Stretton Sugwas and by the Bovingdon Caravan Estate, where the new road will run to the north. The evaluation was intended to be incorporated within an Environmental Statement being prepared by Halcrow for the proposed improvements.

The present A4103 is thought to overlie a stretch of the original Roman road that once linked the Roman towns of Stretton Grandison and Kenchester, 17km to the east and 2km to the west of Stretton Sugwas respectively. The road is thought to have been built in the Conquest period of the 1<sup>st</sup> century AD but is thought to have been in decline by the 3<sup>rd</sup> century AD (Wilmott 1980). The Archaeological Advisor for Herefordshire Council considers that sites of archaeological interest may be affected by the proposed road improvements.

#### **Project parameters**

The project conforms to *Standard and guidance for archaeological field evaluation* (IFA 1999). Herefordshire Council have prepared *Archaeological issues in relation to the proposed major improvement works on the A4103 Roman Road, Stretton Sugwas to Tillington Rd* (HC 2002), to justify the preparation of the Environmental Statement and for which a project proposal (including detailed specification) was produced by Worcestershire County Council Archaeological Service (AS 2002).

#### 1.2 Aims

The aims of the evaluation were to assess the archaeological potential of the route effected by the proposed road improvements. The project was to locate and record any previously unknown archaeological remains that were discovered and to assess their extent, state of preservation, date, type and vulnerability. The purpose of this was to establish their significance, since this would make it possible to recommend an appropriate treatment, which may then be integrated with the proposed development programme.

A desk-based assessment (Halcrow 2002) specifically identified the following aims for the evaluation:

To investigate a mound under the road to the west of the Yazor Brook which may be of archaeological significance.

To assess the survival of the original Roman road beneath the existing A4103.

To assess the potential for roadside settlement along the entire length of the road.

## 2. **Topographical and archaeological context**

#### 2.1 Location

Roman Road is the street name for a stretch of the A4103 and runs to the north of Hereford from Lugg Bridge in the east to Stretton Sugwas in the west. The proposed improvements concern the western stretch of approximately 2km from Tillington Road to Stretton Sugwas (Fig. 1).

#### 2.2 **Previous work**

The archaeological background to the project has been fully described in the Environmental Statement to which this report is appended. This highlighted three areas of potential archaeological interest, the mound under the road to the west of the Yazor Brook, the Roman road itself and the possibility of settlement alongside the road.

The mound is of interest and may possibly be a feature of the prehistoric landscape such as a Bronze Age Barrow, over which the Roman road deliberately passes. If this is the case the site would be of importance.

The road itself is of interest as the section between Stretton Sugwas and Tillington Road has potentially remained as an active highway from the first century AD until the present day. In places the road appears to run on a slight causeway, approximately 1m higher than the adjacent fields and this suggests that Roman road surfaces and associated features might be present directly underneath the modern road. The road linked the Roman towns of Stretton Grandison and Kenchester, 17km to the east and 2km to the west of Stretton Sugwas respectively. The road is thought to have been established in the Conquest period but traffic is thought to have decreased in the 3<sup>rd</sup> century AD due to the decline of Kenchester (Wilmott 1980). The road is not known to have been excavated at any point along its course, except within the town of Kenchester itself. Here excavations in 1912-13 recorded a well-constructed road about 8-9m wide with a central surface drain. The road surface was of fine gravel that was founded on coarse gravel 0.45m deep, with flanking drains and pavements (Jack 1912-13).

Not a great deal is known about roadside settlement along the route between Tillington Road and Stretton Sugwas. Excavations ahead of gravel extraction to the west of Stretton Sugwas in 1977-79 identified substantial settlement running east for about 500m alongside the road from Kenchester's gate (Wilmott and Rahtz 1985). Whether this settlement spread any further east is unknown. Roman metal work, including a coin hoard (HSM 6298) has been found in the area around Priory Lane, Stretton Sugwas, which is approximately 400m north of the Roman road. This area is also the location of the medieval village of Stretton Sugwas.

## 3. Methods

#### 3.1 Fieldwork

#### 3.1.1 Fieldwork strategy

A detailed specification has been prepared by the Service (AS 2002). Fieldwork was undertaken between 25<sup>th</sup> June and 13<sup>th</sup> September 2002 and was carried out in two phases. The first phase consisted of non-intrusive survey using techniques such as fieldwalking, geophysical survey and metal detecting, while a second intrusive phase of survey consisted of sample trenches. This combination of techniques was judged to provide the best method for ensuring that archaeological sites were identified and assessed. All areas of archaeological investigation are shown Figures 2 and 3.

Non-intrusive fieldwork was undertaken within a survey corridor running the full 2km length of the route, approximately 25m wide on either side of the existing A4103 road. All sample excavation trenches were to be undertaken within the proposed planning application boundary.

Archaeological evaluation, both non-intrusive and intrusive was undertaken in sixteen fields along the route of the proposed road alterations. In this report each field was allocated a number (Figs 2 & 3). The field numbers are referred to throughout the report as the principle way of locating any finds or remains discovered in the evaluation.

#### 3.2 Non-intrusive survey methods (HSM 32103)

#### 3.2.1 Fieldwalking

Fieldwalking was to be undertaken on the 25<sup>th</sup> and 26<sup>th</sup> June in suitable areas where there was no crop cover, using 20m transects to enable the plotting of distributions of artefacts in the plough soil. The timing of the fieldwork meant that many of the arable fields on the route were unsuitable due to crop cover. However it was possible to carry out some fieldwalking in Fields 3, 4 and 7 which were in use as a tree nurseries, where the ground had been kept clear of undergrowth. A metal-detector survey was also used on these areas. The information from the fieldwalking was used to select the locations for the machine-excavated trenches.

#### 3.2.2 Geophysical survey

The magnetometer survey was carried out by Northamptonshire Archaeology between the 25<sup>th</sup> and the 28<sup>th</sup> June. The intended methodology was to carry out a magnetometer reconnaissance survey within a 20m corridor on either side of the A4103 Roman Road. The purpose was to identify magnetic anomalies, which might represent buried archaeological remains. Any such anomalies would then be subject to a detailed magnetometer survey in order to define their extent and character. However due to the presence of crops in many fields, it was not possible to carry out the reconnaissance survey in every field and it was decided to advance straight to the detailed survey in the fields that were available.

It was decided to undertake a second geophysical survey using ground probing radar to test for the presence of the Roman road beneath the present road surface. This was considered to be more practical than excavating test pits in the road, which would have been disruptive and dangerous on such a busy and narrow route. The survey was carried out by Stratascan on 12<sup>th</sup> August, using ground probing radar, this was considered to be the most suitable technique as it would be able to give information on depths as well as working through a variety of surfaces, even in cluttered environments which normally prevent other geophysical techniques from being used.

#### 3.2.3 **Results of non-intrusive survey**

The fieldwalking recovered a small amount of material ranging in date from the prehistoric to the modern period. Prehistoric finds were recovered from two fields, a single flint flake was found in Field 7 and another flint flake was found in Field 4. Also found and thought to be prehistoric in date was an 80mm long flaked tool made from a fine-grained, blue-grey stone. Roman material was found in all three fields, three sherds from Field 3, 10 sherds from Field 4 and 9 sherds from Field 7. The sherds were principally Severn Valley wares and were heavily abraded. Two heavily worn Roman coins were also recovered during the metal-detecting survey from Field 4. Five sherds of medieval pottery were found in Field 4 and medieval tile fragments were found in Field 7. Post-medieval brick and tile and modern pottery was found in all three fields and accounted for most of the material recovered during the fieldwalking. All of the material that was collected was highly abraded, this suggested that it had been in the topsoil for sometime and that it had been deposited as a result of manuring rather than indicating a buried settlement. There was no clustering of finds that would have suggested that a site was present in any of the fields.

The geophysical magnetometer survey produced no significant anomalies that would have indicated the presence of an archaeological site. The survey was restricted due to the limited areas available coupled with the effects of magnetic interference from vehicles on the road and the surrounding metal fences. In addition to this the underlying geology was not conductive to providing strong readings. Due to the poor results it was decided to discontinue the survey after the first week. The only site that was detected was already visible as earthworks in Field 13 and related to post-medieval quarrying.

The ground probing radar survey successfully located evidence of an earlier buried road surfaces along the whole 2km length of the survey. Radar scans were carried out along parallel traverses at either 1m or 2m intervals at 12 locations along the route to produce crosssections of the road. The sections were located in places where there were lay-bys or field gateways to give the broadest width of section across the road. The locations of the sections are shown in Figure 2. A buried road surface, which is interpreted as being the Roman road but may also be later road surfaces was found in 11 of the 12 sections. These showed the buried road to be between 0.25m and 0.5m below the present road surface and extending to a depth of approximately 1.25m. The only section, which failed to identify the presence of any buried road surface, was Section 8, adjacent to the site of the mound in Field 7. The survey also seemed to have detected the flanking roadside ditches in several sections with the southern ditch identified in Sections 1, 5, 6, the northern ditch in Sections 9 and 11, and both in Sections 7 and 12. Section 12 showed the Roman road to be approximately 6m wide, 0.95m deep with north and south flanking ditches, measuring between 2m and 3m wide and approximately 1m deep. The survey showed that there is good potential for the survival of the Roman road despite later road construction and the presence of services. The best-preserved stretches of the road seem to be located just to the west of the Yazor Brook and at the Stretton Sugwas end.

During the survey the landowner of Field 9 adjacent to the Yazor Brook drew the attention of the team to the burrowing of rabbits in the field close to the road. The burrowing had unearthed a quantity of oyster shells, and according to the landowner 'old' pottery is also unearthed periodically. These finds may be of archaeological significance.

#### 3.3 Intrusive survey methods (HSM 32104)

Trenches were excavated between the 2<sup>nd</sup> and 13<sup>th</sup> September.

It was proposed that 35, 20x1.6m trenches were to be excavated along the route of the road improvements at 50m intervals so as to identify all sites over 50x50m in size, with provision for five additional 25x1.6m trenches to be excavated to explore any sites that are found. The locations of the trenches were agreed with Mr Julian Cotton, the Archaeological Advisor for Herefordshire County Council. All of the proposed trenches were excavated with the exception of Trenches 19-22 owing to problems with access. Two additional trenches were excavated in Field 3 where remains were found, and an additional trench was added in Field 7 perpendicular to the road to test the mound highlighted in the desk-based assessment. In total 34 trenches were excavated, with some locations altered due to the presence of stock or trees, for example Trench 1 was moved a few metres from Field 1 over the hedge into Field 3 due to the presence of horses. Several of the trenches had short 'dog leg' extensions added to them where possible aiming to identify the roadside ditches to the Roman road. The location of all the trenches is indicated in Figure 2.

Deposits considered not to be significant were removed using a JCB 3CX wheeled excavator, employing a toothless bucket and under archaeological supervision. Subsequent excavation was undertaken by hand. Clean surfaces were inspected and selected deposits were excavated to retrieve artefactual material and environmental samples, as well as to determine their nature. Deposits were recorded according to standard Service practice (CAS 1995). On completion of excavation, trenches were reinstated by replacing the excavated material.

All fieldwork records were checked and cross-referenced. Analysis was effected through a combination of structural, artefactual and ecofactual evidence, allied to the information derived from other sources.

#### 3.4 The methods in retrospect

The methods adopted allow a high degree of confidence that the aims of the project have been achieved but it must be noted that much of the route was unsuitable for fieldwalking due to the presence of crops or land use. It had also not been possible to complete the magnetometer survey due to the proximity of the survey to the metal anti-rabbit fences around the fields and the traffic on the road. The lack of access to Fields 9 and 10 also meant that Trenches 19-22 could not be excavated. As it was not possible to excavate trenches in the road, all of the evidence for the Roman road's survival beneath the present road is derived from the radar survey. The interpretations of the results of the radar survey have not been independently tested and the interpretation should therefore be treated with some caution.

### 4. **Results of intrusive survey**

#### 4.1.1 **Phase 1 Natural deposits**

Natural deposits were encountered in all 34 trenches at depths of between 0.4-0.6m. The exception to this was Trench 24 in Field 11, which was 0.9m deep having encountered an area of made ground.

#### 4.1.2 **Phase 2 Prehistoric deposits**

The only Prehistoric object recovered during the intrusive survey was a broken flint tool found in the large Roman feature discovered in Field 3, Trench 3A (303, Fig 4), which appeared to have been re-deposited from elsewhere. An undated linear feature (308) was found in neighbouring Trench 3B, which may have been truncated by the Roman feature. The linear was aligned approximately north-south, 1.2m wide and 0.5m deep.

Trenches 17A and 17B were excavated in Field 7 to test the mound under the road, which was suggested to be of possible archaeological interest (Fig 5). Both trenches identified the remains of a road side ditch close to the present fence line which had been truncated by a later post-medieval ditch/pit (1705&1709, Fig 6) but in Trench 17B a second parallel ditch was found, aligned east-west, 3m north of the road (1707). The ditch was 3m wide and 0.6m deep with an obtuse v-shaped profile(Fig 6). No dating evidence was present. A second undated feature was found in Trench 17A, this was a terminal of a possibly curvilinear gully (1703) approximately aligned south-east to north-west. The feature measured 0.6m wide and 0.3m deep with sloping sides and a concave base (Fig 6). Ditch feature 1707 did not continue into neighbouring Trench 17A, nor was 1703 present in Trench17B.

#### 4.1.3 Phase 3 Roman deposits

Roman features were found in Field 3, Trenches 1, 3 and Field 5,. Trenches 9, 10 and 11. Trench 1 (Fig 7) contained a large feature (109) that was thought to be either a shallow, elongated pit or the terminal of a shallow linear ditch. The feature was at least 9m long, 3m wide and 0.4m deep approximately north-south with gently sloping sides. The feature had three distinct bands of fill (Fig 8), The primary fill (112) was a mid-brown coloured clayey-sand with charcoal and burnt clay. This was overlain by a secondary fill (107) of light brown sandy clay with was then overlain by a dark grey coloured sandy fill containing coal and charcoal (106). All three fills contained large quantities of iron working slag with vitrified clay adhering to the surface and Roman pottery, principally Severn Valley wares. Feature 107 cut an earlier gully feature (113, Fig 7 and 8) to the east. The gully is aligned approximately east-west and measures at least 3m in length, 1m in width but only 0.2m deep, appearing to have been truncated from above. No pottery or iron working slag was present in the fill. A

short extension to the trench on its western side revealed a sub-circular pit (115, Figs 7 and 8). The pit measured 3m in diameter and 0.6m deep with sloping sides. It contained two fills, a primary fill of dark reddish-brown, clayey sand with gravel (116) and a medium reddish brown clayey-sand with small stones (117). Both fills contained Roman pottery and iron working slag.

Trench 3A contained a large feature (303, Fig. 4), measuring 5.9m wide and 1.6m deep that was initially thought to be a linear ditch. However the feature did not continue into a parallel trench (Trench 3B) that was excavated 5m to the north and it would seem that it is in fact a large pit or if it is linear it is terminating somewhere between the two trenches. The primary fill (304) was a medium brown silty-clay with small stones, this was overlain by a secondary fill (305) of medium brown silty clay and reddish brown clay, the latter of which seemed to be re-deposited natural material. A layer of medium brown silty-clay slumped material was present on the eastern edge (306), this and 305 were overlain by the final fill, 307 a medium brown silt with clay that contained a broken flint tool and sherds of Roman pottery. The profile of the feature was slightly irregular with a steeply sloping eastern edge and a more gently sloping western edge. The base of the feature was fairly flat and deepest on the eastern side.

The roadside ditch of the Roman road was identified in Trenches 9, 10 and 11 in Field 5. The ditch was most clearly seen in Trench 11 (Fig 9) where the ditch ran down the full length of the trench and a short perpendicular extension was added at the western end to enable a full profile of the ditch to be excavated. The ditch was around 1.5m wide with sloping sides and a flat base, and was found to contain Roman pottery. The ditch was found approximately 2m south of the present hedgerow and 3.5m away from the edge of the present road. The north to south aligned extension to Trench 11 showed that the ground on the northern edge of the ditch sloping up towards the present road and becoming more stoney. This may be part of the original raised *agger* of the Roman road.

A roadside ditch was also seen in the extension to Trench 13 where it had been heavily truncated by a water main and also in Trenches 17A and 17B (1709&1713) where it was truncated by post-medieval activity (1705) and later cable laying (1711&1715).

#### 4.1.4 Phase 4 Post-medieval and modern deposits

The only post-medieval activity that was found was the ditch re-cut or pit (1705) cutting an earlier road-side ditch in Trench 17A. Modern services were also present in Trenches 6, 13, 17A and 17B. An area of made ground was present in Trench 24.

### 5. **Finds**

#### 5.1 Artefact recovery policy

All artefacts from the area of salvage recording were retrieved by hand and retained in accordance with the service manual (CAS 1995 as amended).

#### 5.2 Method of analysis

All hand retrieved finds were examined. A primary record was made of all finds on pro forma sheets. Artefacts were identified, quantified and dated. A terminus post quem was produced for each stratified context.

Pottery was examined under x20 magnification and recorded by fabric type and form according to the fabric reference series maintained by the service (Hurst and Rees 1992).

#### 5.3 Artefactual analysis

A summary of the artefacts recovered can be seen in Table 1, Appendix 2. The assemblage retrieved from the excavated area came from twelve stratified contexts and the site surface. The group ranges from Roman-modern periods, with the earliest material from all contexts dating to the 2nd century AD. The level of preservation was generally good with low levels of abrasion.

Iron working slag formed the largest material group with a total of 135 pieces retrieved from Trench 1 (contexts 103, 104, 106, 110 and 117), accounting for 43.4% of the assemblage. Much of this slag had vitrified clay adhered to one surface and was slightly curved in shape, indicating that the material actually formed either the base of a bloomery furnace or smithing hearth. The presence of a significant amount of hammerscale retrieved from environmental samples within Trench 1 would suggest that a smithing hearth is the more likely function. In addition, a total of 20 pieces of heavily fired clay with burnt surfaces were also retrieved from the surface of Trench 1 and can be identified as having formed part of the same structure. Associated artefacts from contexts containing this material indicate it to be Roman in date.

A total of 113 sherds of pottery were identified and grouped by fabric (see Table 2, Appendix 2). The majority of sherds were undiagnostic but diagnostic forms and fabric types indicated a date range spanning from the 2nd-20th centuries.

Ceramic building material was all of post-medieval and modern date and consisted of three fragments of roofing tile (contexts 107 and unstratified, Trench 32) and seventeen pieces of brick (context 1706A and unstratified, Trench 17). In addition, a single piece of red sandstone tile was retrieved from context 107 and could be dated to the Roman period by associated artefacts. Sandstone was commonly used for as building material at this date.

Remaining finds consisted of a broken flint tool (context 307), an iron nail (context 1706) five pieces of an unidentified iron object (context 1706), a clay pipe stem (unstratified, trench 32) and eight pieces of modern bottle glass (context 1706).

#### 5.4 **Discussion of the artefacts**

The discussion below is a summary of the finds and associated location or contexts by period. Where possible, *terminus post quem* dates have been allocated based on the evidence recorded and the importance of individual finds commented upon as necessary.

#### Roman

Nine contexts (103, 104, 106, 107, 110, 116, 117, 303, 307 and 1104) could be identified as Roman in date. All were dated by pottery retrieved from them, however, much of this material was undiagnostic and therefore it was not possible to allocate any meaningful terminus post quem dates.

The pottery assemblage was dominated by locally produced oxidised Severn Valley wares (fabrics 12 and 12.2). Few forms could be identified due to the sherds being small in size. Those sherds which were diagnostic came from standard storage jar and tankard forms and could only be allocated wide date ranges. However, those sherds of the organically tempered type (fabric 12.2; context 107) could be dated to the 1st-early 2nd century AD as the fabric is not thought to have been produced past this date. Only two sherds of Malvernian ware were retrieved from the site. They were identified as from the same vessel, a jar of the later wheelthrown type (fabric 19), dating from the 3rd century onwards.

Sherds of non-local wares consisted primarily of Black-burnished ware I (fabric 22). The sherds were all relatively small and abraded, although one everted rim jar and one plain rimmed bowl form could be identified, both of which dated from the late 2nd century onwards.

Other non-local wares, present in small amounts consisted of fragments of Oxfordshire red/brown colour coated ware (fabric 29), the rim of an Oxfordshire white mortarium (fabric 33) and undiagnostic sherds of Nene Valley colour-coated ware (fabric 28). All of these fabrics could be dated to between the 3rd and 4th centuries. In addition, two adjoining sherds of Samian ware (fabric 43) were retrieved from context 110 and identified as from a Dragendorf 37 bowl dating to between the 1st and mid 3rd centuries (Webster 1996, 47).

All hearth/furnace lining came from Roman contexts within Trench 1. This material included a number of large pieces with a definite 'scoop' shaped to them and a thick layer of vitrified clay adhered to the exterior. This clay contained large pieces of stone and some sand, both of which were commonly used as temper to help the structure withstand the high temperatures involved in the smelting process (Jones 2001). One piece of lining was perforated with a hole identified as a tuyere or blowing hole through which air would have been forced in order to raise the temperature within the structure (ibid., 10).

Large pieces of hammerscale were retrieved from environmental samples taken from various contexts within Trench 1 (contexts 104, 107 and 117), the largest proportion coming from context 117. This material indicated the hammering and working of iron on the site and would therefore suggest the structure to have been that of a smithing hearth. The lack of tap slag within the assemblage would appear to confirm this interpretation.

#### Medieval

Two sherds of unstratified medieval pottery were recovered from the surface of Trench 1. The sherds were highly degraded and could not be identified by fabric type.

#### Post-medieval and Modern

The pottery from the post-medieval period onwards consisted of six sherds of post-medieval orange wares (fabric 90; context 1706 and unstratified, trench 17B), a single black glazed buff ware jar (fabric 91; unstratified, trench 31) and two small fragments of modern stone china (fabric 85; context 1706).

### 6. **Environment**

#### 6.1 Methods

#### 6.1.1 Fieldwork and sampling policy

The environmental sampling policy was as defined in the County Archaeological Service Recording System (1995 as amended). A total of 11 samples were taken, of which 9 contexts were ditches or pits of Romano-British date (see Table 4, Appendix 3).

#### 6.1.2 **Processing and analysis**

The samples were processed by flotation followed by wet-sieving using a Siraf tank. The flots were collected on a  $300\mu m$  sieve and the residues retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

The residues were fully sorted by eye and the abundance of each category of environmental remains estimated. The flots were scanned using a low power EMT stereo light microscope and remains identified using modern reference collections housed at the County Archaeological Service.

#### 6.2 **Results**

#### Plant remains

Plant remains were poorly preserved in all samples. Only occasional seeds were recorded which would normally only survive in anoxic or waterlogged conditions. In these deposits they are most likely to be modern intrusive remains.

#### Animal bone

A total of 47g (9 fragments) of poorly preserved animal bone was hand-collected from the subsoil in Trench 8 and context 1705/1706B of modern date.

#### Mollusc remains

Of all the samples taken during the evaluation only four contained molluscan remains. These include contexts 307 from Field 3 and 903/4, 904, 1003 and 1104 from Field 5. Of these context 903/4 contained the most useful assemblage, incorporating higher numbers of individuals and greater species diversity. Table 2 (Appendix 3) shows the minimum number of individuals form each context.

The assemblage from Field 3, Trench 3A, context 307 appears to represent a damp pasture environment. It is most likely to be one of ungrazed grassland, as *Carychium tridentatum*, the dominant species, is not tolerant of short pasture or human cultivation. The presence of *Zonitoides excavatus* in small numbers may also indicate that there was some woodland nearby, as this species inhabits leaf litter on woodland floors.

The assemblage from context 903/4 appears to represent a damp densely vegetated area of land. A proportion of the species present, including *Vallonia* sp, Vertigo *pygmaea, Pupilla muscorum* and *Hellicella itala* inhabit short turfed grassland environments. However the dominant species are common in areas of dense vegetation. Of these *Carychium tridentatum* and *Carychium* sp may be found in long grassland, although they can also be associated with Carychium minimum in the moist leaf litter of deciduous woodland. *Punctum pygmaeum*, which is present in smaller numbers, also inhabits the leaf litter of woodland. However both of the latter species may also be present within well established and dense hedgerow.

Also of interest within this sample is a single slug plate, *Milax* sp. These species are often associated with man and often on cultivated agricultural land.

The assemblage from Context 1003 contains *Vallonia sp, Hellicella itala* and *Vertigo pygmaea,* indicating an open grassland habitat. However the presence of *Carychium tridentatum* in low numbers may indicate that the land was not heavily grazed or under cultivation. Thus the surrounding area may be of damp well established grassland.

The assemblage from context 1104 is again indicative of an open grassland habitat. This sample contains a number of species that favour such environments, including *Vallonia excentrica*, *Vallonia sp*, *Hellicella itala* and *Vertigo pygmaea*. There are also numerous examples of catholic species present within the sample, including *Cochlicopa sp*, *Oxychilus*, *Cepaea sp* and *Trichia hispida*. However these are of little use in interpretation. *Cecilioides acicula* was also disregarded due to the likelihood of it being a modern contaminant (Evans 1972).

#### 6.3 **Discussion**

Taken as a whole it would appear that the majority of the environment around the excavated features was one of open grassland, probably not under heavy grazing or cultivation. Of particular interest is the assemblage from context 903/4, which appears to represent a more densely vegetated environment. The assemblage contains species, which are indicative of

well vegetated habitats, particularly in the leaf litter of deciduous woodlands. However they may also be present within dense hedgerow. The lake of any *rupestral* species, such as *Clausilia bidentata* may, however, indicate that rather than being a dense woodland environment the assemblage represents an area of dense hedgerow vegetation or open woodland. What can be said with some certainty is that the high numbers of *Carychium sp*, indicates an area which is generally not under heavy cultivation or grazing. The single example of *Milax sp*, present in the assemblage from context 903/4 may indicate that there was some cultivated agricultural land nearby. However this is only a single example and therefore the interpretation is tentative, as it may have been introduced as a result of contamination from further afield.

#### 6.4 Significance

Mollusc remains were well preserved on this site in a number of samples and provided information of local significance about the immediate environment, and also supported the archaeological interpretation of the site.

#### 7. **Discussion**

#### 7.1 **Prehistoric**

The only firm datable evidence for prehistoric activity are the two flint flakes and the fine grained stone tool found during fieldwalking and the broken flint tool that was found redeposited in the Roman feature in Field 3, Trench 3A (Fig 4). These would seem to indicate a low level of prehistoric activity in the Stretton Sugwas area.

The trenches excavated in Field 7 (Fig 5) to test the possible Prehistoric mound under the road found two undated features which were possibly of prehistoric origin; ditch feature 1707 in Trench 17B and linear gully terminal 1703 in Trench 17A. Feature 1707 was at first thought to be one of the roadside ditches for the Roman road and that with passage of time the alignment of the road had shifted towards the south leaving the ditch several metres to the north of the present road. This change in alignment would have left the Roman road in what is now Field 7 where it would have been ploughed away, leaving the ditch looking rather isolated. The radar survey, found no trace of an earlier round surface under the present road in Section 8 close to the mound. This was the only section where an earlier road was not discovered. However if it were a roadside ditch it would have been expected to have continued along the same alignment into Trench 17A, but the feature did not continue. The ditch must have either terminated or changed alignment, the profile and fill of the feature 1707 also seemed very different to the sections excavated through the ditch discovered in Field 5 on the south side of the road (Figs 6 and 9).

#### 7.2 Roman

The combination of evidence from the ground probing radar on the road and the trenching in the adjoining fields suggests that the original Roman road and its associated features survive in a good state of preservation, buried approximately 0.25-0.5m beneath the present A4103. Evidence for the earlier roads survival was detected in 11 of the 12 locations that were tested by radar and it seems that the Roman road is present along the full 2km of the route. Also found were the Roman roadside ditches, which were identified in Field 5, Trenches 9, 10 and 11 and possibly in Field 7, Trenches 17A and 17B. The flanking road side ditches probably survive elsewhere along the route but were not picked up in the evaluation as it was not possible to get the trenches close enough to the road detected by the radar survey, the sample trenches and levels from the present road, it has been possible to produce a composite cross section of the road around Radar Section 9 (Fig 10). Environmental samples taken from the ditches seem to show the road would have passed through an area of open grass land which

was not under heavy cultivation although one sample from Field 5, Trench 9 did show some evidence for denser vegetation.

Roman activity was also present in Field 3 at the Stretton Sugwas end of the route. Excavation showed Trench 1 to have been the site of iron working in the Roman period and the presence of pottery suggests domestic activity was also close by and that deposits probably represent part of a rural settlement set slightly back from the Roman road. The suggestion of a Roman settlement in the close vicinity is supported by past finds including the coin hoard from the area around Priory Lane, approximately 200m to the east of Trench 1. The large pit/ditch feature in Trench3A is also Roman in date although its function is uncertain but maybe related to the construction of the road.

#### 7.3 Medieval and post-medieval

The only evidence for medieval activity were the sherds of pottery recovered during the fieldwalking of Field 4. These were probably deposited during the manuring of the fields rather than representing a buried settlement. The only post-medieval feature that was identified during the evaluation was pit/ditch 1705 in Trench 17A, Field 7. This is possibly a later roadside ditch.

### 8. **Publication summary**

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

An archaeological evaluation was undertaken upon the route of proposed road improvements along the A4103 Roman Road, Hereford, Herefordshire (NGR SO 465 424 to 488 423, HSM 31203 and 31204), on behalf of Halcrow Group Ltd who are acting on behalf of Herefordshire Council.

The present A4103 is thought to overlie a stretch of the original Roman Road that once linked the Roman towns of Stretton Grandison and Kenchester, 17km to the east and 2km to the west of Stretton Sugwas respectively. The road is believed to have been built in the 1<sup>st</sup> century AD soon after the Conquest but is thought to have been in decline by the 3<sup>rd</sup> century AD. The evaluation set out to test for the survival of the original Roman road beneath the present road surface and to test the adjoining fields for road side settlements and features of the earlier prehistoric landscape.

The combination of evidence from the ground probing radar on the road and the trenching in the adjoining fields suggests that the original Roman road and its associated features survive in a good state of preservation beneath the present A4103. Roman activity was also present at the Stretton Sugwas where a trial trench located the site of Roman period iron working. Also present was pottery that suggested that domestic activity was also close by and that the deposits probably represented part of a Roman rural settlement set slightly back from the road. A large pit containing Roman pottery was also discovered close to the road at Stretton Sugwas, which may be related to the construction of the road. A mound under the road to the west of the Yazor Brook that was suggested as being a feature of the prehistoric landscape was also investigated. Trial trenches identified two linear features but no dating evidence was recovered.

### 9. **The archive**

The archive consists of:

43 Context records AS1

- 8 Photographic records AS3
- 4 Colour transparency film
- 4 Black and white photographic films
- 11 Sample records AS17
- 12 Scale drawings
- 1 Box of finds
- 1 Computer disk

The project archive is intended to be placed at:

Hereford City Museum

### 10. Acknowledgements

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### 11. **Personnel**

The fieldwork and report preparation was led by Chris Patrick, with assistance from Erica Darch, James Goad, Richard Lee, Andy Mann, Mark Steinmetzer and Tom Vaughan. Finds analysis was by Laura Griffin, environmental analysis was by Andy Mann and Elizabeth Pearson and illustration was by Carolyn Hunt and Laura Templeton. The project manager responsible for the quality of the project was Simon Woodiwiss.

The geophysical magnetometer survey was carried out by Mark Holmes of Northamptonshire Archaeology. The ground probing radar survey was carried out by Karl Taylor of Stratascan and the report was prepared by Emily Mercer.

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#### 13. **Abbreviations**

HSM Numbers prefixed with 'HSM' are the primary reference numbers used by the Herefordshire Sites and Monuments Record.



Figure 1: Location of the site.

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Figure 2: Locations of archaeological investigations - western section



Locations of archaeological investigations - mid section



Locations of archaeological investigations - eastern section Figure 3:









Figure 5: Trench 17, plan.



## TRENCH 17: SECTIONS







0

5m

Figure 7: Trench 1, plan.



## TRENCH 1: SECTION OF 115







## Appendix 1 Trench descriptions

#### Trench 1

Site area:	Field number 3		
Maximum dimensions:	Length: 25m	Width: 1.6m	Depth: 0.3m
Orientation:	North-South		

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
100	Topsoil	Light brown sandy clay with small and large rounded stones.	0-0.15m
101	Subsoil	Mid-brown friable sandy silt with small to large rounded stones	0.15-0.3m
102	Natural	Reddish-brown clay with rounded stones.	0.3m+
104	Layer	Mixed layer of dark-grey and brown silty sand with occasional stone inclusions. Abundant charcoal, occasional lumps of coal, pottery, slag and burnt clay	0.25-0.6m
105	Cut	Linear, gradual sloping sides	0.3-0.65m
106	Fill	Dark grey with brown patches of silty sand with charcoal flecks and occasional lumps of coal. Finds of pottery sherds and slag. Fill of 109.	0.34-0.46m
107	Fill	Friable light brown sandy clay with rounded stones and charcoal. Fill of 109.	0.34-0.7m
109	Cut	Pit/ditch cut filled by 106 and 107	0.34-0.7m
110	Fill	Mid-brown friable silty sand with small to medium sized stones. Finds of pottery and slag.	0.25-0.6m
112	Fill	Friable mid brown clayey sand with gravel and charcoal. Fill of 109	0.34-0.7m
113	Cut	Linear filled by 114	0.34-0.44m
114	Fill	Friable mid reddish-brown clayey sand with gravel.	0.34-0.44m
115	Cut	Sub-circular pit filled with 116 and 117	0.3-0.92m
116	Fill	Medium dark-reddish brown sandy clay with gravel. Finds of pottery and	0.65-0.92m

117	Fill	slag. Mid reddish clayey sand with gravel. Finds of pottery and slag	0.3-0.65m
Trench 2A			

Site area:	Field number 3			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.35m	
Orientation:	East-West			

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
200	Topsoil	Light brown sandy clay with small and large rounded stones. Charcoal flecks	0-0.35m
201	Natural	Reddish-brown clay with rounded stones.	0.35m+

## Trench 2B

Site area:	Field number 3		
Maximum dimensions:	Length: 25m	Width: 1.6m	Depth: 0.4m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
200	Topsoil	Light brown sandy clay with small and large rounded stones. Charcoal flecks	0-0.35m
201	Natural	Reddish-brown clay with rounded stones.	0.35m+

## Trench 3A

Site area:	Field number 3		
Maximum dimensions:	Length: 25m	Width: 1.6m	Depth: 0.56m
Orientation:	East-West		
Main deposit description			

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
300	Topsoil	Light brown sandy clay silt with small and large rounded stones. Charcoal flecks	0-0.48m
301	Subsoil	Mid-yellow brown clayey silt with small pebbles.	0.48-56m+
302	Natural	Mid-brown-red clay with rounded stones	0.56m+
303	Cut	Linear/pit with sloping sides	0.56-2.1m
304	Fill	Mid-brown silty clay with small and large pebbles	1.45-2.15m
305	Fill	Mix and mid brown silty clay and red brown clay with small and large stones.	1.08-1.45m
306	Fill	Mid-brown silty clay with gravel, slumping at east side of trench.	0.75-1.45m
307	Fill	Mid-brown orange clayey silt with charcoal and pottery.	0.6-1.08m

#### Trench 3B

Site area:	Field number 3			
Maximum dimensions:	Length: 12.4m	Width: 1.6m	Depth: 0.5m	
Orientation:	East-West			

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
300	Topsoil	Light brown sandy clay with small and large rounded stones. Charcoal flecks	0-0.3m
301	Subsoil	Mid-brown clayey silt with small and moderate pebbles.	0.3-0.5m
302	Natural	Mid-reddish-brown clay with rounded stones.	0.5m+
308	Cut	Linear ditch 1.2m wide, 0.5m deep.	0.5-1m
309	Fill	Mid-brown silty clay with occasional small stones.	0.5-1m

### Trench 4

Site area:	Field number 4		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.35m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
400	Topsoil	Light brown clay with small and large rounded stones.	0-0.2m
401	Subsoil	Compact mid-brown silty sand with small and medium sub-angular stones	0.2-0.35m
402	Natural	Reddish-brown sandy clay with rounded stones.	0.35m+

## Trench 5

Site area:	Field number 4		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.4m
Orientation:	North-South		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
500	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.2m
501	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.2-0.4m
502	Natural	Reddish-brown sandy clay with rounded stones.	0.4m+

## Trench 6

Site area: Field number 4
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Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.35m
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Orientation: Northeast-Southwest

Context	Classification	Description	Depth	below	ground
			surface	(b.g.s) -	top and

			bottom of deposits
600	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.18m
601	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.18-0.35m
602	Natural	Reddish-brown sandy clay with rounded stones.	0.35m+

Sewer pipe present in trench at depth of approximately 0.4m

#### Trench 7

Site area:	Field number 4		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.75m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
700	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.3m
701	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.3-0.75m
702	Natural	Reddish-brown sandy clay with rounded stones.	0.75m+

## Trench 8

Site area:	Field number 4			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.75m	
Orientation:	East-West			

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
800	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.3m
801	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.3-0.75m
802	Natural	Reddish-brown sandy clay with	0.75m+

		rounde	ed stones.	
Trench 9				
Site area:	Field number 5			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.55m	

Orientation: East-West

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
900	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.3m
901	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.3-0.55m
902	Natural	Reddish-brown sandy clay with rounded stones.	0.55m+
903	Fill	Mid-brown sandy clay with gravel. Fill of 905.	0.4-1.05m
904	Fill	Compact mid-reddish brown silty sand. Fill of 905	0.4-1.05m
905	Cut	Linear ditch 1.5m wide, 0.64m deep aligned east-west.	0.4-1.05m

#### Trench 10

Site area:	Field number 5		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.55m

East-West

Orientation:

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1000	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.3m
1001	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.3-0.55m
1002	Natural	Reddish-brown sandy clay with rounded stones.	0.55m+

1003	Fill	Compact mid-brown clayey sand. Fill of 1006.	0.35-0.68m
1004	Fill	Compact mid-reddish brown clayey sand. Fill of 1006	0.4-0.9m
1005	Fill	Compact mid-reddish brown clayey sand with gravel.	0.32-1.16m
1006	Cut	Linear ditch 2m wide, 0.72m deep aligned east-west.	0.35-1.16m
Trench 11	'		

Site area:	Field number 5		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.55m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1100	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.3m
1101	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.3-0.55m
1102	Natural	Reddish-brown sandy clay with rounded stones.	0.55m+
1103	Cut	Linear ditch 1.4m wide 0.4m deep.	0.55-1m
1104	Fill	Dark reddish brown clayey silt. Fill of 1105. Pottery found	0.55-1m

#### Trench 5

Site area:	Field number 4		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.4m
Orientation:	North-South		

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
500	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.2m

501	Subsoil		Friable occasion	light br nal small	own silty rounded s	y sand stones.	with	0.2-0.4m
502	Natural		Reddish rounded	-brown stones.	sandy	clay	with	0.4m+
Trench 12		•						
Site area:	Field number 6							
Maximum dimensions:	Length: 20m W	Vidth:	1.6m	Depth:	0.55m			
Orientation:	East-West							

#### Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1200	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.2m
1201	Subsoil	Friable mid-brown silty sand with occasional small rounded stones.	0.2-0.55m
1202	Natural	Reddish-brown sandy clay with rounded stones.	0.55m+

## Trench 13

Site area:	Field number 6		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.4m
Orientation:	East-West		

## Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1300	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.2m
1301	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.2-0.4m
1302	Natural	Reddish-brown sandy clay with rounded stones.	0.4m+

#### Trench 14

Site area:

Field number 7
Maximum dimensions: Length: 20m Width: 1.6m Depth: 0.4m

Orientation: East-West

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1400	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.2m
1401	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.2-0.4m
1402	Natural	Reddish-brown sandy clay with rounded stones. Modern tree bowls present	0.4m+

Trench 15

Site area:	Field number 7		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.44m

East-West

Orientation:

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1500	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.28m
1501	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.28-0.44m
1502	Natural	Reddish-brown sandy clay with rounded stones.	0.44m+
Trench 16			
Site area:	Field number 7		

Maximum dimensions: Length: 20m Width: 1.6m Depth: 0.42n
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Orientation: East-West

Context Classi	ification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
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1600	Topsoil	Light brown silty sand with small and large rounded stones.	0-0.28m
1601	Subsoil	Friable light brown silty sand with occasional small rounded stones.	0.28-0.42m
1602	Natural	Reddish-brown sandy clay with rounded stones.	0.42m+
Trench 17A			

Site area:	Field number 7			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.45m	

East-West

Orientation:

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits	
1700	Topsoil	Light mid-reddish brown clayey sand with small rounded stones.	0-0.2m	
1701	Subsoil	Friable light reddish brown clayey sand with occasional small rounded stones.	0.2-0.45m	
1702	Natural	Reddish-brown sandy clay with rounded stones.	0.45m+	
1703	Cut	Cut of linear gully	0.45-0.75m	
1704	Fill	Friable mid yellow brown silty sand with gravel and charcoal flecks. Fill of 1703	0.45-0.75m	
1705	Cut	Cut of linear/pit	0.45-1m	
1706	Fill	Loose light-mid yellow brown clayey sand with gravel and large stones	0.45-1m	
1713	Cut	Cut of linear ditch, possibly Roman, truncated by post-medieval features.	0.45-0.8m+	
1714	Fill	Light reddish-brown clayey sand. Fill of 1713.	0.45-0.8m+	
1715	Cut	Cut of ditch	0.2-0.6m	
1716	Fill	Loose silty sand with clay. Fill of disused modern service trench	0.2-0.6m	

#### Trench 17B

Site area:

Field number 7

Maximum dimensions: Length: 20m Width: 1.6m

Orientation:

North-South

Depth: 0.35m

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits	
1700	Topsoil	Light mid-reddish brown clayey sand with small rounded stones.	0-0.14m	
1701	Subsoil	Friable light reddish brown clayey sand with occasional small rounded stones.	0.14-0.35m	
1702	Natural	Reddish-brown sandy clay with rounded stones.	0.35m+	
1707	Cut	Cut of linear ditch feature with gradual sloping sides.	0.35-0.95m	
1708	Fill	Light reddish brown silty clay with occasional small stones. Fill of 1707	0.35-0.95m	
1709	Cut	Cut of linear with sloping concave side. Only partially excavated, truncated by modern service trench.	0.35-0.6m	
1710	Fill	Friable mid-brown red clayey sand with gravel and charcoal flecks.	0.35-0.6m	
1711	Cut	Cut of disused modern service trench.	0.14-0.6m	
1712	Fill	Loose silty sand with clay. Fill of disused modern service trench	0.14-0.6m	

#### Trench 18A

Site area:	Field number 8		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.3m
Orientation:	East-West		

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits	
1800	Topsoil	Light brown clayey sand with small rounded stones.	0-0.12m	
1801	Subsoil	Friable light brown red clayey sand with occasional small rounded stones.	0.12-0.3m	

1802	Natural		Reddish rounded	-brown l stones.	sandy	clay	with	0.3m+
Trench 18B								
Site area:	Field number 8							
Maximum dimensions:	Length: 20m	Width:	1.6m	Depth: 0	).5m			
Orientation:	East-West							

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1800	Topsoil	Light brown clayey sand with small rounded stones.	0-0.2m
1801	Subsoil	Friable light brown red clayey sand with occasional small rounded stones.	0.2-0.5m
1802	Natural	Reddish-brown sandy clay with rounded stones.	0.5m+

#### Trench 23

Site area:	Field number 11			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.48m	
Orientation:	East-West			

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2300	Topsoil	Friable brown clayey sand with gravel.	0-0.37m
2301	Layer	Mid red brown clayey sand with large stones, gravel and charcoal. Layer of made ground	0.37-0.5m
2302	Natural	Reddish-brown sandy clay with rounded stones.	0.5m+
Trench 24			
Site area:	Field number 11		

Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.87m
Orientation:	East-West		

### Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2400	Topsoil	Mid brown clayey sand with gravel.	0-0.47m
2401	Layer	Mid red brown clayey sand with large stones, gravel, bricks and charcoal. Layer of made ground	0.47-0.87m
2402	Natural	Reddish-brown sandy clay with rounded stones.	0.87m+
Trench 25	'	•	

Site area:	Field number 11		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.37m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2500	Topsoil	Friable brown clayey sand with gravel.	0-0.25m
2501	Subsoil	Mid red brown clayey sand with medium stones, gravel and charcoal.	0.25-0.37m
2502	Natural	Reddish-brown sandy clay with rounded stones.	0.37m+

### Trench 26

Site area:	Field number 11			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.4m	

Orientation: East-West

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2600	Topsoil	Friable brown clayey sand with gravel.	0-0.26m
2601	Subsoil	Mid red brown clayey sand with small stones, gravel and charcoal.	0.26-0.4m
2602	Natural	Reddish-brown sandy clay with	0.4m+

		rounded	d stones.	
Trench 27				
Site area:	Field number 12	2		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.4m	
Orientation:	East-West			

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2700	Topsoil	Friable brown clayey sand with gravel.	0-0.26m
2701	Subsoil	Mid red brown clayey sand with small stones, gravel and charcoal.	0.26-0.4m
2702	Natural	Reddish-brown sandy clay with rounded stones.	0.4m+

#### Trench 28

Site area:	Field number 14			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.49m	
Orientation:	East-West			

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2800	Topsoil	Friable brown silty sand with gravel.	0-0.3m
2801	Subsoil	Light brown silty sand with small stones, gravel and charcoal.	0.3-0.49m
2802	Natural	Dark reddish-brown sandy clay with rounded stones.	0.49m+

#### Trench 29

Site area:	Field number 14	ŀ	
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.33m
Orientation:	East-West		

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
2900	Topsoil	Friable brown silty sand with gravel.	0-0.23m
2901	Subsoil	Light brown silty sand with small and medium stones, gravel and charcoal.	0.23-0.33m
2902	Natural	Dark reddish-brown sandy clay with rounded stones.	0.33m+
Trench 30	'	'	'
Site area:	Field number 15		
Maximum dimensions:	Length: 20m Width:	1.6m Depth: 0.3m	

Orientation: East-West

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
3000	Topsoil	Friable brown silty sand with gravel.	0-0.12m
3001	Subsoil	Light brown silty sand with small stones, gravel and charcoal.	0.12-0.3m
3002	Natural	Dark reddish-brown sandy clay with rounded stones.	0.3m+

#### Trench 31

Site area:	Field number 15			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.38m	
Orientation:	East-West			

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
3100	Topsoil	Light reddish brown clayey sand with gravel.	0-0.13m
3101	Subsoil	Light reddish brown clayey sand with small stones, gravel and charcoal.	0.13-0.38m
3102	Natural	Light reddish-brown sandy clay with rounded stones.	0.38m+

#### Trench 32

Site area:	Field number 15			
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.32m	
Orientation:	East-West			

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
3200	Topsoil	Light reddish brown clayey sand with gravel.	0-0.21m
3201	Subsoil	Light reddish brown clayey sand with small stones, gravel and charcoal.	0.13-0.32m
3202	Natural	Light reddish-brown sandy clay with rounded stones.	0.32m+

#### Trench 33

Site area:	Field number 16		
Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.37m
Orientation:	East-West		

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
3300	Topsoil	Light reddish brown silty sand with gravel.	0-0.2m
3301	Subsoil	Light reddish brown silty sand with small stones, gravel and charcoal.	0.2-0.37m
3302	Natural	Light reddish-brown sandy clay with rounded stones.	0.37m+

#### Trench 34

Site area: Field number 16	Site area:	Field number 16
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Maximum dimensions:	Length: 20m	Width: 1.6m	Depth: 0.46m
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Orientation: East-West

Context	Classification	Description	Depth surface	below (b.g.s) -	ground - top and
			Sarrace	(0.5.0)	top unu

			bottom of deposits
3400	Topsoil	Light orange brown silty sand with gravel.	0-0.2m
3401	Subsoil	Light orange brown silty sand with small stones, gravel and charcoal.	0.2-0.46m
3402	Natural	Light reddish-brown sandy clay with rounded stones.	0.46m+

# Appendix 2 tables

Material	Total	Weight
		(g)
Roman pottery	104	1209
Medieval pottery	2	17
<b>Post-medieval pottery</b>	7	113
Modern pottery	2	3
Tile	3	18
Stone tile	1	82
Brick	17	2201
Fired clay	21	144
Furnce lining	135	7777
Iron	6	20
Coal	1	2
Clay pipe stem	1	4
Vessel glass	8	121
13.1.1 Flint	1	2

Table 1: Quantification of the assemblage

Fabric	Fabric name	Context	Total	Weight
no.			sherds	(g)
28	Nene Valley colour-coated ware	104	4	9
29	Oxfordshire red/brown colour-coated ware	104	2	2
12	Oxidised Severn Valley ware	0	31	159
12	Oxidised Severn Valley ware	103	9	50
12	Oxidised Severn Valley ware	104	10	164
12	Oxidised Severn Valley ware	106	12	115
12	Oxidised Severn Valley ware	107	5	356
12	Oxidised Severn Valley ware	110	2	7
12	Oxidised Severn Valley ware	116	9	60
12	Oxidised Severn Valley ware	303	2	30
12.2	Organically tempered oxidised Severn Valley ware	103	2	13
12.2	Organically tempered oxidised Severn Valley ware	107	2	39
19	Wheelthrown Malvernian ware	0	2	71
22	Black Burnished ware I	0	4	54
22	Black Burnished ware I	106	1	15
22	Black Burnished ware I	303	4	5
33	Oxfordshire white mortarium	107	1	39
43	Samian ware	110	2	18
85	Modernern stone china	1706A	2	3
90	Orange ware	0	4	36
90	Orange ware	1706A	2	28
91	Post-medieval buff ware	0	1	49

98	Miscellaneous Roman wares	1104	Frags	3
99	Miscellaneous medieval wares	0	2	17

Table 2: Quantification of pottery fabrics

Trench	Context	Material	Total	Weight Date range		Period
no.				(g)		
1	0	Roman pottery	33	259	Mid 1st-4th century	Roman
1	0	Medieval pottery	2	17		Medieval
1	0	Furnace/hearth lining	20	140		Roman
1	103	Roman pottery	11	63	Mid 1st-3rd century	Roman
1	103	Furnace/hearth lining	14	1320		Roman
1	104	Roman pottery	16	178	Mid 3rd-4th century	Roman
1	104	Furnace/hearth lining	47	1735		Roman
1	104	Coal	1	2		Roman
1	106	Furnace/hearth lining	49	2947		Roman
1	106	Roman pottery	14	130	Late 2nd-4th century	Roman
1	107	Roman pottery	8	434	Mid 1st-Late 3rd century	Roman
1	107	Stone tile	1	82		Roman
1	107	Tile	1	1		Roman
1	110	Roman pottery	4	25	Mid 1st-mid 3rd century	Roman
1	110	Furnace/hearth lining	21	1374		Roman
1	116	Roman pottery	9	60	Mid 1st-4th century	Roman
1	117	Furnace/hearth lining	4	401		Roman
3	0	Roman pottery	1	13	2nd century	Roman
3	303	Roman pottery	6	35	2nd-4th centiry	Roman
3	307	Fired clay	1	4		Roman
3	307	Flint tool	1	2		Prehistoric
11	0	Roman pottery	2	1	Mid 1st-4th century	Roman
11	1104	Roman pottery	0	3		Roman
13	0	Roman pottery	1	11	Mid 1st-4th century	Roman
17	0	Brick	2	11	18th-20th century	Modern
17	0	Post-medieval pottery	4	36	18th-19th century	Post-medieval
17B	1706	Iron nail	1	4		
31	0	Post-medieval pottery	1	49	17th-18th century	Post-medieval
32	0	Tile	2	17	18th century	Post-medieval
32	0	Clay pipe stem	1	4		Post-medieval
17A	1706A	Modernern pottery	2	3	Late 19th-20th century	Modern
17A	1706A	Post-medieval pottery	2	28	18th-19th century	Post-medieval
17A	1706A	Iron object	5	16		
17A	1706A	Vessel glass	8	121		Modern
17A	1706A	Brick	15	2190		Post-medieval

Table 3: Summary of the assemblage

## **Appendix 3 tables**

#### Table 4: List of environmental samples

Context no	Context type	Period	Sample vol	Vol processed	Res	Flot
					assessed	assessed
104	pit/ditch	RBR	10	10	Y	Y
106	pit/ditch	RBR	10	0		
107	pit/ditch	RBR	10	10		Y
117	pit	RBR	10	10	Y	Y
307	pit/ditch	RBR	10	10	Y	Y

309	ditch	PRE/ROM	10	10	Y	Y
903/904	ditch	RBR	10	10	Y	Y
1003	ditch	RBR	10	10	Y	Y
1104	ditch	RBR	10	10	Y	Y
1706	ditch	MOD	10	10	Y	Y
1708	ditch	PRE/ROM	10	10	Y	Y

#### Table 5: Mollusc remains

	Table 1: Minimum Numbers of Individuals							
Context Number	302	902	1004	1104				
Mollusca								
Carychium tridentatum	10	26	5	3				
Carychium minimum		32						
Carychium sp		11	9					
Cochilicopa lubrica	1	7		1				
Vertigo moulusiana	1							
Vertigo pygmaea		2	1	2				
Pupilla muscorum		1						
Vallonia costata		2						
Vallonia pulchella								
Vallonia excentrica		14		4				
<i>Vallonia</i> sp	6	4	2	5				
Oxychilus sp		12	1	1				
Trichia hispida		8	2	6				
Hellicella itala		6		2				
Punctum Pygmaeum		14						
<i>Cepaea</i> sp		3		2				
Zonitoides excavatus	2							
Ceciliodes accicula				1				
Limacaidae		1						

**Appendix 4** Geophysical Survey Along the A4103 Roman Road, Hereford, Herefordshire Northamptonshire Archaeology

Appendix 5 Ground Probing Radar Survey at Roman Road, Hereford Stratascan

A Report for

# WORCESTERSHIRE ARCHAEOLOGICAL SERVICE

on a

Ground Probing Radar Survey

carried out at

## Roman Road, Hereford

August 2002

Job Ref. No. 1695



Author

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Field team K I Taylor BSc (Hons) T P Schofield HND BSc PIFA C S Johnston A Report for

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### **1 SUMMARY OF RESULTS**

The survey has successfully located evidence of a previous road surface which has been interpreted as a Roman road together with evidence of the accompanying north and south ditches.

#### 2 INTRODUCTION

#### 2.1 Background synopsis

Stratascan were commissioned by Worcestershire Archaeological Service to undertake a survey over a length of Roman road in Hereford on behalf of Herefordshire Council. It is believed to underlie its present day namesake and this survey forms part of an archaeological investigation prior to developments along the road.

#### 2.2 <u>Site location</u>

The survey was located to the north of the city of Hereford on the road known as *Roman Road*. The start of the survey was centred on NGR ref SO 487423 in the east and the end of the survey was to the west and centred on NGR ref. So 465424.

#### 2.3 Description of site

The survey was carried out in twelve separate sections from east to west perpendicular to the road itself. The photograph below shows the typical conditions of the survey.



*View westwards of the road surveyed. In the foreground is section 6 with section 7 located in front of the entrance to the field on the right.* 

The underlying geology is lower old red sandstone (British Geological Survey South Sheet, Third Edition Solid, 1979). The overlying soils are known as Bromyard soils

which are typical argillic brown earths and consist of well drained reddish fine silty soils (Soil Survey of England and Wales, Sheet 3 Midland and Western England).

#### 2.6 <u>Site history</u>

The present day *Roman Road* in Hereford is believed to follow the course of a Roman road. These roads of Roman date were often composed of gravel and were typically associated with flanking ditches. Any evidence of the Roman road surface is likely to exist within 1m of the present surface.

#### 2.5 <u>Survey objectives</u>

The objectives of the survey were to determine the likely existence of earlier road surfaces under the present surface and the extent of ground disturbance from modern services.

#### 2.6 <u>Survey methods</u>

Ground probing radar was considered to be the most suitable technique. More information regarding this technique has been included in the Methodology section below.

#### **3** METHODOLOGY

#### 3.1 Date of fieldwork

The fieldwork was carried out on Monday 12<sup>th</sup> August 2002 when the weather was sunny.

#### 3.2 <u>Grid locations</u>

The location of each section surveyed has been plotted in Figure 2. The actual location of survey lines and referencing information have been plotted in Figures 3a-3c.

#### 3.3 Description of technique and equipment configuration

Two of the main advantages of radar are its ability to give information of depth as well as work through a variety of surfaces, even in cluttered environments and which normally prevent other geophysical techniques being used.

A short pulse of energy is emitted into the ground and echoes are returned from the interfaces between different materials in the ground. The amplitude of these returns depends on the change in velocity of the radar wave as it crosses these interfaces. A measure of these velocities is given by the dielectric constant of that material. The travel times are recorded for each return on the radargram and an approximate conversion made to depth by calculating or assuming an average dielectric constant (see below).

Drier materials such as sand, gravel and rocks, i.e. materials which are less conductive (or more resistant), will permit the survey of deeper sections than wetter materials such as clays which are more conductive (or less resistant). Penetration can be increased by using longer wavelengths (lower frequencies) but at the expense of resolution (see 3.4.2 below).

As the antennae emit a "cone" shaped pulse of energy an offset target showing a perpendicular face to the radar wave will be "seen" before the antenna passes over it. A resultant characteristic *diffraction* pattern is thus built up in the shape of a hyperbola. A classic target generating such a diffraction is a pipeline when the antenna is travelling across the line of the pipe. However it should be pointed out that if the interface between the target and its surrounds does not result in a marked change in velocity then only a weak hyperbola will be seen, if at all.

The Ground Probing Impulse Radar used was a SIR2000 system manufactured by Geophysical Survey Systems Inc. (GSSI).

The radar surveys were carried out with a 400MHz antenna. This mid-range frequency offers a good combination of depth of penetration and resolution.

#### 3.4 Sampling interval, depth of scan, resolution and data capture

#### 3.4.1 Sampling interval

Radar scans were carried out along parallel traverses either 1m or 2m apart on a parallel grid as shown in Figures 3a-c. Data was collected at 40 scans/metre. A measuring wheel was used to put markers into the recorded radargram at 1m centres.

#### 3.4.2 Depth of scan and resolution

The average velocity of the radar pulse is calculated to be 0.16m/nsec which is typical for the type of sub-soils on the site. With a range setting of 40nsec this equates to a maximum depth of scan of 2.0m but it must be remembered that this figure could vary by  $\pm$  10% or more. A further point worth making is that very shallow features are lost in the strong surface response experienced with this technique.

Under ideal circumstances the minimum size of a vertical feature seen by a 200MHz (relatively low frequency) antenna in a damp soil would be 0.1m (i.e. this antenna has a wavelength in damp soil of about 0.4m and the vertical resolution is one quarter of this wavelength). It is interesting to compare this with the 400MHz antenna, which has a wavelength in the same material of 0.2m giving a theoretical resolution of 0.05m. A 900MHz antenna would give 0.09m and 0.02m respectively.

#### 3.4.3 *Data capture*

Data is displayed on a monitor as well as being recorded onto an internal hard disk. The data is later downloaded into a computer for processing.

3.5 <u>Processing of the data</u>

The radar plots included in this report have been produced from the recorded data using Radan software. The radar data was filtered with a FIR background filter within *Radan* to reduce noise.

#### 3.6 <u>Interpretation of results</u>

#### Manual abstraction

Each radargram has been studied and those anomalies thought to be significant were noted and classified as detailed below. Inevitably some simplification has been made to classify the diversity of responses found in radargrams.

i. Strong and weak discrete reflector.

These may be a mix of different types of reflectors but their limits can be clearly defined. Their inclusion as a separate category has been considered justified in order to emphasise anomalous returns which may be from archaeological targets and would not otherwise be highlighted in the analysis.

#### ii. Complex reflectors.

These would generally indicate a confused or complex structure to the subsurface. An occurrence of such returns, particularly where the natural soils or rocks are homogeneous, would suggest artificial disturbances. These are subdivided into both strong and weak giving an indication of the extent of change of velocity across the interface, which in turn may be associated with a marked change in material or moisture content.

iii. Point diffractions.

These may be formed by a discrete object such as a stone or a linear feature such as a small diameter pipeline being crossed by the radar traverse (see also the second sentence in 4. below).

iv. Convex reflectors and broad crested diffractions.

A convex reflector can be formed by a convex shaped buried interface such as a vault or very large diameter pipeline or culvert. A broad crested diffraction as opposed to a point diffraction can be formed by (for example) a large diameter pipe or a narrow wall generating a hybrid of a point diffraction and convex reflector where the central section is a reflection off the top of the target and the edges/sides forming diffractions.

v. Planar returns.

These may be formed by a floor or some other interface parallel with the surface. These are subdivided into both strong and weak giving an indication of the extent of change of velocity across the interface which in turn may be associated with a marked change in material or moisture content.

#### 4. **RESULTS**

The radargrams for each section have been interrogated retrospectively and the features noted have been plotted onto a plan for each individual section, together with an example radargram demonstrating the features observed. Both the raw and processed radargrams are shown with the anomalies highlighted in the processed data for consistency. To distinguish between the present day name of the road and the previous road of the Roman period the name shall be italicised as *Roman Road*.

#### 4.1 <u>Section 1</u>

Running along the north side of section 1 at a depth between approximately 1.2-1.3m was an area of complexity which appears to have a distinct edge along its southern side. This feature is reminiscent of a previous road surface and so has been abstracted in Figure 4 as possibly belonging to the previous Roman road. Abutting its southern edge at depth an inclining horizon can be seen with what appears to be a complex fill. Its appearance and position suggest that it may be the accompanying south flanking ditch to the Roman road. Above this, however, is an area showing strong horizons which is believed to be associated with the construction of a later road.

#### 4.2 <u>Section 2</u>

The example radargram in Figure 5 shows a clearly visible buried surface which can be observed down to a depth of 1.0-1.1m. As with section 1 this feature can be seen on the northern side of *Roman Road* and has been interpreted as the possible surface of the road of Roman date. No accompanying south flanking ditch was visible but this may be due to the disturbance from the service and from the construction of a later road surface, both of which have been plotted in Figure 5.

#### 4.3 <u>Section 3</u>

A similar scenario to section 2 seems to have occurred with section 3. A buried horizon on the north side of the road can be identified in the data (as seen in the example radargram in Figure 6) and has been interpreted as the possible Roman road surface. However, its southern edge has been disrupted by an area of complexity relating to modern services and probably modern road material. This can be seen in the plan for section 3 in Figure 6.

#### 4.4 <u>Section 4</u>

The raw data shown in the example radargram for section 4 (Figure 7) shows the feature identified as the possible previous surface of the Roman road banded to the north and south by a modern service. Also on the north side running into the adjoining road an area of strong complexity can be seen. This appears to relate to where the adjoining road meets *Roman Road* and has been interpreted as a later road make up, probably modern.

#### 4.5 <u>Section 5</u>

The data for section 5 shows a feature interpreted as possibly belonging to the Roman road and, as previously, banded between two services (Figure 8). However, the example radargram shows evidence of an inclining anomaly which is dipping southwards which can be observed on the very edge of the survey area. This may be related to partial remains of the south flanking ditch to the road of Roman date which seems to have been destroyed by modern disturbance to the west and east of section 5.

#### 4.6 <u>Section 6</u>

In section 6 the survey appears to have located evidence of both the possible previous surface of the Roman road and its south flanking ditch, as seen in the example radargram. Except for a service abstracted on the north side of the road there seems to be little in the way of modern disturbance.

#### 4.7 <u>Section 7</u>

The example radargram in Figure 10 shows a discrete anomaly interpreted as the possible Roman road. The processed data clearly shows a dipping horizon to the south which could belong to the south flanking ditch. In addition, along the north side of the possible Roman road a further ditch or trench has been abstracted which may be evidence of the north flanking ditch.

#### 4.8 <u>Section 8</u>

In section 8 no evidence of any previous road surfaces or ditches related to the road of possible Roman date have been located. The data shows a deal of disturbance across the whole section of survey with a line of point diffraction anomalies abstracted for the length which may belong to a service or possible construction joint in the road as demonstrated in Figure 11.

#### 4.9 <u>Section 9</u>

In section 9 there appears to be similar evidence for the possible Roman road as seen in the previous sections (as shown in the example radargram Figure 12). However, there are also a number of point diffractions of which a number have been traced through the survey as probable services. For a short length on the north side a feature resembling a ditch can be seen which is thought to relate to the north ditch flanking the road of possible Roman date.

#### 4.10 <u>Section 10</u>

The possible Roman road appears to be continuing into section 10 (Figure 13) although the evidence becomes weaker from line 93 westwards. Along its southern edge a series of anomalies resembling a ditch can be seen. However, the appearance of the ditch differs from the ditch flanking the southern side of the possible Roman road identified in previous sections. It appears to lack the dipping horizons and is more reminiscent of a trench associated with a service.

#### 4.11 Section 11

The discrete feature showing a buried horizon associated with the possible Roman road can also be seen in section 11 (Figure 14). As with section 10 the evidence becomes weaker towards the west end of the survey area. The feature also seen in section 10 interpreted as a possible service trench can be seen to continue. However, its function is more apparent due to the location of a service within the trench on the edge of the survey (as seen in the example radargram). It is therefore unlikely to be the south flanking ditch.

#### 4.12 <u>Section 12</u>

Evidence of the possible Roman road can be seen in the example radargram in Figure 15. The ability to extend the survey north and southwards in this section have enabled the north and south flanking ditches to be located in the form of inclining horizons. Furthermore, the data has shown the returning sides of the ditches and thus allowing depths to the bottom of the ditch to be seen. These depths have been plotted in Figure 15. Part of the north section of the possible Roman road appears to have been lost to a trench inserted for a service of which have been identified in the example radargram.

#### 5 CONCLUSION

The GPR survey has successfully located evidence of a previous buried road service along the whole length of the survey (approximately 2km) which is thought to belong to the road constructed during the Roman period. In several places evidence of both the north and south flanking ditches can be observed. Although there is some disturbance from later road construction and services its appears that there is potential for good survival of the Roman road. Reproduced from Ordnance Survey's 1:50000 map with the permission of the controller of Her Majesty's Stationary Office. Crown Copyright reserved. Licences: Stratascan Ltd. Vineyard House Upper Hook Road Upton Upon Severn WR8 0SA OS 100km square = S0

















Roman extend some depth

/	/   Amendments				
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SECTION 2. LINE 16. EXAMPLE RADARGRAM

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2	ROMAN ROAD HEREFORD							
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SECTION 3. LINE 24. EXAMPLE RADARGRAM

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	Client		wc		IRE			
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SECTION 4. LINE 37. EXAMPLE RADARGRAM

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SECTION 5. LINE 45. EXAMPLE RADARGRAM

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SECTION 6. LINE 53. EXAMPLE RADARGRAM





SECTION 7. LINE 64. EXAMPLE RADARGRAM

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