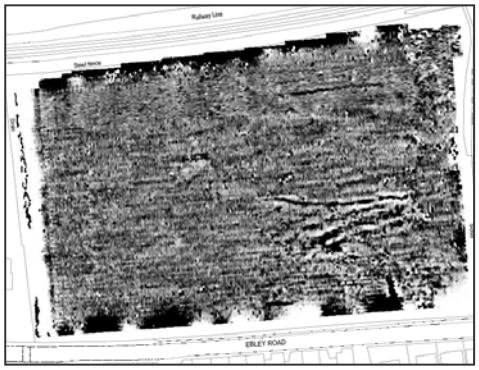
Fox's Field, Ebley Road, Stonehouse, Gloucestershire.

Archaeological Evaluation Project

STGCM2009.69



On behalf of

Barratt Homes Bristol

Andrew Young BA AIFA

Avon Archaeological Unit Limited

Bristol, October 2009

Fox's Field, Ebley Road, Stonehouse, Gloucestershire
Archaeological Evaluation Project 2009
NGR S0 821 048

Excavation of a Romano-British ditch containing large Romano-British pottery sherds in Evaluation Trench 3

Andrew C. Young BA AIFA

Avon Archaeological Unit Limited
Bristol: October 2009

Summary

An archaeological project involving the excavation of ten trial trenches was undertaken by the Unit to evaluate a site of proposed development at Fox's Field, Stonehouse, Gloucestershire, centred at NGR S0 821 048. The site is located in the civil parish of Stonehouse, on the outskirts of Ebley, a village in Cainscross civil parish and at the time of the Study consisted of some 3 Hectares of open agricultural land bounded by the B4008 Stonehouse to Ebley Road to the south and the Gloucester to Swindon railway line to the north. The evaluation project followed on from the results of a preceding Desktop Study and geophysical survey although no previous intrusive archaeological assessment had been undertaken.

The preliminary geophysical survey undertaken by GeoQuest Associates located a number of linear, localised and dispersed magnetic anomalies of potential archaeological significance. The majority of these anomalies were located in the centre and eastern half of the site with the greatest concentration and most clearly defined magnetic signatures being in the southeastern quadrant. A total of ten evaluation trenches were subsequently opened by machine to establish the archaeological significance of the geophysical features as well as to provide a representative sample of the subterranean deposits present on the site.

Of the ten evaluation trenches opened during the project, four, Trenches 2, 3, 4 and 5, identified a large number of shallowly buried archaeological deposits and cut soil features reflecting a previously unknown Romano-British settlement site. The overall extent of this Romano-British activity and its precise character remains uncertain although the intensity of archaeological activity within the study area, both in terms of features and artefacts, appeared highest in the southeastern quadrant of the site and diminished substantially in the western half of the site.

The presence of a significant number of postholes and post pits in Trenches 3, 4 and 5, coupled with the presence of very large amounts of primary domestic pottery sherds in association with ceramic building material, suggests the recorded features represent elements of substantial Roman structures of earthfast construction in addition to a series of enclosure ditches located in the southeastern quadrant of the site.

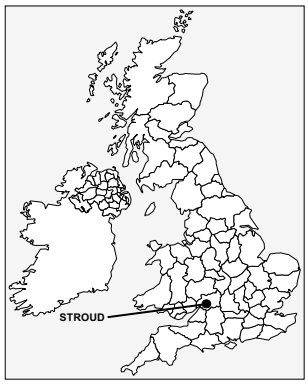
A significant assemblage of pottery was recovered from stratified archaeological contexts in the trenches, the overwhelming majority of which is of Romano-British date. The assemblage indicates a main emphasis of settlement activity during the 2nd century AD although material of 1st century and pre-Roman native wares are also represented along with a smaller component of 3rd century date. This assemblage, in conjunction with a collection of Roman tile, including roof (*tegulae*), box-flu and flat tile, points to the presence of a well appointed Roman building, possibly a villa, close by. Other finds, in particular large quantities of Roman technology residues recovered from a number of the Roman ditches, indicates that the settlement had a mixed economic base that incorporated both mixed agriculture and ironworking. The pottery dates indicate that if the settlement did incorporate a a villa-type building it is slightly unusual, in that it appears to have been abandoned earlier than many other similar sites in the region.

In addition to the Romano-British finds a smaller assemblage of residual flint objects and part of a rare Neolithic polished stone mace-head were recovered. The macehead is an unusual find and combined with a handful of contemporary prehistoric pottery sherds may indicate something more than transient activity in the area during the later prehistoric period.

On the basis of the information gathered during the project it is concluded that the archaeology identified on the site is of very considerable local and probably regional significance although not of National Importance, and therefore cannot justify Preservation in-situ at the expense of future development. In view of this it is suggested that the archaeology identified on the site is of sufficient importance to justify further detailed archaeological mitigation prior to destruction, in order to ensure its full understanding and Preservation by Record, in accordance with the guidelines set out in PPG16.

Figure 1

Location of the Study Area



The Study Area

Plans and maps based on the Ordnance Survey Sheets are reproduced by the permission of Her Majesty's Stationery Office.

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Scale 1:25,000

Figure 2

Approximate Boundary of the Site (outlined in red) showing Location of Trenches 1-10

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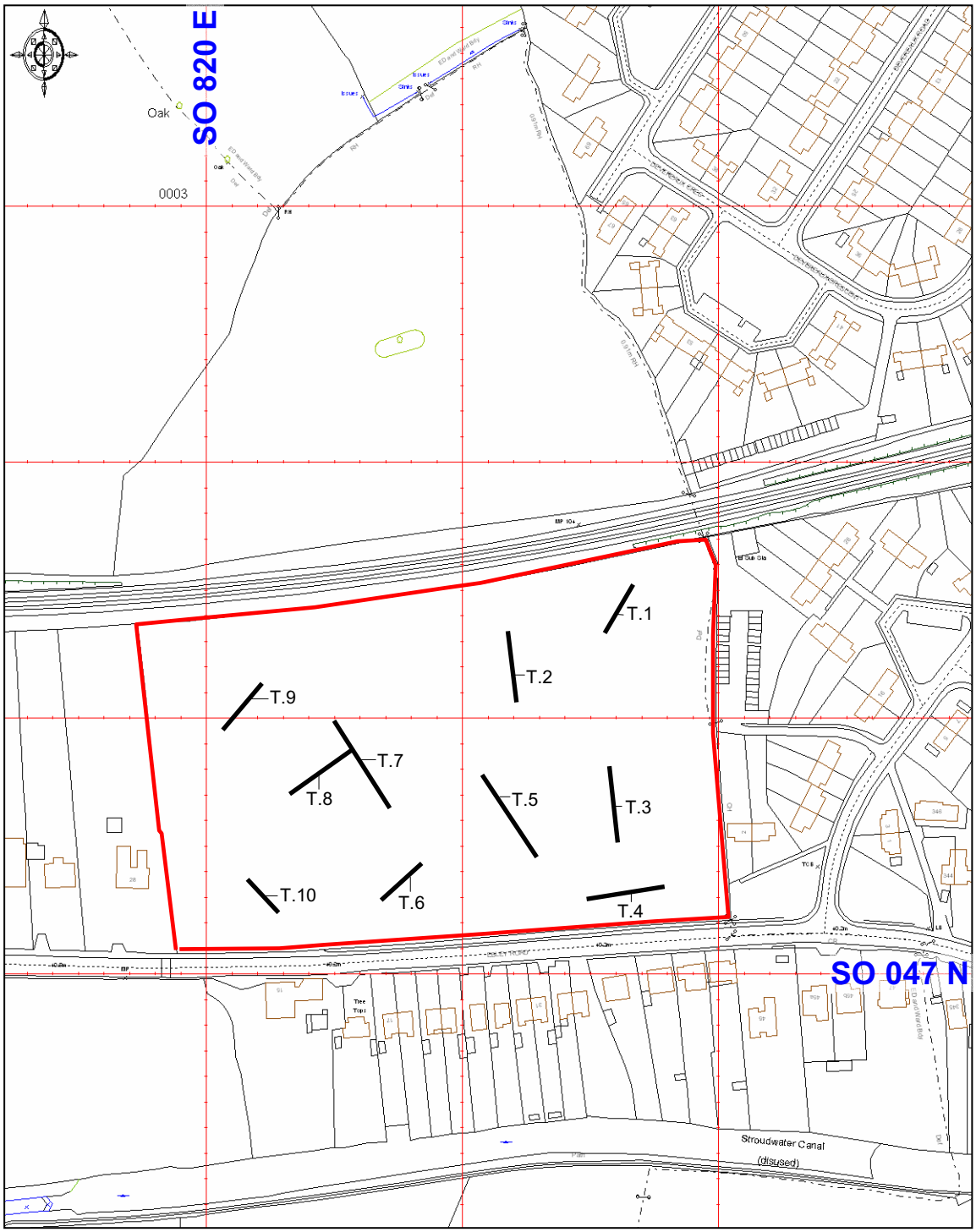

Scale 1:2,500

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Frontispiece …….. Excavation of a Roman ditch containing large pottery sherds in Evaluation Trench 3

Plate 1……. Trench 1 as excavated looking north. Scale 1m

Plate 2……. Trench 2 as excavated looking north. Scale 1m
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ACKNOWLEDGEMENTS

Avon Archaeological Unit Limited wishes to thank the landowner, Mr Richard Fox for his assistance during the course of the work and Barratt Homes Bristol for funding the project. Thanks also to Charles Parry, Senior Archaeological Officer for Gloucestershire County Council, for his comments and advice during the project. Finally, thanks are also due to Professor Mark Noel, Dr Jane Timby, Sarah Paynter of English Heritage and Lorrain Higbee for undertaking their specialist reports and assessments at short notice.

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PROJECT HEALTH & SAFETY STATEMENT

In all matters pertaining to this fieldwork and research project Health and Safety has taken priority over all archaeological matters.

All archaeological fieldwork has been undertaken in accordance with the guidelines set out by the Standing Conference of Archaeological Unit Managers (SCAUM 2002, *Health & Safety in Field Archaeology*) and also the relevant requirements set out in Construction (Design & Management) Regulations 1994 (Health & Safety Commission; 1994).

NOTE

Whereas Avon Archaeological Unit Limited have taken all care to produce a comprehensive summary of the known and recorded archaeological evidence, no responsibility can be accepted for any omissions of fact or opinion, however caused.

1 Introduction

It is proposed to develop a parcel of agricultural land known as Fox's Field at Stonehouse, Gloucestershire located at NGR S0 821 048 (Figures 1 and 2). The site encompasses an area of approximately 3 Hectares that is bounded by the B4008 Stonehouse to Ebley road on the south side and the Gloucester to Swindon railway line to the north. It is located in the civil parish of Stonehouse, some 1.5 km to the south east of the town centre, on the outskirts of Ebley, a village in Cainscross civil parish. Both parishes lie in Stroud District, County of Gloucester and the Study Area adjoins the western side of the boundary between the two parishes.

Barratt Homes Limited seeks Planning Permission to develop the site and in order to establish the possible future archaeological impact of future development an archaeological evaluation has been requested by the Archaeological Officer for Gloucestershire County Council prior to determination, in order to establish the archaeological potential of the site and the potential impact of any future development on any buried archaeological deposits present.

The project represented the third stage of research for the site and followed on from a preceding archaeological Desktop Study (Etheridge 2008) and geophysical survey (GeoQuest Associates this report). No previous intrusive archaeological assessment had been undertaken on the site. This results of the evaluation trenching were required by the Archaeological Officer for Gloucestershire County Council in advance of the determination of planning consent in order to determine the character of anomalies located by the preceding geophysical survey and to establish the presence or absence of significant buried archaeological deposits on the site and, if present, to establish their character and importance and the impact the proposed future development of the site may have on the archaeological resource.

Avon Archaeological Unit Limited (The Unit) was commissioned by Barratt Homes Bristol to undertake the trial excavations in accordance with an archaeological Scheme of Work for Evaluation approved by the Senior Archaeological Officer for Gloucestershire County Council, Mr Charles Parry. The work involved a full geophysical (magnetometer) survey followed by the excavation of ten trial trenches at agreed locations across the site, their layout designed to characterise the archaeological potential of a series of magnetic anomalies identified by the geophysical survey.

The Study Area is situated at the foot of the Cotswold ridge on land rising northwards between the 40 and 50 m aOD contour lines. The underlying geology is comprised of Liassic clays (Herbert 1972, 268; Kellaway and Welch 1948, 50), probably of the lower or middle Liassic.

The programme of site work was carried out over a period of 3 working weeks, commencing on 30th July 2009 and followed by a further four weeks of post-excavation processing, analysis, reporting and compilation of the site archive.

The project archive, which includes all site records, drawings, photographs and finds will be temporarily stored at the premises of the Avon Archaeological Unit Limited, Avondale Business Centre, Woodland Way, Kingswood, Bristol BS15 1AW. The archive will ultimately be deposited at Stroud Museum in the Park for long-term curation and storage under museum accession number STGCM2009.69.

2 Methodology

Ten evaluation trenches (Figures 2 and 3, Trenches 1 - 10) were opened at selected locations and each was allocated a unique set of context-based record numbers prefixed with the trench number (eg. Trench 1 - Context 100 onwards, Trench 2 - Context 200 onwards up to Trench 4, Context 400 etc.).

In view of the data gathered during the preceding geophysical survey, and further to advice from the County Archaeological Officer, the evaluation trenches were targeted as follows:

Trench 1 Sited in eastern part of the site and designed to evaluate the location of an area of diffuse magnetic response that possibly indicated an area of disturbed ground or buried deposits of unknown origin

Trench 2 The trench was sited to evaluate a strong linear negative magnetic feature, possibly reflecting a buried ditch, aligned west to east and an area of diffuse and weaker magnetic response located to the south of it.

Trench 3 The trench was sited to evaluate a series of strong linear positive and negative magnetic anomalies, the majority seemingly aligned west to east, in the southeastern quadrant of the site

Trench 4 The trench was sited to evaluate a strong linear positive and negative magnetic anomaly aligned north to south and a series of localised negative anomalies to the east of this feature.

Trench 5 The trench was sited to evaluate the western part of the same group of the strong linear positive and negative magnetic anomalies evaluated by Trench 3.

Trench 6 The trench was sited to evaluate a linear magnetic anomaly (geophysical feature f5) aligned north to south and to ensure a representative sample of the site was evaluated.

Trench 7 & 8 These trenches were sited to evaluate a group of weak linear mainly negative magnetic responses.

Trench 9 The trench was sited to ensure a representative sample of the site was evaluated.

Trench 10 The trench was sited to ensure a representative sample of the site was evaluated.

The location of each trench was related to the National Grid using a EDM Total Station and levelled to a benchmark located on the south side of Ebley Road towards Cainscross, some 750m to the east of the site.

Archaeological field recording was undertaken using standard Avon Archaeological Unit Limited context-based record sheets. Significant archaeological features, structures and deposits were photographed and scaled drawings made where appropriate. Artefacts recovered during the trial excavation were bagged and marked with the appropriate context number and subsequently removed for in-house processing and specialist assessment where necessary. All stratified and non-stratified ceramics were retained for detailed reporting.

Written, drawn and photographic records of all significant archaeological deposits were compiled for each trench, to include:

i) A pro-forma context-based archaeological record for each stratigraphic unit.
ii) Plan of each trench showing the extent of all significant stratigraphic units and appropriate detail within stratigraphic units. The archaeological plans and sections were drawn at the standard scale of 1:20 and 1:10 respectively.
iii) A full photographic record was compiled for all significant stratigraphic units and in addition, a representative photographic record of the progress of the archaeological work.
iv) Bulk samples of specific archaeological deposits were taken where appropriate for the assessment of technological and environmental remains.

At the conclusion of fieldwork all the trenches were backfilled with excavated material by machine.

3 Historical and Archaeological Background

The archaeological and historical setting and background to the site was examined during the preceding Desktop Study (Etheridge, ibid). The principal results of the study were summarised as follows:

The Study Area currently comprises a single field, known as Fox's Field, located on the North side of Ebley Road between Ebley Road and the Gloucester to Swindon railway line. The Study Area is located on the North side of the Frome river valley, situated on a spur of the Cotswold edge, on land rising from c. 40 m to c. 50 m aOD.

The Study area is located within the former medieval manor of Stonehouse and the ancient parishes of Stonehouse and Randwick. The medieval manor of Stonehouse was recorded in the Domesday Book, where it was owned by William of Eu. By the early 12th century ownership had passed to the de Clare's, later Earls of Pembroke and thereafter the Gifford's of Brimpsfield held the manor from the Earl's of Pembroke during the 12th and 13th centuries. In the 14th century ownership once again passed by marriage to the Earls of Arundel. In 1558 the manor was sold to William Fowler and William Sandford, two Stonehouse clothiers, who divided the manor between them. The manor court provided local civil administration and justice until the early 19th century. The earliest detailed maps of the Study Area, the Stonehouse Tithe Survey of 1839 and the Randwick Tithe Survey of 1842, both indicate the Study Area formerly comprised parts of two fields. Both fields were pasture, but were likely to have been post-medieval enclosures that subdivided larger medieval arable open fields known to have existed around Stonehouse and Ebley. A lane, Greenstead Lane, no longer extant and of uncertain but probably early origin, once crossed the northeastern corner of the Study Area and separated the two post medieval fields. The route of the lane suggests the Study Area may straddle the boundary between two medieval open fields, with records suggesting that a third open field adjoined the western side of the Study Area. Following these two surveys the Cheltenham and Great Western Union railway (opened in 1845) was constructed, bisecting both fields and forming the northern boundary of the Study Area. No bridge was provided for Greenstead Lane, which subsequently fell out of use. By 1925 land adjoining the western boundary of the Study Area had been developed for a single house with garden. Later housing has been constructed on land adjoining the eastern boundary of the Study Area.

Aerial photographs taken from 1946 onwards, held in the National Monuments Record, Swindon, show a series of crop or vegetation marks within the Study Area. Some of the vegetation features are interpreted to represent former historic arable cultivation although a large curvilinear vegetation parch mark, which does not correspond with known former land use or division, is considered to be of potential archaeological significance.

Non systematic walkover of the site during a site visit noted the presence of one sherd of probable medieval earthenware, one broken prehistoric flint blade, and one fragment of probable Roman glass, together with moderate amounts of later post medieval ceramics, glass and ferrous slag.

No modern intrusive archaeological work has been undertaken either within or adjacent to the Study Area.

4 Geophysical Survey (see Appendix I)

The first stage of the present project involved a 100% geophysical survey of the site undertaken by GeoQuest Associates under the leadership of Prof. Mark Noel. The full results of the survey and their interpretation, used to inform the layout of the succeeding evaluation trenches, are included below as Appendix I.

5 The Evaluation Trenches

5.1 Trench 1

NGR SO 8217 0485 to SO 8216 0483
Figures 2 – 4, Plate 1

The trench was 20m long and aligned southwest to northeast and located in the northeastern corner of the study area (Figure 2). It was sited in order to evaluate an area of suggested ferrous litter (Figure 3, geophysical feature f2) that possibly indicated an area of disturbed ground or buried deposits of unknown origin

General Stratigraphy

The trench was excavated to a maximum depth of c.500 mm below the modern ground surface through a simple stratigraphic sequence comprising up to 310mm of silt-clay topsoil (Context 100) that in turn overlay up to 200m of silt clay subsoil (Context 102) and undisturbed natural clay (Context 106) containing patchy but occasionally dense natural manganese staining.

Archaeological Deposits and Features

No significant archaeological deposits or finds of any kind were revealed in the trench.

4.2 Trench 2

NGR SO 8211 0483 to SO 8212 0481
Figures 2 – 4, 5.1 and 7.1, Plate 2

The trench was 29m long, aligned N to S and located in the northeastern quarter of the proposed development footprint (Figures 2 and 3). It was sited to evaluate a strong linear negative magnetic feature (Geophysical Features f8), possibly reflecting one or more buried ditches, aligned west to east and an area of diffuse and weaker magnetic response located to the south of it.

4.2.1 General Stratigraphy

The trench was excavated to an average maximum depth of c 500mm below the modern ground surface that in the main revealed a simple stratigraphic sequence comprising up to

350mm of silt clay topsoil (Context 201) that in turn overlay up to 100mm of silt clay subsoil (Context 202) and undisturbed natural clay substrate (Context 204). This natural sequence was interrupted towards the southern end of the trench by a single cut soil feature (Figure 5.2, Ditch 210) aligned east to west, which was cut into the natural clay and sealed by the subsoil (202).

4.2.2 Archaeological Deposits and Features

Ditch 210 crossed the southern half of the trench in an east to west alignment. The ditch cut was 2.46m wide and p to 480mm deep with an asymmetrical V-shaped profile. The single fill (203) consisted of clean redeposited silt clay with very few inclusions. No dating evidence or finds were recovered from the deposit, which was sealed by the subsoil.

The position of Ditch 210 did not corresponded at all closely with the location of Geophysical Features f8 although it was in a parallel orientation. No archaeological deposits or features were located in the northern half of the trench to explain Geophysical Features f8.

Elsewhere in the trench the sequence of deposits present was entirely of natural origin and no other archaeological deposits were revealed.

4.3 Trench 3

NGR SO 8216 0479 to SO 8216 0475
Figures 2 – 4, 5.2 and 5.3, Plates 3 and 10-12

The trench was 30m long and aligned north to south, centrally in the eastern half of the study area (Figures 2 and 3). It was sited to evaluate a series of strong linear positive and negative magnetic anomalies (Geophysical Features f3), aligned parallel and west to east, in the southeastern quadrant of the site

4.3.1 General Stratigraphy

The trench was excavated by machine to an average depth of between 300 and 600mm through a simple stratigraphic sequence that at the southern end of the trench consisted of up to 500 mm of friable clay-loam topsoil (Context 301) that in turn overlay up to 280mm of silt-clay subsoil (Context 302) and undisturbed natural clay (Context 303/320). This simple natural sequence was interrupted periodically throughout the trench by a series of shallowly buried archaeological deposits and cut soil features (below).

4.3.2 Archaeological Deposits and Features

Initial machine clearance revealed a series of intermittent dark soil deposits (Deposits 307, 308, 305 and 304) along the trench, some, for example Deposit 307 appearing to represent a linear soil feature, others (e.g. 305 and 308) reflecting irregular soil spreads. Each of these deposits contained sherds of Romano-British pottery.

Excavation of Deposit 307 confirmed that it represented the primary fill of a larger ditch (Figure 5.2, Cut 323), some 1.7m wide and c.500mm deep, aligned east to west that was cut into the natural substrate. The upper ditch fill (307) was subsequently recut on the north side by a shallower parallel feature, Ditch 324. The primary fill of Ditch 323 produced over 100 sherds of Roman pottery dating from the earlier 2nd century AD including a largely complete sherds from a white-slipped oxidised flagon (shown on the front cover of this report) probably from the Gloucester kilns and thus likely to date to the Flavio-Trajanic period.

Excavation of Deposit 308 (Figure 4.2) produced an assemblage of 2nd century AD Roman pottery sherds (Appendix II) and revealed a group of underlying cut soil features, (Figure 4.2, Cuts 316, 317, 318 and 319). Features 316 and 317 were intercut, Feature 317 being the later although too little of either feature was revealed in plan to ascertain their pecise function. Feature 316 was 150mm deep, at least 2.1m wide and had an asymmetric profile. Pottery from the single homogeneous fill (315) dated to the later 2nd century AD.

Feature 317, possibly reflecting the eastern terminal of a gully, was 650mm wide, 220mm deep and cut into the fill (315) of Feature 316. Pottery from the single fill (311) was restricted to a single late 2nd century sherd. Feature 319, adjacent, was not excavated but appeared to represent a small posthole of similar date. Feature 318 was linear, a small gully, 280mm wide and aligned east to west. The feature was also not excavated.

Excavation of Deposit 305 (Figure 4.2) produced an assemblage of late 2nd to 3rd century AD Roman pottery sherds (Appendix II) and revealed a layer of small limestone (Liassic and Jurassic) and rare sandstone rubble (Layer 310) that was up to 100mm deep and set in a clay matrix containing common charcoal and lime (?mortar) flecks. The deposit was not excavated but recorded in section (Figure 5.3) where it was sealed by remnant subsoil and overlay the fill of an earlier gully (Gully 314). Gully 314 was 470mm deep, up to 470mm wide and had a regular flat U-shaped profile consistent with a beam slot. Fifty sherds of pottery were recovered from the single homogeneous fill (309) dating to the 2nd century AD.

The position and orientation of Ditch 323/324 and Deposits 305 an 308 corresponded well with the location of the complex group of geophysical anomalies enumerated Geophysical Features f3. The deposits and soil features located in the trench appear from the associated pottery to be of a fairly consistent 2nd century AD date whilst the forms present suggest they reflect structural earthfast and boundary related features that have been denuded by agricultural activity. The function of Layer 310 was less clear although the deposit possibly reflected the remains of a floor makeup layer or trackway metalling.

4.4 Trench 4

NGR SO 8217 0473 to SO 8214 0472
Figures 2 – 4, 5.4 and 6, Plates 4, 7 and 8

The trench was 30m long and aligned east to west, in the southeastern corner of the study area (Figures 2 and 3). It was positioned to evaluate a strong linear positive and negative magnetic anomaly (Geophysical Feature f8) aligned north to south and an area of possible ferrous litter (f2) to the east of this feature.

4.4.1 General Stratigraphy

The trench was opened by machine to a maximum depth of c. 400mm below the modern ground surface through a generally simple stratigraphic sequence comprising up to 250mm of silt-clay topsoil (401) that in turn overlay a series of separate, shallow, lenticular deposits of clean silt-clay (Deposits 415, 417) interpreted to reflect medieval ridge and furrow cultivation features. These deposits in turn either cut the natural clay substrate (424) or truncated earlier Romano-British archaeological features and deposits (below).

4.4.2 Archaeological Deposits and Features

Machine excavation revealed a series of intermittent dark soil deposits (Figure 4.3 and Plate 4; Deposits 415, 425, 423, 421 and 427). Deposit 415, located approximately

centrally, was the most substantial deposit in plan and appeared to represent a large linear cut soil feature. Other features were more localised but the majority of these deposits contained sherds of Romano-British pottery.

Excavation of Deposit 415 confirmed that it filled a broad shallow cut soil feature (Figure 5.4, Cut 424) approximately 4m wide and 700mm deep that was in part cut into an earlier sequence of darker and mixed soil deposits (Figure 5.4; 413, 418 and 419) containing Roman pottery sherds and other cultural material. Feature 424 appeared to represent part of a medieval cultivation furrow. These stratified deposits (413 etc.) filled an earlier large cut feature (Ditch 414) that was at least 4.3m wide but whose western side had been destroyed by the medieval furrow (415/424 above). Finds from the primary ditch fill (419) included a substantial assemblage of Roman sherds dating to the later 2nd century and large amounts of ferrous ironworking residues (Appendix III) plus animal bone (Appendix IV) and iron objects (see Section 5.6 below). Ceramics (Appendix II) recovered from the intermediate and upper fills of the ditch were of similar 2nd century AD date and included fragments of box-flu and roof tile (*tegulae*).

A pair of closely spaced postholes (Features 427 and 428) were located just outside and to the east of the edge of the ditch (414) cut. Both were cut into the natural clay substrate and sealed by subsoil/furrow soil (417). Pottery of 2nd century AD date was recovered from Posthole 427. A further pair of subcircular postholes (Postholes 421 and 427), the largest approximately 650mm wide, were located approximately 5m to the east, both also cut into the natural clay substrate. The fill of Feature 421 produced Roman pottery of 2nd century AD date.

Two further probable postholes (Features 423 and 425) were located just to the west of Ditch 414. Feature 423 was oval in plan with an irregular W-shaped profile indicating that it probably represented a pair of adjacent smaller postholes. The features were of similar depth, up to 150mm deep, and cut into the natural clay substrate. No finds or dating evidence was recovered from the homogeneous silt-clay fill. The second posthole or small pit (425) was located close to the western side of Ditch 414 and extended into the trench section. The feature was not excavated but finds from surface cleaning included 2nd century pottery and fragments of Roman ceramic roof tile (*tegulae*).

The position and orientation of Ditch 414 corresponded well with the location and orientation of Geophysical Feature f8 whilst the presence of large quantities of ironworking residues possibly explains Geophysical feature f2 to the east. The pottery recovered from the excavated features is of consistent 2nd century AD date whilst the arrangement of postholes suggests an earthfast timber structure immediately inside the eastern shoulder of the ditch with evidence for further earthfast timber structures to both the west and east of the ditch. The presence of ceramic box-flu and roof tile from fill deposits suggest they derive from a substantial Roman building located nearby.

4.5 Trench 5

NGR SO 8210 0477 to SO 8212 0474
Figures 2 – 4, 5.5 and 6, Plate 5 and 9

The trench was 39m long and aligned northwest to southeast, centrally in the eastern half of the study area (Figures 2 and 3). It was sited to evaluate the western part of a series of strong linear positive and negative magnetic anomalies (Geophysical Features f3), aligned parallel and west to east, in the southeastern quadrant of the site.

4.3.2 General Stratigraphy

The trench was excavated by machine to an average depth of 500mm through a simple stratigraphic sequence that consisted of up to 340 mm of friable clay-silt topsoil (Context

501) that in turn overlay up to 230mm of silt-clay subsoil (Context 502) and undisturbed natural clay (Context 524). This simple natural sequence was interrupted periodically throughout the trench by a series of shallowly buried archaeological deposits and cut soil features (below).

4.3.2 Archaeological Deposits and Features

Initial machine clearance revealed a series of intermittent dark soil deposits (Deposits 508, 505, 504, 512 and 520) along the trench, some, for example Deposit 508, appeared to represent a linear soil feature, others, for example 504 and 505, reflecting less regular soil spreads. The majority of these deposits produced sherds of Romano-British pottery on initial exposure by machine.

Excavation of Deposit 508 confirmed that it represented the upper fill of a larger ditch (Figures 4.4 and 5.5, Cut 519), some 2.2m wide and c.850mm deep, aligned approximately east to west, which was cut into the natural clay and gravel substrate (524). The ditch cut (519) had a flat base and broad U-shaped profile containing a thick primary fill (513), which produced pottery sherds of 1st century AD date. The upper fill (508) was aceramic and clearly sealed by the subsoil (502).

The excavation of Deposit 505 (Figure 4.4), which produced pottery sherds of later 2nd century AD date, and cleaning of adjacent areas revealed a group of underlying cut soil features, (Figure 4.4, Cuts 507, 517, 515, 522 and 528). Features 507 and 517 represented a pair of small gullies aligned parallel, southwest to northeast, and some 4m apart. Gully 517 was 520mm wide but only 60mm deep with a flat bottomed U-shaped profile. The single fill (518) produced pottery sherds of 2nd century AD date. Features 515, 522 and 528 represented a group of postholes of similar size cut into the natural substrate and sealed by Layer 505. None of the features were more than 110mm deep and all were aceramic.

Excavation of Deposit 504 (Figure 4.4) produced an assemblage of late 2nd to 3rd century AD Roman pottery sherds (Appendix II) and revealed a broad, shallow, cut feature (527) whose character was unclear. Feature 527 was 2m wide and appeared linear in plan, aligned approximately southwest to northeast. The feature was nowhere more than 210mm deep and cut into the natural clay substrate. An irregular cut feature (510) located immediately to the north was of similarly shallow depth but produced pottery sherds of 2nd century AD date.

The location of a further possible cut soil feature or features was indicated by darker soils (512 and 520) revealed at the extreme SE end of the trench. The deposits were not excavated although the latter produced surface finds of 2nd century AD pottery.

The position and orientation of Ditch 519 and Deposits 504 and 505 corresponded well with the location and general orientation of the complex group of geophysical anomalies enumerated Geophysical Features f3. The deposits and soil features excavated in the trench produced pottery of 1st to 2nd century AD date with Ditch 519 possibly representing the earliest phase of activity dating to the 1st century AD. The presence of a series of postholes of similar size in close association with shallow flat-bottomed gullies suggests the remains of earthfast timber structures are represented.

4.6 Trench 6

NGR SO 8208 0474 to SO 8206 0472
Figures 2 – 4, Plates 6 and 13

The trench was 22m long and aligned southwest to northeast in the southwestern quadrant of the study area (Figures 2 and 3). It was sited to evaluate a linear magnetic

anomaly (geophysical feature f5) aligned north to south and to ensure a representative sample of the site was evaluated.

General Stratigraphy

The trench was excavated to a maximum depth of c.450 mm below the modern ground surface through a simple stratigraphic sequence comprising up to 360mm of clay-loam topsoil (Context 601) that directly overlay the undisturbed natural clay substrate (Context 602). No subsoil layer was presently in the trench.

Archaeological Deposits and Features

Two small oval soil features (Cuts 603 and 605) were revealed cut into the natural clay towards the southwestern end of the trench. Feature 603 was the larger, oval in plan and up to 350mm wide and 280mm deep. Feature 603 was 130mm deep. Both features appeared to represent small truncated postholes although neither produced any dating evidence.

No other significant archaeological deposits or finds were revealed in the trench.

No evidence was identified in the trench to corroborate an archaeological origin for Geophysical Feature f5.

4.7 Trench 7
NGR SO 8207 0477 to SO 8204 0479
Figures 2 – 3

The trench formed one arm of a T-shaped arrangement that joined with Trench 8. The trench was 41m long and aligned northwest to southeast, centrally in the western half the study area (Figures x and y). It was sited to evaluate a weak rectilinear magnetic anomaly (Geophysical Feature f4) and a weak linear anomaly (Geophysical Anomaly f7).

General Stratigraphy

The trench was excavated to a maximum depth of c.910 mm below the modern ground surface through a simple and uniform stratigraphic sequence comprising up to 360mm of silt-clay topsoil (Context 701) and up to 210mm of clay subsoil (702) that in turn overlay the undisturbed natural clay substrate (Context 703).

Archaeological Deposits and Features

No significant archaeological deposits or finds of any kind were revealed in the trench.

No evidence was identified in the trench to corroborate an archaeological origin for Geophysical Features f4 or f7.

4.8 Trench 8
NGR SO 8203 0473 to SO 8205 0478
Figures 2 – 3

The trench formed the SW-NE arm of a T-shaped arrangement that joined with Trench 7. The trench was 30m long and aligned southwest to northeast, centrally in the western half the study area (Figures 2 and 3). It was also sited to evaluate a weak rectilinear magnetic

anomaly (Geophysical Feature f4) and similarly weak linear anomaly (Geophysical feature f6).

General Stratigraphy

The trench was excavated to a maximum depth of c.840 mm below the modern ground surface through a simple and uniform stratigraphic sequence comprising up to 320mm of silt-clay topsoil (Context 801) and up to 210mm of clay subsoil (802) that in turn overlay the undisturbed natural clay substrate (Context 803).

Archaeological Deposits and Features

No significant archaeological deposits or finds of any kind were revealed in the trench.

No evidence was identified in the trench to corroborate an archaeological origin for Geophysical Features f4 and f6.

4.9 Trench 9
NGR SO 8202 0481 to SO 8200 0479
Figures 2 – 3

The trench was 24m long and aligned southwest to northeast in the northwestern quadrant of the study area (Figures x an y). It was sited to ensure a representative sample of the site was evaluated.

General Stratigraphy

The trench was excavated to a maximum depth of c.610 mm below the modern ground surface through a simple and uniform stratigraphic sequence comprising up to 460mm of silt-clay topsoil (Context 901) that directly overlay undisturbed natural clay substrate (Context 902). No subsoil layer was present.

Archaeological Deposits and Features

No significant archaeological deposits or finds of any kind were revealed in the trench.

4.10 Trench 10
NGR SO 8201 0473 to SO 8202 0472
Figures 2 – 3

The trench was 18m long and aligned northwest to southeast in the southwestern corner of the study area (Figures x an y). It was sited to ensure a representative sample of the site was evaluated.

General Stratigraphy

The trench was excavated to a maximum depth of c.790 mm below the modern ground surface through a simple and uniform stratigraphic sequence comprising up to 360mm of silt-clay topsoil (Context 1001) and up to 170mm of clay subsoil (1002) that in turn overlay the undisturbed natural clay substrate (Context 1003).

Archaeological Deposits and Features

No significant archaeological deposits or finds of any kind were revealed in the trench.

5 In House and Specialist Assessment & Summary Finds Reports

5.1 The Pottery

The evaluation trenches produced an assemblage of 996 sherds of pottery weighing 14.5 kg, virtually all of which dates to the Romano-British period. The assemblage was processed and quantified and forwarded to Dr Jane Timby for specialist identification and assessment. The results are appended below as Appendix II

5.2 Technology Residues

A 4.5kg sample of technology residues recovered from Romano-British deposits in Trenches 3, 4 and 5 were submitted to Sarah Paynter of Fort Cumberland, Portsmouth, for specialist identification and assessment. Dr Paynter's report is appended below as Appendix III.

5.3 Animal Bone

A small assemblage of stratified animal bone was recovered from the trenches. The assemblage was assessed by specialist Lorrain Higbee (Appendix V below).

5.4 **Lithics** by Dr Jane Timby and Andrew Young

5.4.1 A Neolithic Stone Macehead (see Appendix IV below for report by Jane Timby)

5.4.2 Other stone

Context (504). Fragment of worked stone with a curved edge. 44 mm x 25 mm x 10 mm thick.
Context (407). Fragment of Forest of Dean micaceous sandstone. ?Roof tile.
Context (419). Fragment of Forest of Dean micaceous sandstone. ?Roof tile.
Context (419). Water worn limestone pebble. Burnt but not worked.

5.4.3 Flint by Andrew Young

A small assemblage of 33 flints, weighing a total of 135g, was recovered during the evaluation, the great majority from Trenches 3, 4 and 5. Overall the collection is unremarkable with five separate varieties of flint represented and includes ten utilised or worked flints with the remainder consisting of primary and secondary trimming flakes plus a number of small chips. The identifiable tools represented include 5 complete or partial small blades, one possible microlith, two flake side/end scrapers, a single oblique point and a possible piercer. The scrapers combined with the oblique point indicate a Late Neolithic/Early Bronze Age date for at least some of the activity represented, consistent with the dating of the stone macehead. The remainder of the collection is not typologically diagnostic. The collection is not considered of sufficient merit to justify detailed specialist assessment reporting..

Catalogue of Flint Objects (overleaf)

Context	Count	Weight g	Description
100	1	2	1 x thick prismatic tertiary flake 1 x fragment of large blade core with flake scars, heavily burnt
300	1 1	18 4	Large flake side scraper on thick secondary flake with primary cortex and some re-cortification. Irregular retouch on dorsal and ventral edge. Rejuvenated side scraper. Neolithic/BA tool 37mm x 30mm Thick tertiary flake from blade core. Unworked
302	1	7	Broken flake end/side scraper on thick flake with some primary cortex. Fine stee[p retouch on dorsal edge. Neolithic/BA tool. 30mm x 23mm
307	1 1	1 2	Irregular chip with cortex Secondary trimming flake with cortex. Not utilised
400	1 1 1 1	1 2 2 3	Prismatic secondary trimming flake with cortex. Not utilised Secondary trimming flake with cortex and recortification. Not utilised Thick tertiary flake. Not utilised Irregular secondary trimming chunk with cortex. Not utilised
401	1 1 1 3	2 1 3 3	Blade from core with heavily utilised edges. Neolithic/BA. 22mm x 10mm ?Microlith. Small oval flake with ?utilised edge-wear. ?Mesolithic/Neolithic Flake reusing part of a previously ?polished stone object. Flake has a prismatic cross-section with thicker part blunted. Utislised edge but no retouch evident. Utilised flake blade Irregular small struck trimming chips. Not utilised
406	1 1 1	2 4 6	Blade with flake scars from core with cortex at distal end. ?utilised 32mm x 9mm Irregular chunk with cortex. Not utilised Thick prismatic flake of buff chert/flint with remnant cortex. Possible retouch on distal edge. Utilised 25mm x 25mm
413	1	3	Irregular blade from core. Not utilised
419	2	6	Irregular trimming ships. Not utilised
501	1 1	5 2	Thick secondary trimming flake with primary context and heavy recortification. Not utilised Small thick flake with ?crushed lateral edges and burnt. Possibly utilised. 20mm x 12mm
504	1	3	Flake with dorsal flake scars and ?blunted distal end. Oblique point/arrowhead 30mm x 18mm. Neolithic/BA
505	1	2	Blade. Prismatic flake with some earlier recortified surfaces. Some possible lateral edge-wear. 25mm x 15mm
507	1	2	Irregular tertiary flake. Not utilised
508	1 1	8 <1	Thick primary flake with cortex ?utilised as piercer at distal end Irregular flake. Not utilised
513	1	3	Secondary trimming flake with cortex and some recortification of surface. Rejuventated as ?blade with lateral edge-wear.
604	1	1	Small chip or possible blade fragment
702	1	1	Secondary flake. Not utilised

5.5 **Environmental Remains** by Lisa Gray

Bulk soil samples were taken from 12 stratified Romano-British contexts. The samples were processed through a 500 micron wet sieve mesh and both the flot and residue collected.

The sample flots have been submitted to Lisa Gray for specialist assessment and the results will be added to the project archive once available.

5.6 **Metal Objects** by Sarah Newns

Copper alloy

A small assemblage of four copper alloy objects, weighing less than 5g in total, was recovered during the evaluation. These comprised one modern shot-gun cartridge and three objects of probable Romano-British date.

A Romano-British fibula brooch pin (SF 1) was recovered from Context 405, the fill of later pit, Cut 425. The remaining two objects, a domed circular mount (SF 2) in fragmentary condition and a shroud pin fragment (SF 3) were both recovered from the fill of the large Romano- British ditch (Ditch 414) in Trench 4.

Iron Objects

Note : The collection of iron objects have been submitted to specialists for x-radiograph (forthcoming).

An assemblage of 48 iron objects/fragments was recovered during the evaluation, weighing a total of 716g. Of these, approximately half (20 objects) comprised corroded nails or nail fragments, the majority consisting of headless shanks, ranging in length from 12mm to 67mm. A further 17 objects comprised small, unidentifiable fragments of iron, each weighing less than 12g.

The remaining 11 objects comprised fragments of other objects, which were complete in themselves, but which were too heavily corroded to be identifiable. These included a large, curved section of iron rod (SF 49), weighing 156g, a possible finger ring fragment (possibly composite) with flattened bezel (SF 50), a possible coin/token (SF 36), a possible clap/fastener fragment (SF 14), a domed circular object (SF 48), two possible horse-shoe fragments and a section of a possibly hollow cylindrical object (SF 33). X-ray of these objects mayl permit their more accurate identification.

With the exception of a single hobnail (SF 9) from the fill (Context 504) of a Romano-British gully (Cut 527) in Trench 5 and two nail fragments from layers (302 and 308), in Trench 3, the remainder of the assemblage was retrieved from Trench 4, at the south-east edge of the site. The majority of the ironwork was retrieved from a single feature, Romano-British Ditch 414, which yielded all eleven larger fragments/objects, the majority of the nails/nail shanks and the majority of the smaller, unidentifiable iron fragments. The primary fill (Contexts 411/419) of this ditch also contained significant amounts of slag, vitrified lining and hearth bottom fragments, indicative of both iron smelting and smithing in the vicinity (see technology report, Appendix III). It is thus likely that the ironwork retrieved from the ditch (which constitutes the majority of the assemblage) was of local manufacture. The smaller fragments of iron are thus likely to represent off-cuts, re-useable material or other products of the manufacturing process (ibid.). Dating by the associated pottery recovered from ditch (414) (see pottery report, Appendix II), would suggest a 2nd century date for the majority of the metalwork assemblage.

Table 1 – Catalogue of Metal Objects

Context	Trench	Quantity	Weight (g)	Description
302	3	1	6	SF 17: Probable iron nail fragment.
305	3	1	<2	SF 6: Copper alloy shot-gun cartridge.
308	3	4	4	SF 18: Probable iron nail shank.
401	4	1	12	SF 53: Small, sub-rectangular flattened iron fragment.
405	4	2	3	SF 1: Copper alloy probable brooch pin (RB). SF 10: Probable iron nail shank.
407	4	1	6	SF 54: Possible iron nail shank.
411	4	3	14	SF 3: Copper alloy shroud pin fragment. SF 50: Iron (?composite) possible finger ring fragment with flattened bezel. SF 52: Small, wedge-shaped iron fragment.
413	4	9	60	SF 2: Circular domed copper alloy mount, fragmentary condition. SF 11: Large iron nail, 67mm long, probably complete, square-sectioned shank. SF 12: Small iron nail, 24mm long, probably complete, square-sectioned shank, flattened square head. SF 13: Possible iron nail shank. SF 14: Fragment of small iron disc-shaped object with hook at one end. Possible clasp/fastener. SF 15 : Probable iron nail shank. SF 16: Small iron fragment. SF 19: Large iron nail shank, 65mm long, square-sectioned. SF 20: Small wedge-shaped iron fragment.
418	4	17	159	SF 33: Cylindrical iron object, possibly with central longitudinal perforation. SF 34: Flattened triangular iron fragment. SF 35: Small corroded iron fragment. SF 36: Small, flat iron disc (Possible coin/token). SF 38: Iron nail, square-sectioned shank, sub-rectangular head. SF 39: Iron nail shank, square-sectioned. SF 40: Small iron fragment. SF 41: Small iron nail, square-sectioned shank, sub-rectangular head. SF 42: Curved, flattened piece of iron. SF 43: Wedge-shaped iron nail. SF 44: Iron nail shank, 67mm long, square-sectioned. SF 45: Curved, flattened piece of iron. SF 56: Five small iron fragments.
419	4	16	464	SF 21: Possible iron nail shank. SF 22: Large-headed iron nail. SF 23: Small, flattened iron fragment. SF 24: Iron nail shank. SF 25: Small, flattened iron fragment, possibly folded over at one end. SF 26: Small, lozenge-shaped iron object. SF 27: Possible iron nail shank. SF 28: Curved iron fragment. SF 29: Possible iron nail shank. SF 30: Iron fragment. SF 31: Possible iron nail shank. SF 32: Small, wedge-shaped iron fragment. SF 46: Large iron nail, shank only, square-sectioned, 70mm long. SF 47: Large, lozenge-shaped iron object, 76mm long by 45mm wide by 22mm broad. SF 48: Large circular domed iron object, 58mm diameter, 23mm broad. SF 49: Curved iron rod, circular in section, 132mm long.
504	5	1	4	SF 9: Probable iron hobnail.

6 Discussion & General Conclusions

The preliminary geophysical survey undertaken by GeoQuest Associates (Appendix I) located a number of linear, localised and dispersed magnetic anomalies of potential archaeological significance. The majority of these anomalies were located in the centre and eastern half of the site with the greatest concentration and most clearly defined magnetic signatures being in the southeastern quadrant.

The ten evaluation trenches were subsequently opened by machine, the layout designed to characterise the principal geophysical anomalies as well as to provide a representative sample of the site. A summary of the evidence revealed in each of the trenches and its generalised interpretation is as follows:

- Trench 1 - the trench was sited to evaluate an area of diffuse magnetic response that possibly indicated an area of disturbed ground or buried deposits. No significant archaeological deposits or finds were located in the trench.
- Trench 2 - the trench was sited to evaluate a strong linear negative magnetic feature, possibly reflecting a buried ditch, aligned west to east and an area of diffuse and weaker magnetic response located to the south of it. A small ditch, aligned west to east, was located in the area of the diffuse magnetic response but no significant archaeological deposits or features were located to explain the stronger magnetic feature. No stratified dating evidence was recovered from the small ditch.
- Trench 3 - the trench was sited to evaluate a series of strong linear positive and negative magnetic anomalies, the majority seemingly aligned west to east, in the southeastern quadrant of the site. Machine excavation revealed a series of shallowly buried archaeological deposits containing Romano-British pottery and finds in the central and northern half of the trench. Subsequent evaluation by hand confirmed that some of these deposits sealed or filled a number of cut soil features including a large ditch and a series of smaller gullies and postholes/pits. Very substantial quantities of Romano-British pottery and associated finds, the former including a number of near complete pottery vessels, recovered from the fills of these features strongly indicates they are of Romano-British origin.
- Trench 4 - the trench was sited to evaluate a strong linear positive and negative magnetic anomaly aligned north to south and a series of localised negative anomalies to the east of this feature. Machine excavation revealed a series of shallowly buried archaeological deposits containing Romano-British pottery and finds interspersed by natural deposits throughout the trench. Evaluation by hand confirmed the presence of a large ditch in the central part of the trench corresponding with the magnetic anomaly and a series of smaller postholes or small pits elsewhere in the trench. A pair of postholes was located just inside the shoulder of the ditch, on the east side. Very substantial quantities of stratified Romano-British pottery, roof tile (*tegula)* and technology residues plus a number of iron objects were recovered from the fills of the large ditch whilst the smaller cut soil features also produced significant numbers of Romano-British pottery sherds. Some of the Romano-British features had been truncated by later ridge and furrow cultivation features.
- Trench 5 - the trench was sited to evaluate the western part of the same group of the strong linear positive and negative magnetic anomalies evaluated by Trench 3. Machine excavation revealed a series of shallowly buried archaeological deposits containing Romano-British pottery and finds throughout the trench. Evaluation by hand confirmed that these deposits sealed or filled a number of cut soil features including a large ditch at the northern end of the trench, consistent with a very strong linear magnetic feature, and a series of smaller gullies, pits and/or postholes. Substantial amounts of Romano-British pottery and associated finds were recovered from the fills of these features.
- Trench 6 - the trench was sited to ensure a representative sample of the site was evaluated. Machine excavation revealed two small postholes cut into the natural substrata at the southwestern end of the trench. No stratified dating evidence was recovered from these features.
- Trenches 7 & 8 - the trenches were sited to evaluate a group of weak linear mainly negative magnetic responses. No significant archaeological deposits or finds were located in either of the trenches.
- Trench 9 - the trench was sited to provide a representative sample of the site. No significant archaeological deposits or finds were located in the trench.
- Trench 10 - the trench was sited to provide a representative sample of the site. No significant archaeological deposits or finds of any kind were located in the trench.

Evaluation Trenches 2, 3, 4 and 5 have confirmed the archaeological potential of the principal geophysical anomalies and identified a large number of shallowly buried and truncated archaeological deposits and cut soil features reflecting a previously unknown Romano-British settlement site. The overall extent of this Romano-British activity and its precise character remains uncertain although the intensity of archaeological activity, both in terms of features and artefacts, is highest in the southeastern quadrant and appears to diminish substantially in the western half of the site.

The presence of a significant number of probable postholes and post-pits in Trenches 3, 4 and 5, coupled with the presence of very large amounts of primary domestic pottery sherds in association with ceramic building material, indicates that the remains of substantial Roman structures of earthfast construction may be preserved in the southeastern quadrant of the site.

The quantity and range of Romano-British finds recovered from stratified contexts during the course of the evaluation is significant and elements of the assemblage, including the pottery, technology residues, animal bone and environmental residues, have justified detailed specialist assessment and reporting (Appendices II – VI of this report). Other finds dating to the later prehistoric period, in particular the stone macehead, indicate some, albeit unspecified, activity in the area during the Neolithic period and probably thereafter during the Iron Age.

On the basis of the results of the evaluation site work, and subsequent post-site assessment reporting, it is concluded that the study area incorporates part of a previously unrecognised rural Romano-British settlement site dating to the late 1st to 3rd centuries AD, based on an economy incorporating mixed agriculture and ironworking. The evidence indicates that the settlement is likely to have included one or more higher status 'villa' type buildings, in addition to further buildings and structures of earthfast timber construction.

The principal archaeology identified on the site is of Romano-British date and, whilst of very considerable local and likely regional significance, has suffered some significant truncation as a consequence of previous medieval (ridge and furrow) and later agriculture and is not of sufficient quality to qualify as being of National Importance: it cannot therefore justify Preservation in-situ at the expense of future development. Nonetheless, the archaeology that is present incorporates evidence for earthfast structures (and possibly masonry structures nearby) that is stratified and preserved in conjunction with a large number and range of stratified finds. Accordingly it is concluded that where preservation of the archaeology in-situ is not possible through the design of future development, the archaeology is of sufficient importance to justify further detailed archaeological excavation and recording prior to development, in order to ensure that it is fully recorded and understood, and thereby *Preserved by Record* in advance of destruction, in accordance with the guidelines set out in PPG16.

7 References

Aston, M. & Iles, R. 1986 *The Archaeology of Avon: A review from the Neolithic to the Middle Ages.*

DoE 1990 Planning Guidance Note 16 in *Archaeology and Planning* Department of the Environment, London

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SCAUM 2002 *Health and Safety in Field Archaeology.* The Standing Conference of Archaeological Unit Managers

Young, C J, 1977, *Oxfordshire Roman pottery*, BAR **43**, Oxford

Fox's Field, Stonehouse – Geophysical survey greyscale data and position of evaluation trenches (in RED)

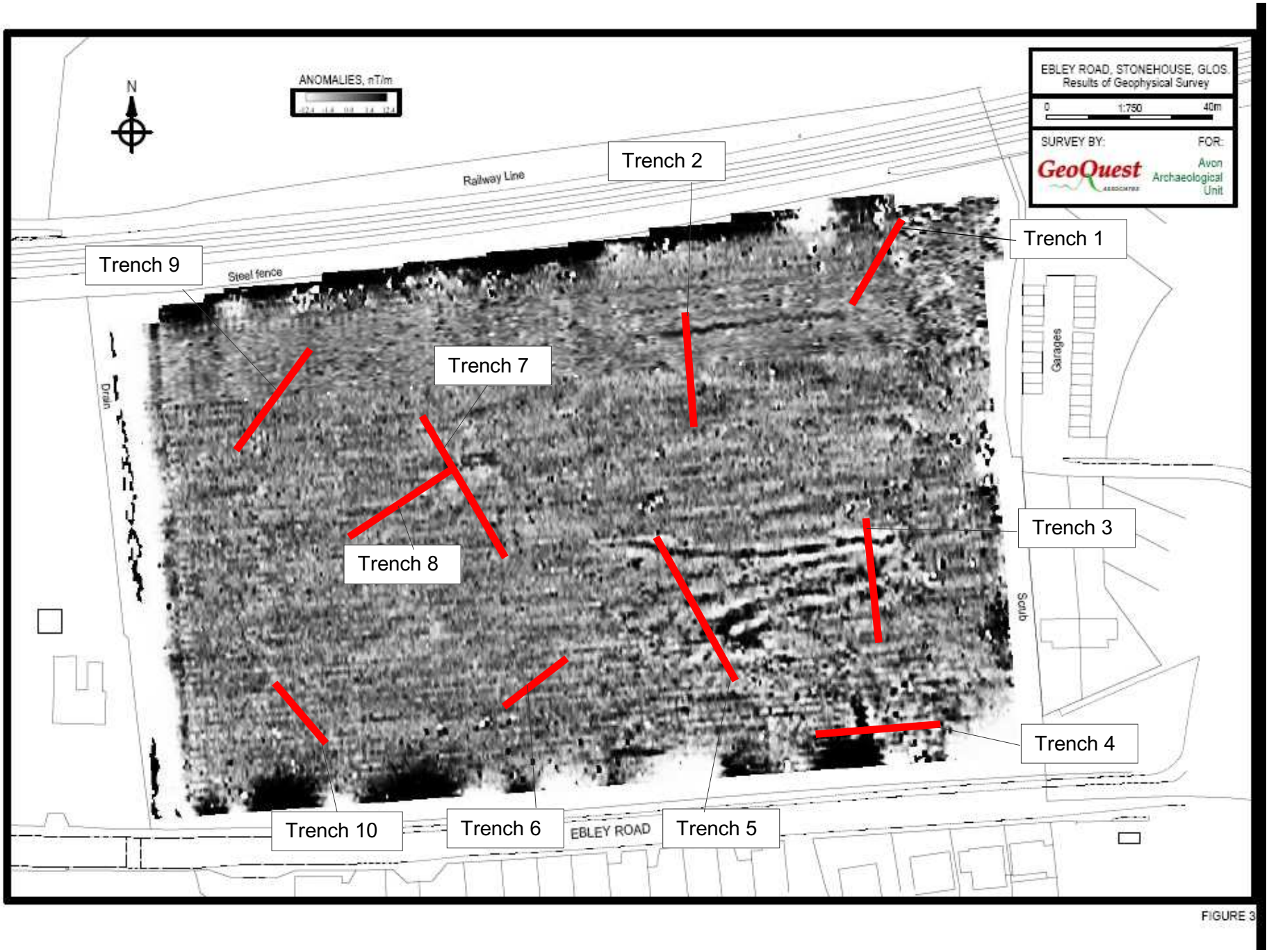


Figure 3

Figure 4

Evaluation Trenches 2 – 6 – Plans of Recorded Archaeological Deposits & Features

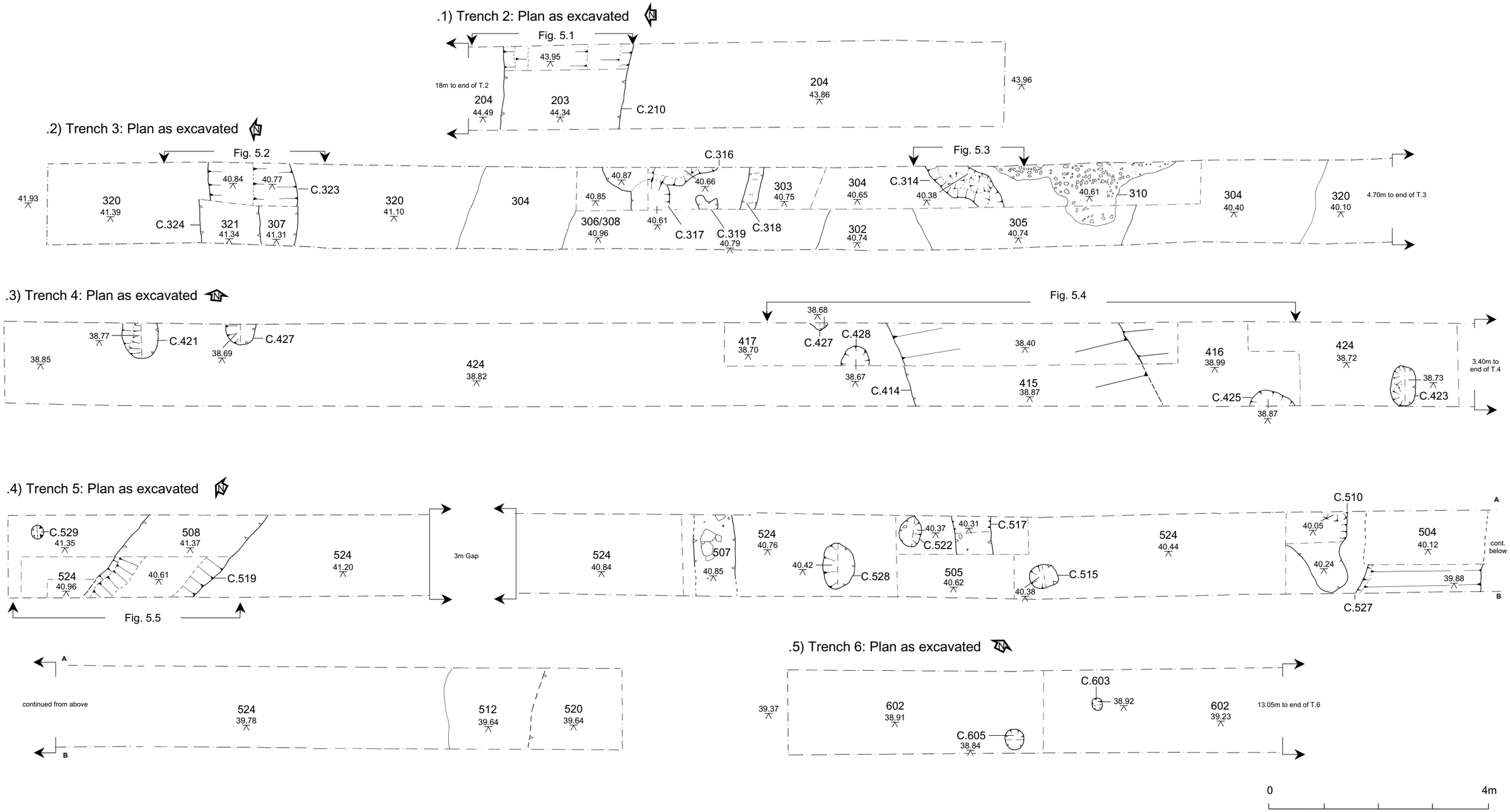
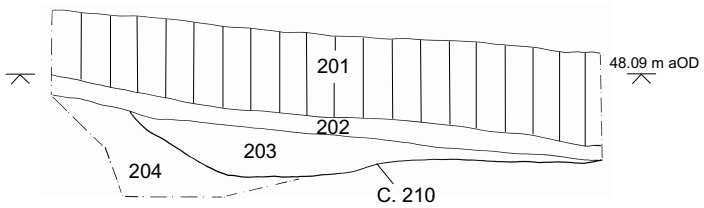


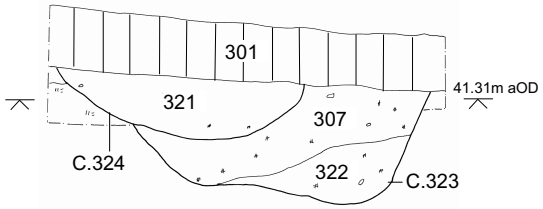
Figure 5

The Sections

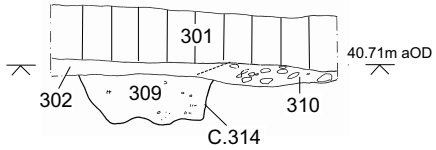
.1) T.2: Cut 210 west facing section



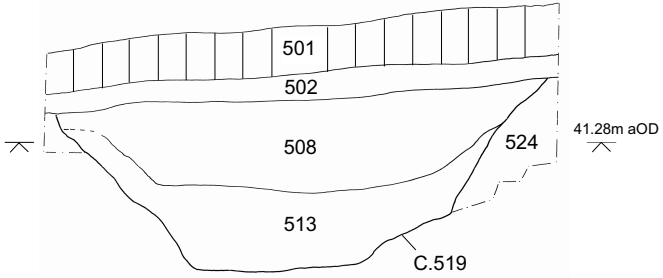
.2) T.3: Cuts 323 and 324 west facing section



.3) T.3: Cut 314 west facing section



.5) T.5: Cut 519 east facing section



.4) T.4: Cuts 429 and 414 north facing section

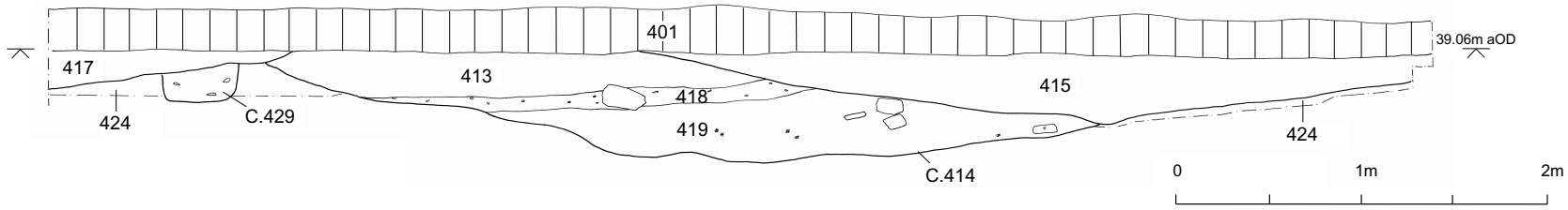
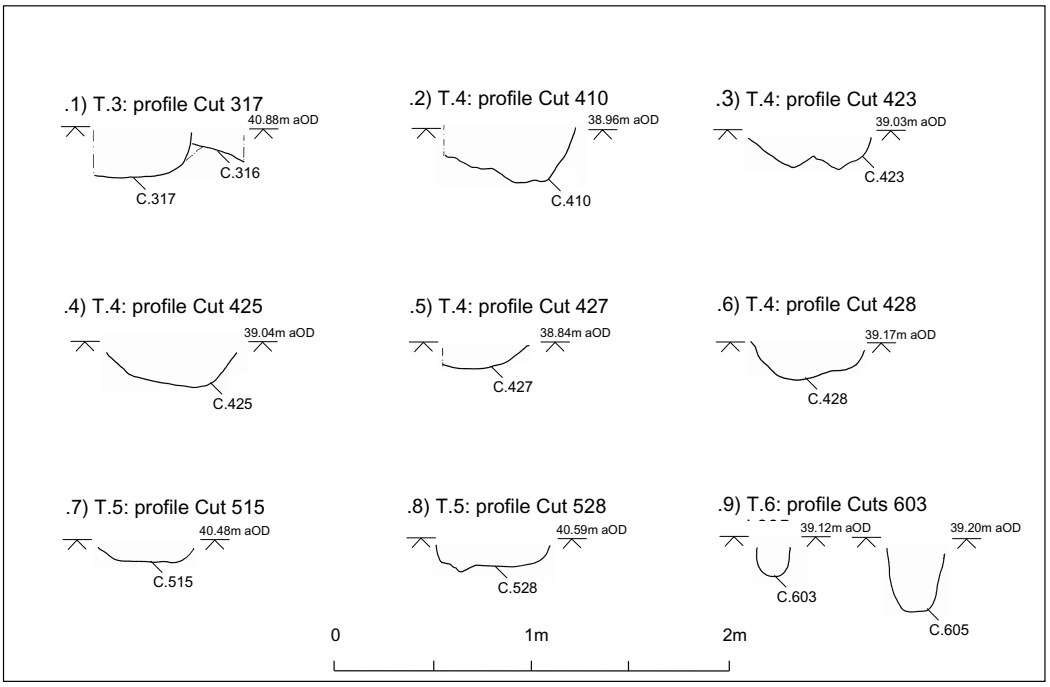


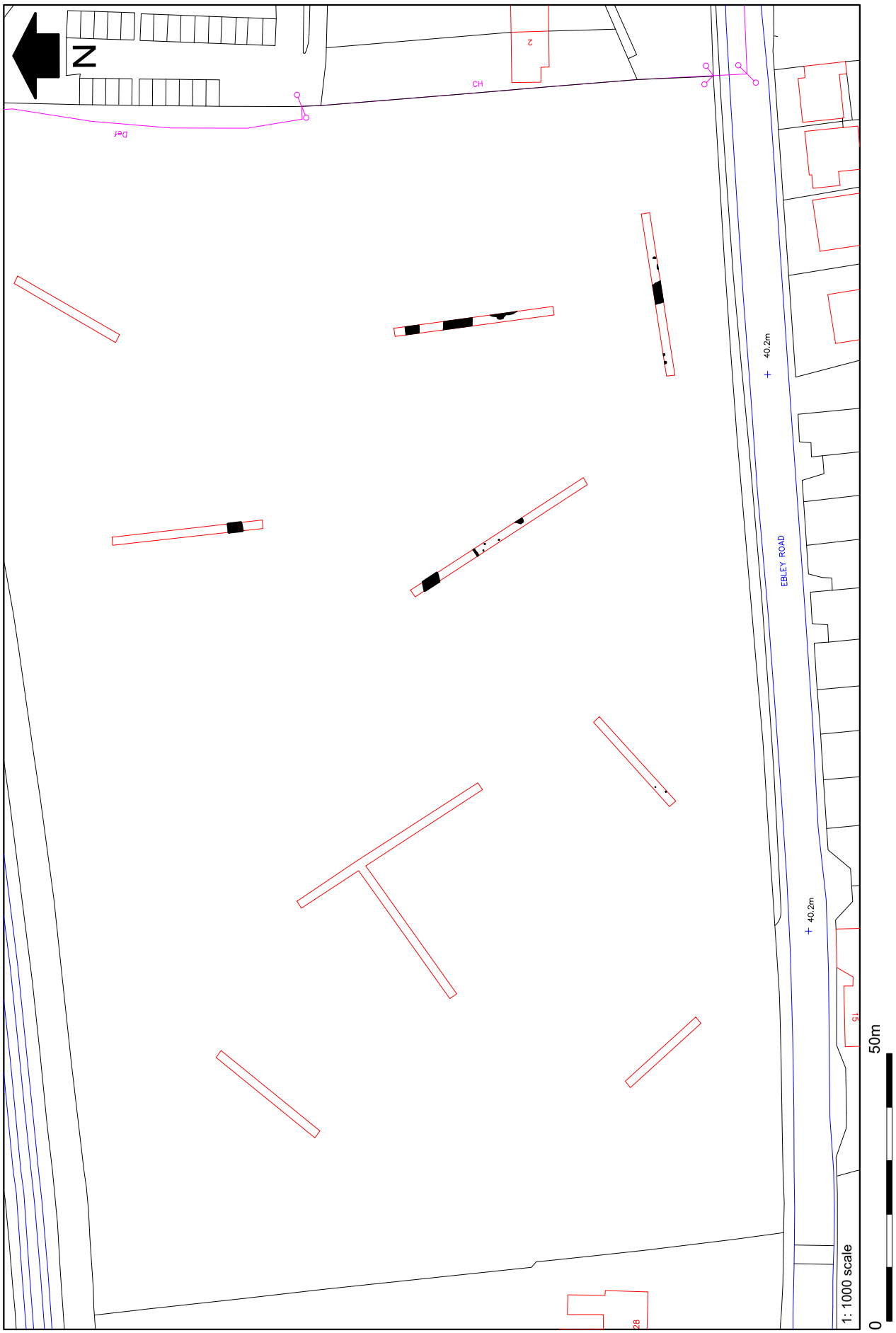
Figure 6

Excavated Feature Profiles



Distribution of Recorded Archaeological Deposits

Figure 7



Appendix I

GEOPHYSICAL SURVEY OF FOX'S FIELD, NORTH SIDE OF EBLEY ROAD, STONEHOUSE, GLOUCESTERSHIRE

Grid Ref.: NGR S0 821 048

A programme of research carried out on behalf of

Avon Archaeological Unit Limited

by

GeoQuest Associates

1 INTRODUCTION

1.1 This report describes the results of an archaeological geophysical survey over an area of arable land termed "Fox's Field", on the north side of Ebley Road at Stonehouse in Gloucestershire (Figure 1). Barratt Homes propose to develop the area for housing and have commissioned Avon Archaeological Unit Limited (AAU) to undertake an assessment of the likely impact on the heritage resource of the development. GeoQuest Associates have been engaged by AAU to undertake a geophysical survey to test for the presence of subsoil features of archaeological interest for which further investigation may be required. An area of about 3ha was examined, shown shaded brown in Figure 1.

1.2 A desk-based archaeological assessment of the site and its environs has been undertaken by AAU and found that the area is located within the former medieval manor of Stonehouse and the ancient parishes of Stonehouse and Randwick. An RAF air photograph taken in 1946 records a set of cropmarks possibly indicating ridge and furrow, while a curvilinear parch mark, and other features not related to any known land use or division, are also considered to be of archaeological significance (Figure 2). The archaeological potential of the site is highlighted by the presence of a rectangular cropmark enclosure seen in air photographs in a field immediately to the north west of the site (GSMR 4212). This feature is thought most likely to be of medieval or early post-medieval origin.

1.3 Hence, the evidence from documentary, earthwork and cropmark information suggests that potential exists in the development area for subsoil features of medieval and possibly earlier date. Construction of the new residential development may impact on the archaeological resource, and geophysical investigation was therefore proposed as a component part of the heritage assessment.

1.4 Geophysical survey was carried out by staff from GeoQuest Associates on 9th and 10th September 2009.

2 THE GEOPHYSICAL SURVEY

2.1 A set of 100x20m and 20x20m grids were established over the area as a basis for the geophysical survey. This network was constructed from a linear baseline fixed relative to control points identifiable on the ground and from OS detail. Figure 1 defines the setting-out geometry. Coordinates of features detected by the survey can be determined relative to this baseline or OS detail by extraction from the associated CAD file that forms part of the site archive.

2.2 Measurements of vertical geomagnetic field gradient were recorded using a Geoscan FM36 fluxgate gradiometer with 0.05nT/m resolution. A zig-zag traverse scheme was employed and data were logged at 1.0x0.5m intervals.

2.3 Data obtained from the survey were downloaded on-site into a portable graphics computer for quality checks and initial processing. These data were subsequently transferred to a laboratory computer for final processing, interpretation and archiving.

2.4 The GeoQuest InSite® software was used to process the gridded geophysical data and thus convert the field readings into a continuous-tone grey-scale image. In Figure 3 a convention has been used that shows positive magnetic anomalies as dark grey and

negative magnetic anomalies as light grey. Further details of the data processing procedures are given in Appendix A.

2.5 An archaeological interpretation of the geophysical survey is presented in Figures 4 and 5. A key defines the colours and fill styles used in these drawings, while feature codes **f1** and **f2**, etc, are included in Figure 5 for reference in the discussion below.

3 INTERPRETATION

General

3.1 Geomagnetic anomalies in the study area span a wide range of magnitudes, the major scale factor being the presence of strongly magnetic litter in the topsoil and the effects of steel boundary fences. Ferrous litter (and possibly slag) can be seen as a scatter of small dipole anomalies (**f2**: paired black-white), which is particularly dense along the north east and south east corners of the site and around an entrance from Orchard Road, where it may reflect a deposit of hardcore placed to reinforce the surface. Fortunately, the density of ferrous litter elsewhere on the site is sufficiently low that the interpretation of more subtle anomalies of archaeological interest has not been impaired.

Archaeological and Geotechnical Features

3.2 **f1:** A chain of intense magnetic dipoles has been detected along the western site boundary in a position consistent with a known 10" iron water main (A. Young, *pers. comm.*). The geophysical influence of this buried feature extends about 20m east, obscuring any weaker anomalies of possible archaeological interest. The pipeline evidently continues north beneath the railway line and south towards the boundary with Ebley Road.

3.3 **f3**: The most striking feature in the geophysical data image is the presence of a set of parallel, positive magnetic lineations in the eastern half of the site, oriented ENE-WSW, along the topographic contours. These anomalies provide good evidence for a set of linear ditches or terraces which may have comprised part of the medieval cultivation scheme.

3.4 **f4**, **f5** & **f6**: Of possible archaeological interest is a pattern of weak rectilinear magnetic anomalies near the centre of the site which appears to define an enclosure measuring about 14 x 8m, with long axis oriented north east - south west (**f4**). Further linear, positive anomalies suggest associated ditches (**f5** & **f6**), the longest of which (**f6**) can be traced for a distance of about 63m. Again, these ditches may have been components of a scheme of medieval cultivation or enclosure, although the possibility that these anomalies instead reflect land drains cannot be ruled out.

3.5 **f7** & **f8**: Several more weak and diffuse, linear magnetic anomalies have been mapped on the upper slopes of the site and within the south east corner. These anomalies may reflect further silted ditches or sections of tile land drain.

4 SUMMARY AND CONCLUSIONS

4.1 A geophysical survey has been carried out on an area north of Ebley Road in Stonehouse, Gloucestershire, where a scheme of residential development has been proposed. A fluxgate magnetometer was used to map subsoil features of archaeological and geotechnical interest in terms of associated anomalies in the Earth's magnetic field. A total of about 3ha was examined and the results presented as a greyscale image from which features of significance have been extracted.

4.2 The results provide evidence that a substantial iron pipe lies beneath the western site boundary. Features of archaeological interest include a distinctive set of parallel ditches or terraces beneath the eastern half of the site, plus additional linear and rectilinear ditch-type features for which further characterisation may be required by trial trenching.

5 CONFIDENCE LIMITS

5.1 The following are the levels of confidence which we assign to the features inferred from the geophysical data:

FEATURE	INTERPRETATION	CONFIDENCE LEVEL, %									
		10	20	30	40	50	60	70	80	90	100
f1	Iron pipe	■	■	■	■	■	■	■	■	■	
f2	Ferrous litter	■	■	■	■	■	■	■	■	■	
f3	Ditches or terracing	■	■	■	■	■	■	■	■		
f4	Ditch/enclosure	■	■	■							
f5	Ditch or drain	■	■	■	■	■					
f6	Ditch or drain	■	■	■	■	■					
f7	Ditch or drain	■	■	■	■						
f8	Ditches	■	■	■	■						

6 CREDITS

Survey & Report: M. J. Noel PhD, FRAS
Date: 14th September 2009

Note: Whilst every effort has been taken in the preparation and submission of this report in order to provide as complete an assessment as possible within the terms of the brief, GeoQuest Associates cannot accept any responsibility for consequences arising as a result of unknown and undiscovered sites or artefacts.

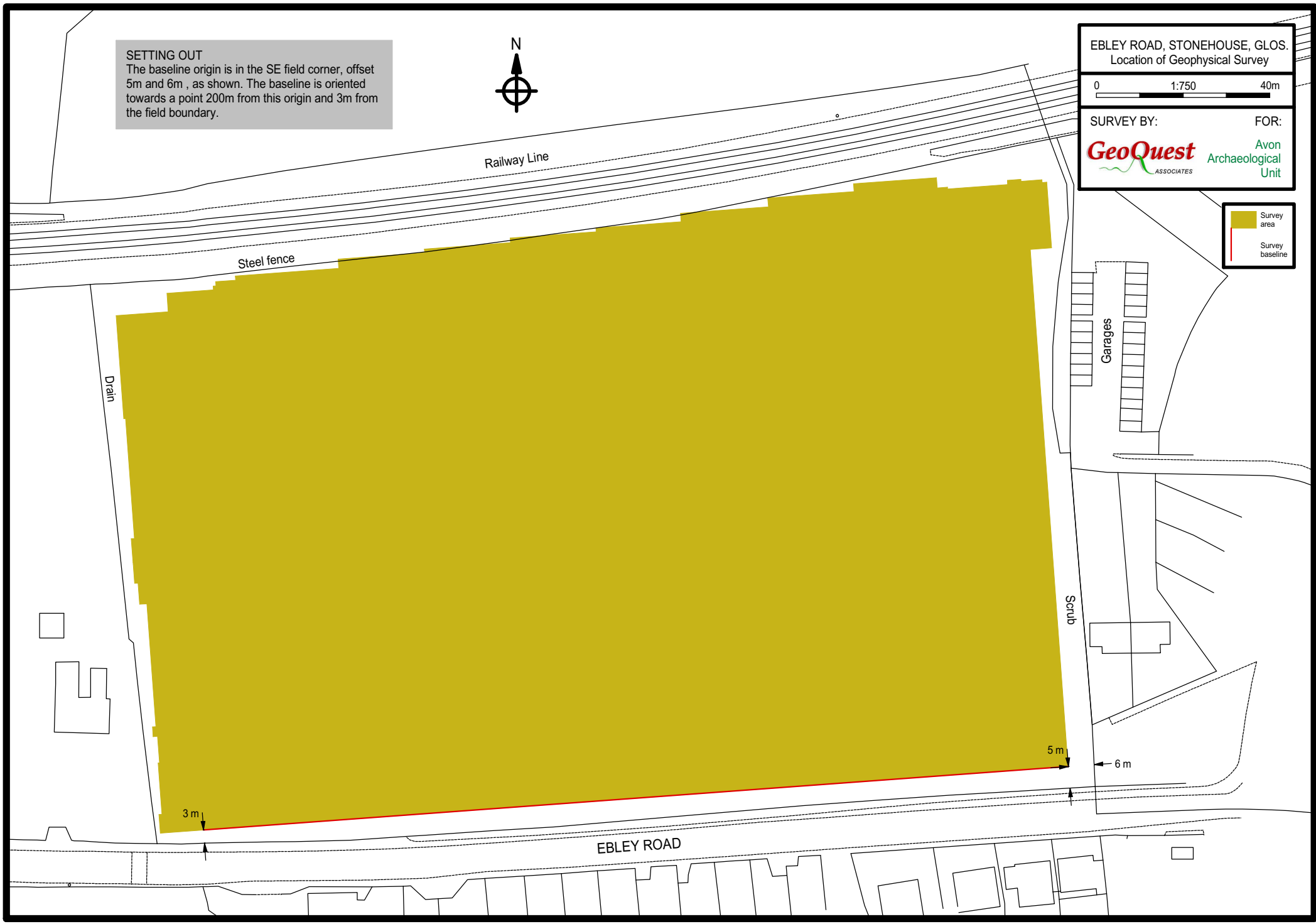

SETTING OUT
The baseline origin is in the SE field corner, offset 5m and 6m , as shown. The baseline is oriented towards a point 200m from this origin and 3m from the field boundary.
N
EBLEY ROAD, STONEHOUSE, GLOS.
Location of Geophysical Survey
0
1:750
40m
SURVEY BY:
FOR:
GeoQuest
ASSOCIATES
Avon Archaeological Unit
Survey area
Survey baseline
Railway Line
Steel fence
Drain
Garages
Scrub
5 m
6 m
3 m
EBLEY ROAD

FIGURE 1

EBLEY ROAD, STONEHOUSE, GLOS.
Features seen in RAF image, 1946

0 1:750 40m

SURVEY BY: GeoQuest ASSOCIATES

FOR: Avon Archaeological Unit

Survey area

Survey baseline

N

Railway Line

Steel fence

Garages

Ridge & Furrow

Feature 3

Feature 1

Feature 2

EBLEY ROAD

FIGURE 2

EBLEY ROAD, STONEHOUSE, GLOS.
Results of Geophysical Survey

0 1:750 40m

SURVEY BY: GeoQuest ASSOCIATES

FOR: Avon Archaeological Unit

N

ANOMALIES, nT/m

-12.4 -1.4 0.0 1.4 12.4

Railway Line

Steel fence

Drain

Garages

Scrub

EBLEY ROAD

FIGURE 3

N

ANOMALIES, nT/m

-12.4 -1.4 0.0 1.4 12.4

Iron pipe Ditch Ferrous litter

EBLEY ROAD, STONEHOUSE, GLOS.
Archaeological Interpretation

0 1:750 40m

SURVEY BY: GeoQuest ASSOCIATES

FOR: Avon Archaeological Unit

Railway Line

Steel fence

Drain

Garages

Scrub

EBLEY ROAD

FIGURE 4

N

Iron pipe | Ditch | Ferrous litter

EBLEY ROAD, STONEHOUSE, GLOS.
Archaeological Interpretation

0 1:750 40m

SURVEY BY: GeoQuest ASSOCIATES

FOR: Avon Archaeological Unit

Railway Line

Steel fence

Drain

Garages

Scrub

EBLEY ROAD

f1

f2

f3

f4

f5

f6

f7

f8

FIGURE 5

Appendix II

For: Avon Archaeology Unit
Site: Foxes Field, Ebley, Stonehouse, Glos
Site Code: STGCM 2009.69
Status: assessment
Author: Jane Timby
Date: October 2009

THE POTTERY

1 Introduction

1.1 The archaeological evaluation at Foxes Field, Ebley resulted in the recovery of 996 sherds of pottery weighing *c* 14.5 kg accompanied by 81 pieces of ceramic building material (CBM) and 75 fragments of fired clay.

1.2 Most of the assemblage is Roman in date accompanied by single prehistoric and medieval pieces and twelve post-medieval sherds.

1.3 The assemblage was sorted into broad fabric groups based on the type and frequency of the macroscopically visible inclusions and quantified by sherd count and weight for each recorded context. The resulting data along with a provisional spot date can be found in Table 1. The CBM and fired clay were similarly quantified and can be found summarised in Table 2.

1.4 Pottery was recovered from four trenches (2-5), CBM from three trenches (3-5) and fired clay from six trenches (1, 3-6, 9).

1.5 The assemblage was quite mixed in condition with quite a high number of fairly fragmented sherds but also several large fresh pieces from single vessels. The overall average sherd weight of 14.5 g is quite good.

1.6 In the following report the assemblage is briefly described by period. A section follows this on the potential of the group and suggested further work.

2 Prehistoric

2.1 A single calcined flint-tempered sherd was recovered as a redeposited find from the upper levels of Trench 5. This is likely to be of earlier prehistoric date. It should be noted (see below) that a stone macehead found at the site is potentially of later Neolithic date and that the sherd may be associated with a similar phase of use of the site.

3 Roman

3.1 Most of the pottery recovered, some 982 sherds, date to the Roman period with the main emphasis of activity appearing to lie in the 2nd and 3rd centuries.

3.2 The assemblage largely comprises local wares, particularly Seven Valley wares which effectively account for 61% by count of the Roman assemblage accompanied by a few continental and regional imports.

3.3 Continental imports are limited to 34 sherds of South and Central Gaulish samian and one sherd of Gallic wine amphora. There are no other continental finewares.

3.4 Regional imports are dominated by Dorset black burnished wares which account for 13.8%. Of particular note are two sherds from a British samian dish Dr 18/31 made at Pulborough, Sussex, a very rare occurrence in Gloucestershire although a sherd has been recorded from Sea Mills[1]. Other wares present in minor amount include Savernake ware and wheelmade fine black ware from Wiltshire, six sherds from the Oxfordshire industries.

3.5 Slightly more local in source are a few sherds of Palaeozoic limestone-tempered ware from the other side of the Severn and several sherds from a white-slipped oxidised flagon probably from the Gloucester kilns and thus likely to date to the Flavio-Trajanic period.

3.6 Also probably local in source are some micaceous grey wares which appear in the region from the later 2nd century. These only account for 2% of the group emphasising the earlier chronology.

3.7 In terms of distribution Trench 2 produced just two Roman sherds as unstratified finds; Trench 3 produced 365 sherds; Trench 4 yielded 443 sherds and Trench 5 a total of 170 sherds. Chronologically in general terms there are no differences between the trenches.

4 Ceramic building material and fired clay

4.1 In total 81 pieces of CBM were noted weighing *c* 3.9 kg of which probably 79 are Roman. Most of the pieces were quite abraded making it difficult to recognise original types. It is clear, however, that the group includes roofing tile (tegulae), box-flue and possibly flat tile (pilae).

4.2 In addition to the Roman material are two pieces of post-medieval roof tile.

[1] My thanks to Joanna Bird for confirming the identification of this piece.

4.3 Several pieces of fired clay were recorded although it is possible some of this is very degraded CBM. In total 75 pieces were noted weighing 614 g with the biggest concentration, some 44 pieces, from Trench 4.

5 Summary of Roman evidence

5.1 The Roman pottery and CBM both point to the existence of a Roman structure of some status with a tiled roof and hypocaust system dating from the 2nd century.

5.2 Although most of the pottery groups cannot date to before the 2nd century there are several sherds of pre-Roman native ware present which are common finds in the 1st century AD continuing earlier traditions. It is rare for such material to continue into the 2nd century by which time it is likely to be residual. There are also one or two sherds of 1st century South Gaulish samian present. The presence of the native wares might hint at some form of earlier Roman or late Iron Age occupation nearby.

5.3 The quantity of samian present is moderately high for a rural site at 3.7% by count but curiously this is not accompanied by any other contemporary imported wares, and there is just a single sherd of amphora. Most of the samian is plain with just one decorated piece. This may be a quirk of the sample. The presence of a sherd from Pulborough is of particular note.

5.4 Although there are Oxfordshire wares present there is just a single small sherd of colour-coated ware and no late Dorset black burnished wares suggesting that the site had been abandoned before the end of the 3rd century. Similarly the low incidence of micaceous grey wares indicates that the site did not continue much into the later Roman period.

6 Post-Roman wares

6.1 A single medieval sherd and twelve post-medieval sherds were recovered reflecting a not unexpected background scatter. The low density of material and worn nature of the sherds suggest that this may be from field manuring. Amongst the sherds was a fragment of Devon gravel-tempered ware (17-18th century), glazed 'china', glazed red earthenware and iron-glazed kitchen ware.

7 Potential and further work

7.1 In broad terms this is a typical Roman assemblage to be expected from a rural site. The level of samian along with the building material indicates a fairly well-appointed building presumably of a domestic nature. If this is a villa it is slightly unusual in that it appears to have been abandoned earlier than many other similar sites in the region. Possibly earlier prehistoric and late Iron Age or early Roman activity is also hinted at nearby.

7.2 If no further work is carried out at the site the assemblage would warrant a brief report against the stratigraphic information. If further work is carried out it should be included in any further analysis.

Table 1: Quantified summary of pottery recovered from Foxes Field, Ebley, Glos (STGCM 2009.69)

Tr	Context	Preh	Sam	SVW	BB1	MICGW	OXON	Other	Med	Pmed	Tot No	Tot Wt	Date
2	209	0	0	0	0	0	0	0	0	1	1	18	Pmed
2	us	0	0	2	0	0	0	0	0	1	3	4.5	Roman/modern
3	300	0	0	3	5	1	0	0	0	0	9	41	late C2+
3	302	0	0	2	0	0	0	0	0	0	2	12	C2+
3	305	0	0	11	5	2	0	6	0	0	24	120	late C2-C3
3	306	0	0	23	4	0	0	5	0	0	32	309	late C2+
3	307	0	2	27	10	0	0	12	0	0	51	331	C2
3	307	0	5	2	8	0	0	49	0	0	64	2353	C2
3	308	0	2	18	0	0	0	3	0	0	23	211	C2
3	309	0	0	3	0	0	0	30	0	0	33	1264	C2
3	309	0	1	7	3	0	0	6	0	0	17	43	C2
3	311	0	0	0	0	1	0	0	0	0	1	18	late C2+
3	312	0	0	0	0	0	0	1	0	0	1	8	C2+
3	315	0	0	2	3	1	0	0	0	0	6	26	late C2
3	321	0	0	0	0	0	0	1	0	0	1	6	C2
3	322	0	0	3	0	0	0	1	0	0	4	642	e C2
3	322	0	0	80	11	0	0	6	0	0	97	4154	C2
		0	10	181	49	5	0	120					
4	401	0	2	21	4	0	0	2	0	2	31	177.5	C2/Pmed
4	405	0	0	3	1	0	0	2	0	0	6	17	C2
4	406	0	5	81	14	3	2	4	0	3	112	1067	late C2/ Pmed
4	407	0	1	16	3	0	0	0	0	0	20	88.5	C2
4	408	0	0	1	1	0	0	0	0	0	2	8	C2
4	409	0	0	2	2	0	0	0	0	0	4	104	C2
4	410	0	0	0	0	1	0	3	0	0	4	15	late C2+
4	411	0	1	4	2	0	0	1	0	0	8	66	C2+
4	412	0	0	6	3	1	0	1	0	0	11	42	late C2+
4	413	0	0	17	2	1	0	0	0	0	20	225	C2
4	413	0	2	24	2	0	0	4	0	0	32	120.5	C2
4	415	0	0	3	2	0	1	4	0	0	10	28.5	mid C3+
4	416	0	1	5	1	1	0	3	0	0	11	78	late C2+
4	418	0	4	41	14	0	0	4	0	0	63	384	C2
4	419	0	3	69	9	4	1	12	0	0	98	636	late C2+
4	422	0	0	2	0	0	0	0	0	0	2	231	C2+
4	us	0	0	9	4	0	0	1	0	0	14	118	C2
		0	19	304	64	11	4	41					
5	501	1	0	2	1	0	0	0	0	3	7	43	Pmed
5	502	0	0	1	0	0	0	0	0	0	1	10	C2+
5	503	0	0	7	2	0	0	0	0	0	9	98	C1
5	504	0	2	20	7	3	2	8	0	0	42	332	C3
5	504	0	1	24	1	0	0	1	1	0	28	296	late C2
5	505	0	2	22	4	1	0	2	0	0	31	441	late C2
5	506	0	0	4	0	1	0	0	0	0	5	12	late C2-C3
5	507	0	0	1	0	0	0	2	0	0	3	9	late C1/C2
5	510	0	0	3	4	0	0	0	0	0	7	13	C2+
5	513	0	0	0	0	0	0	1	0	0	1	3	C1
5	513	0	0	7	0	0	0	0	0	0	7	7	208
5	516	0	0	1	0	0	0	1	0	0	2	10	C2+
5	518	0	0	6	0	0	0	1	0	0	7	97	C2
5	520	0	0	2	0	0	0	0	0	0	2	22	C2+
5	us	0	2	12	4	0	0	5	0	2	25	112	C2/Pmed
			7	112	23	5	2	21					
TOTAL		1	65	1084	249	37	10	343	1	12	994	14471.5	
us	us	0	0	1	0	0	0	1	0	0	2	10	Roman

Table 2: Summary of ceramic building material and fired clay Foxes Field, Ebley, Glos

Tr	Context	CBM			Fclay	
		No	Wt	Type	No	Wt
1	us				1	4
3	305				3	15
3	307	6	144	lumps; x1 flat tile		
3	308	1	83	lump		
3	309	2	10			
3	321	1	13	abraded lump		
4	401	2	4	fragments		
4	403				1	3
4	405	3	1348	tegula	41	376
4	406	8	149	abraded lump		
4	407	6	87	lumps		
4	407			sandstone		
4	411	2	600	tegula		
4	413	4	102	tegula		
4	418	8	165	box flue		
4	419	7	57		2	81
4	419			sandstone tile		
4	us	3	70	x1 Pmed tile; x2 RB		
5	501	2	145	lump	1	3
5	503	2	59	abraded lump; x1 Pmed		
5	504	2	128	tegulae/ flat tile	1	2
5	505	4	388	tegula	6	49
5	506				1	2
5	507	1	12		4	14
5	508	7	195		6	22
5	510				1	20
5	513	5	50	box flue		
5	518	1	3	abraded lump		
5	526	1	9	lump		
5	us	1	74	flat tile/pila		
5	us				1	1
6	606				6	22
9	us	2	12	abraded lump		
TOTAL		**81**	**3907**		**75**	**614**

Appendix III

Metalworking assemblage from Foxes Field, Ebley Road, Stonehouse, Gloucestershire

Sarah Paynter

Introduction

5.7 kg of metalworking waste was recovered from excavations by Avon Archaeological Unit at Foxes Field, Ebley.

By examining the waste slag from an archaeological site, it is often possible to identify the industrial processes that took place there in the past (Bayley *et al*., 2001). The Foxes field assemblage is a complex one, including waste from both iron smelting and iron smithing. Smelting is the process of extracting iron metal from ore whereas smithing is the process of shaping of iron metal into objects.

Methods

The assemblage from Foxes Field was examined, divided into categories and weighed by context (Table 1). The categories used are outline below:

Smelting

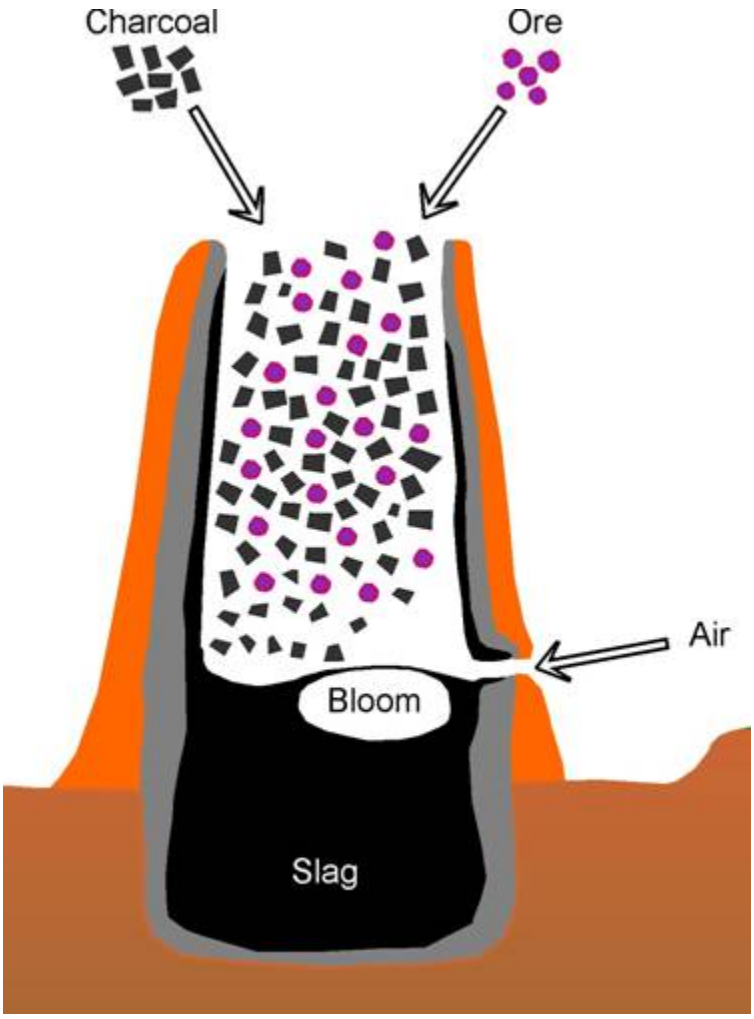
Smelting is the process of extracting iron metal from ore. Before the introduction of the blast furnace around 1500AD, smelting took place using the bloomery process. Bloomery furnaces were generally clay or stone built structures in which iron ore was heated with charcoal fuel. The ore reacted to produce a spongy mass of iron, known as a bloom (Bayley *et al.*, 2001). The process also generated large quantities of molten waste, or slag. Although furnace superstructures rarely survive archaeologically, studies

of smelting slag suggest that different types of furnaces were used, and that they varied with time and location (Paynter, 2006 and 2007).

One of the main differences between furnace types is in how the slag was separated from the iron. With tapping furnaces, the molten slag was 'tapped' through a hole at the base of the furnace, flowing out and then solidifying. *Tap slag* is distinctive because of the broad flow marks on the upper surface. Tapping furnaces are known from around the Late Iron Age, then throughout the Roman period and again from around the mid-medieval period onwards.

Non-tapping furnaces, or slag-pit furnaces, had a pit below ground level where the slag collected during the smelt (Figure 1). The pit was initially filled with material such as wood and straw, which burnt out as slag formed and filled the void. Slag from non-tapping furnaces solidifies in large cakes, which sometimes contains impressions of straw or large pieces of wood. These cakes can break into lumps of *dense iron slag*, sometimes with a glittery surface due to the formation of large crystals, and unusual surface effects, such as flattened flow patterns or prills (Paynter, 2007).

Fragments of *iron-rich stone* found amongst smelting waste are of interest as it may be unused ore.



Smithing

During smithing, the smith heats the iron in a hearth and then hammers it into shape. When the hot iron is struck, millimeter-sized flakes of iron oxide and spheres of slag fly from the surface and over time large amounts are deposited on the floor. These micro-slags are known as *hammerscale*. A high concentration of hammerscale in an occupation layer is evidence of a smithy. Hammerscale is magnetic and so can be extracted from soil samples. Hammerscale sampling can be used to reconstruct the layout of a smithy, as the greatest quantities accumulate around the anvil.

Also during smithing, a mass of slag known as a *smithing hearth bottom* (*SHB*) forms in the hearth. Smithing hearth bottom slags generally have a characteristic shape, with a fairly flat top, a bowl-shaped bottom and a spongy texture.

Pieces of coal were also found amongst the assemblage. Only charcoal was used for iron smelting, but some instances of coal being used for smithing have been reported (Dearne and Branigan, 1995).

General ironworking waste

Fragments of fired clay with a slag-coated surface are found on both smelting and smithing sites, and are fragments of furnace or hearth structure respectively. The Foxes field material has been categorised as *vitrified lining* because evidence of both smelting and smithing were found and the slag coated clay may be derived from either process. (*Fired clay* with no slag on the surface has been recorded separately as it was not necessarily produced by non metalworking activity).

Fragments of corroded *iron metal* are often present in ironworking assemblages, for example off-cuts, material for recycling and products.

Often, a large proportion of slag assemblages cannot be assigned to a particular process because it lacks any diagnostic characteristics. This slag is referred to as *undiagnostic* slag.

Results

The Foxes Field evaluation comprised 10 trenches but the vast majority of the ironworking waste, approaching 90wt%, was recovered from Trench 4 in the southeast corner of the site, with a small amount from nearby Trench 5 and only negligible quantities from elsewhere.

Table 1: Categories of ironworking waste by context (g)

Context	Trench	Dense iron slag	Vitrified lining	Iron metal	Iron-rich stone	SHB's	Un-diagnostic slag	Fired clay	Coal	Other
u/s	2								3	
300	3						15			
305							4			
307							21			
322			17				15			
401	4	55			2		58			
403					1					
406		127	71	40			260		10	Pot
407		265					70			
410			12							
411				26			187			
413									13	
413			8	38			201			Pot
416				1			3		2	
418			69	133			262		16	Pot?
419		123	131	68	10	638	1768	9	65	
443							170			
u/s		46					7		13	
503	5	55								
504									5	
505					53			9		
508		323								
510								4		
513					59					
513					15					
518				23						
522								11		
526					3					
u/s		15							13	

Fragments of coal and occasional pieces of bone were observed in some of the smithing and undiagnostic slag from context 419.

Discussion

Bulk iron working slag was often disposed of in ditches and pits or re-used, for example for road metalling, and can be found some distance from where it was actually produced. However, this small ironworking assemblage was probably produced somewhere fairly nearby (Young, 2009).

Although few in number, the chunks of *dense iron slag* from the site are evidence of iron smelting. The appearance of the slag, in particular that from contexts 407 and 508 with flattened prills on the surface (Figure 2), is characteristic of a non-tapping furnace. This suggests that the smelting activity is likely to be Iron Age or early medieval in date.

Figure 2: A piece of dense smelting slag from context 508, approximately 90mm long, with flattened prills on two faces.

Figure 3: Three smithing hearth bottoms (SHBs) from context 419

The presence of smithing hearth bottoms (SHBs) (Figure 3) and hammerscale amongst the slag indicate that smithing also took place. It is not possible to estimate the date of the smithing activity based on the slag although smelting and smithing slag were found together in some contexts and so the activities may have been contemporary. It appears that the smith used coal, since some of the smithing slag contained visible fragments of this fuel (Dearne and Branigan, 1995).

Most of the pottery from the site was Roman and half of the ironworking waste by weight was found in context 419, dated by associated pottery to the 2nd century (Timby, 2009). However in the Roman period tapping furnaces were used for smelting whereas the smelting slag from Foxes Field is from a non-tapping furnace.

Further reporting of the slag is warranted with reference to detailed stratigraphic information. The slag is significant as it suggests archaeological activity either before or after the Roman occupation evidenced by the majority of finds from the site.

Future work

Remains of non-tapping furnaces are difficult to identify archaeologically and specialist advice from an archaeometallurgist is recommended should further excavation of the site take place. Evidence of non-tapping furnaces in this region is rare.

If occupation surfaces are well preserved, the site of the smithing activity may be indicated by high concentrations of hammerscale.

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Appendix IV

A Prehistoric Stone Macehead
By Dr Jane Timby

Trench 7, Context (701).

Part of a perforated stone tool. Approximately half a stone macehead made from a red crystalline sandstone. Broken across the central hour-glass perforation. Width 100 mm; thickness 46 – 55 mm.

Maceheads are quite rare in the Cotswolds and perhaps only four others are known, two from near Rendcomb, one from Cam and one from Gloucester (Darvill 1987, 78-9). These are all made from different stone types, three of which are imported to the area. The objects are regarded as symbols of power possibly dating to the later Neolithic period.

Reference

Darvill, T. 1987. *Prehistoric Gloucestershire*, Gloucesteshire County Library series

Appendix V

FOX'S FIELD, EBLEY, STONEHOUSE, GLOUCESTERSHIRE: ANIMAL BONE ASSESSMENT.

Site Code: STGCM 2009.69

L. Higbee December 2009

Quantity and Provenance

Three hundred and seventy-three fragments of animal bone were recovered from 30 separate contexts located in evaluation trenches 3, 4 and 5. This material is associated with a large stratified assemblage of Roman-British pottery.

Methods

This report follows general guidelines for the assessment of environmental remains outlined by English Heritage (2002). The assemblage was rapidly scanning and the following information noted; species, skeletal element, age related features, completeness for biometric analysis, butchery, taphonomy, pathology and non-metric traits. Quantification methods take into account the recommendations of Davis (1992). Bones that could not be assigned to species, either because they were too fragmented or weathered, have been quantified into general size categories and small splinters into a general mammal category. This information is presented in order to provide an overall fragment count for the assemblage.

Results

Five species have been identified from the assemblage. Bones and teeth from livestock species, in particular sheep/goat and cattle predominate. Less common species include horse and dog.

Bone preservation is variable between trenches and contexts. The bone from context (508) is particularly poorly preserved and fragmented, however in general bones from other contexts are quite good with only minor signs of weathering and abrasion. The occurrence of gnaw marks is quite low and this suggests the assemblage was rapidly buried and/or that it has been little affected by scavenger activity.

The assemblage is briefly described below by trench.

Trench 3
Animal bone was recovered from nine separate contexts in trench 3 and there are between one to 24 fragments per context. The identified fragments are mostly from sheep/goat and cattle, and these include several incomplete mandibles, as well as a few ankle and foot bones. Other identified fragments include the anterior half of a dog mandible from context (305).

Trench 4
Thirteen contexts located in trench 4 produced animal bone. There are between one to 66 fragments per contexts and the largest group is from context (419). Again sheep/goat and cattle bones predominate and loose teeth are the most common element. One pig canine and four horse teeth were also identified. The latter includes one deciduous premolar from a young horse aged less than two and a half to three and a half years old.

Trench 5
Animal bone was recovered from eight separate contexts located in trench 5 and there are between one to 45 fragments per context, the largest group is from context (508). Identified fragments include a small number of sheep/goat and cattle bones and teeth, one pig humerus and a dog canine tooth.

Conclusions and recommendations

Only a small number of fragments can be identified to species and element. The available data is insufficient to allow anything other than broad statements to be made about the sites economy. The site is characterised by a sheep based economy and in general it is fairly typical of other native rural sites of this date range.

The quantity of detailed information available for further study is presented in Table 2. It is of little analytical value on its own however if further archaeological investigation at the site goes ahead then this information should be recorded and incorporated into the analysis and interpretation of a larger assemblage.

References

Davis, S. J. M., 1992. *A Rapid Method for Recording Information about Mammal Bones from Archaeological Sites*. Ancient Monuments Laboratory Report No. 19/92.

English Heritage, 2002. *Environmental Archaeology: a Guide to the Theory and Practise of Methods, from Sampling and Recovery to Post-Excavation.* Centre for Archaeology Guidelines 2002/01.

Table 1. Number of specimens identified to species (or NISP).

Species		**Romano-British**	**Unstratified**	**Total**
Bos f. domestic	cattle	15		15
Caprovid	sheep/goat	25		25
Sus f. domestic	pig	2		2
Equus f. domestic	horse	4		4
Canis f. domestic	dog	5		5
Total identified		**51**	**0**	**51**
large mammal		58	1	59
medium mammal		77		77
mammal		186		186
Total unidentifiable		**321**	**1**	**322**
Grand total		**372**	**1**	**373**

Table 2. Type and quantity of detailed information available for further study.

Type of detailed information	**N**
Age - epiphysial fusion	5
Age - mandible	2
Age - loose tooth	23
Biometric	17
Butchery	2
Pathology & non-metric traits	6
Gnawing & burning	24
Total	**79**

Photographs

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