SALVAGE RECORDING ON THE ASTLEY TO WORCESTER AQUEDUCT: ARCHIVE REPORT

Hal Dalwood
Victoria Buteux
Derek Hurst
Elizabeth Pearson

with contributions by Brenda Dickinson and Thomas Finney

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Field Section
County Archaeological Service
Hereford and Worcester County Council
Tolladine Road
Worcester WR4 9NB

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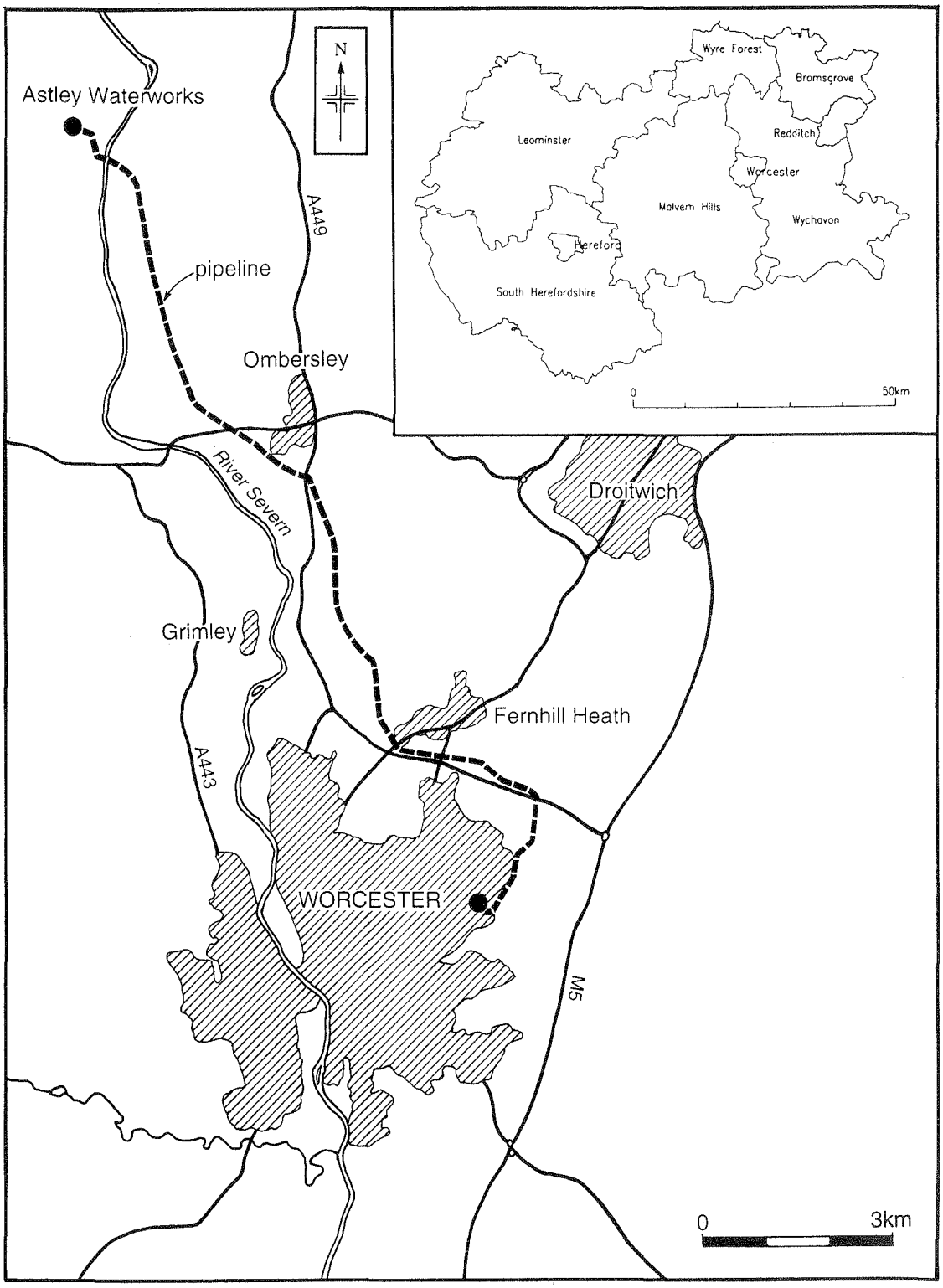

Figure 1 *Location of the Astley to Worcester Aqueduct*

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Salvage recording on the Astley to Worcester Aqueduct: archive report

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1 Summary

Salvage recording was undertaken during the construction of a pipeline from Astley to Worcester. The project formed part of a series of similar projects being undertaken by the County Archaeological Service on behalf of Severn Trent Water plc during the construction of a major new water main running north to south across the County. Significant deposits were excavated at three sites, all of which were previously unknown, and artefacts were recovered from many of the fields along the pipeline.

The first of the newly discovered sites lay near Linacres Farm (North Claines). At this site (HWCM 20854) Roman deposits were recorded, including pits and an eroded trackway, together with evidence of ridge and furrow. The Roman deposits were interpreted as forming part of a rural settlement, and aerial photographs and the site topography indicated that the deposits lay on the eastern periphery of a moderately extensive settlement. The site was dated to between the 2nd and 4th century AD. Evidence for ironsmithing was recovered, together with a ceramic assemblage typical of local rural settlement sites. Ecofactual evidence was poorly preserved. However this evidence contributes to the rapidly developing of Roman rural settlements in the hinterlands of the Roman small towns of Droitwich and Worcester.

Ridge and furrow recorded at this site was not directly datable, but on morphological grounds it may have developed before AD 1200. Ridge and furrow was never extensive in north Worcestershire, and has rarely been investigated through excavation in this area.

A small group of deposits (HWCM 20838) were recorded near Barnhall Farm, Ombersley. A ditch and two small features were excavated, dated to the Roman period. These deposits are interpreted as a field boundary and associated features.

A third group of deposits (HWCM 20813) were recorded neat Stone Farm, Ombersley. A circular pit and a more complex feature (possibly an oven) were excavated, which appeared to be isolated features related to an unidentified (possibly industrial) activity. Dating evidence was limited, but a post-Roman (and pre-medieval) date is probable.

Artefacts were recovered from field along the aqueduct route. Prehistoric lithics were rare, and Roman and medieval pottery was only recovered in moderate quantities (106 and 68 sherds respectively). Post-medieval pottery was more common (454 sherds). This artefactual evidence is believed to reflect manuring in the past, and it is suggested that the relative low level of manuring before the post-medieval period is indicative of the extent of pasture fields and woodland.

2 Introduction

2.1 Background

2.1.1 The pipeline construction programme

Salvage recording was undertaken by the County Archaeological Service on a pipeline in central Worcestershire (Fig 1). The work was carried out on behalf of Severn Trent Water plc; the Astley to Worcester Aqueduct formed part of a new system of mains extending north to south across the County, with a number of spurs running from it to the east and west. The pipelines are being constructed through a series of projects over a number of years, and is intended to improve the reliability of water supplies in the region. The Astley to Worcester Aqueduct was the seventh of these projects undertaken within the County, and fieldwork was carried out in two periods, during the months of April and August 1994.

The project took place within the framework for archaeological response established by the Code of Practice for Conservation, Access and Recreation issued by the Department of the Environment in July 1989, and attached to the *Water Industry Act 1991*. Section 11, iv of the Code refers specifically to pipelaying, and states that:

> ...where damage to features of archaeological interest is unavoidable, arrangements should be made for an appropriate level of investigation by an appropriate conservation body, and subsequent publication of results.

2.2.2 Route planning

The route of the pipeline ran from Astley to Worcester (Fig 1). An initial consultation phase was carried out before work started. The proposed route was assessed against existing information on the presence of known sites of archaeological interest (the County Sites and Monuments Record; Statutory Instruments 1988 no 1813). A number of known archaeological sites lay on the route, and minor variations in the route were agreed. Since there was the potential for previously unknown sites to be discovered, it was recommended that provision for salvage recording should be made along the pipeline.

Salvage recording enables the identification of new sites and recovery of information about their nature. Such work may enhance knowledge of existing sites, and may provide general information on landuse and agricultural practice around former settlement sites. Provision was made for a contingency team for salvage recording (ie excavation) of any extensive deposits encountered.

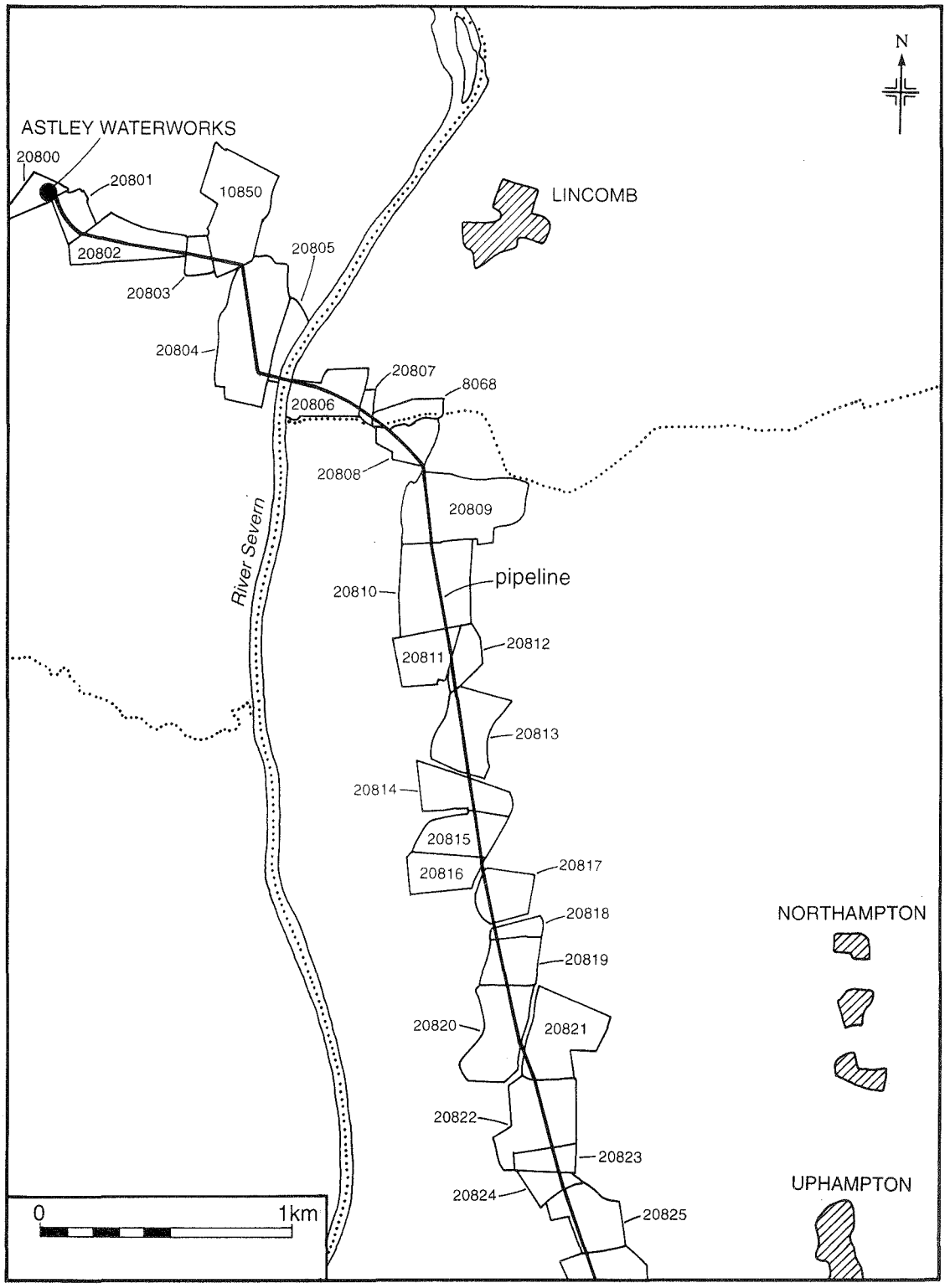

Figure 2 *Route of the pipeline showing SMR numbers allocated (north section)*

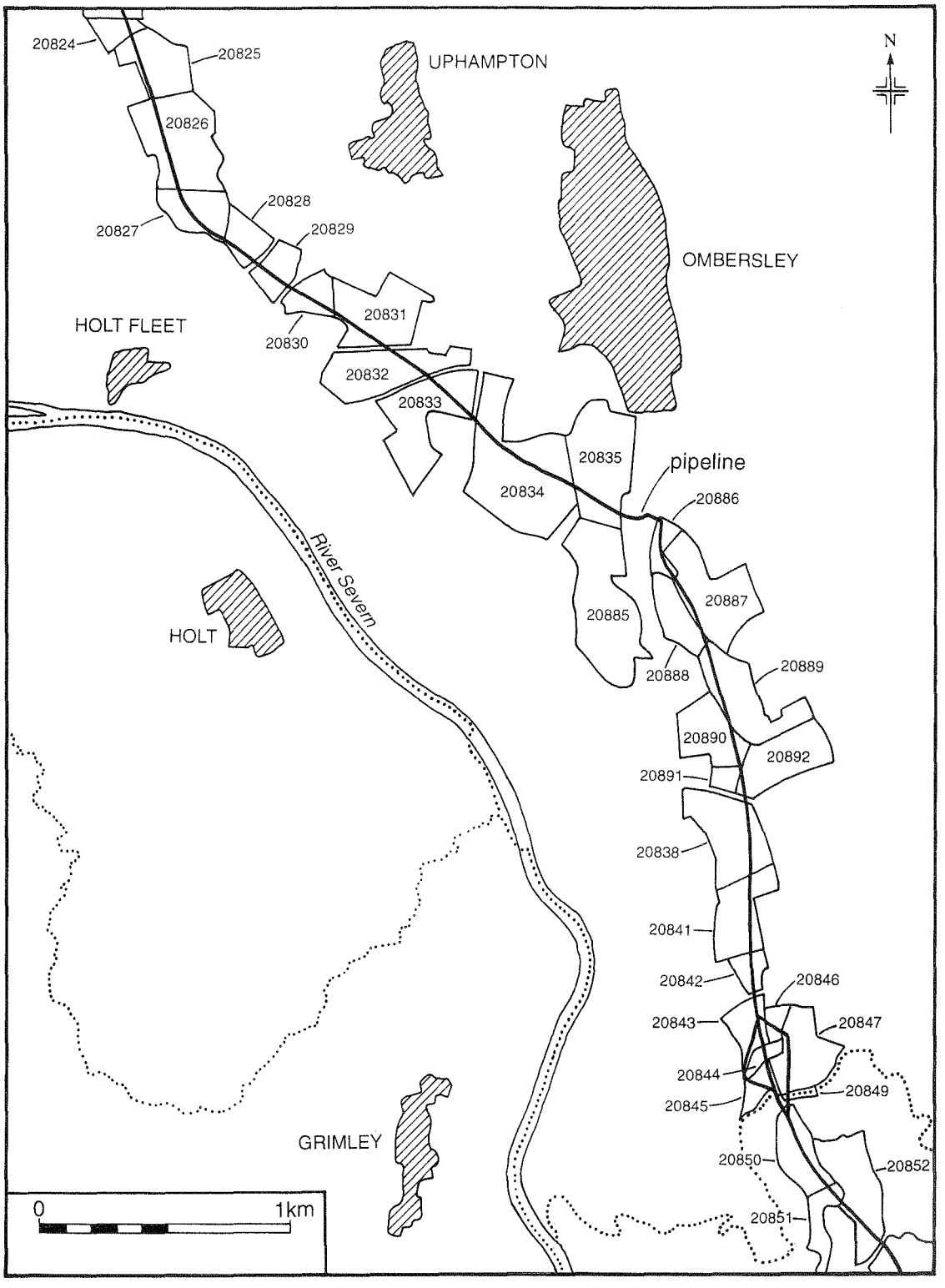

Figure 3 *Route of pipeline showing SMR numbers allocated (central section)*

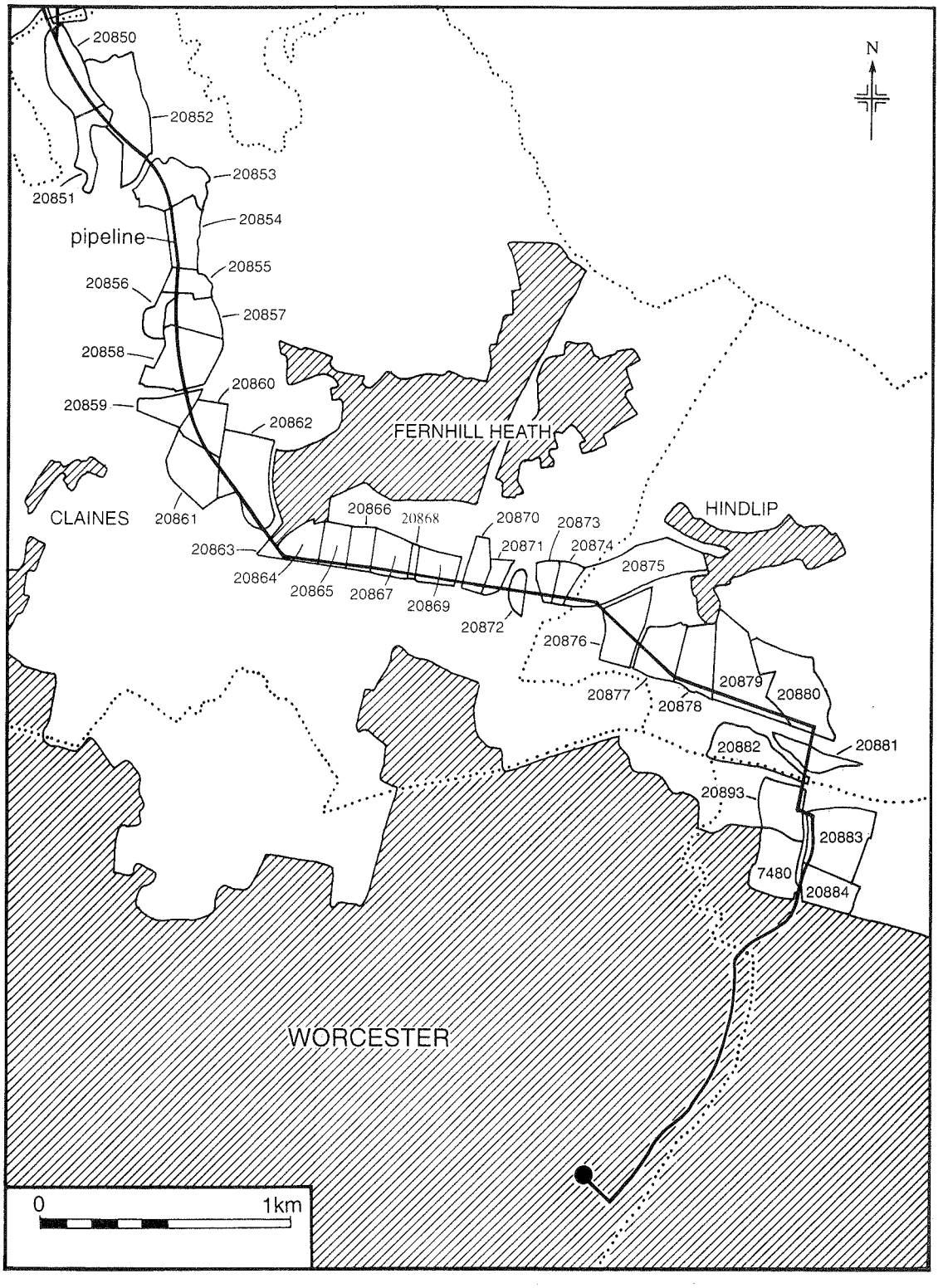

Figure 4 *Route of pipeline showing SMR numbers allocated (south section)*

2.1.3 Implementation

Artefacts were recovered from the majority of the fields examined. Archaeological deposits were encountered at two sites and their excavation was accommodated within the salvage recording programme (Figs 2-3: HWCM 20813 and HWCM 20838). At a third site, near Linacres Farm (Fig 4: HWCM 20854), more extensive deposits were revealed. Following negotiations with the Resident Engineer, a programme of salvage recording was implemented using the contingency provision. The results of salvage recording at these three sites is documented in this report. This report also describes the results of artefact recovery along the rest of the pipeline, and discusses the results in relation to the three excavated sites and other archaeological and historic evidence in the area.

2.1.4 Future management

The results of such fieldwork are important, not only for enhancing our knowledge of past settlement and landuse, but also for the future management of archaeology in the county. It is probable that only a narrow area of any one site will be destroyed by pipeline construction. Subsequently it is possible to manage the deposits that survive on either side of the pipeline. In addition, the results of a series of such pipelines and other linear developments will contribute to the development of simple predictive models for settlement distribution and landuse in different landscape areas of the county. These models will allow a better understanding of the potential for survival of significant archaeological deposits across the county.

2.2 Topography, geology and soils

The pipeline passed along the valley of the River Severn along most of its course, except for at the southern end where it circled to the east around Worcester. For the most part the pipeline followed a route above low-lying ground, except where it crossed the River Severn at Astley Burf and the River Salwarpe near Hawford Grange. The higher land east of the Severn is divided from the flood plain by steep slopes as far south as the River Salwarpe, southwards of which the Severn flows across the broad Worcestershire Plain. The pipeline lay at an elevation of between 40m to 50m OD for much of its route from the Severn crossing south to the River Salwarpe; south of this the pipeline lay between 20m and 40m OD, as it did west of the Severn in Astley.

The landscape north of Ombersley and east of the River Severn is characterised as intensively cultivated lowland (Hereford and Worcester County Council 1990, map 18). There are local areas of dense hedgerows and some areas of ancient semi-natural woodland (*ibid,* maps 9 and 11).

The soils of the area east of the River Severn fall into two broad groups. In the area between Astley and Ombersley, soils are predominantly of the Bromsgrove association, which are well-drained and form some of the best arable soils in the district (Beard *et al* 1986; and map sheet 150). The underlying geology is Triassic sandstone.

From Ombersley southwards, the soils are varied, but the Whimple association predominates. This seasonally waterlogged soil is poorer than soils to the north but is also suitable for arable farming. The geology is drift.

2.3 Historical background

The area within which salvage recording was undertaken lies in the civil parishes of Ombersley and North Claines, with small parts in Astley, Hartlebury, Hindlip and Warndon. The eastern parts of the civil parishes of Grimley, Holt and Shrawley (all on the west bank of the River Severn) lie within the wider study area considered in this report (Figs 17-20).

Historical evidence for early periods in the area east of the Severn is slight, and no direct evidence is available before the 8th century AD. The civil parishes east of the river embody older ecclesiastical parishes (except for North Claines). Some of these parishes (ie Ombersley) are co-terminous with estates documented in the 8th century; other parishes have a more complex history (Hooke 1990).

The medieval landscape
The medieval settlement pattern of Worcestershire has not been studied systematically. In general, the area north of Worcester is characterised as a "woodland" landscape. At a local level, a woodland landscape has been studied in detail in Hanbury, which is probably not entirely typical of the medieval woodland landscape of west and north Worcestershire (Dyer 1991, fig 1). The medieval settlements at Ombersley, Claines, Hindlip, Holt, Martin Hussingtree and Warndon seem to be have been rather small nucleated settlements within a larger pattern of dispersed farmsteads (sometimes surviving as moated sites). However there is little evidence for the date of origin of this settlement pattern.

There are some disparities in the current knowledge of these parishes due to variations in documentary research undertaken to date. The manorial and ecclesiastical history has been studied to a uniform level (VCH III). Further work on documentary and cartographic sources for Ombersley was partly stimulated by the fieldwork on the pipeline, and has made a significant contribution to current knowledge of medieval settlement and landscape (Guyatt 1995). This work has been extensively used in this report.

Ombersley
The estate of Ombersley is recorded in an 8th century charter, when it was granted to Evesham abbey (Hooke 1990, 36-40). The estate was administered from a grange, located at the site of the later Ombersley Hall (VCH III, 463-4). Place-name evidence (in the form of *-leah* names) indicates that Ombersley was extensively wooded in the earlier medieval period (Hooke 1990, 39), and two leagues of woodland were recorded in Domesday Book (Thorn and Thorn 1982, 175d). The estate was a royal forest in the 12th century (Ombersley Forest), but was disafforested in 1229 (VCH III, 462). The good agricultural soils were well-suited for cultivation, and agricultural exploitation of the estate, stimulated by Evesham abbey, may have been the cause of disafforestation in 1229 (Hooke 1990, 39).

Ombersley had a complex and varied field pattern in the medieval period, with open fields as well as enclosed plots, woodland, wood pasture and waste (Guyatt 1995). The settlement pattern comprised the nucleated village of Ombersley, a number of hamlets of less than six farmsteads (eg Uphampton and Chatley), and numerous individual farmsteads (*ibid*). The watercourses were utilised by a number of mills, and fisheries on the River Severn were valuable resources (VCH III, 464).

Claines
In Claines, land at Tapenhall is recorded in 1038 (Hooke 1990, 358-62). The topographic name *lin aceran* (meaning "flax acres") indicates one aspect of Anglo-Saxon landuse (*ibid,* 361). The origin of the settlement focus at Claines is uncertain, but probably dates from the early medieval period when a chapel is documented, on the site of the later church (VCH III, 306).

The post-medieval landscape
Leland's description in the early 16th century indicate that the landscape north of Worcester towards Droitwich and Hartlebury was one of enclosed fields, with ample woodland in Ombersley (modern edition: Chandler 1993, 511). It is known that Ombersley still contained open fields and areas of waste in the 17th century (Guyatt 1995). Ombersley was noted for its general fertility in the early 17th century (Buchanan 1944, 496). A detailed reconstruction of the landscape in 1827 shows little woodland survived by this period (Guyatt 1995, map IX), and it seems probable that the medieval and early post-medieval landscape saw a marked loss of woods in the later post-medieval period. In the early 20th century the landscape of Ombersley was fairly evenly divided between pasture and arable, with 223 acres of woodland (VCH III, 462).

2.4 Archaeological background

Prehistoric evidence
Prehistoric artefacts have been recovered as surface finds from a small number of sites, and also retrieved from the River Severn. The pipeline route started at Astley Waterworks, near an important (although small) early Bronze Age site, discovered during a previous pipeline project (Fig 17: HWCM 11093; Dinn and Hemingway 1992). A single pit was found containing Beaker pottery, lithics, and carbonised plant remains. Pollen evidence from Cookley suggests that major clearance of woodland took place in the later Neolithic or Bronze Age (Jackson *et al* 1994a, fig 10), and similar evidence has been produced from Rush Pool, Hartlebury Common (Tucker 1986, fig 2.1).

Lithic scatters have been recorded at a number of locations along Severn Valley north from Areley Kings (eg Dinn and Hemingway 1992; HWCM 5540, HWCM 11085). Ring ditches and round barrows are widely scattered in the area, but the current understanding of prehistoric settlement and ceremonial landscapes is poor.

The evidence for later prehistoric occupation in the area transversed by the pipeline is slight, although it is probable that a number of the cropmark enclosures identified from aerial photographs are Iron Age in date. An Iron Age pit was excavated at a Roman settlement site in Astley (Walker 1958; HWCM 8072).

Roman settlements
A number of open and enclosed settlement sites dated to the Roman period have been excavated in the area. An enclosure was partially excavated at Hawford, dated to the early 2nd century (Fennell 1963; HWCM 2582), and more recently other features have been excavated nearby (Topping and Buteux 1995; HWCM 23023). Two Roman settlement sites have been excavated in Astley (Walker 1958; HWCM 8073; Walker 1959; HWCM 6069), and further north a small settlement was excavated at Dunley Road, Areley Kings (Dinn and Hemingway 1992; HWCM 1136).

Animal bone and plant remains are poorly preserved on excavated sites, and consequently little is known of the Roman rural economy; the paucity of Roman pottery found as field scatters may indicate that pastoral farming was locally important (Dinn and Hemingway 1992, 111). In this context it may be noted that animal marketing formed an important feature of the economy of the Roman "small town" of Worcester in the 3rd to 4th century (Dalwood *et al* 1992, 124).

Numerous cropmarks are recorded in Grimley, Ombersley and North Claines, some of which are in the form of small rectilinear enclosures, usually dated to the Iron Age or Roman period on the basis of their form; in this area the excavated enclosed settlements date from the earlier Roman period.

Post-Roman and Anglo-Saxon settlement
No post-Roman or Anglo-Saxon sites have been recorded in the area. It is believed that the inhabitants of north and west Worcestershire (and a much wider area) did not use pottery to any degree between the 5th and 9th centuries AD; rural settlement sites may contain aceramic finds assemblages and consequently be hard to detect. The 8th century charters from the area (see above, section 2.3) record the granting of prosperous rural estates, and place-name evidence records provides an insight into the development of the landscape and settlement pattern; clearly the absence of archaeological evidence does not indicate abandonment. However, archaeological exploration to date has produced no evidence for the settlement pattern or economy of these landholdings.

Medieval settlements and field systems
The survey area lacks deserted medieval villages, which probably indicates that many of the medieval rural settlement sites are still inhabited. Although a number of medieval farmsteads and hamlets have been located from documentary sources, and larger medieval settlement sites have also been identified, the archaeological potential of these sites has not been investigated to date. Documented medieval farmsteads are quite numerous in the western part of Ombersley, and many have been provisionally located at the sites of farms of the same or similar name, documented in the medieval period (Figs 17-20; Guyatt 1995). However it remains to be proven that the medieval and post-medieval farmsteads of the same name are on the same sites.

Ridge and furrow is not widespread in the study area, although a recent study of aerial photographs of Ombersley has identified widely dispersed ridge and furrow across the parish (D Guyatt pers comm). These earthworks undoubtedly reflect the scattered medieval open fields of Ombersley. However, more work is required before a comprehensive understanding of the medieval landscape of Ombersley is reached.

Post-medieval settlements
The documented farmsteads and nucleated settlements are represented by post-medieval buildings. However little archaeological evidence has been recovered from the study area.

3 Methodology

3.1 Pipeline recording

The design of the project and the methodology used were based on similar pipeline projects already undertaken by the County Archaeological Service on behalf of Severn Trent Water. A number of these have already been completed and the results and methodology have been published (Dinn and Hemingway 1992; Dalwood 1992a; Jackson 1993; Jackson *et al* 1994b). Since the methodology and approach are described in detail in the first of these reports only a brief summary is given here along with any variations in approach.

An initial preparation period for the project allowed the collection of existing data on the archaeology, history, topography and geology of the area traversed by the pipeline. Geological maps and published survey data were used to establish the solid geology and the soils of the fields crossed by the pipeline. Ordnance Survey maps provided topographical details and the pattern of modern fields and settlements. These were used to provide base maps for the recording of data in the field.

Archaeological data available for the area was studied through use of the County Sites and Monuments Record, in order to establish the archaeological framework for the area through which the pipeline was to pass. Historical data was collected through primary documentary sources (eg Domesday Book) and through secondary sources such as the *Victoria County History of Worcestershire* (VCH III). In addition tithe maps and awards and the enclosure maps and apportionments for the area were studied, two of which were available as transcribed maps (Guyatt 1994; Guyatt and Beckham 1994).

The aim was to study historical landuse and to reconstruct the medieval field and settlement pattern in the vicinity of the pipeline from field boundaries and field names. This data was allied to topographic evidence, existing archaeological data and also documentary material. This would provide a context for the understanding of varying medieval artefact scatters resulting from the manuring of arable fields (cf Jackson 1993). These desk-based studies provided a framework and background for the archaeological data collected.

3.2 Identifying deposits and artefact scatters

The fieldwork fell into two stages: firstly recording of the stripped easement; and secondly recording of the pipe trench. During the first stage the pipeline was visited during, or shortly after, removal of the topsoil. The freshly stripped area of the easement was observed and intensively fieldwalked. All modern fields and each of the three sites at which recording was undertaken were allocated an individual SMR number for ease of recording and data manipulation (Figs 2-4).

Any surviving archaeological deposits were investigated and artefacts, if present, were collected from within them. In addition the spoil at the side of the easement was examined for artefacts. A record was also made of the current landuse and topography of each field, and of the soils and geological deposits revealed. In one field (Fig 4: HWCM 20854) significant deposits were present which could not be effectively recorded by the core team and a

programme of salvage recording was implemented through the contingency provision. The methodologies for this site was developed to suit the particular conditions.

No observation was carried out along the southernmost extent of the pipeline, from Great Tolladine Farm along Tolladine Road to Ambleside Drive, as the route of the pipeline in this area passed along modern highways.

The easement was observed following stripping of topsoil in 91 fields. In three of the fields buried archaeological remains were observed and salvage excavation and recording was undertaken. The three salvage recorded sites were near Linacres Farm, North Claines (HWCM 20854); near Stone Farm, Ombersley (HWCM 20813); and south of Barnhall Farm, Ombersley (HWCM 20838). The results of salvage recording on these sites are separately described below (sections 4 to 6). A single post-medieval boundary ditch was observed and investigated (HWCM 20841), but no artefacts were recovered. The buried remains are not discussed in this report: details are retained in the project archive.

In addition to the three excavated sites, artefacts were recovered from 57 fields, and the evidence recovered is presented below (section 7; Table 7).

3.3 Analytical methodologies

The final phase of the project involved the analysis of the data recovered in the field and integration of those results with the background research. This report presents the results of the project and summarises the background, methodology and aims of the work. A shortened version of this archive report will be produced for publication in the *Transactions of the Worcestershire Archaeological Society.*

3.3.1 Structural analysis

Structural analysis was carried out through a combination of structural, artefactual and environmental evidence. A phased stratigraphic matrix was produced for each site (retained in the project archive except for HWCM 20854; appendix 3).

3.3.2 Artefacts

Artefact recovery policy. Unstratified finds were recovered during machining and any features observed were excavated and sampled where necessary.

Method of analysis. All artefacts recovered during the machine stripping of the pipeline easement were identified, dated where possible, counted and weighed. This information was entered onto a computer database and a printout is held in the project archive. With the exception of the flints no further analysis was undertaken.

Finds recovered during excavations at HWCM 20813, HWCM 20838 and HWCM 20854 were analysed in more detail. Pottery from each site was examined by context and each context assigned a *terminus post quem.* Abraded sherds were noted and an assessment made of the amount of residual material present. The pottery was divided by fabric and form using the HWCC

fabric and form type series held at the County Archaeological Service (based on Hurst and Rees 1992). The presence and type of decoration was also noted for each fabric. Detailed descriptions of fabrics referred to in this report can be found in appendix 7.

The pottery was quantified by weight and count. Due to the absence of independent dating evidence the pottery was used to provide a chronology for the sites. The majority of the pottery recovered was Roman and dating was based on local typologies such as Peacock (1965-7) for Malvernian wares and Webster (1976) for Severn Valley wares. Surveys such as Gillam (1976) and Young (1977) were used for non-regional wares. Recent excavations in Worcester, at Sidbury (Darlington and Evans 1992; HWCM 117) and Deansway (Evans forthcoming; HWCM 3899), have produced large ceramic assemblages. Whilst the range, form and relative sequence are well known, the disturbed nature of the urban deposits means that the dating of fabrics and forms has depended largely on the date assigned to them elsewhere.

The tile and brick were sorted by fabric (based on Hurst 1992a) and form and quantified by count and weight for each context. The fabric descriptions can be found in appendix 8.

All the metalworking debris from HWCM 20854 was individually weighed, visually examined and classified to type. Visual examination of metalworking debris allowed it to be classified into various categories based on its morphology, density, colour and vesicularity. Of these categories only a small proportion are diagnostic of a particular metalworking process. Others can only be assigned to the working of a particular metal, whilst many can be produced by a wide range of high temperature processes.

All other finds were catalogued and quantified; details are retained in the project archive. All iron objects were radiographed (plates are retained in the project archive) but not cleaned.

3.3.3 Ecofactual remains

Sampling strategy. The environmental sampling policy was as defined in the County Archaeological Service Recording System (Hereford and Worcester County Archaeological Service 1995). Large animal bone was hand-collected during excavation and samples of 10 litres taken from pit and gully fill contexts of Roman date (appendix 9).

Processing and analysis. The samples were processed by flotation followed by wet-sieving using a Siraf tank. The flot was collected on a 500μm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

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

Preservation. Preservation of environmental remains was generally poor. Small quantities of cattle teeth and fragmented large mammal bone were present in several contexts from one site (Linacres Farm: section 4), and in some features occasional charred cereal or grass grains were recovered.

Although seeds preserved under anaerobic conditions are present in many samples, it is assumed that they are modern intrusive remains as they are frequently associated with earthworm eggs.

4 Salvage recording near Linacres Farm, North Claines (HWCM 20854)

4.1 Location

The site is located at NGR SO 855 597 in a field, 300m south-east of Linacres Farm (Fig 5). The field was under pasture in 1994, and fields called Far and Hither Fishpool Hill in 1840 correspond with the modern field (Guyatt and Beckham 1994). The site lies at a height of *c* 35m OD, on an east-facing slope above a small valley. The solid geology is Mercian Mudstone (British Geological Survey 1990). The soils are of the Wick series (Soil Survey of England and Wales 1985). The route of the pipeline was planned to avoid a rectangular cropmark at the north end of the field (Fig 5: HWCM 15257), and the more extensive cropmarks in the field to the west (Fig 5: HWCM 6062).

The site comprised two discrete areas, each with small concentrations of deposits, *c* 110m apart: Area A (NGR SO 8555 5972) and Area B (NGR SO 8553 5984). The detailed results of the structural analysis are presented in appendix 3, and details of environmental work in appendices 9 -11.

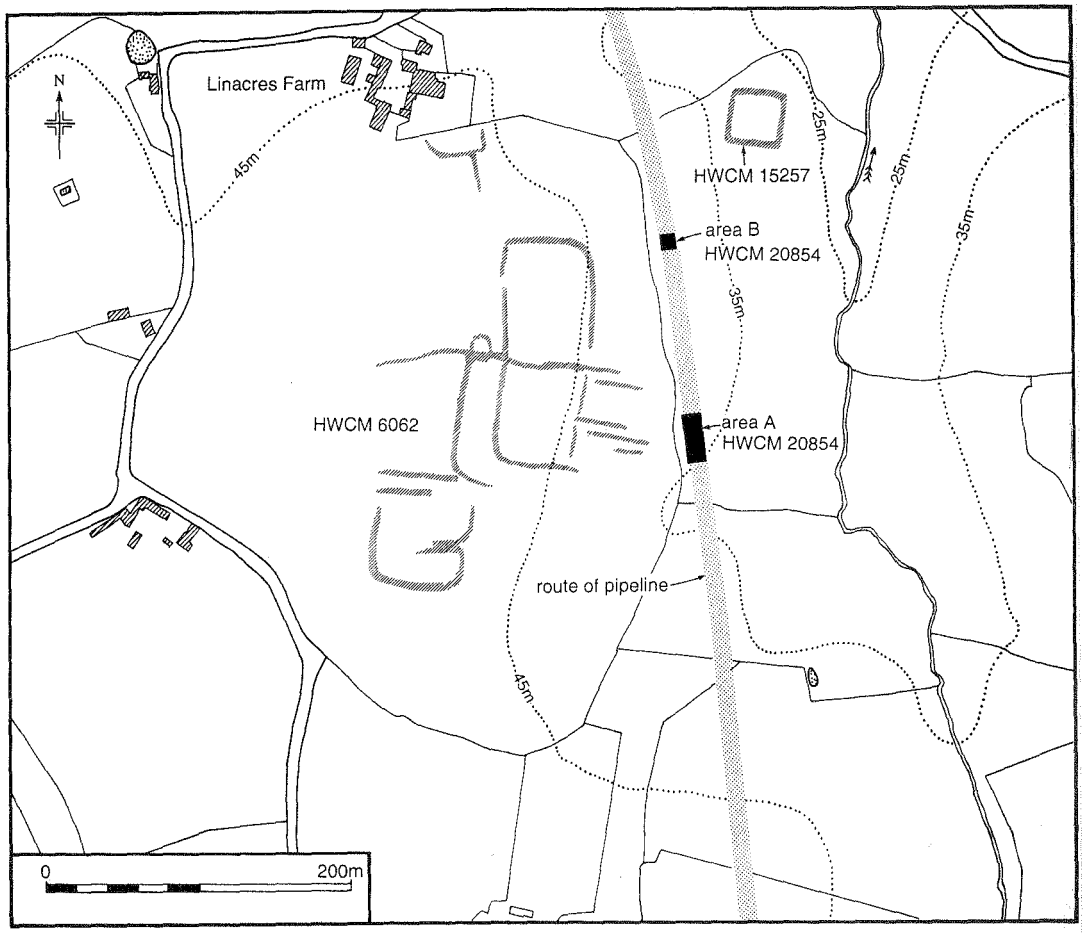

Figure 5 Location of buried deposits near Linacres Farm (HWCM 20854 Areas A and B); adjacent cropmark sites shown hatched (HWCM 15257 and HWCM 6062). Cropmark information from NAR plot and aerial photographs (information held by HWCC SMR)

4.2 Analysis

Phase 1 Geological deposits

The underlying geological deposits (140) consisted of weathered Mercian Mudstone.

4.2.1 Phase 2 Prehistoric

Artefactual evidence. All the pre-Roman artefacts recovered from the site were found in later contexts. One tiny fragment of flint was recovered from the environmental sample taken from context 106 (Phase 4) and another was second retrieved from the topsoil. One rim sherd of a native style "tubby cooking pot" (fabric 3) was also recovered from context 112 (Phase 4). This probably dates to the 1st century AD although it is more likely to be post- rather than pre-conquest.

4.2.2 Phase 3 Roman: 1st to 3rd century

Structural evidence. No deposits were recorded dating to this period.

Artefactual evidence. A small amount of pottery dating to the 2nd to 3rd centuries AD was recovered from Phase 4 contexts. Forms which can be dated to this period include a Malvernian tubby cooking pot in fabric 3 (see above), jars, bowls and a tankard in Severn Valley ware (fabric 12), a *mortarium* from the Oxfordshire kilns (fabric 33) and bowls in grey ware (fabric 14), Malvernian ware (fabric 19) and black burnished ware (fabric 22). All of the 69 sherds of samian recovered from the site could be assigned to this phase.

4.2.3 Phase 4 Roman: 3rd to 4th century

Structural evidence: Area A. In Area A, three discrete features were recorded (Fig 6). The largest feature was a 4.0m wide linear feature (125), that continued westwards beyond the edge of the easement, but which terminated near the eastern edge. The feature was *c* 0.30m deep and contained a homogeneous fill (112); the base was partially lined with a thin layer of small pebbles (131 and 133). Three parallel linear features (128, 130, and 132) were recorded in the base of this feature (Fig 7).

South of the linear feature, two pits were recorded (109 and 107), and a curvilinear feature (111). The pits were varied in size: one (109) was 3.50m by 1.60m and *c* 0.45m deep; the smaller pit (107) was 1.50m square and *c* 0.30m deep. The narrow curvilinear feature (111) was not excavated.

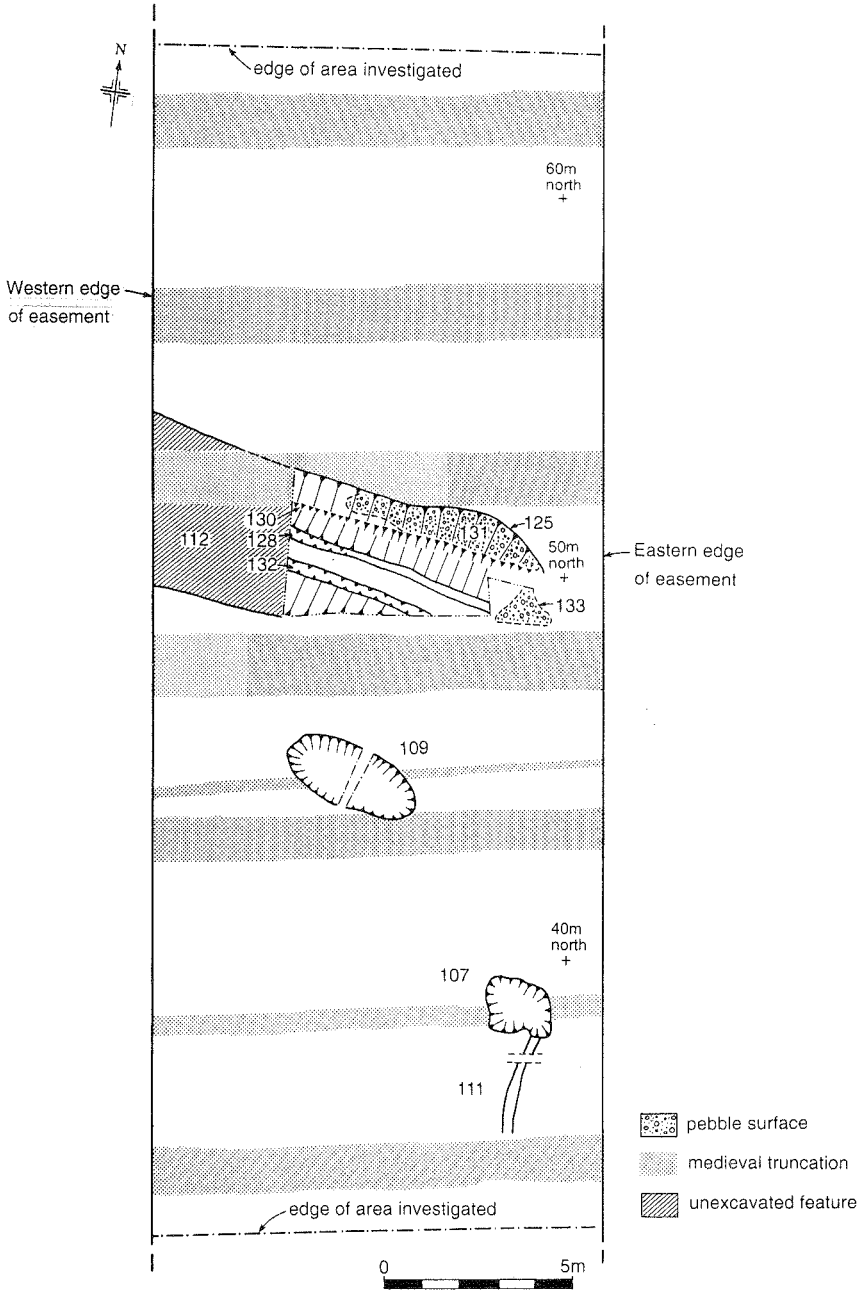

Figure 6 *Linacres Farm Area A: Phase 4 Roman deposits*

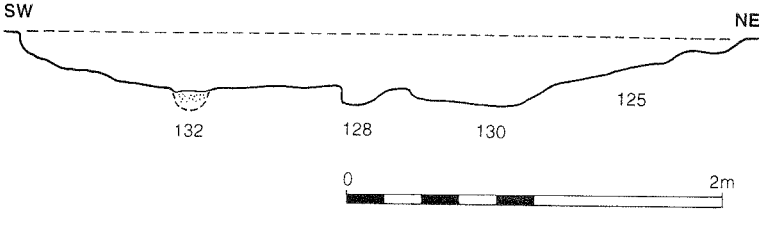

Figure 7 *Linacres Farm Area A: profile through linear feature (context 125)*

Structural evidence: Area B. In Area B, 110m north of Area A, two sub-circular pits were recorded (Fig 8; 102 and 104). One of the pits (102) was 1.30m diameter and *c* 0.50m deep; the other (104) was 1.50m by 1.10m and *c* 0.30m deep.

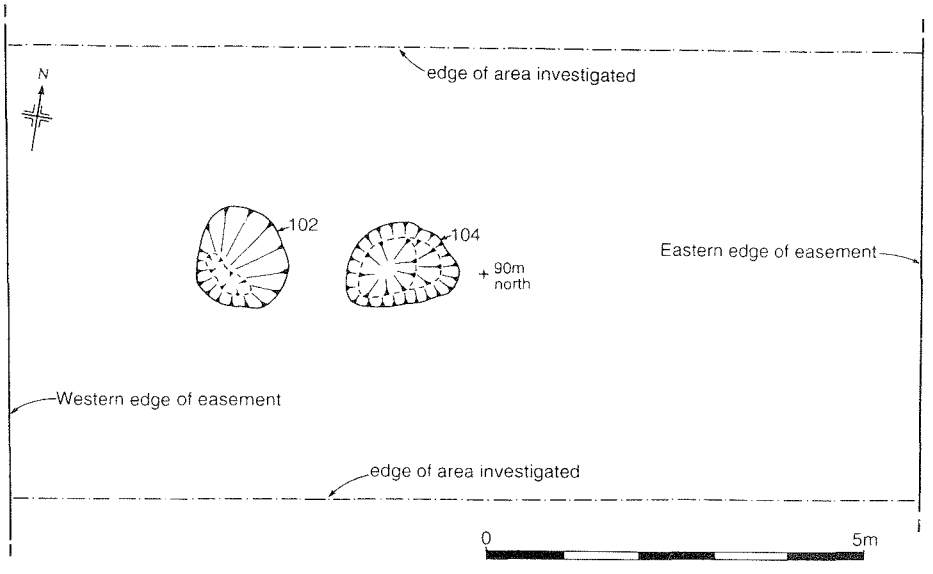

Figure 8 *Linacres Farm Area B: Phase 4 Roman deposits*

Artefactual evidence. The majority of finds recovered from Linacres Farm came from Phase 4 contexts, dated to the 3rd to 4th centuries. These finds included 88% by count and 87.2% by weight of the pottery assemblage, 80.5% by count and 62.5% by weight of the tile assemblage, 41 out of 46 iron objects, 89% by weight of the slag assemblage and all the copper alloy and stone objects. The majority of these finds date to the later Roman period although some earlier material has been identified (see Phase 3).

Of the 2266 sherds of pottery weighing 23kg recovered from contexts dating to the 3rd to 4th century, 83.2% by count (82.4% by weight) come from just two contexts (108 and 112).

Context 108 (a pit fill) contained generally very abraded sherds (mean weight 16.4g), suggesting that their post-breakage history was complicated, and that they may have been in middens or pits prior to their final deposition.

Context 112 represents the infilling of a trackway. It contained very small and abraded sherds (mean weight 8.8g), but it seems that many sherds belonged to the same vessels and that they were largely broken *in situ*. This suggests that the trackway continued to be used during and after artefact deposition and that artefacts may have been deposited to form hardcore.

Whilst both contexts contained the rather limited range of fabrics and forms

typical of Roman rural settlements, context 108 was unusual in that the assemblage contained a large proportion of bowls. This can be seen clearly when the proportions of different vessels types in contexts 108 and 112 are compared. If rim sherds are used to identify different vessels, context 108 contains parts of at least 30 vessels and context 112 contains parts of at least 64 vessels (not including samian). If the residual Phase 3 material is removed, the figures are *c* 26 vessels in 108 and *c* 58 vessels in 112. Figure 9 compares the percentages of jars, bowls tankards and other vessel types in the contexts. The figure shows clearly that whilst context 112 displays the general pattern with a high percentage of jars, context 108 has a higher percentage of bowls and tankards. The reason for this is not clear. The contrast may be due to the different post-breakage history of the two assemblages or to functional differences in the settlement; the context 108 assemblage may have derived from a dairy.

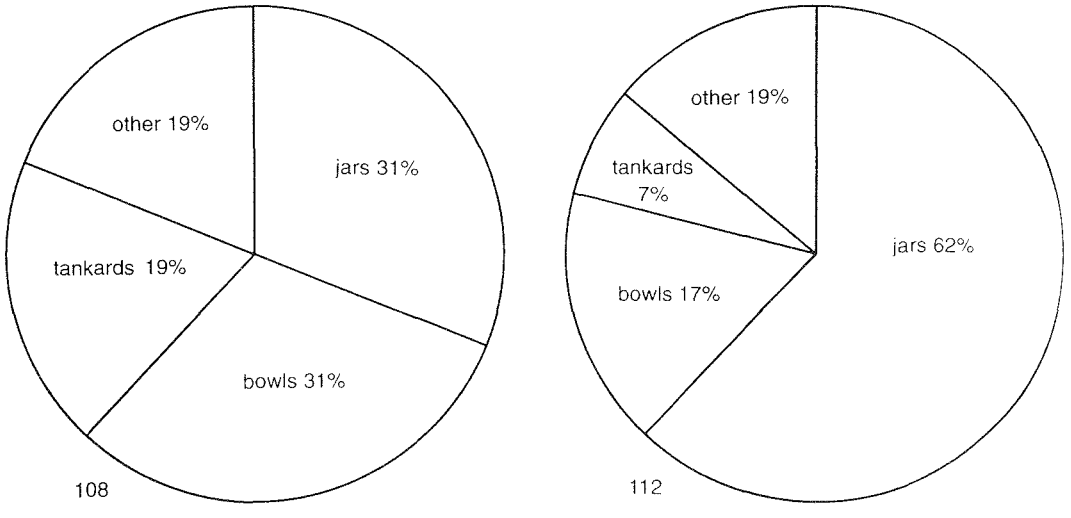

Figure 9 *Relative proportions of contemporary vessel types (excluding samian) from contexts 108 and 112: jars (fabrics 3, 12, 12.2, 19, 22), bowls (fabrics 12, 19, 22), tankards (fabric 12) and other forms (fabrics 3, 12, 28, 32, 33, 44, 98). Quantification by minimum number using rim count.*

Ecofactual evidence. Animal bone was poorly preserved and generally disintegrated upon excavation. However a total of 480g of cattle teeth and occasional bone fragments were hand-collected from eight Phase 4 contexts and also recovered from wet-sieved samples (appendix 10). Teeth were preferentially preserved, probably because dental enamel is more resistant to decay in the acid soils found in the area. The only occupation debris, apart from cattle teeth, were occasional charred cereal and grass grains, including one charred emmer or spelt wheat grain (*Triticum dicoccum/ spelta*; appendix 11).

4.2.4 **Phase 5 Medieval**

Structural evidence. In Area A, seven parallel linear features were excavated, aligned east to west (114, 116, 118, 120, 122, 137, and 139). The features were *c* 0.12m deep (one was 0.30m deep) and between 1.0m and 1.5m wide, and spaced 3.0m to 3.5m apart (Fig 10). The excavated deposits only contained Roman pottery.

Artefactual evidence. During this phase the site was ploughed and the underlying Roman deposits disturbed. No medieval artefacts were found *in situ* and all 38 sherds of pottery (weight 202g) recovered from this phase were Roman. The only sherd of medieval pottery (fabric 69) recovered was found in topsoil.

4.2.5 **Phase 6 Post-medieval and modern**

Structural evidence. A single linear feature (135) was recorded in Area A.

Artefactual evidence. Of the 271 sherds (weight 3186g) recovered from this phase only two sherds (fabric 100) are contemporary, the rest being residual Roman fabrics. One fragment of clay pipe stem was recovered from this phase. The linear feature (135) contained fragments of field drain.

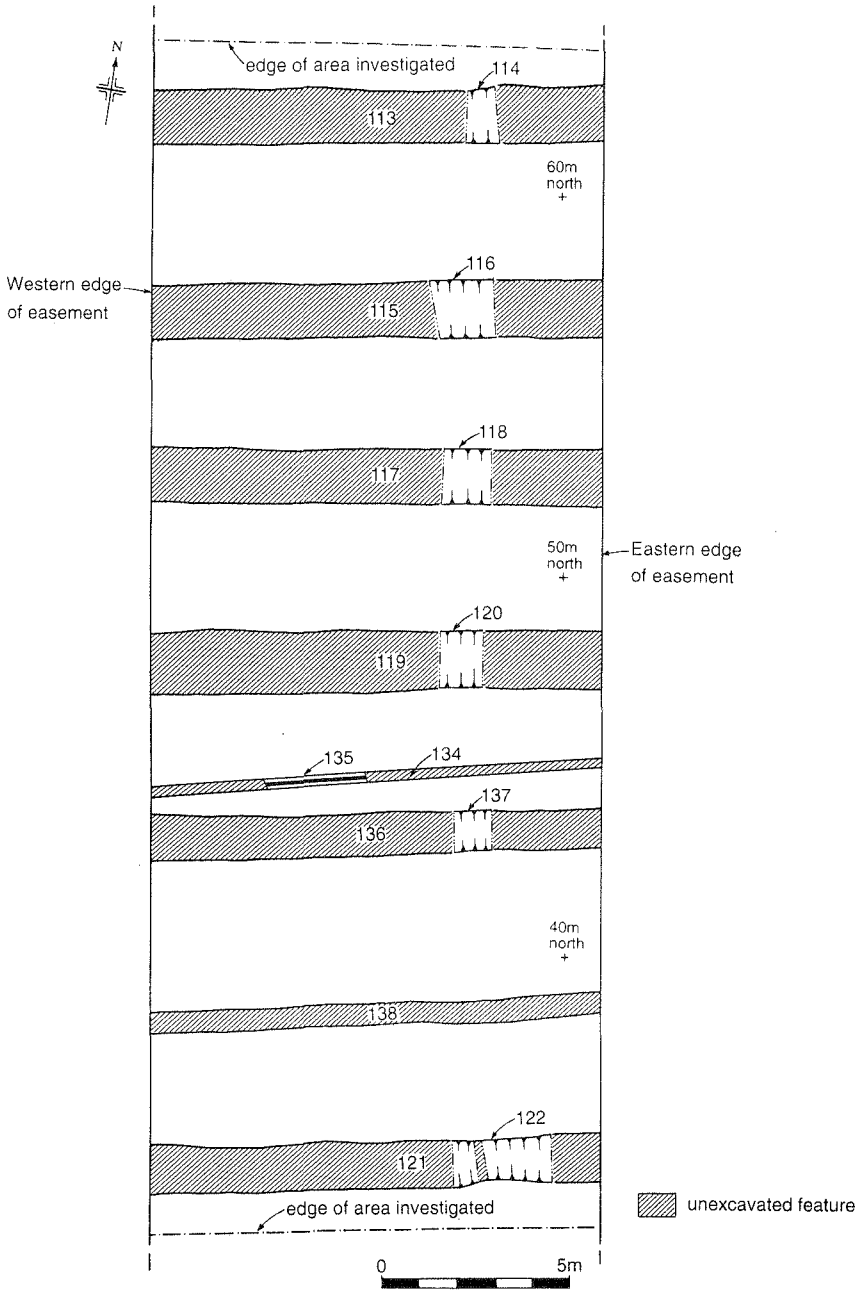

Figure 10 *Linacres Farm Area A: Phase 5 medieval deposits*

4.3 Discussion

4.3.1 Structural evidence

Late Roman (Phase 4: 3rd to 4th century)
Although earlier Roman (1st to 3rd century) material was recovered from the site (see below), all the deposits excavated were dated to the 3rd to 4th century AD. The interpretation of these features is that they form part of Roman settlement, of which the focus may lie within the cropmark enclosures to the west of the pipeline (Fig 5; HWCM 6062). This cropmark includes a rectangular enclosure, which on morphological grounds could be dated to the Iron Age or Roman periods, and other boundary ditches. However, no artefactual evidence has been recovered from the field to the west of the pipeline. The rectangular enclosure (HWCM 15257) north of the excavated areas is morphologically similar to that to the west.

The excavated features consist mostly of pits of varied form and size (Figs 6 and 8). The artefact assemblages from these pits appeared to be dumps of secondary refuse, probably redeposited during a period of site re-organisation and clearance. The material included domestic and industrial debris. The function of these pits is not readily apparent: following excavation they appear to have been left open and the sides eroded. It is possible they were used for water storage.

The broad linear feature (125) is too shallow to be a boundary feature (Fig 7). The interpretation of this feature is that it is a trackway: the pebble layer is interpreted as metalling and the linear slots in its base as wheel-ruts. The trackway eroded into the surface of the natural and was infilled in the Roman period with a homogeneous deposit (112). The trackway leads from the concentration of enclosures to the west of the excavated area to the stream which runs south to north east of the site.

The lack of evidence for buildings and the topographic situation on the shoulder of a small valley suggest that the excavated deposits lie on the periphery of a more extensive settlement. Cropmark enclosures and boundary ditches are known north and east of the excavated features.

Medieval (Phase 5)
The seven linear features aligned east to west in Area A (Fig 10) are the remnants of ploughed-out ridge and furrow. The furrows contained Roman pottery, which is interpreted as material redeposited by ploughing from truncated Roman deposits of Phase 4. No medieval or post-medieval pottery was recovered (although only small lengths of each furrow were excavated).

The recorded ridge and furrow undoubtedly forms part of a more extensive system originally extending across the field to the east, and forming part of one of the open fields of Claines. It is probable that the documented fieldnames Far and Hither Fishpool Hill refer to a fishpond in the small valley immediately east of the excavated deposits (Guyatt and Beckham 1994).

Ridge and furrow has been excavated and recorded at a number of sites in Worcestershire. At a site in Hanley Swan, ridges were 3.75m to 4.5m wide, and broadly datable to the later medieval period (Hurst and Ratkai 1995, 9; HWCM 21598). At the very extensive site at Huntsman's Quarry, Kemerton, furrows were spaced 6m to 7m apart (HWCM 21698). The furrows at the

present site were 3.0m to 3.5m apart, which is at the narrow end of the range of recorded sites in the County. It is possible that the width of ridges is chronologically significant, and excavated and dated examples of narrower ridges (ie 2.4 - 4.5m wide) have consistently been dated to before 1200 (Astill 1988, 73-4). Although independent dating evidence is not available from the present site, it is likely that the recorded ridge and furrow represents part of a medieval field system.

Post-medieval and modern (Phase 6). A linear feature (135) was interpreted as a disused field drain (Fig 10); no other evidence of modern disturbance was recorded.

4.3.2 **Pottery**

Introduction
A total of 2575 sherds weighing 26.5kg were recovered from Phases 4 to 6. The breakdown of the total pottery assemblage from the site, divided by fabric, is presented in Table 1.

Table 1 The pottery assemblage, by fabric

HWCM 20854 Linacres Farm Quantification of total ceramic assemblage					
Fabric no	**Fabric name**	**Count**	**Weight**	**% Count**	**%Weight**
12	Severn Valley ware	1956	16888	76.00	63.50
12.1	SV variant	6	42	0.20	0.10
12.2	SV ware variant	8	52	0.30	0.20
3	Handmade Malvernian	142	4322	5.40	16.20
19	Wheelmade Malvernian	283	3357	10.90	12.50
13	Sandy ware	6	42	0.20	0.10
14	Fine grey ware	4	28	0.15	0.10
15	Coarse Grey ware	2	10	0.10	0.05
22	Black Burnished	65	514	2.50	2.00
28	Nene Valley ware	2	34	0.07	0.10
32	Mancetter/Hartshill	10	366	0.30	1.50
33	Oxfordshire white ware	3	64	0.10	0.20
43	Samain	69	577	2.60	2.20
44	Rhenish ware	2	2	0.07	<0.10
98	Unidentified Roman	14	124	0.50	0.50
69	Medieval Malvernian	1	2	0.03	<0.10
100	General post-medieval	2	90	0.07	0.30
Total		2575	26514		

The area excavated was situated to the east of cropmark (HWCM 6062), identified as a Romano-British rural settlement; for the purposes of this report it has been assumed that all the Roman finds from the fills of the trackway and pits derive from the larger settlement.

From the medieval period to the present the site was in agricultural use and the Roman deposits were disturbed by later ploughing and drainage. Roman pottery is found in the furrows of the medieval ridge and furrow (Phase 5) and in the modern ploughsoil and the fill of a field drain (Phase 6). These two post-Roman phases contain 12% by count (13% by weight) of the total pottery assemblage. After the fourth century it seems that deposition of pottery in this area was very occasional: the pottery assemblage contains only three sherds of later pottery (one sherd of 15th to 17th century date, and two sherds of 17th to 18th century pottery).

Roman local wares: Severn Valley wares (Fabrics 12, 12.1, 12.2: Fig 11: 1-8). As is the norm in this region the assemblage was dominated by Severn Valley wares (76.5% by count and 63.8% by weight of the total pottery assemblage). Fabric 12 was the most important fabric in this group (76% by count and 63.5% by weight of the total pottery assemblage).

As is usually the case on rural sites the range of vessels in this fabric was limited. The main forms present were, in order of frequency, wide mouth jars, narrow mouthed jars, bowls and tankards. These vessels types are well-known in the area (Hurst and Rees 1992; Waters 1976; Webster 1976) and have been found before in Worcester (Evans 1992) and at sites in the surrounding countryside (ie Topping and Buteux 1995).

More unusual forms recovered were a flagon (Fig 11: 1) and part of a tiny jar which may be a "baby feeder" or "lamp filler" (Fig 11: 2). A jar of similar size but with a spout was found at Strensham to the south of Worcester (Jackson *et al* 1995a). In addition fragments of four unusual vessels were recovered from one context (Phase 4: 108). These may be very small tankards but there was no surviving evidence of handles (Fig 11: 3).

Of particular interest were a number of vessels which, although common Severn Valley ware forms (narrow mouth jars and bowls), were rather crudely decorated around the rim (Fig 11: 4-8). These were not present in the assemblage from Deansway, Worcester (Evans forthcoming) but were noted at Sidbury (Darlington and Evans 1992, fig 20: 1). They bear a marked similarity to wares from the kiln at Malvern Link thought to date to the 4th century (Peacock 1965-7, fig 4: 69-70). A large proportion of the Severn Valley wares found at Linacres Farm, and indeed all sites in and around Worcester, probably derive from kilns in the Malvern area, but the same forms are manufactured over a wide area and the products of the Malvern kilns cannot yet be identified consistently.

Whilst not all the forms can be closely dated, the majority fit into the second half of the Roman period. A few form sherds dated to the first and second centuries on typological grounds were present but these were all residual in later contexts.

Fabric 12.2, a Severn Valley vare variant, was present only in tiny proportions (0.3% of the assemblage by count and 0.2% by weight). This fabric is only found in any quantity on sites with 1st to 2nd century activity (Table 6; Evans

forthcoming; Dalwood *et al* 1994) and emphasises the late Roman date of the activity in the area. Fabric 12.1, another Severn Valley ware variant usually found in larger quantities on early sites, represented only 0.2% by count and 0.1% by weight of the assemblage at Linacres Farm.

Roman local wares: grey wares (fabrics 14 and 15). Fine and coarse sand-tempered grey wares comprised 0.25% by count and 0.15% by weight of the assemblage. Vessels in these fabrics are often similar in form to those found in reduced Severn Valley wares and are found in greater quantities on sites with 1st to 2nd century activity. Grey ware copies of 2nd to 4th century black burnished ware bowls are also known but are not represented on this site.

Roman local wares: Malvernian wares (fabrics 3 and 19). Sherds of handmade Malvernian ware pottery (fabric 3) made up 5.4% of the assemblage by count and 16.2% by weight.

Of particular interest were the nine fragments (726g) of a slab-built ceramic vessel, or vessels, recovered from Phase 4 contexts (103, 106, 108, and 112). Similar objects have been found at urban sites such as Droitwich (Hurst 1992b; Hurst and Woodiwiss 1992) and Worcester (Darlington and Evans 1992; Evans forthcoming; Dalwood *et al* 1994) as well as at rural sites such as Strensham (Jackson *et al* 1995a), Norton-juxta-Kempsey (Jackson *et al* 1995b) and Beckford (James Dinn pers comm).

No complete vessel has been found but sherds recovered to date suggest that there are either two components or two different vessel types. The first of these is a straight-sided form, roughly rectangular when viewed from the top, with no top or base. The upper rim is folded over (Fig 11: 9), and the bottom rim is slightly splayed (Fig 11: 10). One example from Droitwich suggested that some vessels of this type had an internal flange (Hurst and Woodiwiss 1992, 64, fig 46: 3). The second component or vessel is a circular or sub-circular plate (Fig 11: 11-3).

These objects have been identified as portable ovens (although there is at present no evidence of heating) or beehives. Neither of these interpretations is very satisfactory. What seems clear is that the vessels date to the 3rd to 4th century and that they are probably related to some semi-domestic activity such as cheesemaking or preserving meats.

The majority of vessels in fabric 3 were lids (Peacock 1968, fig 1:18) and large, crudely made storage jars (Peacock 1965-7, fig 4:80). One sherd of native-type tubby cooking pot (Peacock 1965-7, fig 1:1) was also recovered.

Wheelmade or wheel-finished vessels from the same area (fabric 19) made up 10.9% of the assemblage by count and 12.5% by weight and consisted of flat bottomed bowls probably influenced by black burnished ware bowls (Fig 11: 14; Peacock 1965-7, fig 1:15-7) and storage jars (Peacock 1965-7, fig 3:21).

At Sidbury (Evans 1992) native-type vessels such as the tubby cooking pot were more common up to, and including, the second century and more Romanised jar shapes and vessels, perhaps influenced by BB1 forms, were more common from the later 3rd century. This dating for vessels types in Malvernian ware again suggests that at Linacres Farm the majority of this material dates to the 3rd to 4th centuries.

Roman local wares: sandy oxidised wares (fabric 13). This fabric, thought to originate in the Gloucester area (Evans forthcoming) was found in very small quantities (0.2% by count and 0.1% by weight of the total assemblage). No form sherds were found.

Roman non-local wares: black burnished ware (fabric 22). This ware made up only 2.5% of the assemblage by count and 2% by weight, a considerably smaller proportion of the assemblage than has been observed on other Roman sites such as Strensham, Norton-juxta-Kempsey and Hawford (Table 6). The most common form in this ware was the bowl. These were fairly evenly divided between plain rimmed forms dating from the 2nd to 4th centuries (Gillam 1976: 40, 77 and 83) and flanged rim types dating to the third to fourth centuries (Gillam 1976: 44 and 49). Some sherds from black burnished ware cooking pots or jars were also recovered. These were usually 3rd to 4th century in date.

Other Roman non-local wares (fabrics 28, 32, and 33). As is the norm on rural Roman sites in Worcestershire a small amount of non-local pottery, other than black burnished ware, was recovered. This included abraded fragments of *mortaria* from Mancetter-Hartshill (fabric 32) and Oxfordshire (fabric 33), and two sherds of Nene Valley ware (fabric 28). These fabrics made up 0.5% of the assemblage by count and 1.8% by weight.

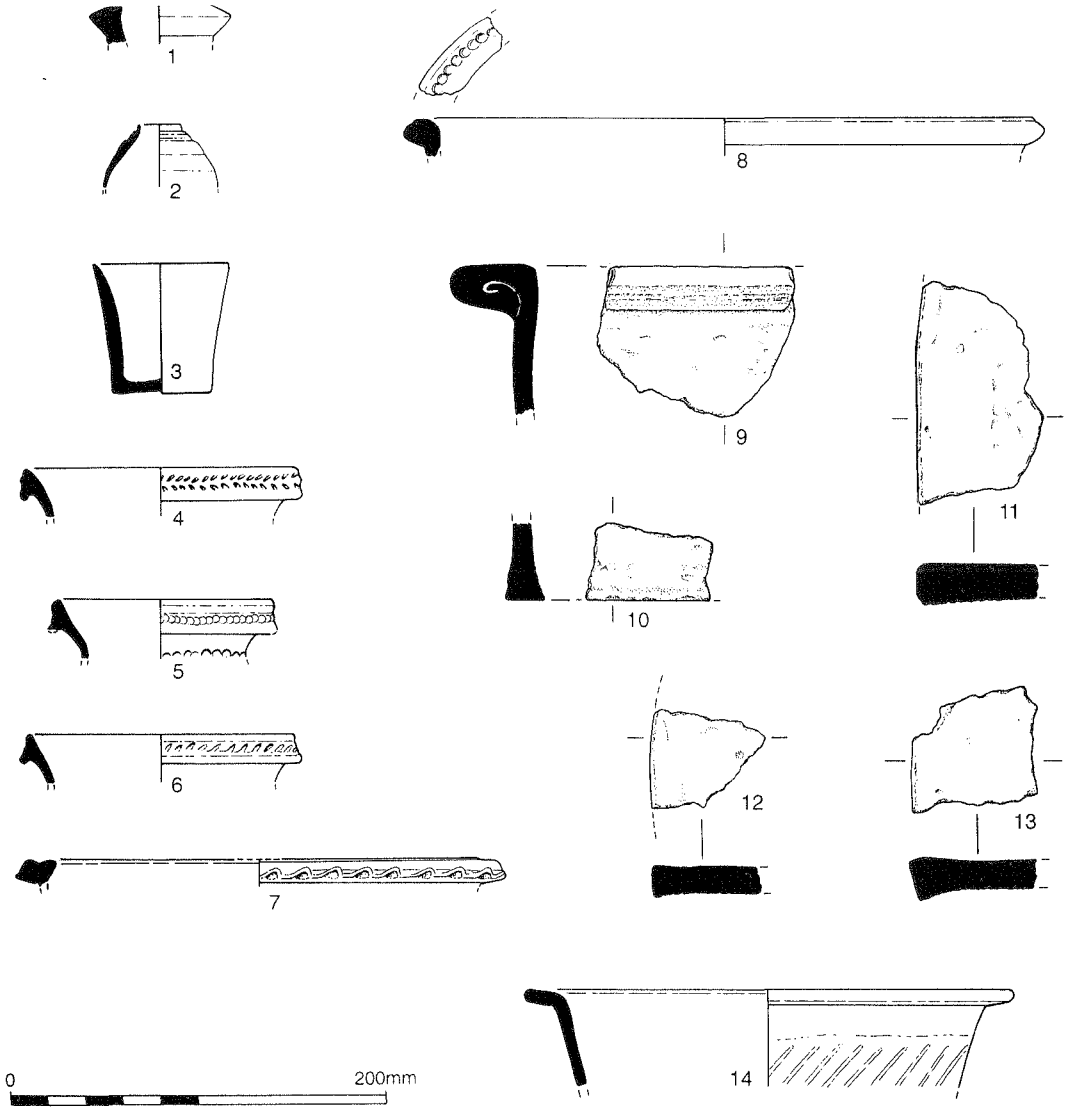

Figure 11 *Pottery from Linacres Farm (1:4): 1 Flagon, fabric 12; 2 Jar (baby feeder or lamp filler), fabric 12; 3 Small (?)tankard, fabric 12; 4 Jar, fabric 12; 5 Jar, fabric 12; 6 Jar, fabric 12; 7 Bowl, fabric 12; 8 Bowl, fabric 12; 9 Slab-built vessel (upper rim), fabric 3; 10 Slab-built vessel (bottom rim), fabric 3; 11 Slab-built vessel (circular plate), fabric 3; 12 Slab-built vessel (circular plate), fabric 3; 13 Slab-built vessel (circular plate), fabric 3; 14 Tubby cooking pot, fabric 19*

Roman imported wares: samian (fabric 43) *by Brenda Dickinson.* Samian made up 2.6% by count and 2.2% by weight of the Roman assemblage. The catalogue is held in the project archive. The samian consists of 69 sherds, representing a maximum of 66 vessels, of which 88% comes from the Central Gaulish factory of Lezoux and 12% from East Gaul (almost certainly Rheinzabern ware). The material is divided into forms (Table 2).

There is a slight possibility that the Curle 11 form bowl (context 112) may be pre-Antonine rather than early Antonine but the vessels which can be more precisely dated tend to belong to the later 2nd century, or, for the East Gaulish ware, to the first half of the 3rd century. The forms in question include some which did not evolve fully before *c* AD 160, such as 31R and 79, or AD 170 (the gritted mortaria). These contrast with the absence of forms 27 and 18/31R which had largely vanished from the British market by AD 160.

Both the contexts containing the bulk of the samian (108 and 112) produced material dating to the late 2nd to the early 3rd century AD. Many of the sherds were abraded and about 25% were of indeterminate form. There was only one decorated bowl. Even allowing that some of the East Gaulish ware could have reached the site as late as *c* 250/260 AD, it seems certain that all the samian in the collection is residual.

Overall there was a marked scarcity of cups, compared with dishes and bowls. Preparation of food on the site or in its vicinity is hinted at by the presence of four gritted *mortaria.* It is also not impossible that some, if not all, of the bowls of form 38 were used for grinding, either to supplement the more expensive gritted *mortaria*, or in the period before these were made. This use of form 38 has been noticed by the present writer on several rural sites in eastern Britain, but there is no logical reason why it should have been confined to that area. A further hint of a community of comparatively low status is provided by the virtual absence of decorated ware.

The assemblage cannot be compared to the rural site at Strensham (Jackson *et al* 1995a) as this has not produced sufficient samian, but there seems to be a significant difference in the date ranges for the material from Linacres Farm and that from Norton-juxta-Kempsey (Jackson *et al* 1995b) which, although totalling only a maximum of 28 vessels, includes several which clearly belong to the first half of the 2nd century. Norton-juxta-Kempsey also lacks East Gaulish ware which suggests that, unlike Linacres Farm, it was not receiving samian in the 3rd century.

Table 2 Samian forms

Form	Central Gaul	East Gaul	Total
30 or 37	3	-	3
31	3	1	4
31R	5	-	5
33	1	-	1
35 or 36	1	-	1
36	2	1	3
38	5	2	7
38 or 44	3	-	3
45	2	-	2
79	2	-	2
79 or Tg	2	-	2
Curle 11	1	-	1
Dish	3	2	5
Dish or bowl	5	-	5
Gritted *mortarium*	2	-	2
Enclosed vessel	1	-	1
-	17	2	19
Total	58	8	66

Other Roman imported wares (fabric 44). Only two other sherds of imported pottery were found. Both of these were fragments of Rhenish ware vessels. Such pottery is not common on rural sites but occasional sherds of finewares or *amphorae* do occur.

Medieval/post-medieval oxidised glazed Malvernian ware (fabric 69). Only one sherd of late medieval to early post-medieval pottery was found on the site. Fabric 69 is found in assemblages in Worcestershire from the 14th century to the end of the 17th century (Vince 1977).

Post-medieval pottery (fabric 100). Two sherds of 17th to 18th century pottery were recovered.

Ceramic building material. The tile and brick were sorted by fabric (appendix 8: based on Hurst 1992a) and form and quantified by count and weight for each context. The assemblage as a whole is quantified (Table 3). A total of 91 fragments weighing 3.2kg were recovered from Roman contexts (Phase 4) representing 80.5% of the assemblage by count and 62.5% by weight. Of the remaining 22 fragments weighing 1.9kg recovered from Phases 5 and 6, the majority were of Roman date. Five fragments of modern field drain weighing 868g were also recovered from context 134 and the topsoil.

With the exception of one possible ceramic *tessera* (context 108) all the identifiable Roman tile fragments were either *tegula* or *imbrex* indicating the presence of a roofed building in the vicinity. No complete examples of tiles were recovered.

Table 3 Quantity of Roman ceramic building material by fabric from Phase 4

Fabric	count	weight	% count	% weight
2b	26	1128	28.5	35.0
2j	64	2052	70.3	63.6
3	1	42	1.0	1.3
Total	91	3222		

Fired clay. One fragment of burnt clay weighing 24g was recovered from context 106 (Phase 4). Seven fragments (weight 84g) came from the topsoil.

Stone. Two fragments of possible sandstone *tesserae* were recovered from context 108 (Phase 4). These, in combination with the ceramic *tessera* (see above), may indicate that the settlement to the west of the site contained more than just farm buildings. Nothing else in the assemblage suggests a higher status site, however, although the pottery in context 108 is unusual in the proportions of forms present.

Iron objects. A total of 46 iron objects or fragments of objects were recovered. The majority of these (31) came from Roman contexts (Phase 4 contexts 108, 112, and 127) and consisted almost entirely of nails. Fifteen objects including nails and a metal spike were found in the topsoil.

Copper alloy objects. Two copper alloy objects were recovered, both from Roman deposits (Phase 4). The first of these (context 108) is a piece of wire *c* 110mm long and pointed at both ends. This object could have been a large earring or child's armlet (Crummy 1983, 40, nos 1640 and 1644) The second (context 131) is a small triangular fragment 10mm long on each side and a maximum of 5mm thick. This object may be part of a larger piece, perhaps some kind of fitting or a brooch.

Glass. Six tiny fragments of glass weighing in total less than 1g were recovered from an environmental sample taken from context 112 (Phase 4). These may have come from a glass vessel. A sub-spherical translucent green glass bead, probably Roman in date, was recovered from the topsoil. The bead is 7mm in diameter and 6mm in depth with a hole through the centre.

Coal. A small amount of coal (128g) was recovered (contexts 108 and 112) in association with smithing slag. The possible link between the two is discussed below.

Iron slag *by Thomas Finney.* Ironworking slag has been recovered from many excavations undertaken on Roman sites in Worcester and its surroundings,

and a total of 9.5kg of slag was recovered from Linacres Farm. This material was classified (Table 4).

Classification. Evidence for iron smithing is present in the form of smithing hearth bottoms. These are formed during the smithing (hot working) of iron due to a high temperature reaction between the iron, iron-scale, and silica from either the clay furnace lining or the sand used as a flux. They are plano-convex in form, characteristically having a rough convex base and a smoother vitrified upper surface, which can sometimes be slightly hollowed due to the downwards blast of air from the tuyere.

The smithing hearth bottoms were typically not of the 'classic' plano-convex form. Their basic shape is such but they all have slight variations on the morphology, making identification slightly more difficult. Those smithing hearth bottoms marked with a question mark (Table 4) are the more irregular and should be seen as possible hearth bottoms. The remaining examples are probable hearth bottoms, their morphology corresponding more to the 'classic' form.

Hammerscale is also diagnostic of iron smithing and appears in two different forms. Flake hammerscale is small fish scale shaped fragments dislodged by mechanical or thermal shock when the iron is forged. Spheroidal hammerscale forms from small droplets of liquid slag expelled from the iron during hot working, particularly during the fire welding of iron, and also as a result of the primary smithing of an iron bloom. During the examination of the debris, hammerscale was detected in the soil contained in the sample bags using a bar magnet. It was not quantified, and therefore is only recorded as being present.

Undiagnostic ironworking slag was also recovered. It was similar in density to smithing hearth bottoms, but had an irregular morphology and could have been produced by smithing or smelting. Dense slags are similarly non-diagnostic, but in the presence of other smelting evidence are usually thought to have been produced by this process. In the absence of this evidence however, and with the relatively high density of some of the smithing hearth bottoms, they are considered to be the product of smithing activities.

Vitrified hearth/furnace lining was recovered from one context. This material is produced by a high temperature reaction between the clay lining of a hearth or furnace, and the alkali fuel ashes or fayalitic slag. It can be formed by iron smelting, iron smithing, non-ferrous metal working or other pyrotechnical processes. This material may show a compositional gradient from un-modified clay on one side to a glazed surface or irregular cindery material on the other.

Cinder was also recovered. It is also produced by fuel ash or slag attack of the clay lining of a hearth or furnace. It resembles the more heavily reacted surface of a hearth/furnace lining.

Table 4 Interpretation of metalworking debris from Linacres Farm

Context	Phase	Weight(g)	Interpretation	Comments
103	4	166	smithing hearth bottom(s)	
		133	smithing hearth bottom(s)?	
		773	undiagnostic ironworking slag	
			flake hammerscale	
106	4	2367	smithing hearth bottom(s)	
		836	undiagnostic ironworking slag	
		134	vitrified hearth/furnace lining	
			flake hammerscale	
			spheroidal hammerscale	
108	4	495	smithing hearth bottom(s)?	
		368	undiagnostic ironworking slag	knobbly
		533	undiagnostic ironworking slag	
		53	cinder	
		33	iron object	
		19	coal	
			flake hammerscale	
112	4	89	undiagnostic ironworking slag	
			flake hammerscale	
		208	undiagnostic ironworking slag	
		<1	coal	
			flake hammerscale	
		1535	undiagnostic ironworking slag	
			flake hammerscale	
119	5	149	undiagnostic ironworking slag	
		19	cinder	
121	5	629	undiagnostic ironworking slag	
127	4	30	undiagnostic ironworking slag	
		32	iron object	
129	4	275	undiagnostic ironworking slag	
		322	dense slag	blocky
		61	iron object	
200	6	272	undiagnostic ironworking slag	

Table 5 Types of metalworking debris from Linacres Farm

Slag type	Total weight (g)
smithing hearth bottoms	3161
undiagnostic ironworking debris	5697
dense slag	332
cinder	72
iron object	126
vitrified hearth/furnace lining	134
coal	19

Discussion. Of the small quantity of metalworking debris recovered, the only diagnostic slag is that resulting from the smithing of iron. In the absence of any evidence of iron smelting, smithing would also seem the likely origin of the undiagnostic ironworking material. Elsewhere in Britain there is growing evidence for the use of coal as a fuel to smith iron in the late Roman period. An association between the coal fragments and iron slags from the same context at this site is difficult to prove, as the assemblage was not found *in situ* in an ironworking area. It is interesting to note that much smithing slag recovered from other late Roman sites is of a 'spongy' or loosely consolidated nature; a result, it has been suggested, of smithing with a coal fire (David Starley pers comm). However, the smithing slags at this site were quite the opposite, being well consolidated.

The metalworking debris is the result of smithing of iron. The presence of spheroidal hammerscale suggests that fire welding, or even the primary smithing of an iron bloom took place. There is no clear evidence for iron smelting, and no evidence for the use of coal in the iron working process.

General discussion of the artefact assemblage. The Roman finds assemblage from Linacres Farm suggests that there was activity in the area from at least the 2nd century, but that this increased substantially in the 3rd to 4th centuries. With the exception of the three *tesserae* (context 108) the assemblage would appear to reflect low-status domestic, agricultural and small-scale industrial activity, as would be expected at a Romano-British farmstead.

In general the ceramic assemblage from Linacres Farm is very similar to that observed on other Roman rural sites in Worcestershire in that the range of fabrics and forms present are very limited. Table 6 compares the Roman assemblages (by weight) of a number of rural sites around Worcester (Strensham, Jackson *et al* 1995a; Norton-juxta-Kempsey, Jackson *et al* 1995b; Hawford, Topping and Buteux 1995; and Linacres Farm), with sites in Worcester (Sidbury, Darlington and Evans 1992; Farrier Street, Dalwood *et al* 1994; Deansway, Evans forthcoming).

A number of differences between the sites are observable. Some of these are probably due to differences in pottery supplies to the town and country side. On the urban sites, for example, the percentage of the total assemblage represented by "other" fabrics is greater than that on rural sites. This

represents the greater occurrence of non-regional and imported pottery in the urban assemblages. In addition, in urban domestic assemblages (eg Sidbury) the range of forms within each fabric is generally larger than in assemblages from urban sites which are largely industrial in nature (eg Deansway and Farrier Street).

Other differences in the proportions of the main fabrics present seem to relate to the date of the main activity on the site. Sites with 1st to 2nd century activity, for example, have a higher proportion of Severn Valley ware variants 12.2 and 12.1.

Other differences are harder to explain. For example vessels in Malvernian fabrics (3 and 19) make up 28.7% by weight of the Linacres Farm assemblage. In the area in and around Worcester the average percentage is closer to 11% of the assemblage whatever the date of the site. Exceptions to this are two sites to the south of Worcester at Strensham (35.8% of the assemblage by weight) and Bredon Fields (28% of the assemblage by weight; Jackson *et al* 1995a, 30-31). The reason for these differences may relate to chronology, function, marketing patterns or tribal allegiances and they only serve to emphasise that further work is need before it is possible to consider the use and supply of pottery in Roman Worcestershire in any detail.

Comparison of Roman assemblages from a number of sites in and around Worcester

Site no		HWCM 7708	HWCM 15350	HWCM 23023	HWCM 20854	HWCM 3899	HWCM 117	HWCM 8229
Site name		Strensham	Norton	Hawford	Linacres Farm	Deansway	Sidbury	Farrier Street
Main period of activity		2nd to 3rd	2nd to 3rd	2nd to 3rd	3rd to 4th	1st to 3rd	3rd to 4th	3rd to 4th
Weight of Roman assemblage		13kg	16kg	11kg	26.5 kg	241.5kg	326.5kg	8kg
Fabric no	Fabric name	% weight	% weight	% weight	% weight	% weight	% weight	% weight
12	Severn Valley ware	37.00	67.20	70.00	63.50	16.00	51.00	48.50
12.2	SV ware varient	15.60	1.70	3.70	0.20	40.00	6.00	4.00
12.1, 12.4	SV ware varients	0.30	3.30	0.60	0.10	9.00	6.00	1.50
	Total SV wares	52.90	72.20	74.30	63.80	65.00	63.00	54.00
3	Handmade malvernian	35.00	9.60	7.50	16.20	5.00	7.00	8.70
19	Wheelmade malvernian	0.80	1.10	4.00	12.50	4.50	4.00	2.70
14,15	Grey wares	0.90	1.20	0.00	0.10	4.10	<1.00	4.60
22	Black Burnished	4.60	3.00	9.40	2.00	2.00	8.00	11.30
28	Nene Valley ware	0.00	0.00	0.00	0.10	<1.00	<1.00	0.00
32	Mancetter/Hartshill	0.80	5.00	0.00	1.50	<1.00	<1.00	0.50
33	Oxfordshire white ware	0.00	1.30	0.30	0.20	<1.00	<1.00	3.60
43	Samian	0.20	3.00	0.50	2.20	2.30	4.00	3.60
44	Rhenish ware	0.00	0.00	0.00	<0.10	<1.00	<1.00	0.00
98	Unidentified Roman	0.06	0.40	<0.10	0.50	1.00	<1.00	2.20
	Other	4.10	2.60	4.00	0.90	14.10	10.00	8.80

Table 6

4.3.3 Ecofactual evidence

The low density of organic remains may be the result of acidic soil conditions (particularly affecting animal bone survival) and may relate to the location of the excavated area on the periphery of a fairly extensive settlement.

There is little evidence for the disposal of animal bone or charred remains of cereal crops. The latter are frequently formed either as a result of accidental burning during crop processing, or the use of waste product as fuel for fires. The identifiable charred cereal crop remains are of emmer or spelt wheat. Both crops are found on Romano-British sites, although spelt wheat appears to have been the predominant crop in most areas.

Only a small number of rural Roman settlements have been excavated in the County. To the north of Worcester (and to the west of this aqueduct) samples were taken at Church Farm Quarry, Holt (Fig 19, HWCM 4511; Edwards 1991). Elsewhere in Worcestershire, environmental remains of Romano-British date have been recovered from two sites near Crookbarrow Hill (HWCM 10176; Hurst and Pearson forthcoming and HWCM 15350; Jackson *et al* 1995b), a site at Leylandii House Farm, Norton and Lenchwick (HWCM 2848; Jackson *et al* 1994d), and a site near Strensham (HWCM 7708; Jackson *et al* 1995a).

Only at the latter three sites in the south of the County have plant remains provided evidence of concentrated crop processing, where rich deposits of charred crop processing waste were recovered. Recovery of rich charred assemblages may be affected by the type of settlement (for example, whether it was a settlement involved in the production and large-scale processing of cereals), or even the position of the excavated deposits in relation to the main settlement. Here, the excavated area appears to be situated on the edge of a settlement, and therefore may not be the most likely location for the retrieval of concentrated crop processing debris.

Although the animal bone waste recovered from the three sites cited was greater than that from other Roman rural settlements, assemblages were by no means rich. On all sites, acidic soil conditions are likely to have limited animal bone survival. However, soil conditions do not seem to have obviously affected survival of charred cereal remains.

4.4 Conclusions

The excavated Roman deposits near Linacres Farm are interpreted as lying on the periphery of a more extensive Roman rural settlement. The full extent of this settlement is unknown, as it appears to spread out beyond the limits of the identified cropmarks. The economic base of the settlement is hard to determine in the absence of ecofactual evidence, but it is possible that the settlement was largely concerned with cattle farming. Ironsmithing was clearly carried out at this settlement, probably drawing on supplies of iron from Worcester.

5 Salvage recording at Stone Farm, Ombersley (HWCM 20813)

5.1 Location

Deposits were located at NGR SO 8206 6682, at a height of *c* 35m OD (Fig 12). The site lies immediately east of Stone Farm, at the northern edge of a large field that was under pasture in 1994. The solid geology is Mercian Mudstone (British Geological Survey 1990). The soils are of the Nupend series (soil Survey of England and Wales 1985). The site was previously unknown.

Details of individual contexts are presented in appendix 4, and details of environmental sampling in appendices 9-11).

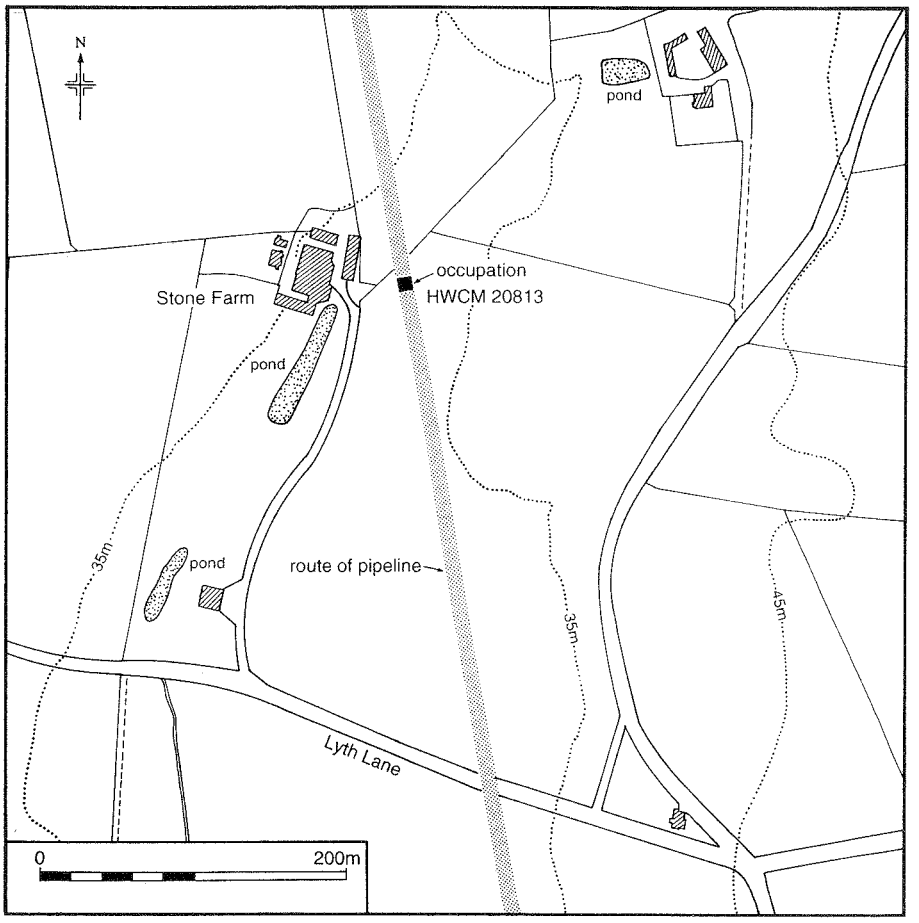

Figure 12 *Location of buried deposits near Stone Farm (HWCM 20813)*

5.2 Analysis

Phase 1 Geological deposits

The underlying geological deposit (113) comprised weathered Mercian mudstone.

Phase 2 Possibly post-Roman

Structural evidence. Buried deposits were limited in extent, and consisted of a small and discrete group of features (Fig 13). The more complex feature comprised a shallow rectangular pit (108), 0.20m deep, linked to, or post-dating, a circular bowl-shaped feature (110), 0.30m deep and 0.90m diameter. This bowl-shaped feature contained banded layers of charcoal-rich soil and sandy soil (109). The simpler feature (102) comprised a sub-circular pit, 1.10m by 1.30m and *c* 0.50m deep; the primary fill (104) had a concentration of charcoal and burnt pebbles.

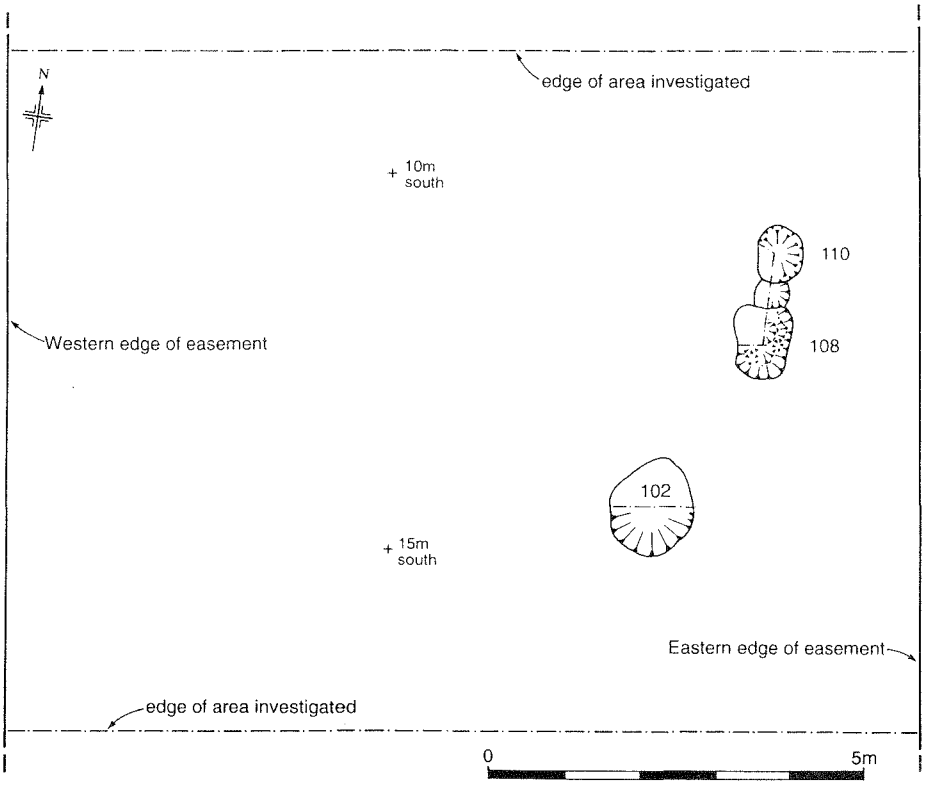

Figure 13 Stone Farm: Phase 2 (?)post-Roman deposits

Artefactual evidence. Very little artefactual evidence was recovered from this site. Three sherds of very abraded Roman pottery weighing only 12g were recovered (contexts 104, 107, and 109). None of these can be dated. A total of 36g of fired clay were recovered (context 101) in addition to fragments of very decayed bone. A very small quantity of hammerscale (6g) was recovered from the environmental sample.

Ecofactual evidence. No animal bone was hand-collected from this site. Organic remains were poorly preserved in two contexts (101 and 109), including only occasional fragmented animal bone, one charred barley grain (*Hordeum vulgare*) and uncharred seeds which are probably modern intrusive remains.

5.3 Discussion

Structures. The features recorded at Stone Farm are interpreted as evidence of small-scale industrial or domestic activity, using wood or charcoal as fuel. The process involved could not be identified due to the absence of direct evidence in the form of debris, and the very small quantity of hammerscale does not suggest that this was smithing. The dating evidence is limited to Roman pottery, but this is interpreted as redeposited material (see below).

Artefacts. The presence of Roman pottery suggests some activity in this area at that period but this is probably quite unrelated to the features excavated which appear to be post-Roman in date.

5.4 Conclusions

The absence of dating evidence, except for three sherds of abraded Roman pottery, may indicate that these deposits belong to the period between the 5th and 9th centuries AD when this area of Worcestershire was largely aceramic. The two features appear to have been the result of an isolated activity, in which a fire was used and charcoal and ash generated. Unfortunately no conclusive evidence was recovered for the industrial activity (or other process) involved.

6 Salvage recording at Barnhall Farm, Ombersley (HWCM 20838)

6.1 Location

The site is located at NGR SO 84956157 near the southern end of a large field, 400m south-east of Barnhall Farm (Fig 14). The field was under pasture in 1994, and a plot called "Six Acres" corresponds with the southern part of the modern field (Guyatt 1994). The site lies at a height of *c* 40m OD, on a south facing slope at the end of a slight ridge aligned north to south. The solid geology is Mercian Mudstone (British Geological Survey 1990). The soils are of the Whimple series (Soil Survey of England and Wales 1985). The site was previously unknown.

Details of individual contexts are presented in appendix 5, and details of environmental sampling in appendices 9 and 10.

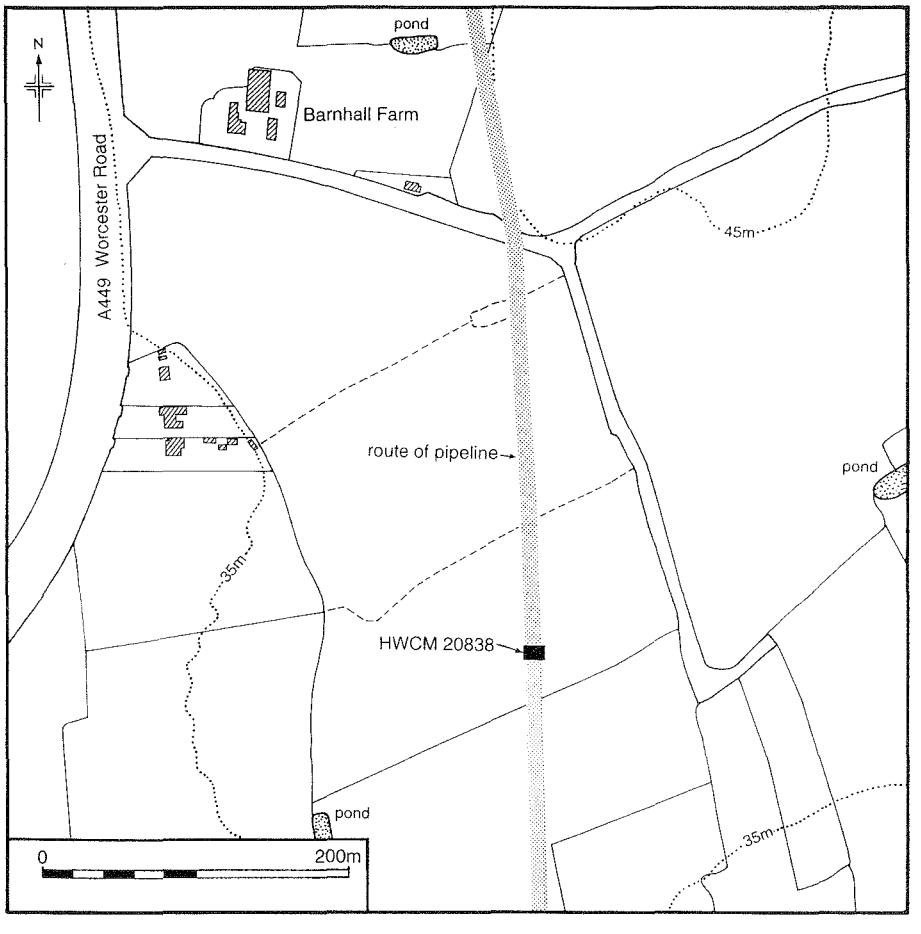

Figure 14 Location of buried deposits near Barnhall Farm (HWCM 20838)

6.2 Analysis

Phase 1 Geological deposits

The underlying geology (107) comprised weathered Mercian Mudstone.

Phase 2 Prehistoric

An arrowhead, a broken blade and a lump of burnt flint were recovered during rapid scan of the topsoil (appendix 4).

Phase 3 Roman

Structural evidence. A small group of features were recorded (Fig 15). These consisting of a linear feature (102), 0.6mm wide and 0.3m deep, and two other small features, a posthole (104) and a shallow pit (106).

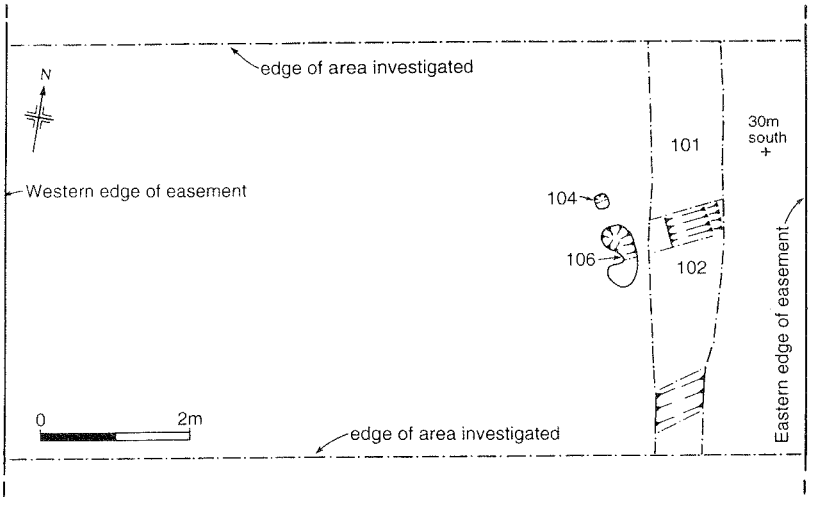

Figure 15 Barnhall Farm: Phase 2 Roman deposits

Artefactual evidence. Ten sherds (weight 50g) were recovered (context 101). These were all very small and abraded and consisted of two sherds of Malvernian handmade pottery (fabric 3), one from a tubby cooking pot, possibly of 1st century date, and another from a later large storage jar. The context also included one Severn Valley ware body sherd and a tiny fragment of post-medieval pottery which may be intrusive. One sherd (weight <2g), and possibly Roman in date, was recovered from context 105. In addition one very small and abraded sherd, possibly of Roman date, was found during the cleaning of the area (context 100).

Ecofactual evidence. One sample was taken for environmental analysis, from which no biological remains were recovered (appendix 10).

Phase 4 Medieval and post-medieval

Thirty sherds of pottery (weight 270g) were recovered from a rapid scan of the topsoil in this area. This group consisted of one sherd (weight 6g), dated to the 13th to 14th century, and 29 sherds of pottery dating from the 17th to the 20th century. Eight fragments of tile (weight 286g) were also recovered after topsoil stripping.

6.3 Discussion

Structures. The linear feature (102) conforms to a drainage ditch and is interpreted as a Roman field boundary. The two other features appear to be associated with the boundary ditch, and are assumed to be Roman in date, but are not readily interpretable.

Artefacts. The Roman assemblage is very sparse and indicates that the features may have been some distance from any settlement during that period. Due to the small size and abraded nature of the pottery the features could date to any period after the 1st century AD.

The single sherd of medieval pottery recovered suggests that the area was not near a settlement at that date. The amount of post-medieval pottery is, however, much greater and presumably represents manuring of the fields with refuse from nearby Barnhall Farm.

6.4 Conclusion

The results of this excavation are not particularly significant, as Roman field boundaries are fairly common type of feature. However, this boundary ditch was the only one identified during this project.

7 Summary of results of finds recovered from the easement

7.1 Analysis

The finds recovered during the rapid scan of the topsoil during machine stripping of the pipeline easement were classified and quantified (Table 7: excluding the three sites reported above). The finds dated from the prehistoric period to the 20th century, although the Roman and post-medieval periods are best represented. A total of 21 pieces of worked or burnt flint were recovered (Appendix 4).

7.2 Discussion

The finds recovered from the easement are discussed together with the finds from the excavated areas below (section 8).

Astley to Worcester Aqueduct. Results of the rapid scan during machine stripping of the pipeline easement

HWCM	Pottery				Flint	Ceramic Tile	Brick	Fired clay	Clay pipe	Cu Alloy	Slag	Crucible	Glass	Stone	Shell	Other
	Prehist	Roman	Medieval	Post-med												
10850				1												
20801				1												
20802	1			1				2	1					1		
20803				2												
20804				2												
20808				11		12										
20809			3			19										
20810		1		1		9					27g					
20811			18	1		4						1				
20814		10		1		1										
20815				1			1		1							
20820				3		5							1			
20825				2												
20826				3												
20827				4		2										
20828				2		3										
20829				5		3										
20830		65	20	17	3	17							1			
20831		2														
20832					1											
20834			3	11	5	2							1			
20835				27	4	1			1							
20841				5		3										
20842			3	12		11										
20843		1	5	14		5										
20845				11	1	2				1						
20850		1		25		21			1							
20852			5	7		14										
20853		1	2	35		7							1			
20855				41		3										
20857			1	1		4										
20858		1		3		4	1		1							
20859			1													
20860				13		4			1							
20862				2		5	2		1							
20863			1	3		4										
20864		1	1	3		3										
20865		3		10	1	14			5							
20866		2	4	3		4			2							
20869			1													
20870				9		2							1			
20871				6		6										
20872				5			1									
20873				1	1	2	3								1	1
20875		2		23		14			2							
20876				14		2	1									
20877				7		3	4									
20878				12		2	4						1			1
20879		2		15		3			1							
20880				18		6			1							
20882				15		3			1							
20884				2												
20887		1		23		16	2		1				3			
20889		13		7		4			1	1						
20890						1										
20891				10												
20892				3												
Total	1	106	68	454	16	250	19	2	21	2	27g	1	9	1	1	2

Table 7

8 General discussion of excavated and fieldwalking evidence

8.1 Introduction

The new information gained from finds recovery and salvage recording on the pipeline is presented with existing archaeological information in Figures 17-20.

8.2 Prehistoric evidence

The prehistoric period was not well represented on the Astley to Worcester Aqueduct. No excavated deposits were dated to the prehistoric period, and the only prehistoric artefacts recovered consisted of a thin scatter of lithics. One slight concentration of flint was observed, in Ombersley Park (HWCM 20834 and HWCM 20835).

Most of the material collected along the easement was debitage (appendix 4): a single tool was recovered, an arrowhead (Fig 16). One possible sherd of prehistoric pottery was recovered (HWCM 20802) but it is very small and abraded and the identification is not secure.

Small lithic scatters were recorded along the Blackstone to Astley Aqueduct (Dinn and Hemingway 1992) and the Trimpley to Blackstone Aqueduct (Jackson *et al* 1994b), although both these piplelines also produced more significant prehistoric sites.

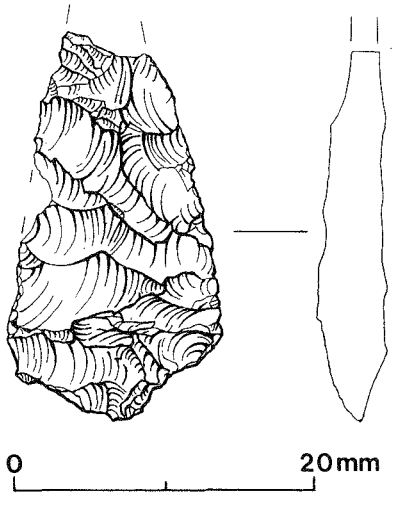

Figure 16 *Flint arrowhead, from ploughsoil (HWCM 20838)*

8.3 Roman evidence

Two main areas of Roman finds were identified along the pipeline. The first was at HWCM 20854 (near Linacres Farm: section 4). The second was at HWCM 20830, a field near Whitneys Farm, where despite recovering large quantities of Roman and later pottery and tile (Table 7), no buried deposits

were recorded. A Roman boundary feature was excavated near Barnhall Farm (HWCM 20838: section 6). Small concentrations of Roman pottery were recovered at HWCM 20889 (just to the north of Barnhall Farm) and from HWCM 20813 and HWCM 20814 (two fields close to Stone Farm).

The excavated deposits near Linacres Farm (section 4) are interpreted as peripheral features of a rural settlement, dated between the 1st and 4th centuries AD. Little is known of the economy of this settlement, largely due to the poor preservation of plant remains and animal bone. However, the site is clearly part of a scatter of small Roman farmsteads along the River Severn, including sites at Dunley Road, Areley Kings (Dinn and Hemingway 1992, HWCM 1136), Hawford (Topping and Buteux 1995, HWCM 12101). Other sites have produced better evidence of economic base, such as the enclosed farmstead at Hoarstone Farm, Kidderminster Foreign, where evidence of crop processing was recovered (Jackson *et al* 1994c, HWCM 15300).

It has been suggested that the relative paucity of Roman pottery as field scatters can be interpreted as evidence for the prevalence of pastoral agriculture. The interpretation of the absence of data is a corollary of the interpretation of pottery scatters as the result of manuring arable fields. Fieldwork along the more northerly Blackstone to Astley Aqueduct produced a similar overall pattern to the evidence from this pipeline, and was interpreted as evidence for a largely pastoral economy in this area in the Roman period (Dinn and Hemingway 1992, 108 and 111). This interpretation is also favoured as an interpretation of the evidence reported on here. However, the current understanding of Roman agriculture in north Worcestershire is not susceptible to simplistic models: in Hanbury, field scatters of Roman pottery are much commoner, which is taken as evidence of fairly intensive arable farming (Dyer 1991, 15-7).

8.4 **Post-Roman and Anglo-Saxon evidence** (5th to 11th century)

No definite evidence for post-Roman or Anglo-Saxon occupation was recovered from the pipeline. The excavated deposits at HWCM 20813 (near Stone Farm) were not well-dated (section 5). If the site is post-Roman, it seems possible that the two features excavated date to the period between the 5th and 9th century, when central and northern Worcestershire was largely aceramic. Dyer (1991, 18) has shown that the Roman rural settlement pattern of Hanbury changed comprehensively in the centuries after AD 400.

Most of the route of the pipeline passed through Ombersley, which documentary evidence suggests was fairly heavily wooded in the early medieval period (section 2.3), although archaeological evidence for post-Roman landuse is lacking.

8.5 **Medieval evidence**

Medieval settlement is well represented in the area, including settlements at Uphamton, Ombersley, Chatley, Claines, Hindlip and Warndon (Figs 18 and 20; section 2.3).

In total 70 sherds of medieval pottery were recovered from along the pipeline, of which only one came from an excavated feature (section 4). The majority of

the pottery was dated to the 14th to 16th century. There appeared to be no consistent correlation between fields with finds of medieval pottery and known medieval settlements. The two largest groups of pottery came from HWCM 20811, north of Stone Farm (18 sherds) and from HWCM 20830, south of Whitney's Farm (20 sherds) and presumably represent manuring of the arable fields near farmsteads. Both these fields produced some pottery which could be dated to the 13th century. One small fragment of a glazed medieval floor tile was recovered (HWCM 20875).

Medieval pottery was also scarce on the Blackstone to Astley Aqueduct (Dinn and Hemingway 1992, 108). The artefact assemblage showed a feature that was also observed on the Trimpley to Blackstone Aqueduct (Jackson *et al* 1994b). Medieval pottery was less common than Roman pottery, which may indicate that arable cultivation was less intensive in the medieval period than in the Roman period, taking pottery as an indicator of manuring arable fields. However the significance of this observation is unknown without a broader context, although a similar pattern has been observed in Hanbury (Dyer 1991, 17). It may be significant that ridge and furrow was recorded in ploughed-out condition in only one field along the pipeline (HWCM 20854) and as earthworks in one other field (HWCM 20864).

In general, the medieval landscape of the area investigated was probably broadly similar to Hanbury, comprising irregular open fields and enclosures (*ibid,* 43). In Hanbury most of the enclosed fields, as well as the open fields, were under arable cultivation by 1300. However it is difficult to reconstruct the field system or the agricultural pattern of the area investigated during this project, including Ombersley (Guyatt 1995). It is probable that those fields which produced no medieval pottery were either under permanent pasture (whether enclosed or common pasture) or were woodland in the medieval period.

8.6 Post-medieval

By far the largest group of material recovered from rapidly scanning the pipeline easement was post-medieval in date and included pottery, tile, and clay pipes as well as modern glass and copper alloy objects (Table 7). The pottery dated from the 16th century to the present, but the vast majority was later 18th to 20th century in date. At least one sherd was found in almost every field but concentrations of post-medieval pottery were noted around Hindlip, Linacres Farm, Ombersley and Whitney Farm. The post-medieval artefacts are taken to be an indicator of manuring arable fields, and post-medieval pottery is certainly more common than medieval or Roman pottery. This is taken to indicate more intensive arable cultivation in the post-medieval period, and consequently a change in agricultural regime. The post-medieval artefacts from the ploughsoil may indicate profound changes in agricultural activity and the whole landscape, with areas of woodland, enclosed pasture fields and common pasture being turned over to arable cultivation.

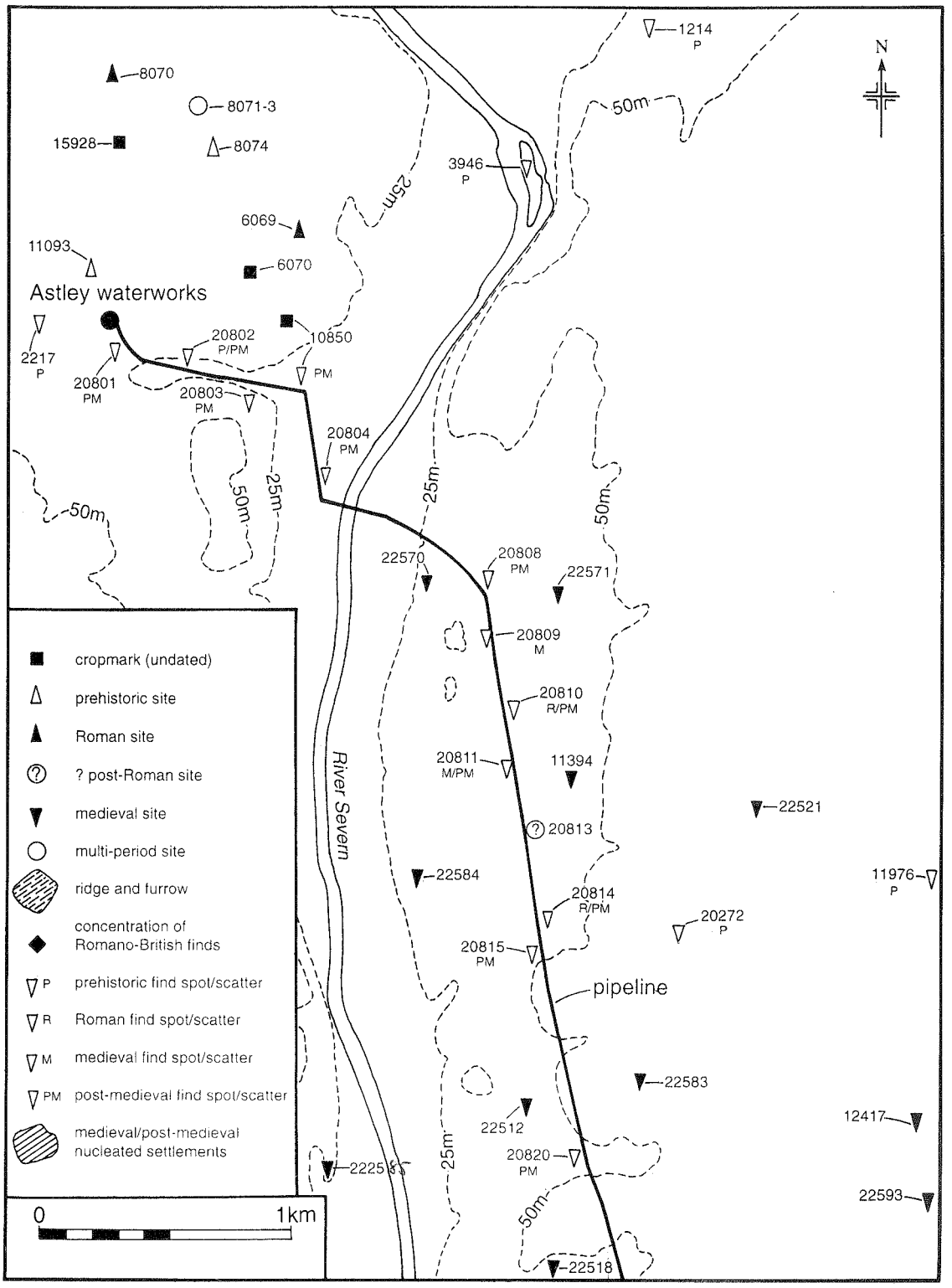

Figure 17 *Archaeological sites in the vicinity of the pipeline (1): south from Astley waterworks*

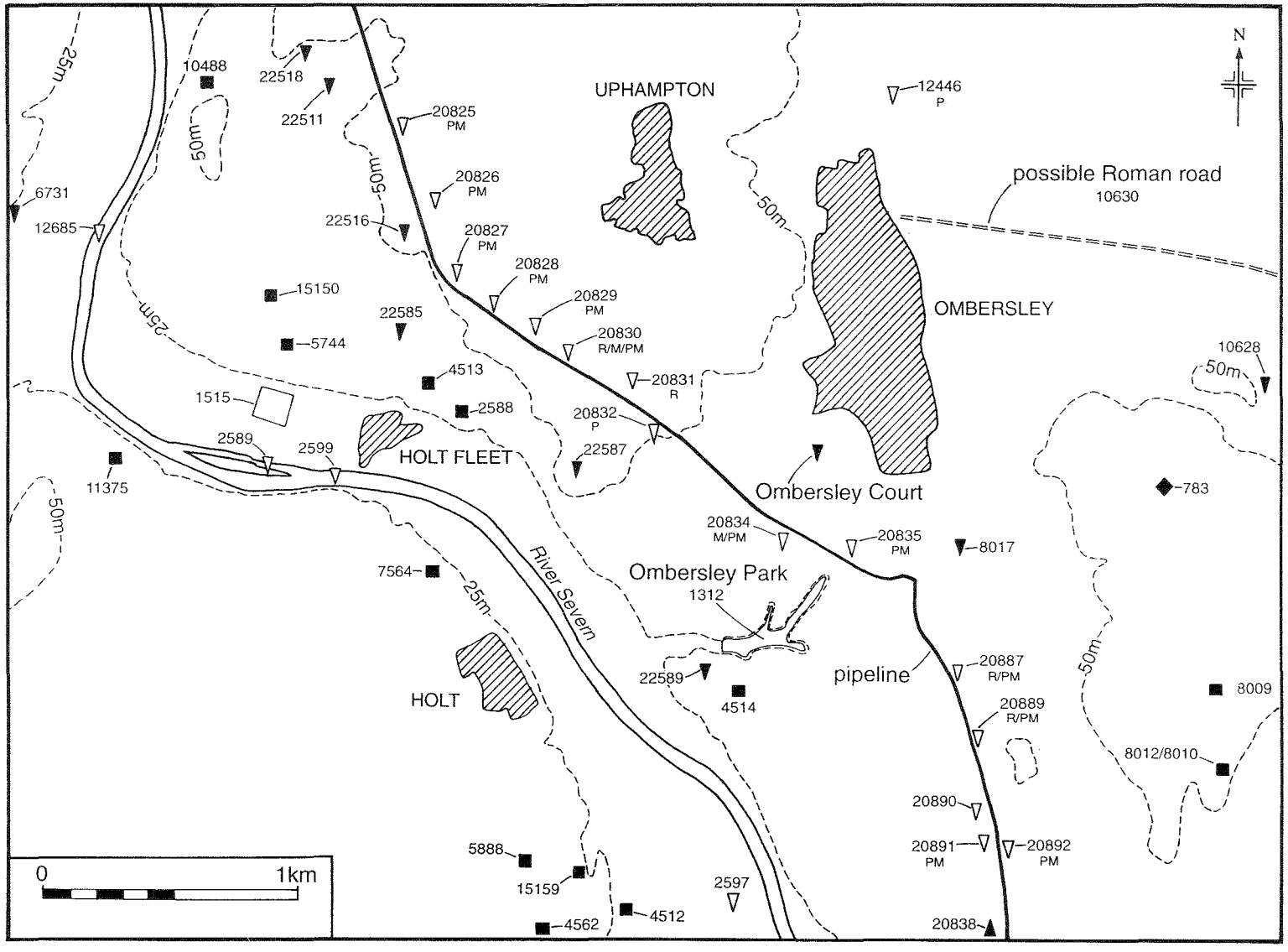

Figure 18 *Archaeological sites in the vicinity of the pipeline (2): west and south of Ombersley (for key see Fig 17)*

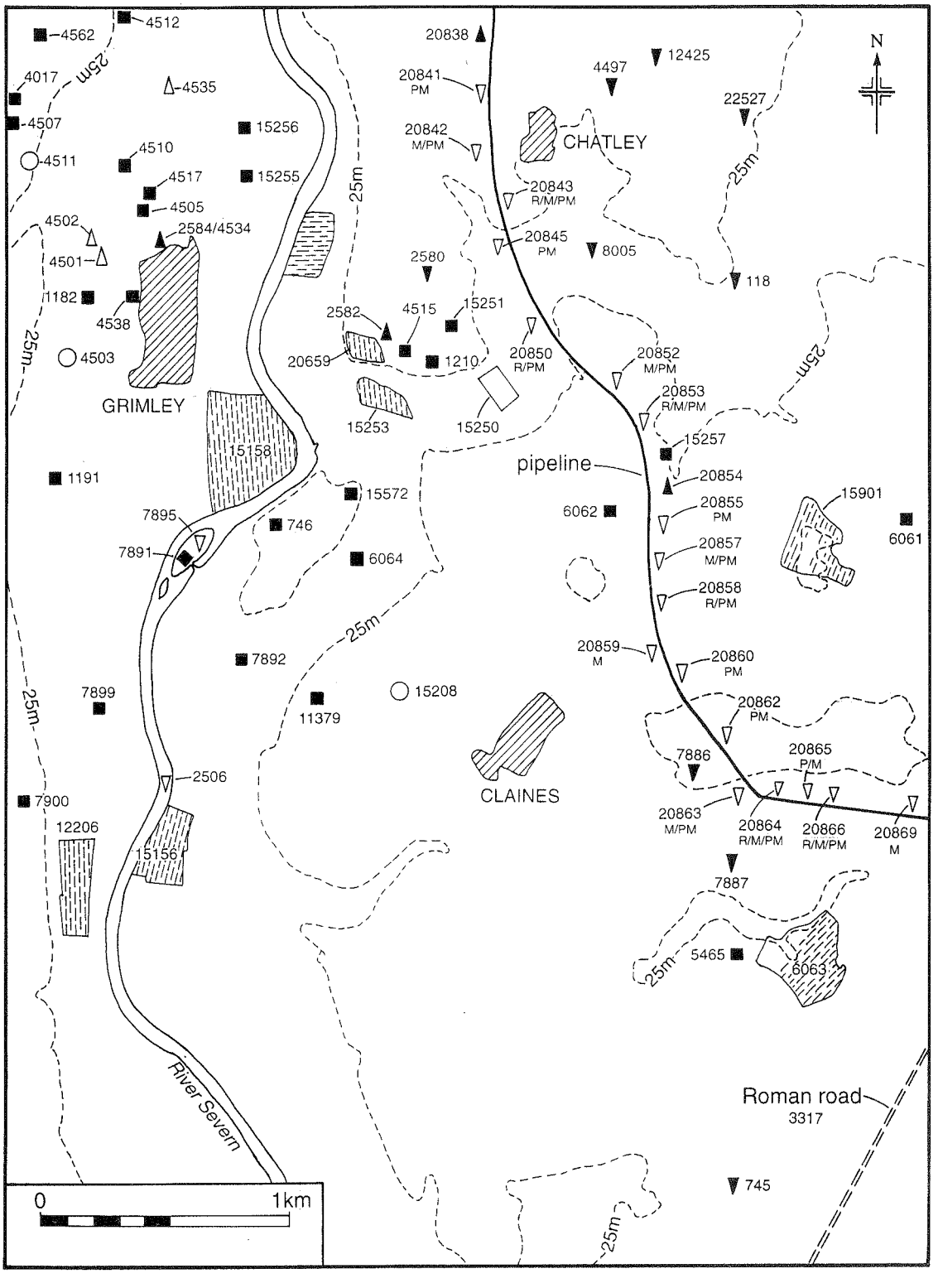

Figure 19 *Archaeological sites in the vicinity of the pipeline (3): near Chatley and Claines (for key see Fig 17)*

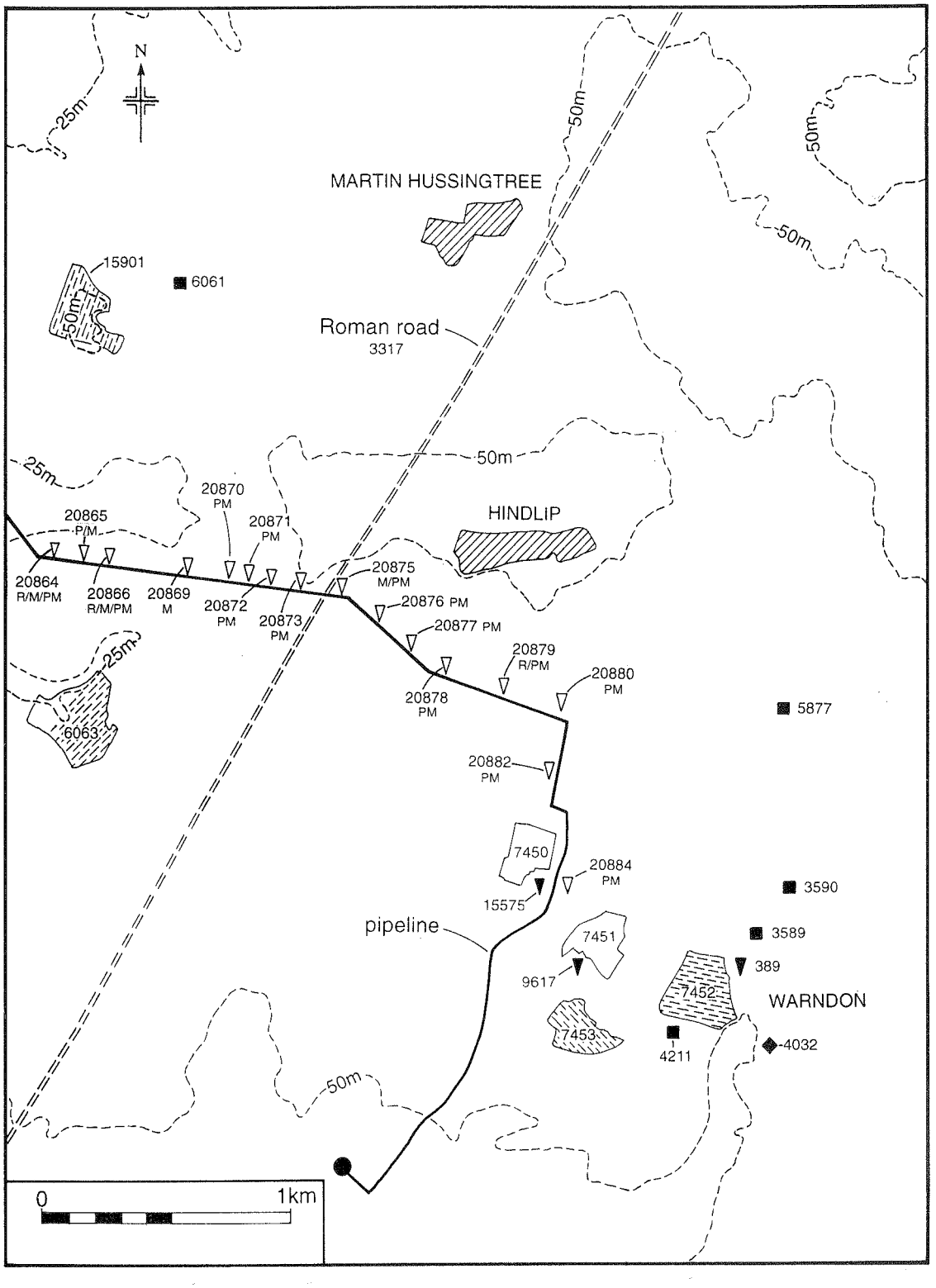

Figure 20 *Archaeological sites in the vicinity of the pipeline (4): near Hindlip and Warndon (for key see Fig 17)*

9 Conclusions

Deposits and artefacts revealed a long period of human activity and occupation in the area ranging from the earlier prehistoric period to the present day. Prehistoric lithics, Roman pottery and medieval pottery were recovered in low quantities, but the recovery of higher quantities of post-medieval pottery indicates that low quantities were not due to rate of recovery, but reflect the actual density of earlier artefacts in the ploughsoil.

The relative paucity of prehistoric artefacts and deposits is probably a significant absence, reflecting the density of settlement of this area. It is probable that prehistoric occupation was concentrated on the gravel terraces of the River Severn.

The landscape was fairly intensively utilised in the Roman period, and knowledge of Roman rural settlement sites has been increased by the excavation of the buried deposits near Linacres Farm; other Roman farmsteads are known or suspected in the area. On the basis of largely negative evidence it is suggested that cattle farming formed an important element in the local Roman economy.

The site at Stone Farm was unfortunately undated, except in the broadest terms, but it is possible the site dated to between the 5th and 9th century - an aceramic period in north and west Worcestershire.

The medieval pottery recovered from the ploughsoil proved hard to interpret due to its scarcity. There was little direct correlation between pottery and known or suspected medieval farmsteads, and it is assumed that this is relates to the pastoral basis of the medieval economy. In terms of long-term landscape history, the rather similar (negative) evidence from the Roman and medieval periods may indicate a long-lived pastoral agricultural system. Whether this data constitutes evidence for tracing the medieval woodland landscape back to the Roman period remains open to question (cf Dyer 1991, 59).

Little information on past human activities could be determined from the ecofactual remains on account of their scarcity and poor preservation. The low density of ecofactual remains may be a result of acidic soil conditions (particularly affecting animal bone survival), and partly of the nature of the excavated deposits. Preservation is often poor in large areas of Worcestershire due to soil conditions, although waterlogged and anaerobic deposits exist in localised areas which are, by virtue of their rarity, very important.

In short, the limitations of the data and the scope of the project have not allowed us to "reconstruct the medieval fields and settlement pattern in the vicinity of the pipeline" (section 3.1). Despite this proviso, the project has contributed to the rather poor current knowledge of historic settlement patterns and agricultural regimes in north Worcestershire, and it bears out the value of salvage recording in recovering evidence for early settlement patterns and landuse.

10 Acknowledgements

Thanks are due to Severn Trent Engineering and their staff, especially to Richard Fowler and Roy Sewell (Resident Engineers) for their assistance during the preparation and execution of the project; and to John Gibbons and Mark Gibbons of EJS for their kind cooperation and assistance throughout fieldwork. Thanks must also go to John Walker of Trent and Peak Archaeological Trust, and latterly Iain Ferris, Severn Trent Water plc's archaeological consultant; and to the staff of the pipeline contractors EJS for their help on site. Thanks go to David Guyatt and James Dinn for providing additional information.

11 Personnel

The project was co-ordinated by Robin Jackson BA AIFA (Assistant Project Officer). The post-excavation and post-survey analysis was co-ordinated by Hal Dalwood BA MIFA (Project Officer). Luke Fagan MA PIFA and Martin Cook BA AIFA (Assistant Archaeological Field Officers) coordinated the fieldwork, assisted by Paul Godbehere, Nigel Topping PIFA, Dave Wichbold, and Jeremy Bretherton (Archaeological Assistants), and Elizabeth Pearson MSc (Environmental Archaeologist). Finds identification and reporting was undertaken by Stephanie Ratkai (Finds Officer) and Victoria Buteux MA AIFA (Assistant Project Officer). Environmental analysis and reporting was undertaken by Elizabeth Pearson.

The report was produced by Hal Dalwood with contributions by Victoria Buteux, Brenda Dickinson, Thomas Finney, Derek Hurst and Elizabeth Pearson. Illustrations for the report were undertaken by Carolyn Hunt PIFA and Laura Templeton MAAIS.

The report was edited by Simon Woodiwiss BA AIFA.

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13 Abbreviations

Numbers prefixed with "HWCM" are the primary reference numbers used by Hereford and Worcester County Sites and Monuments Record.

HWCC - Hereford and Worcester County Council

HWRO - Hereford and Worcester County Record Office

VCH - Victoria County History

Appendix 1

Sites in the vicinity registered on the County Sites and Monuments Record (excluding listed buildings)

Site (HWCM)	Type	Description
Astley		
1214	Artefact	Prehistoric lithic assemblage
2217	Artefact	Neolithic pick or axe
3946	Artefact	Bronze Age palstave
6069	Cropmark	Enclosure, Iron Age and Roman (Walker 1959)
6070	Cropmark	Rectangular enclosure, undated
8070	Cropmark	Enclosure, (?) Iron Age or Roman
8071	Buried remains	Roman settlement (Walker 1958)
8072	Buried remains	Iron Age settlement (Walker 1958)
8073	Buried remains	Bronze Age round barrow
8074	Cropmark	Bronze Age ring ditch
10850	Cropmark	Boundary features, undated
11093	Buried remains	Beaker pit (Dinn and Hemingway 1992)
15928	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
Grimley		
1182	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
1191	Cropmark	Bronze Age ringditch; undated boundary ditch
2597	Artefact	Bronze Age axe-hammer
4017	Cropmark	Enclosure, (?)Roman
4501	Cropmark	Neolithic pit alignment
4502	Buried remains	Enclosure, (?)Iron Age (Peltenberg 1965-7)
4503	Buried features	Prehistoric and Roman occupation (Jackson 1991a)
4505	Cropmark	Enclosure, undated
4507	Cropmark	Enclosure, (?)Roman
4510	Cropmark	Enclosure, undated
4511	Buried remains	Roman enclosures (Edwards 1991)
4512	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
4517	Cropmark	Bronze Age ringditch
4534	Buried remains	Roman fort (Webster 1956)
4535	Buried remains	Prehistoric boundaries (Fagan 1992)
4538	Cropmark	Boundaries, undated
4562	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
6731	Earthwork	Medieval fishpond
7899	Cropmark	Enclosures, undated
7900	cropmark	Field system, undated
11375	Cropmark	Enclosure, undated
12202	Earthwork	Ridge & furrow
15158	Earthwork	Ridge & furrow
15159	Cropmark	Enclosure, (?)Roman
15255	Cropmark	Enclosure, (?)Iron Age or Roman
15256	Cropmark	Boundary ditch, undated

Site (HWCM)	Type	Description
Hindlip		
3317	Circumstantial	Roman road
5877	Cropmark	D-shaped enclosure, undated
Holt		
2225	Earthwork	Oliver's Mount medieval castle
North Claines		
746	Cropmark	Bronze Age ring ditch and undated enclosure
2506	Artefact	Mesolithic pick
5465	Cropmark	Enclosure, undated
6061	Cropmark	Enclosure, undated
6062	Cropmark	Enclosure, (?)Iron Age or Roman
6064	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
11379	Cropmark	Field system, undated
15156	Earthwork	Ridge & furrow
15208	Artefact	Finds assemblage, multi-period
15572	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
15901	Earthwork	Ridge & furrow
Ombersley		
118	Documentary	Tapenhall Farm, medieval farm
783	Artefacts	(?)Settlement, Roman
1311	Documentary	Turn Mill, medieval watermill
1312	Earthwork	Medieval fishpond
2580	Building	Medieval dovecot
2582	Buried remains	Roman settlement (Fennel 1963)
2588	Cropmark	Enclosure, (?)Iron Age or Roman
2589	Artefact	Pin, Iron Age
2599	Artefact	Axe, Bronze Age
4513	Cropmark	Enclosure, (?)Iron Age or Roman
4514	Cropmark	Enclosure, (?)Iron Age or Roman
4515	Cropmark	Bronze Age ringditch and Enclosure, (?)Iron Age or Roman
4997	Documentary	Blossom Farm medieval farm
5744	Cropmark	Enclosure, (?)Iron Age or Roman
8005	Documentary	Medieval mill of Mildenham
8009	Cropmark	Enclosure, (?)Iron Age or Roman
8010	Cropmark	(?)Roman tumulus
8012	Cropmark	(?)Roman tumulus
8017	Earthwork	Moated site (medieval manor house of Suddington)
10488	Cropmark	Enclosure, (?)Iron Age or Roman
10628	Documentary	Cross Cottage, medieval farm
10630	Circumstantial	Roman road
11394	Documentary	Wyneyards Farm, medieval farm
11976	Artefact	Prehistoric lithic assemblage
12417	Documentary	Woodfield House, medieval farm
12425	Documentary	Bournehouse Farm, medieval farm

Site (HWCM)	Type	Description
(Ombersley continued)		
12466	Artefact	Stone axe, neolithic
12685	Documentary	Fishery
15150	Cropmark	Enclosure, (?)Iron Age or Roman
15151	Earthwork	Ridge & furrow
15203	Earthwork	Undated features
15250	Buried remains	Undated features (Napthan 1993)
15251	Cropmark	Trackway or road (undated)
15253	Earthwork	Ridge & furrow
15254	Earthwork	Ridge & furrow
20272	Artefact	Neolithic scraper
20659	Earthwork	Ridge & furrow
22511	Documentary	Carpenter's Farm, medieval farm
22512	Documentary	Clack's Farm, medieval farm
22516	Documentary	Boreley House, medieval farm
22518	Documentary	Boreley Farm, medieval farm
22521	Documentary	Merryvales Farm, medieval farm
22527	Documentary	Hunt Green Farm, medieval farm
22570	Documentary	Winnal Farm, medieval farm
22571	Documentary	Winnal Cottage
22583	Documentary	Tytchney, medieval farm
22584	Documentary	Lyth Farm, medieval farm
22585	Documentary	Bennett's Farm, medieval farm
22587	Documentary	Power's Farm, medieval farm
22589	Documentary	Bittar's, medieval farm
22593	Documentary	Woodfield Farm, medieval farm
Warndon and Worcester		
389	Documentary	Warndon Court medieval farm
745	Documentary	Moat Farm medieval farm
3589	Cropmark	Rectangular enclosure, (?)Iron Age or Roman
3590	Cropmark	Boundary ditches, undated
4032	Artefact	Assemblage Roman finds
6063	Earthwork	Ridge & furrow
7450	Earthwork	Ridge & furrow
7451	Earthwork	Ridge & furrow
7452	Earthwork	Ridge & furrow
9617	Buried remains	Little Tolladine medieval farm (Jackson 1991b)
15575	Documentary	Great Tolladine medieval farm

List of sites recorded on the pipeline

HWCM	Solid geology	Soil	Date	Description	Date	Description	Date	Description
20800	Mercian mudstone	Newport 4	Undated	Unclassified				
20801	Mercian mudstone	Newport 4	Post Medieval	Finds				
20802	Mercian mudstone	Newport 4	Post Medieval	Finds	Prehistoric	Finds		
20803	Mercian mudstone	Newport 4	Post Medieval	Finds				
20804	Mercian mudstone	Newport 4	Post Medieval	Finds				
20805	Mercian mudstone	Newport 4	Undated	Unclassified				
20806	Mercian mudstone	Wharfe	Undated	Unclassified				
20807	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20808	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20809	Mercian mudstone	Bromsgrove	Medieval	Finds				
20810	Mercian mudstone	Bromsgrove	Roman	Finds	Post Medieval	Finds		
20811	Mercian mudstone	Bromsgrove	Medieval	Finds	Post Medieval	Finds		
20812	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20813	Mercian mudstone	Bromsgrove	Undated	Occupation	Roman	Finds		
20814	Mercian mudstone	Bromsgrove	Roman	Finds	Post Medieval	Finds		
20815	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20816	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20817	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20818	Mercian mudstone	Lugwardine	Undated	Unclassified				
20819	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20820	Mercian mudstone	Lugwardine	Post Medieval	Finds				
20821	Mercian mudstone	Lugwardine	Undated	Unclassified				
20822	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20823	Mercian mudstone	Staunton	Undated	Unclassified				
20824	Mercian mudstone	Staunton	Undated	Unclassified				
20825	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20826	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20827	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20828	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20829	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20830	Mercian mudstone	Bromsgrove	Prehistoric	Finds	Roman	Occupation	Medieval	Finds

HWCM	Solid geology	Soil	Date	Description	Date	Description	Date	Description
20831	Mercian mudstone	Bromsgrove	Roman	Finds				
20832	Mercian mudstone	Bromsgrove	Prehistoric	Finds				
20833	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20834	Mercian mudstone	Bromsgrove	Prehistoric	Finds	Medieval	Finds	Post Medieval	Finds
20835	Mercian mudstone	Bromsgrove	Prehistoric	Finds	Post Medieval	Finds		
20838	Mercian mudstone	Bromsgrove	Prehistoric	Finds	Roman	Boundary	Medieval	Finds
20841	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20842	Mercian mudstone	Bromsgrove	Medieval	Finds	Post Medieval	Finds		
20843	Mercian mudstone	Bromsgrove	Roman	Finds	Medieval	Finds	Post Medieval	Finds
20844	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20845	Mercian mudstone	Bromsgrove	Prehistoric	Finds	Post Medieval	Finds		
20846	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20847	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20849	Mercian mudstone	Whimple 3	Undated	Unclassified				
20850	Mercian mudstone	Whimple 3	Roman	Finds	Post Medieval	Finds		
20851	Mercian mudstone	Whimple 3	Undated	Unclassified				
20852	Mercian mudstone	Whimple 3	Medieval	Finds	Post Medieval	Finds		
20853	Mercian mudstone	Whimple 3	Roman	Finds	Medieval	Finds	Post Medieval	Finds
20854	Mercian mudstone	Wick 1	Prehistoric	Finds	Roman	Settlement	Medieval	Ridge & furrow
20855	Mercian mudstone	Wick 1	Post Medieval	Finds				
20856	Mercian mudstone	Wick 1	Undated	Unclassified				
20857	Mercian mudstone	Wick 1	Medieval	Finds	Post Medieval	Finds		
20858	Mercian mudstone	Wick 1	Roman	Finds	Post Medieval	Finds		
20859	Mercian mudstone	Wick 1	Medieval	Finds				
20860	Mercian mudstone	Wick 1	Post Medieval	Finds				
20861	Mercian mudstone	Wick 1	Undated	Unclassified				
20862	Mercian mudstone	Wick 1	Post Medieval	Finds				
20863	Mercian mudstone	Whimple 3	Medieval	Finds	Post Medieval	Finds		
20864	Mercian mudstone	Whimple 3	Roman	Finds	Medieval	Ridge & furrow	Medieval	Finds
20865	Mercian mudstone	Whimple 3	Prehistoric	Finds	Roman	Finds	Post Medieval	Finds
20866	Mercian mudstone	Whimple 3	Roman	Finds	Medieval	Finds	Post Medieval	Finds

HWCM	Solid geology	Soil	Date	Description	Date	Description	Date	Description
20867	Mercian mudstone	Whimple 3	Undated	Unclassified				
20868	Mercian mudstone	Whimple 3	Undated	Unclassified				
20869	Mercian mudstone	Whimple 3	Medieval	Finds				
20870	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20871	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20872	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20873	Mercian mudstone	Whimple 3	Prehistoric	Finds	Post Medieval	Finds		
20874	Mercian mudstone	Whimple 3	Undated	Unclassified				
20875	Mercian mudstone	Whimple 3	Roman	Finds				
20876	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20877	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20878	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20879	Mercian mudstone	Whimple 3	Roman	Finds	Post Medieval	Finds		
20880	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20881	Mercian mudstone	Whimple 3	Undated	Unclassified				
20882	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20883	Mercian mudstone	Whimple 3	Undated	Unclassified				
20884	Mercian mudstone	Whimple 3	Post Medieval	Finds				
20886	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20887	Mercian mudstone	Bromsgrove	Roman	Finds	Post Medieval	Finds		
20888	Mercian mudstone	Bromsgrove	Undated	Unclassified				
20889	Mercian mudstone	Bromsgrove	Roman	Finds	Post Medieval	Finds		
20890	Mercian mudstone	Bromsgrove	Undated	Finds				
20891	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20892	Mercian mudstone	Bromsgrove	Post Medieval	Finds				
20893	Mercian mudstone	Whimple	Undated	Unclassified				

Appendix 3

Abbreviated context description Linacres Farm (HWCM 20854)

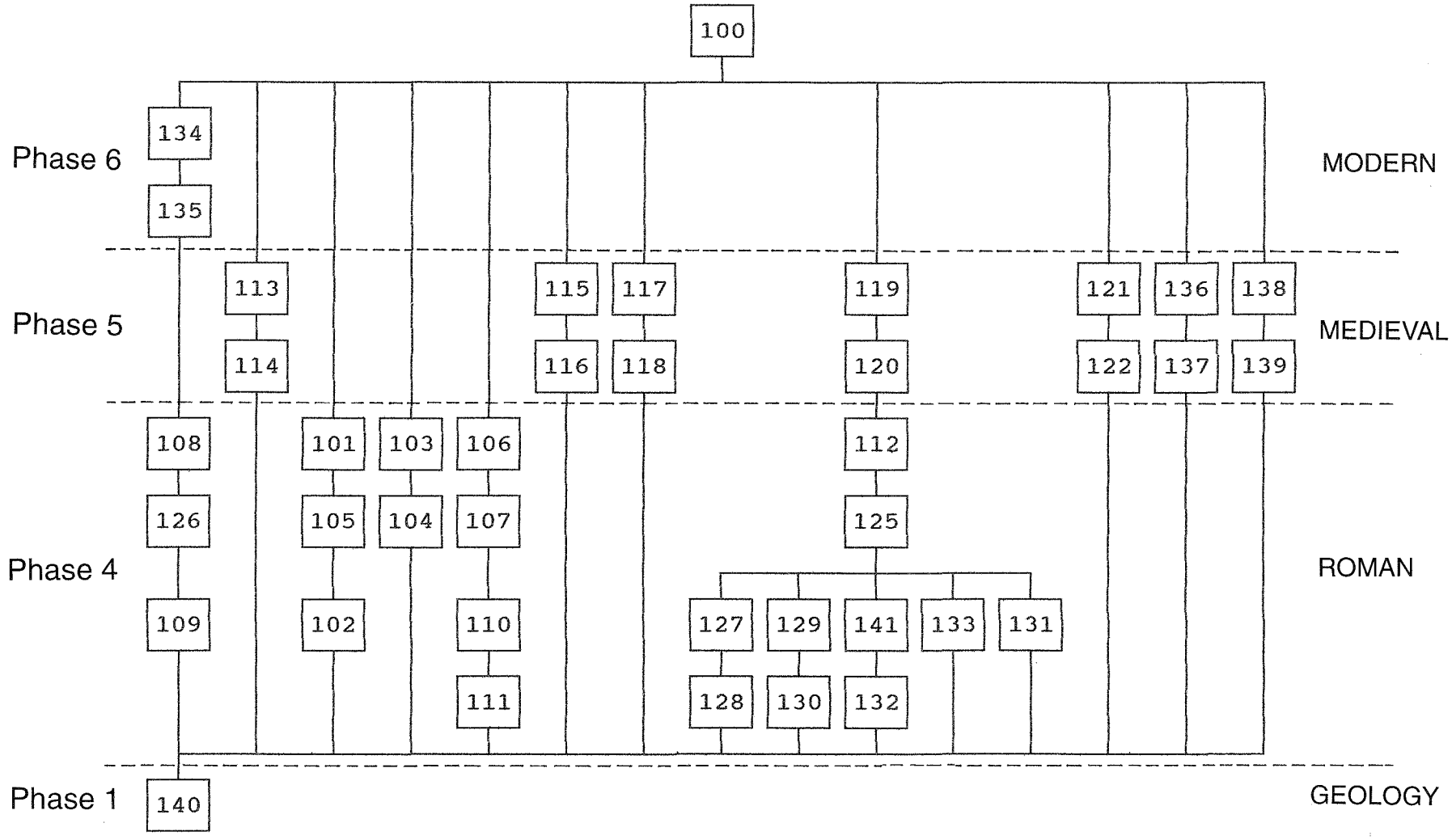
Natural deposits (Phase 1)		
140	Natural	Mercian mudstone
Roman deposits (Phase 4)		
Area B		
101	Fill	Dark grey-brown silty clay, with moderate charcoal. Fill of 102.
102	Cut	Sub-circular cut, 1.4m long and 1.2m wide, 0.63m deep. Evidence of silting indicates pit was intended to be left open, possibly for water storage.
103	Fill	Dark grey-brown silty clay, with moderate charcoal. Fill of 104.
104	Cut	Sub-circular cut, 1.5m long and 1.1m wide, 0.38m deep.
105	Fill	Red-brown slightly silty clay, with occasional charcoal. Interpreted as primary silting of open pit. Lower fill of 102.
Area A		
106	Fill	Dark grey-brown silty clay, with abundant iron slag (especially in upper half of layer), moderate charcoal and some pottery. Fill of 107.
107	Cut	1.78m long and 1.38m wide, 0.30m deep. Pit of uncertain function, but used to dispose of refuse including iron slag.
108	Fill	Dark grey-brown silty clay with occasional iron slag. Upper fill of 109.
109	Cut	Sub-oval cut, 3.80m long and 1.65m wide, 0.58m deep. The lower fill (126) may indicated that the pit was intended to be left open, possibly for water storage, and subsequently used for refuse disposal.
110	Fill	Dark grey-brown silty clay, with abundant iron slag. Fill of 111.
111	Cut	Linear, slightly curvilinear cut 2.87m long, 0.25m wide and 0.10m deep. Interpreted as a (?)drainage gully.
112	Fill	Red-brown silty clay, with occasional pottery, slag and animal bone. Fill of 125.
125	Cut	Linear cut, 4.5m wide and over 12m long, 0.27m deep. Interpreted as an eroded trackway.
126	Fill	Grey-brown silty clay, with occasional charcoal. Fill of 109.
127	Fill	Mid-brown silty clay, with occasional charcoal and slag. Fill of 128.
128	Cut	Narrow linear cut, 0.25m wide and 0.10m deep. Interpreted as a wheel rut.
129	Fill	Mid-brown silty clay with occasional pottery sherds, charcoal and slag. Fill of 130.
130	Cut	Linear cut, 0.55m wide and 0.15m deep. Interpreted as a wheel rut.
131	Layer	Mid-brown silty clay with abundant pebbles forming a surface.
132	Cut	Narrow linear cut, wide (unexcavated).
133	Layer	Mid-brown silty clay with abundant pebbles forming a surface.
Medieval deposits (Phase 5)		
113	Fill	Grey-brown silty clay, with occasional charcoal. Fill of 114.
114	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
115	Fill	Grey-brown silty clay with occasional charcoal. Fill of 116.
116	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
117	Fill	Dark grey-brown silty clay with occasional charcoal. Fill of 118.

Medieval deposits (Phase 5)

118	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
119	Fill	Dark grey-brown silty clay with occasional/ moderate charcoal and slag. Fill of 120.
120	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
121	Fill	Grey-brown silty clay with occasional charcoal and pottery. Fill of 122.
122	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
136	Fill	Fill of 137.
137	Cut	Linear feature with sloping sides, 1.5m wide. Interpreted as a furrow, forming part of more extensive ridge & furrow.
138	Fill	Not excavated. Fill of 139
139	Cut	Linear feature. Interpreted as a furrow, forming part of more extensive ridge & furrow.

Post-medieval and modern deposits (Phase 6)

134	Fill	Not recorded on site. Fill of 135.
135	Cut	Linear cut, interpreted as a field drain.



Harris matrix of HWCM 20854

Appendix 4 Abbreviated context description Stone Farm (HWCM 20813)

Natural deposits (Phase 1)		
113	Natural	
(?)Post-Roman deposits (Phase 2)		
101	Fill	Mid-grey brown sandy loam, with pot, bone, charcoal and pebbles. Fill of 102.
102	Cut	Sub-circular cut 1.30m long, 1.10m wide, 0.50m deep. Pit, function unknown.
103	Fill	Pale red-brown sand and clay, with little charcoal and stone. Fill of 102.
104	Fill	Dark grey silty clay, with abundant charcoal and a little stone and burnt bone. Fill of 102.
107	Fill	Red-brown loamy coarse sand, with some charcoal. Fill of 108.
108	Cut	Sub-rectangular cut 1.00m long, 0.80m wide and 0.20m deep. Interpreted as small pit, related to 110.
109	Fill	Dark reddish-brown silty sand, with frequent charcoal flecks in bands. Fill of 110.
110	Cut	Circular cut 0.90m diameter, 0.30m deep, with a shallower scoop on the south side. Interpreted as an oven or hearth.
111	Fill	Fill of 112.
112	Cut	Posthole 0.16m diameter.

Appendix 5

Abbreviated context description Barnhall Farm (HWCM 20838)

Natural deposits (Phase 1)		
107	Natural	
Roman deposits (Phase 3)		
101	Fill	Light grey-brown sandy clay, with little charcoal. Fill of 102.
102	Cut	Linear cut, 0.60m wide and 0.30m deep. Over 5.0m long, extending beyond the area investigated. Interpreted as a field boundary.
103	Fill	Light grey-brown sandy clay, with little/moderate charcoal. Fill of 104
104	Cut	Circular posthole, 0.18m wide.
105	Fill	Fill of 106.
106	Cut	Irregular (bi-lobate) shallow pit, 0.80m long and 0.40m wide.

Appendix 6

Summary of flint recovered (all sites)

Site	Debitage	Tools
20830	3 flakes	
20832	1 flake	
20834	4 flakes, 1 burnt	
20835	3 flakes, 1 flaked lump	
20838	1 blade (broken), 1 burnt lump	1 arrowhead
20845	1 flaked lump	
20854	1 flake, 1 spall	
20865	1 flake	
20873	1 flake	
Totals	20	1

Appendix 7 HWCC pottery fabric type series

Fabric 3 Malvernian metamorphic

Manufacture Handmade
Firing Hard; usually black/dark grey throughout, less commonly with a layer or patch(es) of orange-red/brown colour. Munsell colour range: N3 very dark grey to 7.5YR 6/8 reddish yellow.
Texture Coarse to medium grained, may be slightly rough to the touch where inclusions protrude through the surface.
Surface May be wiped or burnished.
Inclusions Angular fragments of metamorphic rock - usually less than 1mm to 3mm in size, but larger fragments (up to 8-10mm) are also found.
Source Malvern Hills (Peacock 1968)
Period Iron Age to Roman

Fabric 12 Severn Valley ware

Manufacture Wheelthrown
Hardness Soft to hard
Colour Usually reddish orange (2.5YR 5/8) but may be brown (5YR 6/6) and sometimes with reduced grey (10R 6/1) core
Surface Outer surface often highly burnished. Simple treatment impressed groove and cordon decoration
Inclusions Fine fabric containing occasional limestone fragments, clay pellets or iron ore
Source Severn Basin (Webster 1976, 18-46)

Fabric 12.2 Severn Valley ware variant

As for fabric 12 but with sparse elongated voids usually appearing as black or dark grey streaks in fracture

Fabric 12.3 Reduced Severn Valley ware variant

As for 12.2 except that reduction produces a grey Manufacture

Fabric 13 Sandy oxidised ware

Manufacture Wheelthrown
Hardness Hard
Colour Orange throughout
Surface treatment Outer surface may be highly burnished
Inclusions Quartz grains of all sizes up to *c* 1mm
Source Unknown
Period Roman

Fabric 14 Fine sandy grey ware

Manufacture Wheelthrown
Hardness Hard
Colour Grey (2.5YR 5/2-N4/0)
Surface treatment Outer surface may be burnished
Inclusions Moderate angular and subangular quartz grains up to *c* 0.1mm in size; sometimes micaceous.
Source Probably local
Period Roman

Fabric 15 Coarse sandy grey ware

Manufacture Wheelthrown
Hardness Soft to hard
Colour Light to dark grey (5YR 7/1-5YR 5/1)
Surface treatment Outer surface may be burnished
Inclusions Abundant rounded quartz grains up to *c* 3.0mm in size
Source Probably local
Period Roman

Fabric 19 Wheelthrown Malvernian ware

Manufacture Wheelthrown/ wheel finished
Hardness Hard
Colour Grey in colour (5YR 5/1) with occasional oxidised, orange examples (5YR 4/6)
Surface treatment None represented
Inclusions Moderate to abundant, angular Malvernian rock fragments up to *c* 3.0mm in size
Source Malvern Hills area (Peacock 1965-7)
Period Roman

Fabric 22 Black Burnished ware, type 1 (BB1)

Manufacture Handmade
Hardness Hard
Colour Reduced dark grey or black throughout (5YR/1)
Surface treatment Highly burnished zones on outer surface, smoothed or burnished on visible inner surfaces
Inclusions Abundant subangular quartz grains up to *c* 1.0mm but only rarely exceeding *c* 0.5mm. Some sparse white inclusions up to *c* 1.5mm, and occasional pieces of shale
Source Dorset (Williams 1977, 163-220)
Period Roman

Fabric 28 Nene Valley ware

Manufacture Wheelthrown
Hardness Hard
Colour (i) White or off white (10YR 8/2)
(ii) Pale pink (&.5YR 7/6)
Surface treatment Dark red (2,5YR 6/6) to dark brown (10YR 3/1) matt slip. In overfired examples the colour coat may appear metallic
Inclusions Sparse, large (up to *c* 5mm) iron ore
Source Nene Valley area (Howe *et al* 1980)
Period Roman

Fabric 32 Mancetter/Hartshill *mortarium*

Manufacture Wheelthrown
Hardness Hard
Colour White (10YR 8/1)
Surface treatment Outer surface may have a thin yellow (10YR 8/3) wash. Trituration grits are black, grey or rust brown opaque refired pottery fragments.
Inclusions Occasional large quartz grains (up to *c* 2.0mm), and refired pottery fragments. The latter also used as trituration grits
Source Mancetter/Hartshill, Warwickshire (Hartley 1973, 143-47)
Period Roman

Fabric 33 Oxfordshire white *mortarium*

Manufacture Wheelthrown
Hardness Hard
Colour White (10YR 8/3)
Surface treatment Outer surface may have a thin yellow wash (10YR 8/4). Trituration grits are rounded white and pink quartz
Inclusions Moderate black and red quartz
Source Oxfordshire (Young 1977, 56)
Period Roman

Fabric 43 General category for samian

Fabric 44 Rhenish Ware

Manufacture Wheelthrown
Hardness Hard
Colour Oxidised red-orange (5YR 7/6), or laminated red and grey (7.5YR 7/7)
Surface treatment Very fine dark brown or black glossy colour coat (7.5YR 3/2), which may have a metallic sheen
Inclusions None represented
Source Trier, Central Gaul (Greene 1978, 18-19)
Period Roman

Fabric 69 Oxidised glazed Malvernian ware

Manufacture Wheelthrown
Hardness Hard
Colour Usually orange (5YR 5/8)
Surface treatment Copper speckled orange glaze generally applied
Inclusions Sparse to moderate Malvernian rock fragments; moderate medium quartz
Source Malvern Hills area (Vince 1977, 269-70)
Period medieval to post-medieval

Fabric 98 Unidentified Roman wares

Fabric 100 Unidentified post medieval wares

Appendix 8 HWCC tile and brick fabric series

Fabric 2b Common Sandy Type

Colour Usually red or orange throughout
Inclusions Moderate to abundant, variably sorted quartz (>1mm)
Form Both brick and tile
Hardness Usually hard

Fabric 2j

Colour Oxidised to red or orange throughout
Inclusions Moderate, well sorted medium (0.1-0.5mm) quartz
Form Roman roofing tiles
Hardness Soft

Fabric 3 Malvernian

Colour Usually oxidised orange/buff throughout, patchy copper green glaze
Inclusions Sparse Malvernian rock inclusions (usually <5mm); moderate medium (0.1-0.5mm) quartz
Form Ridge and flat roof tile
Hardness Hard

Appendix 9 List of environmental samples

Site	Context	Sample	Type	Period
HWCM 20813	101	1	pit fill	(?)Post-Roman
	109	2	pit fill	(?)Post-Roman
HWCM 20838	101	1	ditch fill	Roman
HWCM 20854	101	2	pit fill	Roman
	103	4	pit fill	Roman
	105	5	pit fill	Roman
	106	1	pit fill	Roman
	108	?	pit fill	Roman
	110	6	fill linear cut	Roman
	112	7	gully fill	Roman
	127	8	fill linear cut	Roman
	129	9	fill linear cut	Roman

Appendix 10 Summary of results from wet sieved samples

Site	Context	Sample	Type	Large mammal bone	Insect	Charred plant	Waterlogged plant
HWCM 20813	101	1	pit fill	occ		occ	occ*
	109	2	pit fill			occ	
HWCM 20838	101	1	ditch fill				
HWCM 20854	101	2	pit fill	occ		occ*	
	103	4	pit fill	occ		occ	occ*
	105	3	pit fill	occ		occ	occ*
	106	1	pit fill	occ			occ*
	108	?	pit fill	occ			
	110	6	fill lin cut	occ			occ*
	112	7	gully fill	occ	abt*		occ*
	127	8	fill lin cut	occ			
	129	9	pit fill	occ			occ*

Key

occ	occasional
occ*	occasional (modern contamination?)
abt	abundant
abt*	abundant (modern contamination?)

Appendix 11 The plant remains

HWCM	Botanical name	Common name	habitat	101	109
20813	Charred plant remains				
	Hordeum vulgare grain	barley	F	1	1
	Cereal sp indet grain	cereal	F		1
20854	Charred plant remains			103	105
	Triticum dicoccum/spelta grain	emmer/spelt wheat	F	1	
	Graminae sp indet grain	grasses	AF		1

Habitat key

A = cultivated ground
F = cultivar

Appendix 12 The archive

The archive consists of:

Field survey and general records

18	Fieldwork progress reports AS2
91	Field survey records AS22
60	Context finds record AS8
91	Scale plans (1:1250)
2	Boxes of finds
2	Colour slide films (49 shots)

Linacres Farm Roman settlement (HWCM 20854)

Primary records

40	Context records AS1
4	Photographic records AS3
1	Drawing catalogue AS4
1	Context number catalogue sheets AS5
28	Context finds records AS8
1	Harris matrix AS7
6	Scale drawings
7	Boxes of finds
4	Colour slide films (144 shots)
2	Black and white print films (69 shots)

Post-excavation analysis records

1	Abbreviated context description
1	Annotated matrix
28	Pottery records AS10

Stone Farm ?post-Roman settlement (HWCM 20813)

Primary records

6	Context records AS1
1	Photographic records AS3
1	Context number catalogue sheets AS5
7	Context finds records AS8
1	Harris matrix AS7
2	Scale drawings
0.5	Box of finds
1	Colour slide films (22 shots)
1	Black and white print films (47 shots)

Post-excavation analysis records

1	Abbreviated context description
1	Annotated matrix
3	Pottery records AS10

Barnhall Farm Roman boundary features (HWCM 20838)

Primary records

2	Context records AS1
1	Photographic records AS3
1	Context number catalogue sheets AS5
5	Context finds records AS8
1	Harris matrix AS7
1	Scale drawings
0.5	Box of finds
1	Colour slide films (24 shots)
1	Black and white print films (34 shots)

Post-excavation analysis records

1	Abbreviated context description
1	Annotated matrix
3	Pottery records AS10

All primary records and finds will be kept at:

Hereford and Worcester County Museum
Hartlebury Castle
Hartlebury
Near Kidderminster
Worcestershire DY11 7XZ

Tel Hartlebury (01299) 250416

A security copy of the archive will be retained at:

County Archaeological Service
Hereford and Worcester County Council
Tolladine Road
Worcester WR4 9NB

Tel Worcester (01905) 611086

Summary reports for national and regional journals and annual reports

Name of site Astley to Worcester Aqueduct [in-house sometimes referred to as Aqueduct 7]; including Roman settlement at Linacres Farm HWCM 20854 (North Claines), (?)post-Roman site at Stone Farm HWCM 20813 (Ombersley) and Roman boundary ditch at Barnhall Farm HWCM 20838 (Ombersley).

HWCM numbers Main site numbers given above; numerous HWCM numbers for rest of pipeline (see report appendix 2)

Parishes Astley, Hartlebury, Ombersley, North Claines, Hindlip, Warndon

Type of project Salvage recording along pipeline, including salvage excavation of buried deposits at three locations.

Sponsors Severn Trent Water plc

Summary Salvage recording was undertaken during the construction of a pipeline from Astley to Worcester. The project formed part of a series of similar projects being undertaken by the County Archaeological Service on behalf of Severn Trent Water plc during the construction of a major new water main running north to south across the County. Significant deposits were excavated at three sites, all of which were previously unknown, and artefacts were recovered from many of the fields along the pipeline.

The first of the newly discovered sites lay near Linacres Farm (North Claines). At this site (HWCM 210854) Roman deposits were recorded, including pits and an eroded trackway, together with evidence of ridge and furrow. The Roman deposits were interpreted as forming part of a rural settlement, and aerial photographs and the site topography indicated that the deposits lay on the eastern periphery of a moderately extensive settlement. The site was dated to between the second and fourth century AD. Evidence for ironsmithing was recovered, together with a ceramic assemblage typical of local rural settlement sites. Ecofactual evidence was poorly preserved.

Ridge and furrow recorded at this site was not directly datable, but on morphological grounds it may have developed before AD 1200.

A small group of deposits (HWCM 20838) were recorded near Barnhall Farm, Ombersley. A ditch and two small features were excavated, dated to the Roman period.

A third group of deposits (HWCM 20813) were recorded neat Stone Farm, Ombersley. A circular pit and a more complex feature (?an oven) were excavated, which appeared to be isolated features related to an unidentified (?industrial) activity. Dating evidence was limited, but a post-Roman (and ore-medieval) date is possible.

Artefacts were recovered from field along the aqueduct route. Prehistoric lithics were rare, and Roman and medieval pottery was only recovered in moderate quantities (106 and 68 sherds respectively). Post-medieval pottery was more common (454 sherds). This artefactual evidence is believed to reflect manuring in the past, and it is suggested that the relative low level of

manuring before the post-medieval period is indicative of the extent of pasture fields and woodland.

The salvage excavated site at Linacres Farm (and possibly the undated site at Stone Farm) is significant, and the information recovered is a contribution to the rapidly developing knowledge of Roman rural settlement in Worcestershire.

Information from fieldwalking of the pipeline easement, combined with previous archaeological work, chance finds and documentary research, have contributed to our understanding of past landuse and settlement in the area from the prehistoric period to the present day.

Reference Hal Dalwood, Victoria Buteux, Derek Hurst and Elizabeth Pearson 1996 *Salvage recording on the Astley to Worcester Aqueduct: archive report,* HWCC County Archaeological Service internal rep **382**

Proposals for further publication

Astley to Worcester aqueduct

HWCM no - various
Report no - 382
Period - Roman, post-Roman, medieval
Type of project - salvage recording

Description

Salvage recording was undertaken during the construction of a pipeline from Astley to Worcester. The project formed part of a series of similar projects being undertaken by the County Archaeological Service on behalf of Severn Trent Water plc during the construction of a major new water main running north to south across the County. Significant deposits were excavated at three sites, all of which were previously unknown, and artefacts were recovered from many of the fields along the pipeline.

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Level of further publication

1 Regional summary: *West Midlands Archaeology*

2 National summaries:
CBA *Archaeology in Britain in 199X* (?note published)
Roman Britain in 1995, *Britannia* (no note published yet)

3 Local journal paper: *Trans Worcestershire Archaeol Soc.* A report will be submitted to the local journal for a future volume. The archive report will require editing down to a shorter article for submission to TWAS, which will require a short period for the principle author. The illustrations are already drawn to fit TWAS page size. The project costing contained a publication grant element of £1,000 equivalent to a 25 page report @ £40.00 per page.