

**BRECON TO TIRLEY  
HIGH PRESSURE GAS PIPELINE**

**Assessment Of Potential For Analysis**

Prepared by

**NETWORK ARCHAEOLOGY LTD**

For

**MURPHY PIPELINES LTD**

On behalf of

**NATIONAL GRID**

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## EXECUTIVE SUMMARY

This report relates to a pipeline and associated facilities which were part of the Milford Haven Gas Connection Project, which ran for 316km from two new Liquid Natural Gas terminals in Milford Haven, Pembrokeshire to Tirley near Tewkesbury in Gloucestershire. National Grid had determined that this work was required to reinforce the gas transmission network in order to ensure security of supply in south Wales.

A staged approach to archaeological risk management was undertaken along the route of the entire pipeline. This pipeline scheme was divided into three separate construction sections: Milford Haven to Aberdulais, Felindre to Brecon and Brecon to Tirley. This report concentrates on the archaeological data recovered from the 107 km long pipeline from Brecon (NGR 303141 231949) to Tirley (NGR 381466 229465).

The report assesses the potential of the data collected during the fieldwork to contribute to any archaeological research priorities previously highlighted in current national, regional and local research agendas, and to identify any other pertinent areas of research that the recovered dataset could address.

A summary of the results follows, by county. For the purposes of this report a “site” is interpreted as any archaeological discovery within a definable area, from a single find spot to an extensive area of archaeological remains.

### Powys

Two excavation sites were identified prior to construction:

- Roman Road in Plot 110, near Pipton
- Prehistoric features in Plot 111, near Pipton

Another three major sites were located during construction as part of the archaeological watching brief:

- Post-medieval farm buildings and a Bronze Age cremation cemetery in Plot 49, near Llangoed
- Roman enclosure in Plot 160, near Hay-on-Wye
- Prehistoric and Roman features in Plots 111A, near Pipton

In addition, 29 minor sites were recorded during construction including two palaeochannels; nine boundary ditches; two ponds; one mound; eight pits, five tree clearances, one buried soil, one metalised surface, one Roman pottery scatter and one burnt bone spread.

### Herefordshire

Six excavation sites were identified prior to construction:

- Roman enclosure in Plot 250, near Dorstone 52082
- Prehistoric pit alignment and palaeochannel of the river Dore in Plot 269, near Peterchurch 52083
- Multi-ditched Roman enclosure in Plot 271, near Peterchurch 52084

- Iron Age / Roman ring ditch, and post-medieval tree clearance in Plot 331, near Kingstone **520891**
- Two Roman enclosures and a Roman metal working site in Plot 430, near Peterstow **52090**
- Iron Age / Roman enclosure in Plot 454, near Brampton Abbots **52091**

Two major sites were located during construction:

- Roman enclosure and prehistoric pit site in Plot 400, near Pencoyd **52094**
- Bronze Age pits, including possible cremations, and postholes, possibly a settlement, near Phocle Green **52093**

In addition 16 plots were classified as minor sites and the features identified comprised pits, ditches, an undated cremation, walls, former farm buildings and plant holes. A spread of Beaker period pottery, a cache of worked flint and a deposit of undated industrial waste was also located.

### **Gloucestershire**

One excavation site was identified prior to construction:

- Iron Age or early Roman pits, one later re-used in the Roman period for disposal of human remains

No major sites were located during construction.

Three minor sites, comprising 2 undated pits and a Roman ditch, were identified during construction.

Alongside the work undertaken by Network Archaeology Ltd on the Brecon to Tirley section of the pipeline, two further elements were carried out across the entire pipeline, and the results pertaining to the Brecon to Tirley section are included within this report:

### **Palaeo-environmental Assessment**

An assessment of a number of significant palaeo-environmental deposits uncovered along the length of the entire pipeline was undertaken by James Rackham, and the results prepared in a separate report (Rackham 2009). The data relating to those samples taken from the Brecon to Tirley section of the pipeline showed a broad series of date ranges, from later Mesolithic through to Saxon. Of the all the deposits sampled only two were fully assessed due to suitability and access restrictions, a peat core from near Thruxton, and palaeo-channel silts from the east bank of the river Wye, near Foy.

### **Field Boundary Assessment**

All extant and buried field boundaries were recorded where crossed by the pipeline with the intention, if possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems (including those of prehistoric date), field boundaries, settlement patterns and general landscape development. A statistical assessment of the field boundary data was carried out by Dr Richard Wykes, supplemented with information on the size, shape and orientation of the fields enclosed. The results showed that there was sufficient potential within the dataset to justify consideration of more complex statistical analysis, with subsequent

findings being linked to observations in the field such as position and geographical extent of the various boundary types, and incorporated with the results of more traditional landscape observations.

### **Potential and Recommendations**

The potential for the data to be taken forward to the analysis stage was assessed with regard to its ability to address the existing project aims and objectives, as well as any new avenues of investigation identified during the process. The assessment of that potential and the recommendations arising from it are laid out in section 6 and are summarised below.

- Welsh Research Objective One: To undertake a comprehensive recording survey, where appropriate, of all extant historic field boundaries crossed by the working width of the pipeline corridor, with the intention, if at all possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems, field boundaries, settlement patterns and general landscape development within the region. This will be augmented by a comprehensive record, where possible, of all buried field boundaries encountered within the pipeline corridor, with the aim, where possible, of identifying any evidence of prehistoric field systems - **Potential: Low-Moderate**
- Welsh Research Objective Two: To address, where possible and appropriate within the working width of the pipeline, the regional bias towards prehistoric sites and find spots on the present day coastline, as there is very little known about inland sites, and sites in upland areas – **Potential: Low-Moderate**
- Welsh Research Objective Three: Where possible and appropriate within the working width of the pipeline, to undertake palaeo-environmental analysis of suitable deposits, including those at river crossings and the examination of buried land surfaces beneath funerary and ritual monuments and prehistoric earthworks and enclosure banks, will be undertaken – **Potential: Moderate**
- Welsh Research Objective Four: To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric funerary and ritual landscapes and practices within the region – **Potential: Low-Moderate**
- Welsh Research Objective Five: To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric settlement – **Potential: Low**
- English Research Objective One: To extend the use of proven methodologies for site location and interpretation, and encourage the development of new techniques, within the project area – **Potential: Moderate-High**
- English Research Objective Two: Encourage works of synthesis within and across periods, settlements, monuments and areas, for the project as a whole – **Potential: Funerary Sites - Moderate; Roads – Low-Moderate; Enclosures – High; Roman Industrial – High; Other Industrial – Low; Post-Medieval or Industrial Period Agricultural Sites – Minimal**
- English Research Objective Four: Encourage wide involvement in archaeological research and present modern accounts of the past to the public - **Potential: Moderate**
- English Research Objective Seventeen and Eighteen: Improve the quality and quantity of environmental data and our understanding of what it represents, from within the pipeline spread. Target specific soil and sediment contexts for environmental information – **Potential: Moderate-Low**

- **Additional English Research Objective** (Cross-border extension of Welsh Research Objective One): To undertake a comprehensive recording survey, where appropriate, of all extant historic field boundaries crossed by the working width of the pipeline corridor, with the intention, if at all possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems, field boundaries, settlement patterns and general landscape development within the region. This will be augmented by a comprehensive record, where possible, of all buried field boundaries encountered within the pipeline corridor, with the aim, where possible, of identifying any evidence of prehistoric field systems - **Potential: Low-Moderate**

The extent and nature of the analysis of this potential is to be defined within the forthcoming Updated Project Design.

# **1 INTRODUCTION**

## **1.1 Purpose of this Report**

This report is an assessment of the analysis and publication potential of the archive generated during a series of archaeological investigations undertaken along the course of a major cross-country high-pressure gas pipeline between Brecon and Tirley (figure 1).

## **1.2 Commissioning Bodies**

The archaeological investigations were commissioned by Murphy Pipelines Ltd (MPL) on behalf of National Grid (NG). The archaeological contractor was Network Archaeology Ltd.

## **1.3 High Pressure Gas Pipeline Scheme**

### **1.3.1 Details of the gas pipeline**

The Brecon to Tirley pipeline and associated facilities are part of the 316km long Milford Haven Gas Connection Scheme which runs from two new Liquid Natural Gas terminals in Milford Haven, Pembrokeshire, South Wales to Tirley Above Ground Installation near Tewkesbury in Gloucestershire. The Brecon to Tirley pipeline, which is the subject of this report, represents the eastern section of the overall scheme and runs for 107km through the counties of Powys, Herefordshire and Gloucestershire.

### **1.3.2 Reasons for building the proposed gas pipeline**

The pipeline reinforces the National Transmission System of natural gas and provides increased gas transmission capacity.

### **1.3.3 Construction**

The pipeline was built by Murphy Pipelines Ltd using the 'spread' technique, where all the personnel and equipment necessary were contained within a strip of land known as the working width. This width was typically 44m, with a 27m/ 17m split either side of the pipe-trench. The working width was widened at road, rail and river crossings and reduced at hedgerows. The pipeline was constructed of welded steel pipes with a diameter of c.1200mm and buried at a minimum depth of 1.2m below the present ground surface.

Construction included four main activity blocks:

- Right-of-way activities, comprising hedge removal, cleaning, fluming and temporary bridging of ditches, temporary fencing of the working width, topsoil stripping of access areas and the installation of pre-construction drainage;
- Topsoil stripping, benching and grading of the working width to enable pipe-stringing, welding and radiography;
- Excavation of the pipe-trench and launch/ reception pits for horizontal directional drill, and pipe laying; and
- Reinstatement, comprising replacement of topsoil and where necessary, the installation of post-construction drainage and subsoil ripping.

## **1.4 Legislation, Regulations and Guidance - Permissions to Build the Pipeline**

The pipeline and any temporary works fell within the definition of Permitted Development under the Town and Country Planning (General Permitted Development) Order, 1995 (S.I. 1995/418), and therefore did not require planning consent from The Local Planning Authority.

An Environmental Impact Assessment was undertaken under the *Environmental Impact Regulations 1999 (Statutory Instrument 1999 no. 293) (EIA Regulations)*. The Department of Trade and Industry (DTI) gave consent on 7<sup>th</sup> February 2007 for construction of the Felindre to Tirley pipeline subject to the following five archaeological Conditions:

1. The installation of the pipeline, or advance soil stripping or turfing operations, shall not take place in any given curatorial area until National Grid has secured the implementation of a programme of archaeological work in accordance with a scheme which has been agreed in writing by the relevant archaeological curator.
2. All archaeological work carried out in accordance with the scheme agreed pursuant to Condition 1 shall be carried out in accordance with the published Standards and Guidance of the Institute of Field Archaeologists.
3. National Grid shall only use professionally qualified archaeologists to undertake any watching briefs required pursuant to Condition 1.
4. National Grid shall ensure that the written scheme of investigation required by Condition 1 is coordinated as a single unified project.
5. Pursuant to Conditions 1 and 4, the bodies identified in Condition 1 shall, on behalf of the Secretary of State, undertake the monitoring of archaeological work agreed pursuant to Condition 1. The cost of all such monitoring work shall in the first instance be borne by the Secretary of State for Trade and Industry.

All works associated with construction of the pipeline were also subject to the Hedgerow Regulations (1997), which defines a set of archaeological and historical criteria used for determining whether hedges are “important”.

## **1.5 Archaeological Background**

### **1.5.1 Procurement of archaeological services**

NG commissioned different companies to design & build the three portions which collectively formed the Milford Haven to Tirley scheme. These appointments determined archaeological procurement, a summary of which is provided below in table 1.1.

**Table 1-1 Assignment of pipeline design & build companies and archaeological organisations**

<b>Pipeline scheme</b>	<b>Design &amp; build</b>	<b>Archaeological organisations</b>	<b>Work period</b>
Milford Haven to Felindre	Nacap Land & Marine Joint Venture & RSK ENSR	Cambrian Archaeology with assistance from Cotswold Archaeology	2005-2007
Felindre to Brecon	Nacap Land & Marine Joint Venture & RSK ENSR	Cotswold Archaeology with assistance from Cambrian Archaeology	2006-2008
Brecon to Tirley	Murphy Pipelines Ltd & Mouchel	Network Archaeology	2006-2008

### 1.5.2 Staged approach to archaeological investigation and mitigation

NG adopted a staged, multi-discipline approach to archaeological investigation and mitigation of the Brecon to Tirley pipeline. A table, presenting a timeline of these stages of archaeological work is provided below in table 1.2.

**Table 1-2 Timeline of archaeological works on the Brecon to Tirley pipeline**

<b>NG Stages</b>	<b>Corresponding Archaeological Stages</b>	<b>Work periods</b>	<b>Reports</b>
Route Corridor Investigation Studies	Feasibility study of route corridor option(s)	2005	<i>NTS Investment (2005)</i>
Conceptual Design	Desk-based assessment of route corridor Field reconnaissance survey of preferred route	Nov 2005 – July 2006	<i>Cotswold Archaeology (2006i)</i>
Detailed Design	Fieldwalking survey	Dec 2005 – Jan 2006	<i>Cotswold Archaeology (2006v, 2006vi, 2006vii)</i>
	Metal-detector survey	Mar-Apr 2006	<i>Bartlett-Clark Consultancy (2006ii)</i>
	Earthwork survey	Jan-Feb 2006	<i>Cotswold Archaeology (2006ii, 2006iii, 2006iv)</i>
	Geophysical survey of preferred pipeline route and ancillary areas	Feb-July 2006	<i>Bartlett-Clark Consultancy (2006i)</i>
	Trench evaluation of targeted areas along preferred pipeline route	April 2006 – Feb 2007	<i>Network Archaeology (2009i)</i>
	<b>Environmental Statement</b>	<b>14<sup>th</sup> August 2006</b>	<b><i>RSK ENSR (2006)</i></b>
	Geophysical survey of gaps & re-routes	Aug-Nov 2006	<i>Bartlett-Clark Consultancy (2007)</i>
	Assessment of Hay-on-Wye reroute options	April-Jul 2006	<i>Network Archaeology (2006j)</i>
	Trench evaluation of ancillary areas	Oct 2006	<i>Network Archaeology (2009ii)</i>
	Excavation	Oct 2006 - Mar 2007	<i>Network Archaeology (pending)</i>
Construction	Controlled strip	Jan-April 2007	<i>Network Archaeology (pending)</i>
	Watching brief	Feb-Sept 2007	<i>Network Archaeology (pending)</i>
Post-construction	Palaeo-environmental auger survey	Oct 2008	<i>The Environmental Archaeology Consultancy(Rackham, 2009)</i>

### **1.5.3 Documentation**

An Archaeological Framework Document (NG/RSK ENSR 2006), forming an overarching and generic written scheme for the programme of archaeological works along the Milford Haven to Tirley pipelines, was maintained from the conceptual design stage up to and including construction. The AFD presented the proposed approach to investigating and mitigating the archaeological resource pursuant to conditions 1 & 4 of the DTI consent. The AFD was a “live” document, which was continually updated throughout the project. Mirrored AFDs were maintained for the two pipelines (Felindre to Brecon and Brecon to Tirley), each containing additional documentation, in a separate appendix, relating to the ongoing works that fell within those geographical areas. These appendices served as both a valuable resource to the field archaeologists as an easily accessible summary of previous work, and to chart the progress of the fieldwork for those not directly involved. The data contained within appendix A of the AFD is reproduced at the back of this assessment report (appendix A).

For the desk-based assessment, geophysical surveys and evaluation trenching, all fieldwork was conducted in accordance with Written Schemes of Investigation (WSI) produced by Cotswold Archaeology. The site excavations and the watching brief of construction were conducted in accordance with WSIs produced by Network Archaeology Ltd.

The AFD and associated WSIs were approved by the relevant curatorial bodies: Gloucestershire County Council, Environment Department (GCCED), Herefordshire County Council (HCC) and Clwyd-Powys Archaeological Trust (CPAT).

### **1.5.4 Standards**

The archaeological investigations were monitored by Linda Bonnor, Archaeological Advisor to NG, and by the relevant curatorial authorities in Powys, Herefordshire and Gloucestershire.

All archaeological work was undertaken in accordance with:

- Professional codes, standards and guidance documents as per condition 2 of the DTI consent (English Heritage 1991, 2006; Institute For Archaeologists 2008i, 2008ii, 2008iii, 2008iv);
- The methodologies laid out in the AFD and associated WSIs

## **1.6 Aims and Objectives**

The archaeological project aims and objectives were laid out in the Archaeological Framework Document (NG/RSK ENSR, 2006: section 3). They were derived from regional research agendas and priorities in order to provide a structure to guide fieldwork activities.

### **1.6.1 Archaeological Aims**

The general archaeological aims for this programme of archaeological work were to:

- Identify and appropriately manage the archaeological resource affected by the construction of the Brecon to Tirley pipeline.



- Consider, in all cases of archaeological discovery, whether preservation *in situ* was desirable or achievable as the foremost response
- Determine, where preservation *in situ* was not desirable or achievable, an appropriate strategy for preservation by record.
- Develop, where possible, knowledge and understanding of the historic landscape and archaeological resource through recording of threatened remains.
- Engage in a programme of post excavation, archiving, synthesis and study, leading to publication and dissemination of results.

### 1.6.2 Regional Archaeological Objectives

#### Wales

The archaeological works were designed to take account of the aims and objectives that have been identified within the draft research agenda for Wales (as it existed at the time of writing of the AFD); *Towards a Research Agenda*, BAR 2003 (updated 2004 - a new revised and draft version can currently be seen on the Clwyd-Powys Archaeological Trust website). Other relevant period and area based research agendas were also taken account of, as appropriate, where mitigation responses were under consideration.

It was likely that the nature and scale of this development would provide unique information (from excavations in locations where development did not often occur of site types that are rarely excavated) on the origins and development of the historic landscape (and its individual elements) in south Wales. The development also offered opportunities, where possible and appropriate, for palaeo-environmental data relating to new and existing sites and research agendas, to be obtained.

The following research priorities were identified, through consultation with the Dyfed Archaeological Trust (formerly Cambria Archaeology) and GGAT for the Milford Haven to Brecon stage of the pipeline, as being of specific relevance to the fieldwork stages of the pipeline development, and as such were adopted for the Powys stretch of Brecon-Tirley as well. The research objective numbers have been assigned for ease of identification:

- To undertake a comprehensive recording survey, where appropriate, of all extant historic field boundaries crossed by the working width of the pipeline corridor, with the intention, if at all possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems, field boundaries, settlement patterns and general landscape development within the region. This will be augmented by a comprehensive record, where possible, of all buried field boundaries encountered within the pipeline corridor, with the aim, where possible, of identifying any evidence of prehistoric field systems (Welsh Research Objective 1).
- To address, where possible and appropriate within the working width of the pipeline, the regional bias towards prehistoric sites and find spots on the present day coastline, as there is very little known about inland sites, and sites in upland areas (Welsh Research Objective 2).
- Where possible and appropriate within the working width of the pipeline, to undertake palaeo-environmental analysis of suitable deposits, including those at river crossings and the examination of buried land surfaces beneath funerary and ritual monuments and prehistoric earthworks and enclosure banks, will be undertaken (Welsh Research Objective 3).

- To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric funerary and ritual landscapes and practices within the region (Welsh Research Objective 4).
- To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric settlement (Welsh Research Objective 5).

## **England**

No regional research frameworks were published for either the South-West of England or the West Midlands at the time of writing of the AFD. The following research aims, which have been made specific to the pipeline spread, were identified from the Draft Research Agenda for Archaeology in South West England.

- To extend the use of proven methodologies for site location and interpretation, and encourage the development of new techniques, within the project area (Research Aim 1).
- Encourage works of synthesis within and across periods, settlements, monuments and areas, for the project as a whole (Research Aim 2).
- Encourage wide involvement in archaeological research and present modern accounts of the past to the public (Research Aim 4).
- Improve the quality and quantity of environmental data and our understanding of what it represents, from within the pipeline spread. Target specific soil and sediment contexts for environmental information (Research Aims 17 and 18).

Following a request from Dyfed Archaeological Trust (formerly Cambria Archaeology) Welsh Research Objective 1 was applied to all elements of the pipeline, including England, to provide a more thorough analysis of the field boundary data. This was referred to as Additional English Research Objective.

## **1.7 Scope of Works and Aims of this Assessment**

The scope of this document is an assessment of the analysis and publication potential of the archive generated from the archaeological investigations conducted by Network Archaeology Ltd along the Brecon to Tirley pipeline. A separate parallel assessment of the Felindre to Brecon pipeline is being undertaken by NLMJV with assessment of the Milford-Haven to Aberdulais pipeline to follow.

The aims of this report are to:

- Present the background, methodology, summary results and recommendations for further study relating to the archaeological works undertaken on the Brecon to Tirley section of the Milford Haven to Tirley pipeline.
- Assess the potential of the data collected during the fieldwork to contribute to any archaeological research priorities highlighted in current national, regional and local research agendas, and to identify any other pertinent areas of research that the results could address;
- Assess the potential of the Brecon to Tirley data in correlation with that gathered from the Milford Haven to Brecon sections in order to present a complete and integrated assessment of the recovered data as per DTI condition 4;
- Lead to the creation of an updated project design consisting of fully costed proposals for further analysis, justifications for carrying out these proposals,

proposals for publication and dissemination of the results, and a timetable for completion of the project; and

- Create a structured and accessible assessment archive, in accordance with current national and local guidelines.

This assessment will be followed by an updated project design, comprising a refined research agenda, a publication plan as well as an itemised proposal for the comprehensive analysis and publication of the recovered data, broken down into specific tasks.

## **1.8 Description of the Physical Environment**

The Brecon-Tirley stretch of the pipeline ran for 107km across varied terrain, ranging from the hills of Powys to the river valleys of Herefordshire and Gloucestershire (figure 1).

### **1.8.1 Topography**

The Brecon to Tirley stretch of the Milford Haven to Tirley pipeline began just north of Brecon (NGR 303141 231949), in Powys, Wales, at the crossing of the Brecon to Builth Wells Road (the B4520), just south of Llandefaelog (about 200mOD). The pipeline ran east across gently undulating land to Rachfynydd Farm, where it turned northeast and gradually ascended to Ponde common. It reached its highest point on this stretch, c.365mOD, before it turned southeast and descended sharply at Llyswen. From here the pipeline briefly ascended again toward Pentre Sollars, before it ran east along the top of this hill (c. 167mOD), then turned north and dropped down onto the Wye floodplain at Pipton. The route then remained on the floodplain until east of Three Cocks, where it once again rose to c.171m OD. From here it followed a generally northeasterly course towards Hay-on-Wye, remaining on the ridge above the Wye. The pipeline turned southeast just before Hay-on-Wye, and briefly entered Brecon Beacons National Park, whose fringes it stayed within until the pipeline turned east and crossed the end of Cusop Dingle, and the border with Herefordshire and England.

From Cusop Dingle, the pipe turned northward, and followed the contours of Cusop Hill then it turned northeast and dropped down to the B4348. The pipeline crossed this road just before Hawkswood Farm, and then turned east as it crossed the road to Clifford, rising slightly as it passed Hardwicke, to c.150mOD. It crossed the B4348 again at Westbrook, still rising, before it turned southeast at Newton. From a peak of c.170m OD near Newton it gradually descended to about 148m OD as it passed Dorstone, following the Dore valley. Still descending, the pipeline turned briefly southwest at Hinton, before it turned back southeast and descended gradually to c. 125mOD near Turnastone. From here, the pipeline turned east, crossed the Dore, and maintaining a fairly level course, skirted south of Brampton Hill. It then ran in a slightly more south-easterly course, past Kingstone, before it turned southward and descended toward Didley and the A465 (101mOD). From there the pipeline continued southeast on a fairly level course, until it turned south at Wormelow, just after crossing the A466, and began to cross more undulating terrain. The course of the pipeline turned sharply to the southeast near Pencoyd and continued across rolling countryside to Treadow (100mOD). From here the pipeline turned northeast and descended gradually again, crossing the A49 at Winter's Cross (87m OD), then dropped steeply and turned east near Sellack Marsh (47m OD). From here it crossed the Wye (33m OD), then rose again on the east bank, midway between Brampton Abbots and Hole-in-the-Wall (80m OD). From here, it maintained a roughly easterly course, though across steeply undulating terrain. At Upton Bishop

(110mOD) the pipeline turned northeast and descended gradually toward Kempsey, in Gloucestershire (76m OD).

At Kempsey, the pipeline turned east, and generally followed that course, descending gradually to the M50 crossing, just west of Castle Tump (55m OD). From here the pipeline turned southeast, and crossed fairly level ground until it turned east just north of Brand Green. After a brief incline, the pipe then gradually descended to where it crosses the A417 south of Corse (27mOD), before it turned northeast and terminated at the original proposed location of the Tirley AGI (NGR 381466/ 229465, 30mOD).

### **1.8.2 Land-use**

The majority of the pipeline route was utilised for pasture or arable land, with a marked increase in grazing land at the western end of the pipeline, and more arable land to the east. This is largely due to the upland topography of the western end of the pipe route being unsuitable for arable exploitation, whilst the fertile river valleys the pipeline crosses in the east were perfectly suited to the growing of crops, and it is reasonable to assume that the same would have held true for ancient farmers.

### **1.8.3 Geology**

The route of the pipeline crosses a large number of geological changes as identified by the Soil Survey of England and Wales (SSEW 1983). These changes have been summarised in the table in Appendix B, listed by the plot in which each change of soil association occurs, together with the descriptions provided by the Soil Survey of England and Wales.

The majority of the pipe route lay over Devonian sandstone, shale and siltstone, though toward the eastern end, particularly in Gloucestershire, the underlying geology was primarily Permo-Triassic and Carboniferous mudstone. The drift geology comprised primarily loams and silty soils, with alluvial gravels and silts in the river valleys.

The pipeline crosses a wide variety of soil associations, with the most common in Powys being MILFORD; in Herefordshire BROMYARD; and in Gloucestershire WHIMPLE 3. MILFORD is described as a well drained fine loamy reddish soil; whilst BROMYARD is a well drained reddish fine silty soil; and WHIMPLE 3 is described as reddish fine silty or reddish fine loamy over clayey soils.

### **1.8.4 Hydrology**

The Brecon to Tirley pipeline section of the pipeline starts in the Honddu Valley, climbs to the Mynydd Forest, and then descends into the Upper Wye Valley at Llyswen. From here the pipeline follows the River Wye, crossing a number of its tributaries, before veering down Herefordshire's Golden Valley. The pipeline crosses the River Dore at Vowchurch and also crosses two of its tributaries. Further east, the pipeline skirts to the north of the Grey Valley, crosses Worm Brook to the east of Didley, where it remains on relatively high ground until crossing The Gamber south of Llanwarne. From here the pipeline begins a slow and circuitous descent back into the Wye Valley, crossing the River Wye near Sellack. The final section of the pipeline runs eastward across a number of small tributaries of the River Wye, before crossing the River Leadon, north of Upleadon, in Gloucestershire.

Much of the pipeline was well drained, though less so in the river valleys of Herefordshire. This lack of permeability amongst many of the eastern soil associations makes the low lying areas prone to seasonal flooding, and in turn necessitated the construction of water management features such as culverts, drainage ditches, field drains and the elaborate water meadows recorded at Turnastone Court, in Herefordshire (Archenfield Archaeology 2006).

## 2 ARCHAEOLOGICAL WORK UNDERTAKEN

### 2.1 Staged Approach to Managing Risk

In order to comprehensively manage archaeological risk, a staged approach was adopted. This began with a feasibility study, followed by a desk-based assessment, non-intrusive field survey, trench evaluation, excavation and watching brief. For the purposes of this report a “site” is interpreted as any archaeological discovery within a definable area, from a single find spot to an extensive area of archaeological remains.

### 2.2 Feasibility Study

The feasibility study was a review of constraints undertaken by NTS investment Scheme Design Team in association with MWH UK Limited while various route options were being considered (NTS Investment 2005). This included an appraisal of the archaeological potential of the various possible options, with the intention of assisting in the selection of the route that presented the least risk.

### 2.3 Desk-based Assessment

Based on the findings of the feasibility study, a single optimum route corridor was selected, for which a more detailed desk-based assessment was undertaken (Cotswold Archaeology 2006i). This involved consultation of readily available archaeological and historical information from documentary and cartographic sources, and consultation with relevant organisations with regard to an area no less than 2km wide, and in some areas up to 9km wide along the length of the pipeline. The DBA covered both of the latter stages of the pipeline, from Felindre to Brecon, and from Brecon to Tirley. In all the area studied totalled 534km<sup>2</sup>. The sources used for the DBA are summarised in the table below:

**Table 2-1 DBA sources**

Source	Data
Cadw	List of Scheduled Monuments (SAMs); List of Buildings of Special Architectural or Historic Interest; Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales; and Register of Landscapes of Special/Outstanding Historic Interest in Wales.
English Heritage National Monument Record (NMR)	List of Scheduled Monuments (SAMs); List of Buildings of Special Architectural or Historic Interest; Register of Parks and Gardens of Special Historic Interest in England; Register of Historic Battlefields; List of archaeological sites and events; and Aerial photographs 1940s-present day.
Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW)	List of archaeological sites and events; Aerial photographs 1940s-present day; and Published archaeological material, including results of the ongoing Uplands Survey.
The National Assembly for Wales	Aerial photographs 1940s-present day.
Glamorgan Gwent Archaeological Trust	Sites and Monuments Record (SMR) list of archaeological sites and events;

Source	Data
	Unpublished and published archaeological surveys and reports.
Dyfed Archaeological Trust (formerly Cambria Archaeology)	SMR list of archaeological sites and events; Unpublished and published archaeological surveys and reports, including Tŷr Gofal project; Historic Landscape Characterisation information (Black Mountains and Tywi Valley); LANDMAP data; Cambria Archaeology confirmed that no further archaeological data is held by the Brecon Beacons National Park.
Clwyd Powys Archaeological Trust	SMR list of archaeological sites and events; Aerial photographs; Unpublished and published archaeological surveys and Reports, including Tŷr Gofal project; Historic Landscape Characterisation information (Middle Wye Valley and Middle Usk Valley); and LANDMAP data.
Herefordshire Council	HER list of archaeological sites and events; Historic Landscape Characterisation information (County); and Archive material from the unpublished Golden Valley Survey carried out by the Manpower Services Commission in the 1980s.
Gloucestershire County Council	SMR list of archaeological sites and events; and Historic Landscape Characterisation information (Cotswold and Wye Valley AONBs).
Worcestershire County Council	HER list of archaeological sites and events.
Countryside Council for Wales	LANDMAP data for Swansea (compiled by GGAT)
National Library of Wales	Tithe maps for Wales. Historic Estate maps
Carmarthenshire Archive Service	Historic Estate maps
Herefordshire Record Office	Tithe maps for Herefordshire.
Gloucestershire Record Office	Tithe maps for Gloucestershire.
First Edition Ordnance Survey maps	Online 6" to 1 mile Series for 2km corridor ( <a href="http://www.old-maps.co.uk">www.old-maps.co.uk</a> ).
Hereford and Worcester Gardens Trust and Gloucestershire Gardens and Landscape Trust	Unregistered parks and gardens in Herefordshire and Gloucestershire
British Geological Survey	1:50,000 Solid and Drift sheets for the mapping of Drift geological deposits, including River Terrace deposits, Alluvium and Peat.
National Grid	Light Detection and Ranging Survey (LiDAR) images for the 2km corridor; 2001 aerial photographic coverage of the whole Route Corridor and 2005 aerial fly-over

This study produced a total of 40 sites in Powys (from Brecon to Hay-on-Wye); 62 sites in Herefordshire (from Cusop to Upton Bishop); and 12 sites in Gloucestershire (from Kempley to Tirley). These sites were rated due to the perceived significance of the impact of the pipeline construction on them. The following table summarises that information:

**Table 2-2 Significance of impact of construction on sites by county**

<b>Significance of Impact/County</b>	<b>Powys</b>	<b>Herefordshire</b>	<b>Gloucestershire</b>	<b>Total</b>
None	2	0	0	2
Minor	20	17	9	46
Moderate	7	10	1	18
Significant	0	0	0	0
Unknown	11	35	2	48
<b>Total</b>	<b>40</b>	<b>62</b>	<b>12</b>	<b>114</b>

Based on these perceived impact levels and the estimated potential significance of these sites, a proposal was made for further mitigation of each.

The main restriction of a desk-based assessment is that it can only draw upon known archaeological data, and in an area with limited study or previous development, such as that which the Brecon to Tirley stretch of the pipeline crosses, there will be severe limitations on the amount of information which can be gathered when compared to the potential presence of archaeological activity along the route.

Other restrictions include that a number of site records, especially older records such as antiquarian finds, excavations or observations often fail to accurately locate sites and finds; and that features in the DBA located from aerial photographs necessarily involve some subjective interpretation on the nature of the site, and the usefulness of photographs also depends upon geology, land use and weather conditions.

Based upon the results of the DBA the next stage of mitigation for a number of sites along the pipeline was determined, including one to be avoided, 39 sites deemed suitable for field walking, and 140 for earthwork survey, whilst the remainder were to be monitored during the construction watching brief. The entire pipeline route was to be subjected to geophysical survey.

A further DBA was undertaken by Network Archaeology following the decision to alter the route of the pipeline around Hay-on-Wye (Network Archaeology 2006i). Four potential route options were assessed, identifying 41 sites in the vicinity of these routes. Based on these findings, 3 further sites were identified for field-walking, and one further site was considered for earthwork survey. The results of these non-intrusive surveys are given in section 2.4 below.

## **2.4 Non-intrusive Field Survey**

This comprised four separate elements within the Brecon-Tirley project: an archaeological field reconnaissance survey, a geophysical survey, a targeted earthwork survey, and a field-walking survey.

### **2.4.1 Archaeological field reconnaissance survey**

An archaeological field reconnaissance survey (AFRS) was undertaken by Cotswold Archaeology in conjunction with the desk-based assessment. A 50 metre wide corridor was walked along the pipeline route. A small percentage of the route was not surveyed due to access issues. An individual AFRS Recording Sheet was completed for each field, containing information on: observable archaeological features; present land use; evidence of previous land use; local topography; exposed



geology; water courses; field boundary forms; and health and safety considerations. Sketches and notes of observed archaeological features were included on the sheets. The AFRS ran in conjunction with a line walk by National Grid engineers, so Cotswold Archaeology officers were able to advise on potential re-routes to avoid known heritage sites.

Limitations of an AFRS include access restrictions, the masking of features by long grass or arable crops and the simple fact that the majority of archaeological evidence is not visible from the surface. For this particular project, access was achieved for around 95% of the plots surveyed, and the masking of features by crops was not significant. Sites recorded on the Brecon to Tirley element of the pipeline during the AFRS were included with the DBA data to produce an initial gazetteer of potential sites (CA 05140, Vol.3).

#### **2.4.2 Geophysical survey**

The geophysical survey was conducted along the full length of the pipeline route by Bartlett-Clark Consultancy (Bartlett-Clark Consultancy 2006i and 2007), except where access was not available or ground conditions were unsuitable.

The method used was a continuous recorded magnetometer survey, supplemented by magnetic susceptibility coverage. The magnetometer survey was carried out using Bartington fluxgate gradiometers with a continuous digital logging system. Readings were recorded at 0.25m intervals along transects 1m apart, and tied to a grid set out at the required OS national grid co-ordinates using sub-1m accuracy differential GPS.

The detailed magnetometer survey coverage extended over a 44m wide strip, which corresponded to the full extent of the pipeline working width. The magnetometer survey was supplemented by magnetic susceptibility readings recorded along the centre line of the pipeline trench. Susceptibility measurements can provide a broad indication of areas in which archaeological debris, and particularly burnt material associated with past human activity, has become dispersed in the soil. They are also affected by non-archaeological factors, including geology, past and present land use, and modern disturbances, and so are best interpreted in conjunction with a magnetometer survey, rather than used as an independent technique for identifying archaeological sites.

Along with the general access issues, geophysical survey is also limited by ground conditions, and is not normally undertaken on steep slopes or in marshland/bog, areas of standing water, areas of dense tussock grass and standing crop, for reasons of either accessibility and/ or the ability to survey; Also, the depth to which the survey can penetrate may not allow for identification of archaeological deposits in areas deeply buried by topsoil or overburden (e.g. in alluvial areas); and the changes in magnetic response identified during geophysical survey may be the result of geology, cultivation, modern drainage etc. Geophysical survey results are only diagnostic, they cannot determine the exact nature, date, depth of deposit and function of an archaeological site.

On the Brecon-Tirley element of the pipeline, the geophysical survey team managed to survey over 95% of the pipeline route prior to construction. This survey identified a large number of anomalies interpreted as potentially being of archaeological origin, and based upon these results it was decided that 24 plots in Powys, 47 in Herefordshire and nine in Gloucestershire should be considered for evaluation trenching to assess the nature of these anomalies.

### 2.4.3 Earthwork survey

The earthwork survey was carried out by Cotswolds Archaeology in 2006 in accordance with a *Written Scheme of Investigation for Archaeological Earthwork Survey* produced by Cotswold Archaeology (CA, 2005i) and approved by the relevant archaeological curators. Field Survey was carried out using a Leica TCR 705 Total Station with onboard data logging and coding, supplemented by manual site measurement, sketches and notation where necessary. Some 140 potential archaeological sites were examined in the earthwork survey, 28 of which were on the Brecon to Tirley section of the pipeline, all of which had been highlighted by the preliminary DBA and AFRS works. The survey was successful in gaining further detail on the form, nature, extent and degree of survival of the investigated sites (CA, 2006ii to iv).

Similar to AFRS, the main limitations of earthwork survey are field access and the degree of survival of the visible features. In heavily arable areas, such as much of eastern Herefordshire and Gloucestershire, the persistent ploughing of fields may erode any upstanding features obscuring potential sites.

On the Brecon-Tirley pipeline access was available to over 96% (27) of the locations chosen for further investigation. The majority of these proved to be non-archaeological in nature, whilst the remainder comprised:

#### **Powys:**

- a potential barrow at the very west end of the pipeline (plot 1),
- a possible building platform (plot 49),
- remnant ridge and furrow (plot 83);

#### **Herefordshire:**

- two post-medieval banks (plot 301),
- post-medieval ridge and furrow (plot 291)
- a post-medieval water management ditch (plot 306);

#### **Gloucestershire:**

- probably medieval ridge and furrow (plot 555).

Of these only the potential barrow in plot 1 was considered to be of sufficient potential to warrant intrusive evaluation. The remainder were investigated as part of the watching brief during construction.

The only plot not surveyed due to access restrictions was subsequently proven not to have notable earthworks which would be impacted by the construction of the pipeline.

#### **2.4.4 Field-walking survey**

The field walking survey was carried out by Cotswolds Archaeology in 2006 in accordance with a *Written Scheme of Investigation for Archaeological Field Walking Survey* produced by CA (CA 2005ii) and approved by the relevant archaeological curators. The survey was carried out across all arable land within the construction corridor suitable for the recovery of archaeological artefacts, where access was available. Field walking took place over a 40m wide survey width, based on walking three 20m-spaced parallel transects centred on the proposed pipeline route. Each transect was walked in 20m stints, coding collected artefacts accordingly. The survey was successful in identifying surface concentrations of artefacts, both in the vicinity of known finds highlighted by preliminary DBA work, and previously unrecorded sites.

The main restriction of a field-walking survey is that it can only be undertaken effectively within a recently ploughed and weathered field, and where access is granted.

On the Brecon-Tirley section of the pipeline this resulted in seven fields within Powys being walked, none of which produced significant areas of archaeological potential, the collected material predominantly comprising post-medieval and modern pottery and building material.

Within Herefordshire 25 fields were suitable for surveying. Three areas of potentially high archaeological significance were identified from recovered surface assemblages. Large quantities of metallurgical residues were recovered from the Peterstow area, indicating iron smelting of uncertain date. A similar concentration was recovered from the Foy area, south of Eaton Tregoz Park. Around two kilometres to the west, near Grendon Court, a Middle Bronze Age palstave, Roman pottery and further iron smelting slag were recovered. Four further areas of lower archaeological potential were identified from surface artefacts. Three of these comprised finds of between one and five pieces of worked prehistoric flint, and the remainder a single sherd of medieval pottery.

Seven fields were surveyed in Gloucestershire but no significant areas of archaeological potential were identified from retrieved material, which predominantly comprised post-medieval and modern pottery and building material. A single Mesolithic blade fragment and a single sherd of medieval pottery were also retrieved.

This information was combined with the data from the field walking and geophysical surveys to inform the trench evaluation programme. Based on the field walking results, a single plot was identified as being suitable for a dedicated metal detecting survey, and this was undertaken by Bartlett-Clark Consultancy (Bartlett-Clark Consultancy, 2006ii)

## **2.5 Trench Evaluation**

### **2.5.1 Introduction**

Based on the baseline data assembled during the DBA and non-intrusive surveys, a thorough programme of evaluation trenching was planned in conjunction with the relative curatorial authorities, and governed by a written scheme of investigation (CA 2005iii). This was undertaken by Network Archaeology Ltd in 2006.

This programme of evaluation comprised one hundred and forty-one archaeological trenches along the pipeline route, with eighty-seven in Herefordshire, forty-one in Powys and a further thirteen in Gloucestershire (Network Archaeology 2009i); accompanying this were a further fifty-three archaeological trenches targeted on ancillary areas such as mobilisation yards, pipe dumps, pressure reduction installations (PRIs) and a Pipeline Inspection Gauge (PIG) trap. These included thirty-nine in Powys, three in Herefordshire and eleven in Gloucestershire (Network Archaeology 2007; Network Archaeology 2009ii; Mouchel Parkman 2006ii, Mouchel Parkman 2006iii).

### **2.5.2 Methodology**

For the most part the evaluation trenches were located over anomalies identified by the geophysical survey, to determine their nature, however further trenches were also located over “blank” areas from the geophysical survey to provide a control group of results to show the efficacy of the survey as a method for locating the trenches. In areas where the DBA, field survey or earthwork survey had suggested a high potential for archaeology but the geophysical survey did not produce any definitive results, then the trenches were located either based on information from those sources or along the centre line of the pipe trench.

The trenches were located by two survey points, one placed at either end of the trench to sub-metre accuracy using GPS technology provided by the main works contractor. Each trench was then excavated using a mechanical excavator fitted with a toothless ditching bucket, under strict archaeological supervision. The trenches were excavated to the first archaeological horizon, the natural substrate, or a depth of 1.2m, whichever was achieved first.

Archaeological remains were hand-excavated, in a controlled and stratigraphic manner, and in sufficient quantities, in order to gather sufficient information to establish the presence, extent, condition, character, quality and date of any archaeological, ecofactual, environmental and organic remains.

All features and deposits of archaeological interest were recorded in plan at an appropriate scale, and by detailed written context records, using pro-forma recording sheets and a continuous numbering system.

The main limitations of trench evaluation are the difficulties in reconciling the baseline data with an exact point on the ground, and the “keyhole” nature of the technique, which can produce a skewed or misleading interpretation of the archaeology present. As evaluation trenching is done in advance of construction, site access can also be an issue, as can the weather.

On the Brecon-Tirley section of the pipeline, access was achieved for all of the plots, whilst a second plot (plot 430) was not evaluated until after the excavations had commenced, and as such the evaluation was abandoned after the excavation of one trench revealed enough archaeological potential to justify opening an excavation immediately.

### **2.5.3 Results and recommendations**

The one hundred and ninety-four trenches excavated as part of the evaluation produced a combination of negative cut features, positive features, soil layers and finds, a summary of which is provided in Appendix C. All anthropogenic features,

including land drains and modern dump layers are assessed in more detail in the relevant reports (Network Archaeology 2009i and 2009ii).

Seventy-four of the excavated trenches produced no archaeological remains. The remaining one hundred and twenty were assessed as to their importance and sensitivity, and then these results were assessed in conjunction with the relevant curatorial bodies to construct a programme of excavation in advance of construction as a means of managing potential risk.

Based on the evaluation a total of nine sites were identified for excavation (see 2.6 below), whilst the mitigation for the remainder of the evaluated plots was decided to be a watching brief during construction.

## **2.6 Excavation**

### **2.6.1 Introduction**

Excavation was undertaken at a number of sites identified through the results of all the previous stages (referred to hereafter as Identified Sites). The excavations were begun in advance of construction so as to minimise delays to the construction schedule, and to allow a thorough archaeological investigation to be undertaken without undue pressure. Of these Identified Sites one was in Powys, six were in Herefordshire and one was in Gloucestershire. A further Identified Site in Powys was stripped under archaeological supervision (known as controlled strip). These sites were excavated to a strict Written Scheme of Investigation specific to each county (Network Archaeology 2006, ii, iii and iv), and conformed to health and safety standards set out by the Standing Conference of Unit Managers (Allen and Holt 1986).

The scope of these excavations was delineated based on the previous findings, and where appropriate by the possibility of preserving some of the site *in situ* due to suitable depths of protective subsoil.

During the excavation phase, the numbering of the plots along the course of the pipeline was changed radically. Originally the fields were numbered in individual blocks from each road crossing, so the field immediately east of road crossing 53 was 53/1, then 53/2 etc, until the field immediately east of road crossing 54 which was 54/1. A number of minor re-routes prior to construction commencing meant that the road crossing numbers changed in a handful of places, making this numbering system awkward to maintain, and so it was abandoned in favour of a simple continuous plot numbering from 1 to 568, counting from west to east. An element of confusion was created by this renumbering, particularly in the case of plot 269, as due to a miscalculation this plot was originally labelled 270, until a reassessment of the numbering showed it to actually be plot 269.

The areas of each excavation site are recorded in the table below:

**Table 2-3 Identified site areas**

<b>Plot Number</b>	<b>Area (in m2)</b>	<b>Dates worked Month/Year</b>
110	1210	02/07 – 04/07
111	114	02/07 – 04/07
250 ✓	2050	10/06

Plot Number	Area (in m2)	Dates worked Month/Year
269 ✓	400	10/06 - 12/06
271 ✓	890	10/06 - 12/06
331 ✓	3580	02/07 - 03/07
430 ✓	22500	02/07 - 03/07
454 ✓	3060	03/07 - 04/07
496	1800	04/07

## 2.6.2 Methodology

The extent of each excavation area was set out on the ground to an accuracy of  $\pm 0.02\text{m}$  by Murphy Pipelines Ltd using a GPS system, prior to the commencement of work.

Topsoil and overburden were removed using a mechanical excavator fitted with a toothless bucket, working under the continuous direct supervision and control of an archaeologist. Topsoil and any other overburden that may have obscured archaeological deposits were removed in a series of level spits down to the top of the first significant archaeological horizon. Where practicable, spoil was visually scanned for artefacts. Spoil was also scanned with a metal detector where appropriate.

Mechanical excavation ceased when the first archaeologically significant horizon was encountered, or when the absence of any such horizon had been adequately demonstrated.

The features located were investigated by hand in accordance with the following criteria:

- All relationships between features or deposits were investigated and recorded.
- All discrete features were to be half sectioned. Where they were shown to form part of recognisable structures, contain deposits of particular value or significant artefact or environmental assemblages they were fully excavated.
- For linear features associated with settlement, industrial structures or areas of specific activity an initial 20% was excavated away from intersections with other features or deposits to obtain unmixed samples of material.
- 5% by length of linear features that are field boundaries were to be excavated away from intersections with other features or deposits to obtain unmixed samples of material.

A sampling procedure for the retrieval of artefacts and environmental/ organic material was applied (EH 2002).

All archaeological features and deposits encountered during the excavation were recorded by detailed written context records, using pro forma recording sheets and a continuous unique numbering system.

A Total Station surveying instrument was used to lay out a site grid or baseline as appropriate, from which all excavated features and deposits were recorded in plan at an appropriate scale. Drawings were made in pencil on permanent drafting film. Plans, sections and elevations were annotated with spot heights as appropriate.

Photographs were taken as necessary to produce a photographic record of excavated features and deposits consisting of monochrome prints and colour transparencies. Additional illustrative photographs were to be taken as appropriate. Digital images could have been taken to support report preparation but would not replace archive standard material.

Excavation is the least restricted form of archaeological mitigation. Ground conditions, weather conditions and safety constraints may present problems, but in the majority of cases these issues can be overcome.

On the Brecon to Tirley pipeline only one site, plot 269, was abandoned before excavation was completed. This was due to a combination of the prevailing inclement weather causing severe flooding, combined with the location of the site on a floodplain of the river Dore, and the depth of the excavation, which made continued work impractical and hazardous.

The findings from the Brecon to Tirley excavations are briefly summarised below. A more detailed site report is presented in section 4.1.

### **2.6.3 Results Summary**

#### **Plot 110 - Powys**

This site (figure 6), located at the north end of the plot, was dominated by a 3.2m wide Roman road with attendant drainage gulleys, totalling 6.5m wide. The road surface was well preserved on the western side of the excavated area, becoming less so as it rose up the hill to the east. Beyond this, to the east, it was decided not to excavate as a deep layer of colluvium protected the remains *in situ*. A number of smaller features were located in the vicinity, including a burnt feature, possibly related to a cremation identified during evaluation of the site.

#### **Plot 111 - Powys**

The working width in plot 111 crossed a fragment of the Spread Eagle prehistoric funerary landscape. Neither geophysical survey nor evaluation produced convincing evidence of the site, though a number of nebulous features were noted. Due to its apparent potential the entire plot was subjected to a controlled strip under archaeological supervision, though this revealed little in the way of archaeological remains. Further excavation along the proposed line of the pipe trench revealed a small number of ill-defined features containing a small amount of prehistoric material (figure 6).

#### **Plot 250 - Herefordshire**

This site (figure 8) was located at the south-east side of the plot, and comprised three c.2m wide boundary ditches believed to be Romano-British. The quantity of finds recovered from one of these ditches in particular might indicate that this was a settlement boundary, or intensively occupied field enclosures. A small number of other features of undetermined date were also located.

#### **Plot 269 - Herefordshire**

This site was located beside the southern boundary of the plot (figure 9). Only part of the site was excavated, the remainder being preserved *in situ*, due to the depth of protective alluvium cover, nearly a metre across the entire site, and the high water

table. The site consisted of an alignment of probable prehistoric circular pits averaging 2.3m in diameter, and a meandering palaeochannel containing preserved wood and fragments of Roman pottery. The depth of all the features combined with inclement weather made the site unsafe to complete investigations, and so only a sample of the pits were excavated. The palaeochannel was later investigated by an auger-hole transect from the surface which revealed it to be at least 8m wide, considerably larger than had been apparent within the excavation area.

#### **Plot 271 - Herefordshire** ✓

The excavated area consisted of a 7m wide trench along the length of the plot, with a diagonal spur at the north-west end, running eastward (figure 9). The remainder of the area was deemed best preserved *in situ* beneath the protective depth of alluvium, which was up to 0.3m thick. The area of this site which was examined produced a series of substantial Romano-British enclosure ditches, averaging 1.2m deep and associated pits and gulleys. Though no evidence of structural remains were located within the area defined by the enclosure ditches the artefacts suggest domestic occupation. A sizeable metallised surface, roughly 23m<sup>2</sup> of which was exposed, probably also Romano-British in date, was located toward the south-east end of the plot. A small number of prehistoric features were also located within the plot, probably associated with an earlier phase of occupation of the site.

#### **Plot 331 - Herefordshire** ✓

Evaluation suggested the presence of Late Iron Age to Early Roman iron working and domestic occupation in this plot. At the western end of the plot (figure 10) excavation revealed a curvilinear ditch transcribing a partial circle 23m in diameter. The remainder of the site contained a small number of pits and gulleys, though no features relating to iron working was discovered. Both the curvilinear and the gulleys were dated somewhere between the middle-late Iron Age and Roman periods, whilst the majority of the pit features were interpreted as post-medieval tree clearance

#### **Plot 430 - Herefordshire** ✓

This site comprised three spatially-distinct foci of activity spanning the 1<sup>st</sup> to 2<sup>nd</sup> centuries and located within a 400m stretch of ground (figure 12).

At the brow of the slope were the remains of two Romano-British furnaces and a small number of associated pits.

Midway down the slope was what appeared to be part of a triple-ditched enclosure, the finds assemblage of which indicated that this was a domestic settlement site.

At the base of the slope was part of a further Romano-British double-ditched enclosure measuring roughly 1300m<sup>2</sup> as revealed within the working width. This probable settlement included what appeared to be the remains of a stone wall which had been built along the course of one of its enclosure ditches. Substantial residues associated with the processing of iron were recovered from both enclosure sites indicating that they might both be contemporary with the industrial activity evidenced at the brow of the slope.



#### **Plot 454 - Herefordshire**

This site was located on the brow of a slope overlooking the river Wye (figure 13). It consisted of a multi-phase enclosure, possibly spanning the late Iron Age and Romano-British periods. Many of the features, particularly the boundary ditches, were rich in pottery and iron working slag. The enclosure defined an area of approximately 1050m<sup>2</sup> as revealed within the working width, and within one of its subdivisions a small number of possible cremations were discovered.

#### **Plot 496 - Gloucestershire**

This site was located at the west end of the plot (figure 15) and revealed a small number of large Iron Age or Romano-British pits, approximately 3m in diameter, along with evidence of tree clearance of undetermined date.

### **2.7 Watching Brief**

Once construction of the pipeline commenced, a team of archaeologists was assigned to each group of machines operating along the course of the pipeline. The numbers of these archaeologists fluctuated to match the number of machines in operation.

The archaeologists were subject to a high degree of curatorial monitoring, particularly within Herefordshire, to reassure the curatorial authorities that a suitable standard was maintained throughout the watching brief.

The watching brief comprised three distinct phases, the boundary break-through, the stripping of the working width and the excavation of the pipe trench, which involved differing methodologies.

#### **2.7.1 Watching brief of the boundary breakthrough**

The boundaries separating each plot were removed in advance of construction, usually by 360° back-acting mechanical excavator. An archaeologist would observe the removal, and then record all the elements making up the boundary on a pro forma recording sheet. Digital photographs would then be taken of the removed boundary.

Where the boundary removal involved excavation of more than just topsoil, such as in the case of the removal of a bank, all exposed deposits were assigned context numbers and individual sheets were written out for these.

No sites were located during the boundary breakthrough on the Brecon to Tirley section of the pipeline.

#### **2.7.2 Watching brief along the working width**

The working width was stripped by a combination of 360° back-acting mechanical excavators fitted with toothless buckets and by bulldozers. A strip around 10m wide was opened by the mechanical excavators, after which the bulldozers scraped over the remaining width (c.25m).

Where the archaeologist wished to explore a discovery, the plant machinery was moved to another location and another archaeologist was brought in to properly investigate the revealed features. In the event of the uncovering of a potential site

the whole area was stripped by back-hoe under the supervision of an archaeologist, without the assistance of bulldozers. Once an area was defined as being under archaeological investigation it was fenced off and the plant machinery was no longer permitted on site.

Following the initial strip of the working width, certain areas were “benched” to provide a suitable surface for the pipeline construction. This benching was also watched by watching brief archaeologists, and any findings dealt with in the same manner as those located during the initial watching brief.

Daily site diaries and plot record sheets were maintained by the archaeologists, recording both negative and positive archaeological information. Where a watching brief discovery was deemed to be a significant site it was excavated and recorded following the same methodology as identified for the excavations (see 2.6).

Stripped plots would then be re-walked by an archaeologist following grading of the site, and again after sustained weathering to determine if any features had been initially missed due to poor conditions.

The two main limitations of watching briefs are:

- The initial strip is not under direct archaeological control and as such does not always attain a depth necessary to identify any archaeology present. As such it is often necessary to estimate whether to request further stripping based on finds concentrations in the stripped levels, which prejudices site discovery toward those with a more prevalent material culture.
- The action of stripping using bulldozers is not conducive to detection of less distinct features as the freshly revealed earth is immediately tracked over before it can be viewed. Roughly 60% of the working width of the Brecon-Tirley element of the pipeline was stripped using bulldozers.

The watching brief recorded 55 sites along the Brecon-Tirley section, of which five were defined as “major” and so were treated as excavations while 50 were identified as “minor”. These were recorded in the same manner as the other sites, but their location was recorded by handheld GPS rather than by site grid. Of the “major” sites three were in Powys, two were in Herefordshire and none were in Gloucestershire. Of the “minor” sites 16 were in Powys, 18 were in Herefordshire and two were in Gloucestershire.

These sites are summarised below. A more detailed site report is presented in section 4.2.

### **“Major” watching brief sites**

#### **Plot 49 - Powys**

This site was discovered during topsoil stripping, and was located at the south-western end of the plot (figure 5). It comprised a small number of apparently post-medieval stone structures and associated features, overlying a small Bronze Age cremation cemetery consisting of both urned and un-urned cremations.

#### **Plot 111a - Powys**

This site was identified during topsoil stripping (figure 6). It consisted of a stony spread, possibly the remnant of a metallised surface, which may have been a

continuation of the Roman road identified in plot 110. Within the vicinity of this postulated surface were a number of postholes and pits of undetermined date, and a substantial 2m wide ditch.

#### **Plot 160 - Powys**

This site was identified during topsoil stripping (figure 7). It consisted of a single multi-phase curving ditch, 2.9m wide, containing Romano-British pottery, which might have been a fragment of an enclosure. To the east was a small, partially-metalled post-medieval trackway.

#### **Plot 400 - Herefordshire**

52093 52094

Two sites were identified during topsoil stripping within this plot (figure 11). At the eastern end of the plot was a pair of prehistoric pits and some natural erosion gulleys. At the western end, was a substantial Romano-British enclosure within which were a number of internal features, including a gulley containing a large quantity of Romano-British pottery.

#### **Plot 464 - Herefordshire**

52095

This site, which was identified during topsoil stripping at the eastern end of the plot, comprised a series of prehistoric postholes and pits (figure 14). Some of the postholes may form structures relating to settlement, whereas one of the pits may have contained a cremation indicating possible funerary activity.

#### **'Minor' watching brief sites**

'Minor' watching brief sites are listed in the following table and their locations plotted on figures 2-4. A more detailed site report is presented in section 4.3. Unless stated otherwise the sites are undated.

**Table 2-4 'Minor' watching brief sites**

<b>Plot No.</b>	<b>NGR</b>	<b>Findings</b>
2	303300 232100	Palaeo-channel - not sampled
23	306010 234150	Palaeo-channel / pond - sampled
29	306242 235076	Possible boundary ditch
31	306222 235380	Possible pond
39	306404 236258	Possible boundary ditch
48	307248 237673	Possible modern boundary ditch
56	308066 238490	Roman pottery scatter
59	308546 238746	Possible ditch
60	308791 238861	Spread of burnt human bone
61	309039 238997	Probable modern mound and quarry pit
74	311480 238167	Burnt pit/hearth
75	311530 237980	2 pits, 1 of which was prehistoric
78	311600 237510	Probable tree bole
79	311618 237369	Possible field boundary wall
88b	313120 237520	Colluvium
92	313160 237550	Possible modern metalled surface and pit
95	313700 236900	4 pits or tree throws, 1 containing burnt material

Plot No.	NGR	Findings
98	314350 236940	Pit or tree bole
99	314600 237000	Ditch and colluvium
105	315416 237236	Small pit containing Fe slag
PIG Trap	316340 237860	NNE-SSW ditch of undetermined date
126	317900 238207	Ditch of undetermined date
132	318620 238800	Pit, possibly tree bole
144	319730 240163	Pit or tree bole
147	320333 240385	Probable tree bole
153	320750 240610	Pit
178	323740 240630	Modified field boundary
181	324200 240400	Probable 19th century pond
182	324330 240520	Probable tree bole and post-medieval land drain
<del>198</del>	<del>324360 242730</del>	<del>Probable tree boles</del>
199 ✓	324360 242810	Pits containing burnt material S2099 *
211 ✓	326188 244072	Pit containing post-medieval or modern material S2100 *
314 ✓	336993 236156	Possible surface ridge-and-furrow and prehistoric pit S201 *
331 ✓	341088 235232	Ditch S200A *
368 ✓	347357 231578	Flint cache S2103 *
375 ✓	348458 230684	Probable post-medieval stone culvert S2104 *
390 ✓	349880 228260	Post-medieval agricultural structures S2105 *
416 ✓	353431 224784	Ditch of undetermined date S2106 *
<del>444</del>	<del>357621 227635</del>	<del>Modern drainage ditches</del>
449 ✓	358423 227452	Post-medieval building wall foundations S2107 *
<del>459</del>	<del>360912 227481</del>	<del>Pit with burnt material and modern finds</del>
461 ✓	361130 227730	Possible cremation S2108 *
462 ✓	361500 227730	Industrial waste spread of undetermined date S2109 *
467 ✓	362600 227670	Beaker pottery scatter S2110 *
486 ✓	366071 227961	Possible boundary ditch and pits of undetermined date S2111 *
487 ✓	366391 228238	Charcoal spread and pits of undetermined date S2112 *
488 ✓	366601 228478	Pit with burnt fill S2113 *
489	366877 228773	Pit with burnt fill
490	366936 228885	Burnt pit and pits containing burnt material
562	377662 228815	Heavily truncated pot rich Romano-British ditch

### 2.7.3 Pipeline trench watching brief

The pipeline trench was excavated using 360° back-acting mechanical excavators. The excavation was monitored by the watching brief archaeologist, and then the pipe trench was re-walked subsequently to determine if any features had become clearer following a period of weathering.

The watching brief archaeologists were also instructed on site by the palaeo-environmental specialist, James Rackham, in the detection and identification of palaeo-channels. Were features to be observed, they were to be recorded in section at a scale of 1:10, or 1:20 where appropriate, and their location logged by handheld GPS.

The main restrictions of the pipeline trench watching brief were that access to the trench was restricted due to safety guidelines from the main works contractor, and viewing of the trench side could not be achieved from one bank of the trench due to

the presence of the pipes. This meant that only a partial picture of any archaeology present could be attained.

No archaeological sites were identified during this phase of the watching brief.

## **2.8 Palaeo-environmental Assessment**

Alongside the bulk samples gathered from the excavation sites, areas of specific palaeo-environmental potential highlighted by the various techniques employed along the pipeline route were investigated on-site by a specialist.

The specialist undertook site visits to all of the locations and where appropriate took auger-bore samples of suitable deposits. Based on the results of these samples, a further program of more intensive sampling was determined.

This process indicated two samples of high interest: A late Neolithic to early Bronze Age deposit from the crossing of the Llynfi (RVX36) and another late Neolithic/early Bronze Age deposit from plot 346 (RDX 95); and two samples of moderate interest: A Roman deposit in plot 9 (RDX 53/9) and a late Saxon deposit from the eastern bank of the River Wye (RVX 53).

## **2.9 Landscape Archaeology and Boundary Assessment**

The field boundary database, created using the results of the watching brief of the boundary breakthrough combined with information on the size, shape and orientation of the fields enclosed, was reviewed and statistically tested to ascertain whether there was potential to undertake a further, more complex programme of statistical analysis which could form the basis of a landscape study. A sample area between Dorstone and Peterchurch was further tested to see if the process of statistical analysis could identify and isolate particular data populations in an area where, in the opinion of the specialist, such differences were already apparent

The basic statistical analysis confirmed that the numeric data conformed to normal distributions and bimodal distributions indicated that there were several fundamental types of boundary and field present. Overall it was concluded that potential does exist for more complex analysis. The sample area, however, proved to be statistically insecure in some areas and the results were not as successful as hoped.

## **2.10 Summary of Archaeology**

The archaeology discovered on the Brecon to Tirley pipeline was, for the most part, of local or regional importance. The evidence of Roman smithing, smelting and forging from plots 331, 430 and 454 might be considered of national importance.

The distribution of archaeological site types by county is presented below in table 2.5.

**Table 2-5 Archaeological site types by county**

<b>Site Type</b>	<b>Powys</b>	<b>Herefordshire</b>	<b>Gloucestershire</b>	<b>Total</b>
Bronze Age cemetery	1	1	0	2
Charcoal rich / burning pits	2	1	2	5
Colluvium/buried plough soil	2	0	0	2

Site Type	Powys	Herefordshire	Gloucestershire	Total
Iron Age/Roman pit sites	0	0	2	2
Isolated, undated cremations	1	1	0	2
Palaeo-channels	2	1	0	3
Post-medieval burnt spreads	0	1	0	1
Post-medieval drainage features	0	2	0	2
Post-medieval field boundaries	1	1	0	2
Post-medieval mounds	1	0	0	1
Post-medieval pit sites	1	1	0	2
Post-medieval pond	2	1	0	3
Post-medieval structure	1	2	0	3
Post-medieval tracks	1	0	0	1
Post-medieval tree clearance	5	1	1	7
Prehistoric lithic scatter	0	1	0	1
Prehistoric pit sites	3	5	0	8
Prehistoric pottery scatter	0	1	0	1
Quarry pits	1	0	0	1
Ridge-and-furrow	0	1	0	1
Roman pot scatter	1	0	0	1
Roman roads	1	0	0	1
Romano-British enclosures	1	6	0	7
Roman field systems/boundaries	1	1	0	2
Undated field boundaries	8	3	0	11
Undated pit sites	6	2	0	8
<b>Total</b>	<b>42</b>	<b>33</b>	<b>5</b>	<b>80</b>

#### 2.10.1 Efficacy of pre-construction evaluation and mitigation techniques

What was notable on this project was the overall success of the various evaluation techniques and early mitigation in identifying and recording significant archaeology along the pipeline route, especially within Powys and Herefordshire. This is most likely due to the comprehensive geophysical survey undertaken along the entire pipeline route, followed by an extensive evaluation trenching programme and advanced area excavations.

In the case of plots 468 and 469, at Wobage Farm in Herefordshire, significant archaeology was avoided altogether following the identification of a probable multi-period occupation site. The potential for archaeological activity was highlighted in the DBA (CA 2006i) and the field walking survey (CA 2006vi) supported this with high proportions of Roman and prehistoric material being recovered. A metal detecting survey followed this, collecting significant proportions of Romano-British metallurgical material, and some limited evidence for Bronze Age utilisation of the site (Bartlett-Clark Consultancy 2006ii). Geophysical survey of the plots revealed a well-defined rectilinear enclosure, with numerous associated features (Bartlett-Clark Consultancy 2006i).

- As the DBA had highlighted this plot as being on the projected route of a Roman road, and following the collection of Roman pottery and metalwork during the field walking it was hypothesised that this enclosure might represent a villa or similar substantial rural Roman site, possibly relating to metal-working. Based on this, an expanded geophysical survey was undertaken of the surrounding area, revealing further potential enclosures and ditches to the south of the main enclosure. This extended survey also showed a relatively “blank” area to the north and east of the plot, and so the decision was made by NG to abandon the trench evaluation program for these plots and reroute the pipeline to the north and east of its original course. Trench evaluation of this new route confirmed the geophysical survey results that no archaeology was present in this area.

As a result of such early mitigation strategies only 55 sites were discovered during the watching brief, and only five of these were considered to be of major significance, the rest being largely small scatters of discrete pits and evidence of tree clearance. Three of the major sites were located in Powys, where the success rate of the geophysical survey was notably reduced due to the underlying geology, though interestingly the large ditch in plot 160 is very clear on the geophysical image, and was dismissed as natural or modern *because* of its relative clarity.

The geophysical survey of plot 49 in Powys revealed a number of anomalies which with hindsight can be seen to relate to the exposed archaeology, but when they were initially interpreted they were dismissed as insignificant and no evaluation was undertaken.

The site at the PIG trap mobilisation yard (Plot 111a), in Powys, was not subject to geophysical survey, and despite a relatively high proportion of evaluation trenches within the field, roughly 5% of the plot was trenched, none of the disparate elements of the site were caught within those trenches.

Plot 400, in Herefordshire, was not identified by the geophysical survey, and as such was the most significant failure of this survey within that county. This is probably due to the presence of strong readings relating to modern intrusions in the field obfuscating the evidence of the earlier remains.

Plot 464, within Herefordshire, was also not identified by the geophysics, probably due to the small disparate nature of its components, with scattered postholes and pits being notoriously difficult to interpret from the geophysical data if they do not form a distinctive pattern.

The evaluation trenching revealed possible archaeological remains in 33 plots, of which nine were taken to full excavation. Of the remaining 24, only three were verified or expanded upon by the watching brief – plots 211, 314 and 444. The remainder of the evaluation findings were not exposed during the watching brief, as the stripping of the working width did not go deep enough to reveal them. Also of note, however, is that seven evaluated plots (60, 61, 95, 105, 111a, 375 and 462) that initially produced negative results were subsequently shown to contain archaeology during the watching brief. For the most part these “false negatives” were caused by the archaeology being poorly defined or nebulous at best.

The relative lack of findings within Gloucestershire, compared to Herefordshire, is notable, and is probably due to a number of factors. The Gloucestershire stretch of the pipeline was the smallest of the three counties crossed during this section. The area was also more intensively farmed than some of the areas within Herefordshire, potentially leading to a high degree of truncation of the archaeology. Similarly,

much of the topography crossed by the pipeline within Gloucestershire was gently undulating meaning that features on the rises would be poorly protected from ploughing by thinner subsoil, whilst those within areas of deeper topsoil and subsoil or colluvial deposits would remain concealed and therefore better protected.



### 3

## QUANTIFICATION OF THE ARCHIVE

The evaluation, excavation and watching brief archive contained the following material:

**Table 3-1 Evaluation and excavation archive**

<b>Item</b>	<b>Count</b>
Number record	68
Trench records	183
Context indices	170
Context records	2550
Context continuation sheets	23
Drawing indices	93
Permatrace drawings	938
Masonry sheets	13
Photographic indices	52
B&W contact prints and negatives	396
Colour contact prints and transparencies	413
Digital images	1031
Sample indices	28
Sample records	233
Registered find indices	6
Registered find records	40
Level Indices	20
Plot Sheets	596
Boundary record sheets	648
GPS records	6

There are three accession numbers for the archive as the pipeline crosses three counties. For Powys the accession number is CPAT 06.12, for Herefordshire HRFD2006-40 and for Gloucestershire HRFD 2008-10.

On completion of the reporting stages of the project, the archive will be prepared for long-term storage, to a standard from which post-excavation assessment could proceed and in a format agreed in advance with the relevant local depository. This will be in accordance with guidelines prepared by the UK Institute of Conservation (Walker 1990) and the Museums & Galleries Commission (MGC 1996). The project archive will be managed in accordance with current guidelines (Ferguson & Murray 1997).

Herefordshire Museum and Art Gallery and Brecknock Museum will receive their respective finds and documentary archive. Gloucestershire City Council and Museums Services are not accepting archaeological archives at present. Herefordshire Museum and Art Gallery have agreed to receive the Gloucestershire archive for curation and storage and have therefore issued the archive with a Herefordshire accession number. Deposited archives will include all site documents, drawings and photographs, copies of all assessment reports, the full evaluation report, analysis reports, publications and copy CDs of any electromagnetically stored or processed data.

Prior to the deposition of the archive, the necessary arrangements will be made with the site owners regarding the transfer of ownership of any archaeological finds to the above museums.

In the event that deposition of the archive cannot be concluded, Network Archaeology will store the archive to a suitable standard until deposition can be arranged. In this event, Network Archaeology will retain ownership of the document archive until the document archive and its ownership is passed to the above museums or an alternative suitable museum.

## **4 RESULTS**

Within this section we have adopted a convention whereby cut features are identified by numbers in bold, and deposits by numbers in normal text.

### **4.1 Identified Sites**

Nine sites identified by the trench evaluation required open-area excavation. These are described below:

#### **4.1.1 Plot 110 - Powys**

##### ***Summary***

The excavation identified a metalled Roman road, with what appeared to be several episodes of construction and maintenance, which ran NW-SE across the site, and continued in both directions under a protective layer of subsoil and colluvium. Dating based on the finds recovered suggested that the road was in use between the 1st and 2nd centuries AD. The road was flanked by two roadside drainage ditches, whilst a small number of discrete features were located nearby and may have been associated.

##### ***Location, Topography and Geology***

Plot 110 (NGR 31629 23774) was located immediately south of a disused railway approximately 450m southwest of Pipton Farm, roughly 1km west of Aberllynfi in Powys. It was at the base of a hill, on a river terrace of the river Wye (figure 6). The plot was under pasture at the time of excavation.

The topsoil was mid-dark brown clayey silt overlaying mid red brown gritty clayey silt. Below this was a thick layer of colluvium, which varied in thickness from just a few centimetres on the slope of the hill to nearly a metre thick close to the base of the hillside. It was generally mid brownish yellow clayey silt, though it varied locally throughout the plot, with areas of mid yellowish red clay, pale greyish yellow clayey silt and pale brownish yellow silty clay. This colluvium produced five Mesolithic flint flakes and two sherds of Roman pottery. The soils were well drained and overlay mid red brown silty gravel.

##### ***Archaeological Background***

The archaeological desk-based assessment identified the presence of six Bronze Age ring ditches forming part of the Spread Eagle funerary landscape, and a post medieval or modern field system within the adjacent plot. An aerial photograph showed what appeared to be two parallel lines to the north-west, which was interpreted as a possible cursus monument associated with the Spread Eagle site (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies (Bartlett-Clark Consultancy 2007), based on which two evaluation trenches were targeted on this plot. These revealed archaeological remains in the northern end of trench 1 and throughout trench 2 (Network Archaeology 2009i).

Trench one produced a sequence of pits and tree/root boles indicating land clearance, either by man, using a 'slash and burn' technique or by natural means (i.e. lightning strike). However these deposits were formed, it was evident that they

were exposed to fire, through the presence of charcoal, and of sustained high temperatures in the searing of clays. The larger pits may indicate the felling of a tree and/or the deliberate removal of roots. If the features do represent the deliberate burning and removal of trees, the depth of the deposits and the fact that they were sealed by a thick layer of colluvium, suggests an early date.

In trench two, a stone feature and its related layers were interpreted as a road, with further lenses of material possibly representing earlier exposed surfaces, with possible wheel-ruts visible within the stone layer. Linear ditches to either side of the surface followed the same orientation and were likely to have been drainage ditches associated with the road. The only finds recovered from the features were two flint flakes, however the context from which they were recovered was not secure, therefore they are not reliable dating evidence.

Near the road was a sub-oval pit interpreted at the time as a possible animal (as opposed to human) cremation.

Two features protruded from the northern baulk of the trench and may have been related to each other. Their dimensions and profiles were similar as were their fills. It was thought possible that these two features could be the termini of parallel ditches that extended to the north.

Based on these findings it was decided that the area around trench 2 would be opened up for archaeological excavation in advance of construction.

### ***Results***

The road appears to have been constructed in three separate phases, though very little evidence remains of the first two, and it is plausible that what we are interpreting as a disturbed stone surface is actually stone dumped to provide a hardcore foundation for the latest surface (group 70059). However, given the location of the road at the base of the hill the threat of disturbance from heavy rains and run-off would be substantial, and the need for regular maintenance or replacement of the surface would not be unlikely. The plot was surveyed by metal detector during the excavation. The road has been ascribed the following provisional phasing (figure 16):

#### ***Phase 1a: Early Roman (c.1st century AD)***

The first road surface was laid within a shallow cut (70018) generally NW-SE in plan, though with a slight curve at the southeastern end. Within this a series of make-up deposits (70031, 70030, 70038 and 70040) were built up to form a camber. Over the top of these was set the first stone surface (70029=70034) comprising mainly small to medium stones with only a few larger cobbles. A 1m section was exposed in plan to reveal this as a poor quality metalling layer; the larger cobbles appeared as though they were intended to form part of a proper surface rather than just a make-up layer, though they were so sparse and few in number that their appearing to be laid in a flat plane might be coincidental. It is possible, therefore, that this represented the primary surface, and though no finds were recovered from it, a fragment of hazel nutshell was recovered from a sample taken of (70029).

To the southwest of the road, and parallel with it, was a ditch (group 70058). It was wider and deeper to the northwest, where a greater depth of colluvium had helped preserve it. Here, the ditch had two fills, neither of which contained finds, whilst the central portion of the ditch revealed three deposits, again without finds. At its south-

easternmost extent the ditch contained just one deposit which produced no finds. There appeared to be no consistency between these deposits which suggested a piecemeal backfilling of the ditch over a prolonged period, rather than a single event that affected a wide area.

On the northeast side of the road was a smaller ditch (group 70057). This disparity in size with group 70058 may be due to heavier truncation as 70057 lay further downhill and so was afforded less protection by colluvium, or it may have been deliberately designed this way in antiquity, as the up-slope ditch would be expected to have experienced greater quantities of run-off from the hill slope. As with ditch 70058 there was no homogeneity to the fills, and it also seemed likely that it was filled in piecemeal fashion.

It is likely, based on the orientation suggested by the aerial photograph, that the supposed cursus monument was in fact these two road-side ditches being traced past the Spread Eagle site.

#### ***Phase 1b: Roman (c.1st/2nd century AD)***

Covering the stones of this early road was a compacted clayey silt layer (70019). This seemed to be a deliberately deposited layer, rather than one which has been naturally accumulated, and it is likely this was intended as bedding material to take the stones of a second surface, which survived only patchily (70039). No datable finds were recovered from either of these levels, though (70019) produced fired clay and stone, both of uncertain dates, whilst a sample of that layer produced a fragment of wheat grain.

On top of stone surface (70039), within sealing layer (70035), was a Romano-British T-shaped copper alloy brooch, of a kind notably found around the Severn estuary. This dated from the 1st or 2nd century AD.

Sealing layer (70035) appeared to be a natural deposition of colluvial material, up to 0.2m thick in places, suggesting the road might have gone out of use for a period, or possibly been subject to a significant landslip.

From roughly the mid-point of the exposed road there appeared to be evidence of an additional small drainage gully (70050), which ran on a NW-SE alignment down the eastern side of the roadway, toward the southern end of the surface. It is likely that feature represented natural erosion along the edge of the roadway - which underwent periodic repair. The primary fill of this feature (70051) appears to be silted and eroded material. The upper fill (70053) also appeared to be naturally derived and had over flown 70050 becoming mixed in with the deposits overlying the road surface.

#### ***Phase 1c: Roman (c.2nd century AD)***

Directly over the colluvial material, and the silting of this secondary drainage gully which probably only had a very brief lifespan, was laid the final cobbled road surface (70059), from amongst which were gathered twenty six 1st and 2nd century Roman potsherds, along with a pair of residual Mesolithic flints, probably transported unintentionally together with the road stone. Amongst the potsherds were 14 Baetican olive oil amphorae fragments, imported from Southern Spain.

The surface was exposed to a length of 29m, and to both the northwest and southeast it continued beneath a substantial build-up of colluvial material which was deemed to provide enough protection for it to be preserved in-situ and unexcavated.

### *Unphased*

To the north of ditch **70057** was a small sub-circular feature (**70007**). Its single fill was rich in charcoal, and assessment of the material suggested it was charcoal and charred wood from a single episode of burning. This feature may have been related to the animal cremation pit uncovered during the evaluation to the south, though no burnt bone was recovered from amongst the burnt material, and no date could be ascribed to that. Lacking any stratigraphical relationship with the other features on site, the pit remained unphased.

## **4.1.2 Plot 111 - Powys**

### *Summary*

A number of poorly defined discrete features and linear features were located on this site. The initial controlled strip did not reveal any distinct features, and only a subsequent exploratory trench along the centre line of the plot identified them. The scarcity of finds and the ill-defined nature of the features meant no clear function or form could be ascribed to the site. The prehistoric nature of some of the finds may indicate a relationship with the Spread Eagle funerary landscape located within this plot, though no definite evidence of the ring ditches visible in the early aerial photographs was located.

### *Location, Topography and Geology*

Plot 111 (NGR 31635 23792) was located immediately north of a disused railway approximately 400m southwest of Pipton Farm, roughly 1km west of Aberllynfi in Powys. It was situated on a river terrace of the river Wye, alongside the A4079 (figure 6). The plot was under pasture at the time of excavation.

The topsoil was dark brown sandy silt overlaying mid red brown silty sandy clay. These soils were poorly drained and overlay mid red brown silty sand with abundant gravels.

### *Archaeological Background*

The archaeological desk-based assessment identified the presence of six Bronze Age ring ditches forming part of the Spread Eagle funerary landscape, and a post medieval or modern field system within the plot (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies (Bartlett-Clark Consultancy 2007), based on which two evaluation trenches were targeted on this plot. Trench 1 contained no archaeological features, but trench 2 revealed a NNE-SSW aligned ditch with a U shaped profile and a concave base. This ditch was 0.51m wide, 0.34m deep and no finds were recovered from the fill. This was on the same alignment as a modern field boundary to the east and a modern trackway to the west, and lay midway between these two modern boundaries, possibly representing an earlier division of the field. Within the same area was an ovoid feature with a bowl shaped profile and a flat base. This feature was 1m in length, 0.65m wide and 0.2m deep. No finds were recovered from the single fill, and no function could be attributed to it (Network Archaeology, 2009ii).

At the WNW end of the trench was a curvilinear feature with a bowl shaped profile and a concave base. This feature was 0.86m wide and 0.13m deep, no finds were recovered from the sole fill. The feature was poorly defined, and may have been a geological anomaly.

At the ESE end of the trench were three amorphous features. All of these features had irregular profiles and were interpreted as tree boles.

Although the evaluation results were largely inconclusive it was decided, due to the apparent potential of the area, that a controlled strip of the entire plot should be undertaken.

### ***Results***

The controlled strip of the plot initially only revealed a homogenous layer interpreted as colluvial deposits (72054). The surface of this revealed scattered modern finds, particularly in the vicinity of the dismantled railway to the south, but no discernible features. A Mesolithic or Neolithic flint with simple retouch, two further undated flints and ten fragments of early modern or modern iron or steel-making slag were collected during the controlled strip. A 2m wide trench located on the centre-line of the pipe trench was excavated to determine if the colluvial material concealed any earlier archaeology (figure 17). This colluvial material proved to average 0.2m thick. The site was not surveyed by metal detector.

Very little dating evidence was recovered from the largely amorphous or poorly defined features located within this trench, and for the most part the features did not interact stratigraphically with one another either, hence phasing is virtually impossible. The only feature which contained any diagnostic material was pit (72055), which contained a single Mesolithic or Neolithic chert blade. Five flint flakes recovered from three other features – pits (75004 and 75019) and curvilinear (75037) - proved undiagnostic. As such the entire site resists useful phasing. The features are therefore described in linear progression from the southern end of the trench toward the northern.

About 14m from the southern edge of this trench was located a partially exposed sub-circular cut 0.6m long by 0.18m wide (72043). Its single fill produced no finds. It was deemed to be either a disturbed pit or posthole or a tree bole. 4m NNE of this was a slightly irregular linear feature (72039), aligned NW-SE, which measured 0.7m wide. This contained a single fill, which produced no finds. Approximately 1.5m NNE of 72039 was a roughly parallel linear feature (72052). This was 2.5m wide and its single fill also revealed no finds. 72052 was interpreted as a field boundary, with 72039 possibly having been associated drainage.

4m NNE of 72052 was an oval pit (72048). It measured 0.8m long by 0.7m wide and 0.15m deep. Again, it contained just a single fill with no finds, and was interpreted as a tree bole or disturbed pit of unknown function. Less than a metre NNE of this, and parallel with 72039 and 72052 was a roughly linear feature (72047). It measured 1.2m wide by 0.3m deep, and was backfilled with silty sand and gravel. It was interpreted as a glacial feature. Cut into the fill of this was a small, nearly square feature (72045). The single fill produced no finds, but the regularity of its form suggested an anthropogenic origin, and it was interpreted as a posthole.

A further 4m NNE of 72045 was a semi-circular feature (72033) protruding from the ESE baulk of the trench. As seen it measured 0.4m long by 0.2m wide and was

0.15m deep. No finds were recovered from single fill, but it was interpreted as a possible posthole. 2m NNE of 72033 was an oval pit (72066). No finds were recovered from its single fill either. 1m northwest of this was another large sub-oval pit (72031) protruding from the WNW baulk of the trench. The pit had two fills, the primary forming what appeared to be a lining, or maybe representing a weathering layer suggesting the feature was exposed to the elements for some time, whilst the upper fill appeared to be a deliberate backfill of the feature. No finds were recovered from either fill, and no function could be ascribed to the pit. A potential feature adjacent to this was excavated but determined to be definitively natural.

A further 4m NNE of 72031 was an irregular linear feature (72035) running approximately NW-SE. It measured 0.53m wide and the single fill produced no finds. It was interpreted as a probable natural water channel.

Roughly 2m NNE of this was a pair of sub-circular features protruding from the WNW baulk of the trench. The southernmost of these (72062) measured 1.39m long by 0.88m wide and 0.34m deep. It had a single fill with no finds. The northern feature (72060) measured 1.23m long by 0.71m wide by 0.37m deep. It also contained a single fill with no finds present, though environmental assessment of a sample of the deposit showed it to contain hazelnut shell and a low density of charcoal. These two features were interpreted as pits of uncertain function.

3m NNE of 72060 was the southern tip of a curvilinear ditch (72037), which curved to the NW to continue beyond the baulk of the trench. This contained a single fill which produced three flint flakes of undetermined date, including one distal flake shatter. About 2m NNE of the northern edge of 72037 was a sub-oval feature (72029). It contained two fills, neither of which produced finds. It was interpreted as a pit or posthole of unknown function.

3m NNE of 72029 was a circular pit (72027). It measured 0.62m in diameter, and 0.15m in depth. It had a single fill which contained no finds, and was interpreted as a truncated pit, though no function could be ascribed to it.

About 11m NNE of this was another pit (72022), this one measuring 2.6m across and protruding 1.1m from the edge of the trench. It was 0.7m deep at its deepest and contained two fills, though neither of these produced any finds. Therefore, whilst clearly anthropogenic, no function or date could be determined for it. The upper fill was also truncated by a narrow linear feature (72025) running roughly E-W. This measured about 1m long, continuing into the baulk to the E, and was 0.3m wide. The nature of its fill was such that it was interpreted as a disused animal burrow. A further 6m NNE along the trench was yet another pit (72021) which also contained a single fill with no finds, and could neither be dated nor interpreted. To both the north and south of (72021) were patches of discoloured soil investigated as potential features. Both of these proved to be natural in formation.

10m NNE from 72021 were two parallel ditches, oriented WNW-ESE, which may have represented subsequent re-establishments of the same boundary, though there is no relationship between them to suggest they are contemporary, or, if they are not, which one is the older. The southernmost of these (72012) was 0.65m wide and 0.3m deep whilst the northernmost (72007) measured 1.63m wide and was 0.35m deep. Both ditches had a single fill, and neither produced any finds that might suggest a date or function for them, though they were not aligned for drainage, and as such seem more likely to represent a boundary delineation, either as a double ditch or a single boundary with one ditch subsequent to the other.



6m NNE of 72007 was another pit or rounded gully terminus (72004), projecting from the west side of the trench. It measured 0.6m across and projected 0.63m from the baulk. It was filled with a single deposit, which produced an undiagnostic flake of rolled flint.

Just NE of this was a large oblong pit (72008). This measured 3.1m wide and projected from the baulk for 0.8m, though it was only 0.15m deep at its deepest. This was filled by two distinct tips, or slumps, and then a third, more complete, backfill. None of these produced any finds, though the pattern of infilling suggests a prolonged exposure to the elements during a lengthy span of active use. Another pit (72019), only visible in section, cut through the upper fill of this feature, and this possessed a single fill which contained a non-diagnostic flint flake.

The concentration of activity in the centre of the trench led to the decision to widen an area around some of the more significant features. This area, however, revealed only two further features: Pit (72055) was just east of the curvilinear ditch 72037, and was sub-rectangular in plan, measuring 1.54m long by 0.67m wide and 0.25m deep. This pit had a single fill which produced one Mesolithic or Neolithic chert blade.

The other feature revealed was a linear ditch (72058) oriented roughly E-W which ran for 3.7m with a width of 0.75m and a depth at its deepest of 0.36m. It had a single fill, which produced no finds and as such no date or function could be determined for it.

The lack of features definitively relating to the Spread Eagle site, coupled with the probable redefining of the putative cursus monument as a Roman road (see plot 110) might indicate that the circular cropmarks upon which the Spread Eagle site was based were not part of a prehistoric funerary landscape at all.

#### 4.1.3 Plot 250 - Herefordshire ✓

##### *Summary*

A late Iron Age or early Roman enclosure ditch, or field system was located within this site, which had been identified by geophysical survey and evaluation. Little in the way of features were uncovered, but the nature and quantity of the artefacts recovered suggests proximity to a more significant site. A significant depth of subsoil may have masked additional features during the watching brief.

##### *Location, Topography and Geology*

Plot 250 (NGR 33051 24220) was located northwest of Dorstone and southeast of The Bage, in Herefordshire's Golden Valley. The plot lay just to the west of the B4348, on what appeared to be a former floodplain of the river Dore (figure 8). The plot was under arable crop at the time of excavation.

The topsoil was dark brown firm clayey silt, which covered pink brown firm sandy silt subsoil. This subsoil was surprisingly deep compared to similar deposits along the pipeline route, 0.3m thick on average. These soils were poorly drained and overlay mottled brown and pink firm clay.

##### *Archaeological Background*

The archaeological desk-based assessment identified no known features, though a pollen analysis undertaken within 500m of the site produced a Flandrian (post-glacial) date (Cotswold Archaeology 2006).

The geophysical survey conducted revealed a single anomaly of possible archaeological significance (Bartlett-Clark Consultancy 2007), and three trenches were excavated, one over the anomaly and two further trenches to evaluate the surrounding area (Network Archaeology 2009i).

Trench one contained a pit like feature towards its NW end. This feature was sub-rectangular in plan with well-defined edges and measured 1.5m in length, 0.6m in width and 0.28m in depth. No finds were recovered from the sole fill. Towards the SE end of the trench two possible tree boles were recorded. One was sub-rectangular in plan with poorly defined edges and measured roughly 0.7m<sup>2</sup> by 0.29m deep. A large stone had fallen into the single fill. The second tree bole was sub-ovoid in plan and measured 1.1m wide by 0.28m deep. It had an uneven bowl-shaped profile, and no finds were recovered from the fills of either tree bole.

Trench two produced no archaeological features, but trench three revealed a linear ditch oriented NE-SW located towards the centre of the trench, and over the anomaly visible on the geophysical survey. The ditch was 2.4m wide and 0.8m deep and had a rounded V-shaped profile. The ditch contained two fills; the primary fill was a red brown friable clayey silt measuring 0.3m in depth and a piece of abraded Iron Age pottery was recovered from this fill. The secondary fill was red brown friable silty clay which was 0.45m in depth. No finds were recovered from this fill although charcoal flecks were present.

This ditch was interpreted as an Iron Age field boundary and, despite the lack of further evidence of occupation, given the scarcity of archaeological evidence of this period in the vicinity it was decided to undertake an open area excavation in advance of construction, centred on trench three.

### ***Results***

Two phases have been assigned to the site (figure 18a), though only one was dated. The site was not surveyed by metal detector.

#### ***Phase 1: Late Iron Age/Early Roman***

The dominant feature of the site was an enclosure or boundary ditch (group 65025). This ran NE-SW across the site, turning nearly 90° at the NE end to run WNW-ESE. It was at its most substantial at the SW end, measuring 2.55m wide and 0.98m deep, whilst it was at its narrowest at the bend, only 1.09m wide and at its shallowest at the ESE end, only 0.44m deep. The ditch has only one fill at the SW end, though a primary fill appeared roughly 16m from the south-western visible extent and continued to the ESE extent. There was also evidence of localised tipping or slumping into the ditch, which suggested it was open for a relatively prolonged period. The primary fill contained four lumps of iron slag, dated as Iron Age or Roman, and 92 sherds of native Roman pot dating from the 1st century AD. Environmental assessment of the primary deposit revealed two fragments of possible hazel nutshell and a few small fragments of animal bone and charcoal. The upper fill produced 19 sherds of late Iron Age or 1st century Roman pottery and an undated stone that appeared to have been imported for an unknown purpose as it did not belong to the local geology.

NW of the bend in this ditch was a narrow gulley (group **65024**). This gulley ran for 18m on a NNW-SSE alignment and was 0.44m wide and 0.35m deep. Its single fill produced two sherds of late Iron Age or 1st century Roman pottery, whilst environmental assessment of the deposit showed hazel nutshell, together with a coke-like material and a tarry substance, which were not investigated further at this stage.

It seemed likely that the two linears were contemporary and formed part of a prehistoric enclosure and drainage system that continued in use into the early Roman period.

#### ***Phase 2: Later Roman/undated***

Pit (**65013**) was located on the terminus of phase 1 gulley **65024**, which may have been coincidental, but it appeared more likely that the end of the gulley was still demarcated in some way when the pit was dug, suggesting that the pit may not have been much more modern than the linear features, and as such may potentially have formed part of an entranceway between the two linear features. The pit was sub-circular in plan and measured 1.48m in diameter and 0.25m deep. It had a single fill which produced no finds, so no date could be definitively assigned to it.

#### **4.1.4 Plot 269 - Herefordshire** ✓

##### ***Summary***

A broad palaeo-channel of the River Dore was located on the fringe of this site identified by evaluation. Four pits forming part of a probable prehistoric pit alignment were also located, though unstable trench conditions and adverse weather meant that little investigative work could be undertaken. All the features were sealed beneath a considerable depth of alluvium.

##### ***Location, Topography and Geology***

Plot 269 (NGR 33332 23968) was located approximately 200m north of Fine Street, and roughly 1.5km northwest of Peterchurch in Herefordshire. It was on a former floodplain of the river Dore (figure 9). The plot was under pasture at the time of the excavation.

The topsoil was dark red-brown silty loam overlaying mid orange brown clayey silt. These soils were fairly well drained but overlay 0.5m of mid orange brown silt interpreted as alluvial silts, which in turn overlay mid pinkish orangey brown sandy clay and these did not drain very well.

##### ***Archaeological Background***

The archaeological desk-based assessment did not identify anything of note within the immediate vicinity of the plot (Cotswold Archaeology 2006).

The geophysical survey conducted by revealed several anomalies of possible archaeological significance, including what appeared to be a pit alignment (Bartlett-Clark Consultancy 2007). Based on this, two evaluation trenches were targeted in this plot (Network Archaeology 2009i).

Trench 1 did not reveal any archaeological features, but trench 2 found an E-W aligned linear feature with a bowl shaped profile at the SSW end of the trench,

though the base was not revealed due to the high water table. This feature was in excess of 7.5m wide by 0.48m deep as revealed within the trench, and contained a succession of fills containing Roman pottery, worked flint and preserved unworked wood fragments. The feature was interpreted as a palaeo-channel, possibly a former course of the river Dore. The trenches were both very deep, with the first archaeological horizon being recorded at a depth of 1.2m.

At the NNE end of the trench were two small circular features. Both of these features were approximately 0.1m in diameter by 0.1m deep. Both were filled with pale brown sterile silty sand. Also within the NNE end of the trench was an ovoid feature. This feature was 0.19m long, 0.14m wide by 0.09m deep and was filled with brown sterile silty sand. All three of these features cut the alluvial silts, and it was unclear whether they were archaeological in origin.

Based on these findings a small open area excavation was targeted on trench 2, to expose more of the palaeo-channel and find evidence of the pit alignment that had not been revealed by the evaluation trenching.

### ***Results***

The features represent two phases of activity at the site (figure 18b). The site was not surveyed by metal detector.

#### ***Phase 1: Neolithic/late prehistoric***

Four large pits with stony fills were identified within the area, forming a roughly NW-SE alignment. Unfortunately the north-westernmost (66014) and south-easternmost (66012) of these could not be excavated as they were too close to the unstable trench edges. Of the two which could be examined the more westerly, (66006), had an irregular shape in plan. It measured 3.2m long by 2.46m wide and 0.2m deep. It contained a single fill which produced a single piece of non-diagnostic fired clay. The other large pit (66004) lay to the southeast of pit 66006. It had a slightly irregular, slightly irregular rectilinear shape, and measured 2.25m long by 0.84m wide, and 0.24m deep. It also had only a single fill which contained a single likely Neolithic scraper fragment. The fills of both pits were sampled but produced only minute quantities of charcoal, insufficient for AMS dating, that gave no hint as to the nature of the pit alignment.

This alignment was noted in the geophysical survey to cross the apparent alignment of the palaeo-channel, suggesting that the two were not contemporary.

Prehistoric pit alignments are a phenomenon which can appear as either single or double pit alignments, with the latter being considered the rarer, whilst the former are often interpreted as representing field boundaries during the later prehistoric (Harding, 2000).

#### ***Phase 2: Roman or later***

Along the entire length of the north-eastern edge of the excavation area ran a broad linear channel (66009) c. 7m wide at its widest, but continuing beyond the scope of the excavation to the northeast. Two fills were visible on the surface, the uppermost appeared similar to the natural and may have been a layer of re-deposited material. The other fill was waterlogged, containing moderate charcoal and fragments of preserved wood. Unfortunately due to heavy rains and the depth of the covering deposits (over 1.2m at this point) the trench was continuously flooding and

excavation near the trench edges was considered unsafe, and as such it was decided that this feature would be investigated by hand auger transect from the surface at a later date.

This transect was carried out using a hand auger at 2m intervals by James Rackham in November 2007. It suggested a broad, roughly U shaped profile with three distinct fills. The full extent of the feature could not be ascertained as it extended beyond the pipeline easement. The auger transect indicated that the feature ran the full width of the easement – as investigated – and so was at least 15m long. This work recorded the sandy fills of a palaeo-channel with preserved roundwood and occasional organics in the lower sediments below 1.2-1.5m depth (Rackham, 2009). None of the deposits produced any finds in the auger bore, and none were deemed suitable for further palaeo-environmental analysis by James Rackham. The feature was interpreted as a palaeo-channel of the river Dore.

Whilst no finds were collected from the unexcavated palaeo-channel during the excavation stage, and no stratigraphic relationship existed between the pits and palaeo-channel, it was considered that the palaeo-channel post-dated the pits because of Roman artefacts collected from it during the evaluation, and the fact that the line of pits visible during the geophysical survey crossed the projected alignment of the palaeo-channel. This suggested that the palaeo-channel was either active during the Roman period or after it, and as it is unlikely that the pit alignment would have crossed an active river course, and given that the pits appear prehistoric in nature, it seemed reasonable to suggest that the channel belongs to a later phase than the pit alignment.

#### 4.1.5 Plot 271 – Herefordshire ✓

##### *Summary*

A Romano-British enclosure bounded by three concentric ditches was identified, with associated features including a metallised surface and a cow burial. A range of artefacts were recovered indicative of domestic occupation. There appears to have been small-scale prehistoric activity at the site, as well as later re-use of some elements of the site after the enclosure ditches had become less intensively occupied or had fallen into disuse. A significant depth of alluvium may have masked additional features during the watching brief.

##### *Location, Topography and Geology*

Plot 271 (NGR 33336 23968) was located approximately 150m east of Fine Street, and roughly 1.5km northwest of Peterchurch in Herefordshire. It was on a former floodplain of the river Dore (figure 9). The plot was utilised as pasture prior to excavation.

The topsoil was mid red brown sandy clay silt overlaying mid brownish red clayey silt. These soils were poorly drained and overlay up to 0.2m of firm mid brown clayey silt which was interpreted as alluvial silt, and in turn overlay mid pinkish orangey brown sandy clay.

### ***Archaeological Background***

The archaeological desk-based assessment did not identify anything of note within the plot, though worked flint and Roman pottery were identified nearby, to the east (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies (Bartlett-Clark Consultancy 2007), on which three evaluation trenches were targeted, all of which produced positive archaeological findings at a depth of about 0.6m (Network Archaeology, 2009i).

At the SW end of trench one was a NW-SE aligned linear feature, 3m wide by 0.35m deep which contained three fills. The primary fill was 0.21m deep and contained fragments of Roman pottery. The intermediate fill also contained Roman pottery fragments. The upper fill was a mix of large, sub angular stones and dark red grey friable silty clay.

Further to the northeast was another linear feature, also aligned NW-SE. This feature measured 0.95m in width by 0.6m depth. It contained a single fill which did not provide any dating evidence. Just to the northeast of this was a possible curvilinear feature aligned NE-SW. This was 1.52m wide by 0.3m and contained a single fill which provided no dating evidence.

At the SSE end of trench two was a NW-SE aligned linear feature which measured 4m wide by 0.5m deep and contained two fills. The primary fill was 0.1m deep and contained no dating evidence. The upper fill was 0.4m deep. This fill contained burnt bone and Roman pottery fragments. The feature cut what appeared to be an alluvial layer, and was sealed by a further alluvial layer.

Towards the centre of the trench was another linear feature again aligned NW-SE. This feature was 2.60m wide by 1m deep and contained two fills. The primary fill was 0.3m deep and contained frequent charcoal flecks but no dating evidence. The upper fill was 0.7m deep. This fill contained charcoal as well as fragments of slag. The feature cut the alluvial layer which sealed the former feature, and was covered by another alluvial layer, suggesting a repeated sequence of occupation and severe flooding.

Trench 3 produced a NW-SE aligned linear feature toward the SW end of the trench. This feature was 1.7m wide by 0.85m deep and contained three fills. The primary fill was 0.43m deep and contained no dating evidence. The secondary fill was 0.4m deep and contained fragments of burnt bone. The upper fill was made up of compacted limestone and was 0.25m deep. This fill contained no dating evidence.

Towards the NE end of the trench was a small, ovoid feature 0.6m long, 0.5m wide and 0.28m deep. The sole fill contained fragments of Roman pottery. The only other possible archaeological deposits found within this trench were two layers of stony silty clay between the alluvial silts and the natural clay. Neither of these layers appeared to be within a cut feature, both sat on the natural clay beneath the alluvial layer and possessed no clear anthropogenic attributes and may have been the result of geological processes.

Based on the broader picture visible from the geophysics, these various features were interpreted as forming a series of curvilinear enclosures, the dating evidence recovered from the trenches suggested a Roman or Iron Age date. As such it was determined that a full excavation of the plot would be undertaken, though where the

impact of construction activity was likely to be limited i.e. beyond the pipe trench, it was decided that the alluvial silts, averaging 0.3m in thickness, would provide enough protection for the archaeology to be preserved *in situ*, and as such the excavated area was restricted to a 7m wide strip along the centre line, with an adjoining “arm” to evaluate the nature of the projected enclosure beyond this rather narrow window, and to ensure that the protective deposits above did not thin out to either side of the central strip.

### **Results**

Phasing for this site was fairly complex, as quite a lot appears to have occurred during a relatively brief span of years. As such the phasing was kept relatively simplistic, and two phases and four sub-phases were identified during this preliminary assessment (figure 19). The site was not surveyed by metal detector.

#### **Phase 1: Prehistoric**

The earliest features within the plot appeared to be prehistoric, and were dated primarily by the lithics recovered from them. Given the scarcity of lithic finds along the remainder of the pipeline route within England (only 21 in total), a comparatively high quantity of lithics, forty two, was recovered from this site, though some were residual finds from contexts which also contained Roman artefacts.

Toward the north-western end of the site was a large pit or linear terminus (67119). As the upper fill of this was stony it was difficult to establish a relationship with the similarly stony fill of a phase 2c ditch (67072), but it was deemed that 67072 truncated the western extent of 67119, though it may be that the stony fills of both were deposited after 67072 fell into disuse. 67119 measured 4.0m long by 2.5m wide. Excavation of this feature was abandoned at a depth of 1.9m from the excavated ground surface as it was deemed unsafe. The apparent primary fill contained a number of highly degraded fragments of animal bone which proved impossible to collect, whilst the upper, stony fill produced a single Mesolithic/Neolithic flint piercer, which may have been residual, unintentionally deposited along with the other stones. However, lacking any other dating evidence from the feature, it has been included in phase 1.

Layer 67080 appeared to be one of the earliest deposits on the site. It was a silty clay layer which formed a discrete patch approximately 9m in diameter and 0.1m in thickness. This contained an undated cattle tooth, and a Neolithic flint with simple retouch and an unmodified edge. The nature of this layer could not be determined, as it was only exposed in an exploratory sondage below phase 2b surface 67005, but it may have represented an earlier phase of occupation than the subsequent Roman site.

Pit 67030 was circular, and measured 1.19m in diameter and 0.16m deep. It produced a significant number of flints, thirty-one flakes and tools both undated and assigned to the Mesolithic and Neolithic, as well as nine sherds of possibly quite early prehistoric pot, though they could also have been of any date up to the later Iron Age. Given the presence of early flints alongside them it is not unreasonable to think that this might have been a very early pit, though equally it may be that the flints here, as in some of the later Roman features, were residual. This latter interpretation seems less likely due to the sheer quantity of lithics present – nearly ¾ of the total flint assemblage from the plot. 67030 contained two dumped fills: the upper fill contained the pottery, flints and two animal bones. An environmental

sample of the deposit produced a significant amount of charcoal and some burnt animal bone.

Pit **67048** was a large feature at least 4.2m wide by more than 0.55m deep. Excavation had to be ceased at this depth as the trench sides became too unstable due to poor weather conditions. The feature appeared to be a large linear or pit with two distinct backfill episodes. The upper fill contained one small sherd of 1st century AD Samian ware, along with localised charcoal rich deposits found alongside concentrations of flat angular stones. What appeared to be the primary fill produced a single, though more substantial, fragment of undecorated, unabraded Bronze Age pot. It seems likely that Samian sherd was intrusive into an earlier feature. The function of the feature could not, however, be ascertained within the sondage.

Pit **67048** was sealed by phase 2a stone surface 67005, which itself appeared to date to the Mid-Late Iron Age/1st century AD, suggesting that the upper backfill of **67048**, with the Samian pottery, may have been deliberately dumped into the depression left by the settling fills of the early pit to provide an even layer onto which surface 67005 could be laid. 67005 also capped six other features: small pits or postholes (**67082**, **67084**, **67086**, **67128** and **67141**) and linear feature **67130**. All of these features contained a single fill, and none of them produced any finds or other diagnostic material. A localised layer, 67121, also partially covered **67128** and **67130**. This contained some daub of indeterminate date.

These features may well have been prehistoric or very early Roman, though lacking any dating evidence to support either theory they have been included alongside pit **67048** at this stage. Two of these features (**67082** and **67141**) also cut layer 67080, suggesting more than one phase of prehistoric activity may have been present.

The quantity of prehistoric finds within the site assemblage suggests that a significant degree of prehistoric activity was present in the area and it seems likely that the substantial Roman and later features have obliterated definitive traces of what that activity might have been. It is worth noting that the prehistoric pit alignment in plot 269 lies only 170m NW of pit **67030**.

#### ***Phase 2a: Roman I (1st century AD)***

The first definably Roman activity was a large metalled area, 67005. Within the limits of the excavation this measured at least 11.5m long by 6.5m wide and was up to 0.4m thick in places. This appeared to have been deliberately laid to form a metalled surface, as hard standing, a yard area or possibly a trackway. From amongst the stones were collected a number of animal bones from creatures such as red deer, sheep/goat and cattle; an undated flint flake; a large stone of non-local material; a fragment of ferrous slag dating to the Roman period; a fragment of fired clay of uncertain date; and six native potsherds dating from either the mid-late Iron Age or 1st century AD.

At the northwest end of the excavation area was a small undated linear feature (**67078**), measuring 0.52m wide and just 0.1m deep, which ran straight for about 7m before curving to follow a similar alignment as a later phase 2b ditch (group **67157**), by which it was also truncated. Whilst the linear feature (**67078**) could be prehistoric, it has been included in this phase.



The linear feature (67078) appeared to intersect (but not continue beyond) ditch 67072, but their precise relationship was concealed by the stony upper layer in 67072.

The linear feature (67078) was backfilled by a very stony fill, including some that appeared to be shaped for structural use, and as such it was postulated that this might have been the base of a robbed out foundation trench, possibly part of an earlier defence predating the three ringed enclosure, though given the shallowness of the feature it is unlikely to have been very substantial.

Another linear feature, possible NE-SW drainage gully (67018) appeared to date from phase 2a, based purely on the material that covers it as it contained no dating evidence of its own. Similar to linear feature 67078 this may well have been earlier, but has been included in phase 2a as that is the latest date it could be. It appeared to be an old water runnel or natural hollow under part of phase 2b layer 67020, or it may have been the truncated remains of an earlier linear ditch. This hollow measured 1.5-2.0m long, 1.12m wide and 0.2m deep. No finds were recovered from the silting of 67018. It has been included here, rather than in phase 2b, as its alignment indicated that it would have interfered with the circuit of the phase 2b enclosure ditches, though those relationships lay beyond the scope of excavation and could not be proven.

#### ***Phase 2b: Roman II (2nd century AD)***

This phase saw the construction of the three large curvilinear enclosure ditches, 67072, Group 67157 and Group 67159. Whilst the ceramic evidence suggests that the innermost of the three ditches (67159) was in use until the 3rd century AD, it seems highly likely that it was excavated contemporaneously with the other two ditches to form a heavily defended triple-ringed enclosure.

The outer of these was ditch 67072, which measured 2.2m wide and 1m deep. 12m of its length was exposed in the excavation area. The ditch had two fills, the upper of which appeared to be a deliberately laid layer of stones, perhaps to offer a firmer surface than that provided by the settling ditch fill below. The lower fill produced two sherds of Roman Severn valley ware, whilst the upper fill had 35 Roman potsherds of 2nd century date. Environmental assessment of both deposits revealed detritus relating to domestic activity.

The central ditch (Group 67157, incorporating 67123; 67055; 67054; 67052; 67101; 67059; 67147 and 67150) was the most fully exposed of the three ditches. It ran N-S parallel with 67072, but after 25m it formed a broad curve and ran E-W for another 15m before it left the excavation area. The ditch varied in size along its length from 1.2m to 3m in width, and between 0.70 and 1.46m in depth. The number and type of fills varied along the length of the feature, from just one fill through to four, suggesting a piecemeal backfill over a prolonged period of time.

Very few finds were recovered from the fills of 67157, but those that were included a Mesolithic/Neolithic flint flake with simple retouch; a burnt flint flake or blade shatter of indeterminate date; two stone fragments of a non-local material; an undated cattle tooth; two sherds of prehistoric pot, dating from somewhere between the middle Iron Age to the 1st century BC or AD; a shaped lump of fired clay which may have been a loomweight; and 37 Roman potsherds which could be dated to no later than the 2nd century AD. Four samples were taken along the length, each

revealing evidence of domestic activity, though one produced ferrous globules, flakes of hammer scale and vitreous concretions possibly indicating that limited small-scale industrial activities were occurring in the near vicinity.

The innermost of the three N-S ditches (Group **67159**, incorporating **67028** and **67035**) was visible in the “arm” of the excavated area, and could be traced into the main trench where it appeared to mirror the bend of **67157** before disappearing under layer 67120. It measured 4.4m wide by 1.6m deep. The fills of the ditch produced a Mesolithic flint with simple retouch, a fragment of undated daub and 31 sherds of Roman pottery dating from no later than the 3rd century AD. This ditch is by far the most substantial of the three, and appears to have been the longest lived. Environmental assessment of the upper fill produced evidence of domestic activity, similar to that found in ditch **67157**, though without the industrial material.

Also within this phase alluvial accumulation 67098 was deposited over stone surface 67005, suggesting that this material was no longer considered relevant to the new enclosure. It was a broad layer of silty clay up to 0.4m thick. No finds were recovered from this deposit, and it may indicate a prolonged period of localised disuse or substantial flooding between phases 2a and 2b. As the layer did not cover the enclosure ditches, nor the northwest end of the site, it may also indicate re-deposited natural upcast from the excavation of the boundary ditches being spread over the top of the stone surface, perhaps the base of a truncated defensive bank.

Stone layer 67020 was laid over an area of 5.2m by approximately 2.2m, in a single layer of stones only 0.05m thick. The layer came to an abrupt stop at the north-western edge of phase 2a gulley **67018**, and spread out as if to deliberately cap that feature. As such, they are interpreted as an attempt to lay an area of hard standing over the softer siltier material within **67018** and to the southeast of it. No finds were recovered from this layer, but as it was sealed by phase 2c layer 67120 it had to be allocated to this phase.

#### ***Phase 2c: Roman III (3rd century AD)***

By this point the two outer ditches of the enclosure appear to have gone out of use, being capped with a series of localised layers apparently naturally deposited, and hence presumably the effect of regular flooding. These layers, (67120, 67056, 67106 and 67057), the latter two surviving only in section, produced pottery dating from the late 2nd and 3rd centuries AD, and sealed both **67157** and **67018**.

An attempt at maintaining or re-establishing the middle ditch appears to have been effected towards its northern visible extent (**67134** = **67137**), though as this does not continue for the full circuit of the ditch, it appears the idea was either short lived and abandoned, or that what appears to be a recut may actually be related to other activity of uncertain nature. The “recut” was extant for 15m, and was 0.83m wide by 0.64m deep, and it produced a single undated cattle tooth and nine fragments of Severn valley ware dating to the 2nd or 3rd century AD.

Also cut into the surface of the abandoned ditch was a sub-oval pit (**67102**) which measured 0.8m long by 0.75m wide and 0.3m deep. It had a single fill which produced two fragments of Roman pottery, two fragments of fired clay, seventeen fragments of undiagnostic industrial residue and a heavily corroded iron object of uncertain nature. Environmental assessment of the deposit indicated similar evidence of small-scale industrial activities as that found within **67157**, which might suggest either a continuation of the same activity, or that material from **67157** was redeposited within **67102**.

At the very southeast end of site was a very large ditch (Group **67161**, incorporating **67008** and **67032**). The linear does not seem to follow the same orientation as the visible enclosure ditches, though it does not intersect any of the enclosure ditches within our study area. However, the course of the outermost ditch (**67072**), if it is traced in a steady arc would bring it into conflict with this ditch beyond the scope of our excavation area, and as such would post-date the abandonment of at least **67072**. The geophysical survey, however, does not clearly support the theory that **67072** curves in a steady arc, and so we cannot be certain given the narrow window of investigation we have. **67161** varied in width between 2.2m and 3.5m, and in depth from 1.15m to 1.5m. Its fills produced 34 Roman potsherds dated to no later than the 3rd century AD; three lumps of undated daub; a Mesolithic or Neolithic flint flake; and a late 19th or early 20th century square glass bottle base. The glass came from the upper fill, along with 30 of the 3rd century AD potsherds, and may be an intrusive find, as the primary fill produced more Roman pot and the flint flake; or it may be that the earlier finds are residual and the ditch is a relatively modern feature. As there is no corroboratory stratigraphical evidence to support either hypothesis it is impossible to say for certain, though one might expect more modern debris to have accumulated in a ditch of this size that remained open long enough for three distinct backfill episodes to occur, if it were of modern construction

Cut into part of layer 67098 was pit **67096**, recorded in a sondage, which measured 0.96m in diameter, and 0.42m in depth but contained no finds within its sole fill. Another part of layer 67098 was covered with a further stone layer (67095). Neither of these features produced any dating evidence of their own.

#### ***Phase 2d: Roman IV (4th century AD)***

Following the final backfill of ditch **67159**, apparently in the 3rd century AD, an attempt was made to re-establish it (**67152**), though – similar to the attempted recut of **67157** this was incomplete and localised perhaps, in fact, relating to later activity beyond the scope of excavation to the east, rather than a recut at all. It measured 1.4m wide and 0.35m deep before excavation had to be ceased as the excavation became unsafe. Its upper fill produced 22 potsherds which dated from the later 3rd or 4th century AD. This might indicate an attempt to re-occupy the enclosure, which appeared by this point to be less intensively occupied.

Phase 2c stone layer 67095 was covered with another layer of silty material 67091, in a similar event to that which deposited 67098 below. This was 0.28m deep at its thickest. Over this another stone surface was laid, 67092, which covered an area of 1.5m in diameter and was 0.1m deep. Neither of these layers produced any finds or diagnostic material. As with 67098 and 67095, it seems likely that these are continued attempts at achieving the same purpose – a hard standing for some activity.

#### ***Phase 2: Roman general***

A number of features containing Roman material or stratigraphically linked to features with Roman material, were recorded but could not be specifically assigned to a definite Roman sub-phase.

At the southern end of site was posthole **67039**, which protruded from under the south-western baulk. This measured 0.52m long by 0.15m wide as exposed. It was 0.19m deep contained several large stones interpreted as packing stones for a deteriorated post. Its sole backfill produced four sherds of Roman Severn valley ware.

**67044** was an oval pit with three dumped fills. The primary of these fills contained two sherds of Roman Severn valley ware. It was interpreted as a rubbish pit.

A gulley, group **67158**, was 12m long and varied between 0.5m and 0.6m in width and 0.28m and 0.5m in depth. It was orientated E-W and ran roughly parallel to, and occasionally truncated, the course of phase 2b ditch **67157**. It also truncated phase 2c layer **67056**. The fills of the gulley produced no finds, though it was sealed by later alluvial layer **67024**, suggesting it belonged to the Roman period.

Pit **67077** was cut into the upper fill of an un-"recut" section of phase 2b ditch **67159**. It measured 0.6m long and 0.34m wide, and was 0.32m deep. It contained two fills, neither of which produced any finds.

Group **67160**, gulley **67007** and posthole **67025** all cut phase 2b surface **67005**. **67160** was a NE-SW linear gulley. It measured 4.9m long, 0.6m wide and 0.09m deep. It was interpreted as a drainage gulley or possibly a wheel rut in the stone surface. It had a single fill which contained no finds, though in places there were significant quantities of large stones which might have been a deliberate attempt to reinstate an area of **67005** damaged by water. Gulley **67007** represented the western terminus of an E-W linear. It was visible for 2.7m of length, and was 0.45m wide and 0.1m deep. It had a single fill which contained no finds, and was also interpreted as a drainage gulley. **67025** was a sub-circular posthole at the southern edge of the layer. It measured 0.9m long by 0.46m wide and 0.16m deep. Several large stones filled the hole, interpreted as packing material for a degraded post. This feature was less than 2m from posthole **67039**, and it is possible that similarities in their nature and backfills might indicate that they were contemporary. None of these features were sealed by any of the sporadic patchy layers that covered elements of **67005**, except site-wide alluvial layer **67024**, making them hard to place within the phased sequence.

Pit **67093** measured 0.56m in diameter and was 0.18m deep. It contained a single fill, which produced no finds. No function could be ascribed to the pit. It was excavated through phase 2d layer **67092**, part of which was also sealed by another gravel layer **67090** which was 0.09m thick and 0.8m in width. Both **67093** and **67090** were capped by site-wide alluvial layer **67024**, suggesting they belonged to the Roman period, though this could not be confirmed.

### *Unphased*

Two features could not be phased: pit **67004** and linear ditch **67068**. The latter was revealed in the side of a sondage through **67120**. It was seen to be 1.0m wide and 0.5m deep and appeared, from what remained of its profile, to be a linear feature, though it was heavily truncated by a more modern feature **67162**. This was only recorded in section, and cut through alluvial layer **67024**. **67068** appeared to run roughly E-W. It had two fills, neither of which produced any finds. With such fragmentary evidence, no function or date could be assigned to the feature.

Pit **67004** measured 1.34m long and 0.8m wide. It had steep sides and a flat base at a depth of 0.25m. The pit contained a heavily degraded cattle skeleton. The head and neck vertebrae were articulated, but appeared to have been removed from the body of the skeleton prior to decomposition, and redeposited at one end of the cut. Two fragments of what may have been degraded wood were recovered from amongst the backfills. It is highly possible that the animal was skinned before burial, which often would result in the removal of the skull. No evidence of butchery was noticed on the bones, though this might have been the result of poor

preservation. The pit would appear to have been dug for the deliberate interment of the decapitated cow. Cow burials have been found at both prehistoric and Roman sites in the UK, and without further dating it could not be assigned to either necessarily, and indeed they have been found in sites of many other periods too, so it need not be related to any other element of the site.

The entire site was sealed by a thick layer of alluvial material, 67132, which was deemed to be the same as the similar material surviving in patches over the remainder of site (67024). The layer was generally c.0.2m thick, though it increased to 0.5m thick in places, particularly at the NW end of the plot. No finds were recovered from this layer.

#### ***Post-Roman/ Modern***

Excavated into layer 67132=67024 was a pit or ditch-like feature **67162**, only visible in the sondage section, orientated NE-SW, which measured 0.86m in width and up to 0.5m in depth. No finds were recovered from it. Whilst no date or function for this was established it seems likely to be relatively modern as it cuts the alluvium.

#### **4.1.6 Plot 331 – Herefordshire**

✓ 52089

#### ***Summary***

The excavations revealed an Iron Age or Roman curvilinear ditch at the western end of the plot, possibly representing some form of livestock enclosure or large hall. A range of artefacts were recovered indicative of domestic occupation and iron working in the vicinity. A number of pits and gulleys were also uncovered across the site the majority of which are associated with a later post-medieval phase of tree plantation and clearance.

#### ***Location, Topography and Geology***

Plot 331 (NGR 341081 235248) was located just north of Nitchell's Coppice near Kingstone in Herefordshire. The site lay at the bottom of a gradual slope, at 110m OD (figure 10). The plot was under arable crop prior to excavation.

The topsoil was a friable mid brown sandy clay with moderate sub-angular and sub-rounded stone inclusions. The subsoil was gravelly red brown silty clay with moderate sub-angular and sub-rounded stone inclusions. The subsoil was slowly permeable which led to waterlogging. The underlying geology was Old Red Sandstone.

The local landscape was characterised by a series of enclosed fields, sharing a similar alignment. It was suggested that this field system follows an early medieval boundary pattern.

#### ***Archaeological Background***

The desk-based assessment identified circular and linear cropmarks of an undetermined date, a Neolithic worked flint tool and the projected line of the Kenchester to Abergavenny Roman road. Within the local area there are two known Iron Age Hillforts, one on Brampton hill (c.1km distant) and the other at Timberdine wood (c.2.5km). There are also two enclosures located within 5km to the east of plot 331, possibly of the same date. The field boundaries surrounding the

site were recorded from 1840 1st Edition OS maps. No find scatters were observed during the fieldwalking survey (Cotswold Archaeology 2006).

Possible traces of an enclosure at the west end of the plot and an area of magnetic activity were identified by the geophysical survey (Bartlett-Clark Consultancy 2007).

Following the geophysical survey, this plot was selected for trench evaluation which took place in 2006 by Network Archaeology Limited (Network Archaeology, 2009i). Four trenches were targeted over geophysical anomalies of possible archaeological significance. Trenches 2 to 4 produced archaeology. A series of dump layers which corresponded to the geophysical anomaly were revealed in trench 2. These layers contained a large amount of material associated with iron-smithing including hammerscale and kiln lining. The pottery recovered was dated from the late Iron Age to AD 70 which together with animal bone and a quern stone fragment suggested domestic origins. In the same area of trench 2 was a natural stone surface which was probably utilised as a work surface, specifically in an area with two pits and two postholes. This trench suggested the destruction or abandonment of a small industrial settlement. A shallow ditch was located in trench 3; it contained pottery which was contemporary with that found in trench 2. Within trench 4 was a possible pond and fence line, there was no dating evidence from this trench but it is likely that the features are relatively modern.

### ***Results***

There were two distinct phases of activity within the plot (figure 20). The site was not surveyed by metal detector.

#### ***Phase 1: Mid-late Iron Age/Roman***

At the west end of the plot was a penannular ditch which measured c.26m in diameter and averaged 1m in width (Group 75100, incorporating 75022, 75023, 75069, 75084, 75087, 75070, 75072, 75076, and 75036). The ditch contained a primary fill of redeposited natural and a secondary fill of grey silty clay which included pottery, burnt animal bone, slag, and a single fragment of fired clay. The western part of the enclosure ditch was heavily truncated by modern ploughing, drainage and tree root action.

The ditch contained 96 potsherds which dated from somewhere between the mid-late Iron Age and the 1<sup>st</sup> century AD through to the 2nd century AD. An apparently localised re-cut (75047) on the south side of the enclosure contained 28 1st and 2nd century AD pottery sherds, whilst the deposit it truncated produced mid-late Iron Age or 1st century AD pot, which suggested that the enclosure may have been in use for a protracted enough period to warrant maintenance. It is possible that this enclosure ditch was for the holding of livestock, or was the remains of some form of large hall or house, as the entrance is narrow for an animal pen. A total of 80 lumps of slag were recovered, mostly non-diagnostic or fired clay with slagging, from both the ditch and its recut. The presence and type of slag recovered was indicative of iron production in the vicinity, possibly just outside the area of excavation. A number of samples were taken from the fills of the ditch, which produced a low density of charred grains, nutshells and burnt bone, most likely derived from food waste, along with ferrous residues and vitreous material probably derived from the intense burning of organic remains (i.e. 'fuel-ash slag').

To the east of here were two intercutting ditches (Groups **75098**, incorporating **75059**, **75063**, **75055** and **75091**; and **75101**, incorporating **75081**, **75104**, **75103** and **75097**) aligned NW-SE, both running for a little over 11m. The ditches appeared to be roughly parallel, though a slight curve in ditch **75098** meant that it was truncated toward its SE end by ditch **75101**. The primary ditch (Group **75098**) contained redeposited natural and pottery dating anywhere from the mid-late Iron Age through to the 4th century AD; whereas the truncating ditch (Group **75101**) contained a grey silty clay deposit with pottery dating anywhere from mid to late Iron Age to 3rd century AD, burnt bone and charcoal. The SE terminus was heavily truncated and the ditches may have continued eastwards or, in the case of the slight curve on the earlier ditch, (**75098**) northwards. The ceramic dates from the two ditches suggest that the later ditch was an almost immediate replacement for the earlier. No obvious function for either ditch was apparent, though the low permeability of the natural substrate might suggest that they were intended to assist in draining excess water away from the enclosure to prevent waterlogging.

### ***Phase 2: Post-medieval***

Along the southern baulk of the excavation site was part of a large rounded feature (**75031**) containing a waterlogged silty clay deposit with a possible stone lining. The only find from here was a piece of modern glass. It is likely that this feature was an extinct pond, probably post-medieval in date.

An early modern NE-SW land drain (group **75099**) protruded into the site to the north-east of this feature, though it was truncated at its SW end, presumably by ploughing.

Across the site were a number of tree boles (**75009**, **75013**, **75011**, **75015**, **75019**, **75025**, **75033**, **75050**, **75052**, **75060**, **75074** and **75082**). Their nature, and the presence of some scrappy modern finds which were not retained, suggested a post-medieval tree plantation with later clearance.

These features may indicate the presence of a landscaped park, garden or coppice.

### ***Unphased***

Around the southern terminus of the pen-annular ditch were four postholes or small pits, (**75027**, **75029**, **75039** and **75041**), which contained no finds. Another three postholes were recorded within the internal area proscribed by the pen-annular feature - **75003**, **75006** and **75067**. These contained varying amounts of charcoal and burnt animal bone – predominantly of medium mammals, such as sheep/goats or dogs. These features did not appear to form any sort of structure and there was no other related structural features recorded.

Posthole **75045** also lay predominantly within the enclosure, but truncated the backfill of the ditch indicating a later date for at least that feature.

A further posthole **75017** was located a short distance to the east of the break in the pen-annular ditch. This may have been related to the group located around that break, or it may have been an isolated feature.

Towards the south east end of the site was a small, shallow pit **75048**. This appeared too regular and well-defined to be another tree bole, though no purpose or date could be established for it.

It seems reasonable to suggest that these features are more likely to be related to the penannular enclosure that they are in and around, rather than the post-medieval activity, but this could not be ascertained definitively.

The possible pond and fenceline noted in trench 4 did not relate to any features revealed during the excavations, and were likely to be natural discolourations which had been misinterpreted during the evaluation.

#### 4.1.7 Plot 430 - Herefordshire ✓

##### *Summary*

This plot contained three distinct areas of activity: For ease of differentiation these are referred to as areas A-C. Area A was at the base of the hill and was a rectilinear enclosure bounded by a double ditch, with at least one internal ditch, and evidence of the inner boundary ditch being re-emphasised at a later date. A small number of discrete pits and postholes, along with the collected artefacts, appear to indicate domestic activity at the site, whilst a further linear to the south of the enclosure appears to be unrelated, and may be a later field boundary.

Area B was located midway down the hill-slope and comprised three concentric curvilinear ditches apparently forming a fragment of an enclosure that lay to the west of the pipeline route. The artefacts suggest a probable defended domestic enclosure.

Area C was at the top of the hill, alongside the A49, and was a pair of pit complexes with a small number of associated pits which produced considerable evidence of iron smithing and smelting in the vicinity. The two pit complexes may have represented bloomery furnaces.

##### *Location, Topography and Geology*

Plot 430 (NGR 35590 22514) was located north of the A49, about ¼ mile east of Winter's Cross and ½ mile northwest of Peterstow. The site had three distinct loci, the first alongside the A49, on the brow of a slope; the second approximately halfway down the slope, and the third at the base of the slope, about 100m southwest of Wells Brook (figure 12). The plot was under arable crop prior to excavation.

The topsoil in all three loci was mid red brown sandy loam overlaying dark red brown sandy loam. These soils were well drained and overlay mid red brown clayey sand.

##### *Archaeological Background*

The archaeological desk-based assessment identified a 17th century inn, the Red Lion, at Winter's Cross. This inn is still extant. Not far to the east of the site were three reputed iron working sites and a spot-find of medieval slag and pottery. Of these iron working sites, one was post-medieval, and two produced no evidence of iron working when investigated (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies (Bartlett-Clark Consultancy 2007), based on which four evaluation trenches were targeted in this plot (Network Archaeology 2009i). Due to wet ground conditions and delayed access it was not possible to undertake these evaluations ahead of construction. For logistical reasons



*Prospect?*

trench 4 was opened first, and when this revealed significant archaeological remains it was decided not to continue with the remaining trenches but instead to proceed straight to a full open area excavation of the plot. Finds from the trench comprised six horse bones, 125 Roman pot fragments (dated from the 1<sup>st</sup> -3<sup>rd</sup> centuries AD), 189 fragments of a single late Iron Age jar, 123 lumps of slag indicative of pre-Industrial iron production in close proximity, a post medieval tile, 17-18<sup>th</sup> century glass and clay pipe fragments, a piece of early modern pottery, a copper alloy object – most likely a fragment from a post-medieval domestic vessel, and an 18<sup>th</sup> or 19<sup>th</sup> century ivory comb.

### **Results**

There appeared to be no activity other than Roman on any of the three archaeological loci within this plot, and that activity itself appeared, from the ceramic dating, to be confined to a relatively short period. The site was surveyed by metal detector on a number of occasions.

#### ***Phase 1a: Roman I (1st century AD)***

Plot 430 contained three discrete loci of activity that appeared to be part of the same extended site. The earliest of these areas (area C) was located just north of the road crossing at the A49. Due to the large quantity of overlying pit features in this area they have been represented in plan just as the largest pit at this stage, to avoid confusion or a multitude of mini-plans (figure 22b, Area C). This area was dominated by a large bloomery or furnace pit (**86270**). This measured 4m long and 2.4m wide by 0.38m deep. The feature appeared to have been in use for a prolonged period, with a number of later features having been cut into its earlier fills and sealed by its later fills. These comprised a smaller bloomery (**86234**), a tapping channel (**86236**) and a later pit dug to dump production waste (**86264**) which presumably indicated the end of the active life of the feature. In total ten deposits made up the fill of pit **86270**. These primarily represented tips and dumps of waste material into the cut of the pit during its active life.

Unsurprisingly, the bulk of the finds from these fills are fragments of iron slag, 201 in total from the fills of **86270**. **86234** produced a further 16, whilst **86236** contained 30 more fragments and **86264** produced three. All of these pieces were dated as Roman, and assessment of this slag showed material from all stages of iron smelting; slag tapped from the furnace during operation, slag remaining in the base of the furnace and metals which may be the products of the furnace. **86270** also produced 13 potsherds, from the final fill, dated to the 1st century AD. Other finds included fired clay and burnt stone, but these could not be dated.

**86270** truncated two earlier pits (**86213** and **86214**). Both pits contained further iron slag in significant quantities – 21 fragments and 20 fragments respectively - but **86214** also produced a significant quantity of Roman pottery: 46 potsherds in total, dated to the 1st or 2nd century AD, which suggested there was little or no break in activity between the backfill of these two pits and the construction of **86270**.

Less than 0.5m to the side of pit **86270** was a small pit or posthole (**86189**). This was a circular feature that measured 0.41m in diameter and was only 0.06m deep. It had a single fill which produced a single lump of Roman iron slag, and whilst this could not be directly linked to the bloomery activity, it seemed likely that the feature represented the remains of a truncated posthole which formed part of the furnace structure.

Roughly 17m to the south of **86270** was a second complex of inter-cutting pits (**86138**). Similar to **86270**, this appeared to be a furnace or bloomery, and though smaller in scale than **86270** the largest pit in the complex (**86138**) produced a total of 55 fragments of ferrous slag. These were all dated as Roman though no other dating evidence was recovered from the fills. The slag was identified with bloomery tapping and/or furnace activity.

It is likely that these two pit complexes were active at the same time, or within quick succession of one another, and assessment of the collected slag suggested that iron smelting was happening at the site, and possibly smithing as well, particularly when the material gathered during the evaluation (McKenzie, 2008) is also taken into consideration.

No artefactual evidence diagnostically dating to later than the 1st century AD was recovered from any of the furnace features or pits. There is nothing to suggest that these furnaces went out of use during this period, and in fact the regular re-cutting and dumping within **86270** in particular, suggest a prolonged usage.

#### *Phase 1b: Roman II (1st/2nd century AD)*

Still in Area C, furnace **86138** was replaced with two smaller burning pits (**86142** and **86136**) suggesting continued occupation of the upper site. These pits produced 77 and ten fragments of Roman slag respectively, which was assessed to be bloomery or tapping slag. A single fragment of burnt sandstone was also recovered from pit (**86136**). A final burning pit (**86130**) was excavated through the remains of **86142**, marking the last activity in that area. Its sole fill produced 92 fragments of bloomery and furnace ferrous slag.

To the north of these features, in Area B (figure 22a), waste pit **86239** was excavated. This was a large pit, 2.68m x 2.32m x 0.48m deep, though it had been truncated by phase 1c ditch **86192** and by phase 2 gulley **86216**. It was apparently used for domestic waste disposal as its three fills produced a cow's tooth, 13 fragments of fired clay, six pieces of iron slag, seven lumps of coal and 438 sherds of Roman pot, predominantly dated to the 2nd century AD.

In Area A (figure 21) to the north-east a large double-ditched enclosure was constructed. This enclosure was represented within the excavated area by a pair of parallel curvilinear ditches which ran on a NE-SW alignment for about 35-40m before curving to head NNW-SSE for approximately 20m before running beyond the edge of the excavation. Both ditches petered out to the SW due to the high levels of modern truncation on the site (the outer ditch also petered out at its NNW extent as well). Both ditches also possessed an intentional break in their circuit just before they curved to the NNW, apparently forming a deliberate causeway into the enclosure.

Excavation of the 19m long section of ditch (Group **86118**) south of this entrance way demonstrated that it was 1.4m wide at its widest, narrowing to 0.55m at the point where it petered out and varied from 0.5m deep to no more than 0.07m at its south western end. It contained a single fill along its length, which produced 110 sherds of Roman pot dated to the 1st or 2nd century AD. Also recovered from this fill was a fragment of a typically early Roman glass bead.

Beyond the entrance way (to the north) the ditch continued as (Group **86103**). This ran for c.30m, curving NNW along its run. At its southern end the ditch had a fairly substantial profile, 1.21m wide and 0.48m deep, mirroring the NE terminus of

86118. Further away from the entrance it narrowed and shallowed, until it finally petered out at its NNW extent. It had only one fill along its length, which produced nine fragments of iron slag, identified as relating to bloomery and potentially relating to the activity at the top of the hill. It also contained 170 sherds of Roman pot. The bulk of these (160 sherds) were dated to the 1st century AD, though the remainder could have been either 1st or 2nd century AD. Near where the ditch petered out at its NNW extent, **86103** appeared to fork, though no reason could be ascribed to this and too little of either fork survived to determine their true nature.

Parallel with **86118** was the inner ditch (Group **86120**). This also terminated at its NE end to form the entranceway, though it stopped 2.5m SW of where **86118** did. From there it ran roughly 25m SW to where it petered out. The ditch varied in width from 1.3m at its widest to 0.35m where it petered out, and in depth from 0.5m to 0.05m. Along its length there was generally only one fill, which produced eight pieces of ferrous slag, some of which was bloomery tap slag, and some of which may have been furnace or hearth lining. A total of 246 potsherds were also collected from this deposit, and the majority of this assemblage was dated to the 1st century AD, with a couple of fragments that may have been 1st or 2nd century AD and a small proportion which was dated to the 2nd century. Also recovered was a copper alloy penannular brooch, which dated to the 1st or 2nd century AD, and a Mesolithic or Neolithic flint.

To the NE of the entranceway another ditch continued the circuit of **86120**. It ran parallel to **86103**, and curved to the NNW (Group **86154**). It ran for c.28m around the curve, and fluctuated in width along its length from 0.89m to 1.93m wide, and in depth from 0.25m to 0.56m deep. Unlike **86103**, this ditch did not peter out at its NNW extent, instead it continued beyond the area of excavation. It had just one fill along its length, which contained comparatively very few finds: 15 fragments of Roman iron slag, six of which were bloomery tap slag, and just 19 potsherds dated to the 2nd century AD.

It is notable that the pottery from the outer ditches seems to indicate a 1st century date, whilst the inner ditch points more to a 2nd century date, albeit only along the northern curve. This may indicate a protracted occupation of the enclosure throughout the 1st and 2nd centuries, though the outer ditch possibly went out of use early in the 2nd century, whilst the inner ditch was still active until later that same century.

#### ***Phase 1c: Roman III (2nd century AD)***

In Area B significant development began with the construction of what appeared to be a three-ringed enclosure. The outer ditch of this enclosure (Group **86192**) truncated phase 1b pit **86239**, which might suggest that a smaller settlement was growing into a more significant one, or otherwise that defence had become more of a priority.

The innermost of these three ditches (Group **86230**) was revealed to a length of about 15m. Heavy truncation due to its location on a hill-slope, coupled with an inconsistent depth during its construction, meant that it petered in and out of existence along its length, which in turn meant that it could not be definitively ascertained as to whether the apparent NE terminus was an intentional part of the construction, or merely another break in the circuit due to truncation. It varied between 0.4m and 0.65m wide and survived up to 0.28m deep at its deepest. It had a single surviving fill along its length, which produced 140 Roman potsherds the majority of which were dated to the 2nd Century AD, or even later.

The second ditch (Group **86257**) was not as clearly visible in plan, but was more substantial. It had a distinct terminus at its west end, though for the remainder of its length it was often nebulous and difficult to define. c.23m of its circumference was within the excavated area, and it varied in width from 0.83m to 1.73m and in depth from 0.23m to 0.34m along that length. For the most part it had a single surviving fill, though for a short stretch there was a primary fill of weathered natural towards the base of the ditch. This primary fill produced no finds, whilst the main fill contained 128 Roman pot fragments. These mostly dated to the 2nd century AD, which suggested that the second ditch (Group **86257**) was broadly contemporary with the inner ditch (Group **86230**). The fill also produced 12 fragments of Roman iron slag, whose nature was sufficiently similar to that from the furnace site above to suggest that debris from there was transported downhill to backfill this ditch, either deliberately or by hillwash. A single stone, in three pieces, of non-local material was also recovered from the fill, though it could not be dated.

The outermost of the three ditches was Group **86192**. 32m of its circumference were exposed in the excavated area, and across that distance it varied between 0.45m and 1.27m wide. It also varied between 0.16m and 0.44m deep. Only a single fill survived throughout its length, and this produced two animal bones; 81 fragments of Roman iron slag, again similar to that from the furnace site at the hilltop; and 527 sherds of Roman pottery. This pottery dated predominantly to the 2nd century AD like that of the other two ditches. It is notable that a significant proportion of the finds from **86192** came from the section of ditch that truncated pit **86239** (289 potsherds, 18 fragments of iron slag and both animal bones) which may suggest that they either slumped into the ditch from the exposed fill of the pit, or were upcast into a bank when the ditch truncated the pit, which was subsequently dumped back into the ditch when it went out of use. Jane Timby notes that the Black Burnished ware recovered from both pit **86239** and ditch **86192** is unlikely to date from before c.120AD suggesting that the pit may belong to this phase as well, and only predate the enclosure by a handful of years.

It is unusual to find a structure constructed on a hillside rather than on flat land, though the hill was not too steep at this location, with the total drop from the uphill edge of the enclosure to the downhill edge (about 30m) being roughly 1m. It is also curious that this settlement appeared to be extant at the same time as the nearby enclosure at the bottom of the slope.

In Area A, at the apparent entrance to the double-ditched enclosure an effort was made to re-establish or re-emphasise that entrance. This took the form of features cut over either terminal of the inner ditch at the entrance.

The NE terminal, the SW end of **86154**, was truncated by a large pit (**86149**). This measured 1.54m in diameter and 0.56m deep and was initially interpreted as a recut of the ditch terminal, but as it did not continue along the length of the ditch, and slightly diverged from the original course of the ditch, it was identified as a later discrete feature. It possessed a single fill, which produced six fragments of Roman iron slag, one of which might have been tapped from the mouth of a furnace, as well as 15 potsherds dated to the 2nd century AD.

The SW terminal, the NE end of **86120**, contained what appeared to be the footings of a wall (**86157**). It survived for 6.7m of its length, with a width of 0.5m and to a height of 0.25m, or three courses. The NE end of this wall was approximately 0.5m NE of the terminus of **86120**, and after 6.2m of following the course of **86120** it petered out to the SW and was not noted again at any point along the ditch's length. Just north of the terminal of **86120**, and curving inward toward the enclosure was an

apparent continuation of this wall (86158), but it was heavily truncated and appeared only patchily, the stones apparently distributed more widely than their initial construction, either due to a tumbling of the wall in antiquity, or due to disturbance by ploughing at a much later date, or both. As such the material survived for 6.5m, oriented roughly N-S, though in two main patches, the southern of which measured 3.05m long, 1.2m wide and 0.16 high; the northern patch was better preserved and measured 2.9m long, 0.66m wide and 0.3m high. From amongst the stones of 86157 were recovered four lumps of Roman iron slag, and a surprisingly large assemblage of pottery – 121 potsherds in total – all of which were dated to the 2nd century AD. The stones of 86158 produced two fragments of iron slag, both of which were probably bloomery tap slag, and may have related to the furnaces on the hill top above.

Roughly in line with the south-westernmost surviving elements of both enclosure ditches was a perpendicular ditch (86274), which ran NW-SE for 14m, varying between 0.97m and 1.19m wide, and between 0.18m and 0.27m deep. The ditch terminated 1.8m from 86120, which might represent an access from one internally divided area of the enclosure to another. The ditch contained a single fill from which were recovered 406 Roman potsherds, which were dated to the 2nd century AD.

All three loci of activity appear to have fallen out of use by the end of the 2nd century.

### ***Phase 2: Later Roman/Post Roman***

A series of natural features post date the 2nd century Roman activity, though it is unclear at what date they occurred.

In Area B, small linear 86216 may belong to phase 1c, though it seems more likely that the scant 2nd century material amongst its fill was re-deposited during disturbance of the earlier finds-rich deposits of pit 86239 and ditch 86192. If the material was deliberately deposited within 86216, then it suggests that at least the outer ditch of the three-ringed enclosure had gone out of use earlier than the lower double-ditched enclosure, meaning it had had a comparatively limited lifespan. When the find assemblage as a whole is considered, this seems very unlikely and the feature appeared more likely to be of natural origin.

Irregular linear 86276 truncates 86216 and the outer two ditches of the three-ringed enclosure midway up the slope, and along with gully 86267 seemed to represent water erosion truncating enclosure ditch 86192. Neither of these gullies produced any finds.

In Area A, tree boles (86203 and 86207) truncate the southern reaches of enclosure ditch 86120.

### ***Unphased***

Four features had no stratigraphical relationship or artefactual evidence with which to date or phase them:

In Area A, E-W linear ditch (group 86155) measuring 23m in length, and between 0.6 and 1.15m in width was located at the foot of the slope. Its depth varied between 0.11m and 0.24m along its length. It contained a single fill, which produced no finds. As such, no function could directly be ascribed to the ditch, though it was

interpreted as a field boundary or drainage ditch. As it did not appear to match the orientation of the Roman features either in Area A or B, or contain the high quantities of artefacts and industrial residues found elsewhere, it may date to a different period than these. The ditch was truncated toward its northern extent by a thin gully (85187), measuring 3.7m long, 0.3m wide at its widest and 0.05m deep. Its single fill produced no finds, and it was interpreted as a modern plough scar.

At the curve of the inner enclosure ditch at the base of the hill, 86154, just inside the enclosure, was an allantoid-shaped pit (86108) measuring 3.1m long, 1.4m wide and 0.5m deep. It contained a single fill from which were recovered no finds, and as such the feature could not be dated, nor could any function for the pit be determined. Though it may well have been related to activity within the enclosure, given the comparatively large quantity of pottery recovered from the Roman features, it seems strange that a pit of this size would contain none if it was contemporary with the occupation of the site.

Tree bole 86168, just northeast of 86207, was the most substantial of a cluster of four naturally formed features in its vicinity, and all are likely to form part of the same phase of tree clearance.

#### 4.1.8 Plot 454 - Herefordshire ✓

##### *Summary*

The site was dominated by a Romano-British rectilinear enclosure, apparently incorporating an earlier late Iron Age enclosure, and with evidence of re-emphasis of some of its boundaries at later dates.

Associated with this enclosure were a number of pits for the disposal of burnt waste, some small gullies possibly relating to drainage and a few postholes to which a clear purpose could not be assigned. There was also a pair of cremation interments, one containing Roman material from the 1st or 2nd century AD.

##### *Location, Topography and Geology*

Plot 454 (NGR 35980 22760) was located just west of Hill of Eaton, approximately three quarters of a mile NNW of Brampton Abbots. It lay on the brow of a slope, overlooking the river Wye to the west (figure 13). The plot was under arable crop prior to excavation.

The topsoil was mid red brown sandy loam overlaying dark red brown sandy loam. These soils were well drained and overlay dark red brown clayey sand.

##### *Archaeological Background*

The archaeological desk-based assessment noted an 18th century report of an Iron Age camp within the plot, though such a camp was no longer visible as an extant earthwork by the time of the archaeological field reconnaissance survey (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies, including the outline of a potential enclosure with internal sub-divisions (Bartlett-Clark Consultancy 2007), which were targeted by four evaluation trenches (Network Archaeology 2009i).

Trenches one and four produced no archaeological evidence, but trench two produced significant deposits, and these are described below, from the eastern end of the trench through to the west.

A NE-SW oriented linear feature 1.8m wide and 1.1m deep was exposed towards the eastern end of the trench. This corresponded with an anomaly visible on the geophysical survey. The primary fill contained a small amount of Roman pottery. A large, almost complete mortaria of the same period was upside-down on top of this fill. Above this was a complex series of tipping fills and the upper fill in the sequence contained charcoal fragments and large sherds of Romano-British pot.

To the west of this another linear feature oriented NE-SW highlighted by geophysics was revealed. This was 1.3m wide by 0.48m deep and contained two fills. The primary fill contained a small amount of pottery, whilst the upper fill contained rare charcoal flecks but no pottery. A group of eleven stake-holes were revealed to the east of this linear. All were circular in plan but their profiles varied from straight-sided with sudden tapered point to those oriented at an angle. The majority of the fills were charcoal rich but no finds were recovered.

Two sub-circular features were exposed protruding from the northern baulk though neither contained any finds, and their nature could not be determined.

A sub-circular feature was revealed approximately 10m from the western end of the trench. The fill contained no finds and this feature was interpreted as a tree bole.

Approximately 5m from the western end of the trench was a NE-SW aligned linear feature which corresponded with an anomaly visible on the geophysical survey. This feature was 0.9m wide by 0.3m deep. The single fill contained occasional flecks of charcoal, one sherd of Roman pottery and a fragment of ferrous slag.

A possible linear feature or pit, visible only in section and oriented WSW-ENE, may bisect the trench. The fill of this feature contained a moderate amount of Roman pottery sherds as well as slag fragments, a nail and a possible whetstone.

Trench 3 formed a "T" shape with trench 2, running NE-SW from a point roughly halfway along the former trench. The archaeological deposits in this trench are described from south to north.

A NE-SW linear feature was revealed approximately 10m from the southern end of the trench. Approximately 7.5m of the linear crossed the trench and was a continuation of the easternmost linear seen in trench 2. It was 0.75m wide and 0.8m deep and contained two fills. The primary fill produced no finds, whilst the second fill contained a large amount of Roman pottery sherds.

To the north of this was a second linear feature following the same orientation. This was 0.55m deep and 0.97m wide. The fill did not contain any charcoal or pottery. This linear feature appeared to be a continuation of the second linear feature described in trench 2.

Two inter-cutting features were exposed 3m to the south of the intersection with trench 3, protruding from the eastern baulk. The southern-most of these features was sub-rectangular in plan. The single fill contained a single sherd of Roman pottery. This feature appeared to cut the other, which was also sub-rectangular in plan. The fill was very similar to that of the later feature, but had frequent scatters of degraded

sandstone and a large sub-oval stone towards the base of the fill. No finds were recovered from this fill.

It was decided that a large open area excavation encompassing all of the geophysical anomalies would be undertaken prior to construction.

### ***Results***

The site appeared to be occupied from the late Iron Age or early Roman period, through to around the 3rd century AD. Within this period there were three apparent sub-phases (figure 23). The site was scanned by metal detector during excavation. Due to the abundance of pottery recovered from some of the linear features, notably the enclosure boundaries, they were more intensively sampled than was required by the WSI.

#### ***Phase 1a: Mid-late Iron Age/1st century AD***

At the northern end of the excavation an “L” shaped curvilinear ditch was excavated forming the southern corner of an enclosed area, the majority of which lay beyond the excavation area to the north east. The south-western element of this boundary (Group **85119**) ran for 19m. Along its length it varied between 1.48m and 2.22m wide, and from 0.62m to 0.69m deep, and had a U-shaped profile with an “ankle-breaker” slot at the base. The fills of the ditch varied along its length, sometimes having just one fill, whilst at others up to three deposits were present. This appeared to represent a piecemeal backfill together with natural silting of the ditch over time, rather than a single deliberate abandonment event.

Where primary and secondary fills were present they produced no finds, but the upper or sole fills produced four pieces of Iron Age or Roman iron slag, three of which appear to have come from the lining of a hearth or furnace; a single burnt stone; 109 sherds of native pottery that could date from anywhere between the late Iron Age and the 1st century AD, and an upper fill also contained 26 sherds of 1<sup>st</sup> or 2<sup>nd</sup> century AD Roman Severn valley ware. This might indicate a prolonged period of occupation and use of the ditch, possibly with localised dumps of domestic waste into the ditch, and localised maintenance excavation when necessary. The native Malvernian pottery varies little in nature between the late Iron Age and the 1st century AD, so it may be that the feature had a considerably shorter lifespan, dating wholly to the 1<sup>st</sup> century AD.

This ditch curved at its south-eastern extent to run SW-NE, forming the south-eastern element of the enclosure (**85120**). The ditch varied in width between 1.53m and 2.74m wide, and in depth from 0.50m to 0.64m. It contained a single fill along its length, which produced five fragments of fired clay, including three that may have been kiln lining; 23 pieces of iron slag, including 11 which might have been hearth or furnace lining, and one which may have been furnace slag; three undated stones of non-local material; nine potsherds dating from the mid Iron Age to the 1st century AD, and three dating from the 1<sup>st</sup> or 2<sup>nd</sup> century AD. These ceramic dates seem to match the sequence from **85119**, albeit with a much smaller sample.

This could suggest that the enclosure formed by ditch groups **85119** and **85120** was established during the late Iron Age and may have continued in active use until as late as the 2nd century AD. The location of the enclosure, at the brow of a slope overlooking the river Wye would have been a very defensible and strategic position. It is also possible that this enclosure might relate to the Iron Age camp noted in the DBA (CA Report: 05140). However, as mentioned above, it could equally be a



wholly Roman encampment dating from the 1<sup>st</sup> century AD into the 2<sup>nd</sup> century, indicating a much shorter span of occupation at the site.

Three pits within the enclosure also appear to date from this phase, (85087, 85089 and 85096). The westernmost, and smallest, of these was post-pit 85087, which was sub-circular and measured 0.83m long, 0.71m wide and 0.1m deep. It contained five fragments of fired clay, a non diagnostic piece of iron slag, and two sherds of native pot of a type that changed little in form between the middle Iron Age and the 2nd century AD, and hence could not be accurately dated. 4m to the east of this was pit 85089. This measured 1.95m long by 1.0m wide and 0.18m deep. It had a single fill which produced 12 Roman potsherds dated to the 1st century AD, which combined with the relatively high charcoal content would suggest that the pit was used for dumping waste from domestic hearths within the enclosure. 3m NE of that was the third pit 85096. This was rectangular in plan, had near vertical sides and a flat base, and measured 2.4m long, 1.7m wide and 0.55m deep. It contained a single dump of material, which appeared to be re-deposited natural. This produced three pieces of fired clay, one of which may have been a fragment of loomweight, and 33 pot sherds dating anywhere from the mid-late Iron Age to the 1<sup>st</sup> C AD. The feature was interpreted as a storage pit. A sample taken from this pit contained small quantities of domestic grain, and some trace evidence of hammerscale and other indicators of smithing in the vicinity.

The domestic nature of the assemblages recovered from these three features suggests that the enclosure, or this division of it at least, was utilised as a settlement, rather than as an agricultural enclosure.

Outside this enclosure, to the southeast, were two irregular gullies. 5m SE of 85120 was a curious feature: a short, comparatively wide gully forming almost a "Z" shape (85122). It measured about 4.5m long and 0.5m wide, with a depth of up to 0.2m. From its single fill were recovered 28 sherds of 1st or 2nd century AD Severn valley ware. At the southern end of the feature a small, shallow gully protruded westward from the feature, also possessing a sharp bend midway along its 1.5m length. This appeared to be part of 85122, and not a separate feature, though no obvious function could be determined for either the main gully or this side channel.

13m E of this was another small gully (85121) that ran NW-SE for a little over 10m. This gully varied between 0.79m and 0.9m wide, and between 0.05m and 0.10m deep. It had a single fill, which produced five sherds of Roman Severn valley ware, which were not diagnostic enough to date more accurately, though stratigraphically it pre-dates both phase 1b ditches (85116 and 85117) whose earlier fills are predominantly 2nd century. Given its short length and shallowness it is likely the gully is heavily truncated, and as such no function is obvious. It may be that both gullies related to attempts to drain excess water away from the enclosure.

Pit 85078 also dates to this phase, and may in fact be the terminus of gully 85121. It measured 0.52m long and 0.33m wide before it was truncated by phase 1b ditch 85116 and phase 1c pit 85080, and just 0.07m deep. It had a single fill from which no finds were recovered.

Located c.2m E of gully 85121 was small pit 85020, which was interpreted as a truncated posthole, though no function for such a post at this location was obvious. It measured 0.3m in diameter, and just 0.06m in depth. It contained a single fill which contained two sherds of Roman Severn valley ware, though they were not diagnostic enough to date more accurately.

### *Phase 1b: 2nd century AD*

The earlier enclosure appeared to persist into this phase, and subsequently an additional area was enclosed to the southeast.

NE-SW ditch **85116** was the outer of two ditches which marked the south-eastern boundary of the extended enclosure, though this edge differed from the other boundaries in that it was the only element of the enclosure that possessed a double ditch. This outer ditch did not follow the line of adjacent ditch group **85117** but instead curved to the east and petered out where it was truncated by later gully **85006**. For the majority of its length it varied between 1.13m and 1.26m wide and between 0.51 and 0.6m deep. However at the NE end, as it curved to the east, it narrowed to 0.35m wide and just 0.09m deep. This suggested that the ditch originally terminated at the point it appeared to curve, and that the apparent continuation to the east was carved by water run-off from the ditch during periods of heavy rain. The backfill of the ditch was similarly inconsistent, varying between a single fill and up to three different deposits, which suggested that it was backfilled piecemeal over time, together with natural silting, rather than in a single deliberate event. Of these deposits, the primary fills, where present, contained 336 fragments of Roman pot predominantly dated to the 2nd century AD, though three could not be dated more accurately than 2<sup>nd</sup>/3<sup>rd</sup> century AD. The secondary fills, where encountered, produced 184 Roman potsherds, all of which were again dated to the 2nd Century AD. From the upper fills were recovered a Mesolithic/Neolithic mudstone blade, two undated stones of non-local origin, a burnt pig mandible, a possibly intrusive piece of lead, and 1652 Roman potsherds. These were dated to the 3rd century AD, suggesting a century or so of usage of the ditch before its final abandonment.

The inner of these two south-eastern boundary ditches (**85117**) ran parallel to **85116**, though where that ditch thinned and curved to the east, **85117** continued in a straight line to the northeast. The ditch varied in width between 0.95m and 1.72m, and in depth between 0.35m and 0.54m. For the most part it had a single fill along its length, except near its SW end where a primary fill also existed. No finds were recovered from the primary fill, though the upper fill produced three lumps of Iron Age or Roman iron slag, and 57 fragments of Roman pot predominantly dated to the 2nd century AD.

At their south-western end, these two ditches joined a NW-SE ditch (**85118**). This was roughly 16m long, and fluctuated in width along its length, from 0.89m to 1.1m, and in depth from 0.2 to 0.4m. Along the majority of its length the ditch had only one fill but, similar to **85117**, near its SE end there was also a primary deposit. Also similar to **85117**, this primary fill contained no finds, whilst the upper, or main, fill of **85118** produced six fragments of Iron Age or Roman iron slag, one of which may have been from a furnace lining; one undated stone of non-local material, one fragment of unidentifiable fired clay and 1014 Roman potsherds predominantly dated to the mid-late 2nd century AD.

This expansion of the enclosure suggests an increase in importance or occupation of the site, or perhaps a change in the function of the enclosure, whilst the additional emphasis of a double ditch on the south-eastern side might suggest that this was either seen as the most vulnerable area of the defences, or that this was the direction the enclosure was most often approached by, and as such was intended to be grander. The ceramic evidence might suggest that ditch **85120** persists as an internal division within the extended enclosure, though there is very little pottery in comparison to that recovered from the extended enclosure, which might indicate

that the earlier enclosure was no longer intensively occupied, or it may be that severe modern truncation had removed the later deposits.

This phase also saw the excavation of a pair of postholes (**85022** and **85024**) within the newly enclosed area, and though there was no obvious structure or function that they represented their shallowness might indicate that other postholes were lost to modern truncation. The smaller posthole, **85022**, possessed a single fill, from which no finds were recovered. The larger posthole, **85024**, about 1m east of **85022**, also contained a single fill, though this produced 27 Roman potsherds, all dating to the 2nd century AD.

Within the original enclosure a possible cremation was interred within a sub-ovoid pit (**85049**). It measured 0.68m long and 0.4m wide, by 0.16m deep. There was a single fill within the cut, and this produced three undated but non-local stones, and 22 Roman potsherds, all dating to the 2nd century AD. Also amongst the fill was a copper alloy brooch of the "Polden Hill" type, dating to the 1st century AD, and an iron hobnail that could not be dated. The brooch has not been burnt and if associated with a cremation it must represent a graveside offering. An environmental assessment of the deposit showed a very similar array of material to that identified within the deposit in **85018**, and the presence of burnt bone here may also indicate that this was a cremation, though in this instance it could not be definitively identified as human, as it was too small and fragmentary.

8m to the west of this, truncating phase 1a pit **85089**, was a second cremation was interred in a steep-sided square cut with a flat base (**85018**). This measured 1.5m square, and 0.05m deep. It had two fills, one of which appeared to be a localised "mound" in the centre of the feature, with the remainder dumped around and over it. This upper fill was sampled and revealed to show wheat, legumes, spelt, other indeterminate cereal grains, along with small elements of hammerscale, iron slag, and small coal fragments. The primary fill contained many of the same elements, with the notable addition of burnt bone, which was positively identified as human. The bone was sparse (only 11.4g survived) and poorly preserved and no material culture was included in the pit to help date the cremation, but its proximity to **85049** suggests that it would be Roman in date. While unusual, it is not unknown for Roman interments to be made within active settlements, particularly if the original element of the enclosure was going, or had gone, out of use, by that point.

Just beyond the outermost of the south-eastern ditches **85116**, a pit (**85037**) was excavated. This measured 0.81m long and 0.76m wide by 0.12m deep, and contained a single fill. This fill contained burnt material and 93 sherds of 1st or 2nd century Severn valley ware. Given its location outside the enclosure it is likely that this was a domestic waste pit.

Palaeo-environmental samples taken from the enclosure ditches and cremations were typical of material derived from dispersed domestic detritus, with all the samples (including the cremations) containing cereals along with a small quantity of chaff, weed seeds and nutshell fragments. Although the scarcity of chaff within the current assemblages may be an accident of preservation, it should be noted that similar low densities of chaff have been recorded from a number of contemporary sites within Lowland Britain (for example from the Norwich Southern Bypass (Murphy 2000)). In these instances, it is thought that the occupants of the sites were almost certainly engaged in a largely pastoral economy, and were importing batches of semi-cleaned or prime grain to meet their cereal requirements, thereby negating the necessity of on-site processing. As with Phase 1a pit, **85096**, hammerscale was recovered from the cremations, suggesting that iron smithing may have been

occurring within that element of the enclosure, either throughout both phases, or in sufficient quantities during phase 1a that its residues were readily incorporated in the backfill of both cremations.

The lack of significant faunal remains may argue against a pastoral economy, but the preservation of animal bones on this site was very poor, and their absence is most likely due to that than an absence of the animals themselves.

#### ***Phase 1c: Late 2nd century/3rd century AD***

The enclosure appears to be going out of use by this period. A large irregular pit (85041) truncates the eastern end of ditch 85120. The pit measured 6.38m long, 2.24m wide and 0.38m deep. It contained two distinct fills: the primary silting of this feature produced no finds, but the upper fill contained an undated non-local stone; a single fragment of iron slag, possibly furnace slag; and 45 Roman potsherds, all dating to the 2nd century AD. The scale and irregular nature of the pit led to the interpretation of it as a clay extraction pit.

Also truncating 85120 was another feature, 85110. This was interpreted as a posthole, which together with posthole 85071 might have been intended to delineate the former course of 85120, or replace it. Both of these are apparently later re-established, as 85111 and 85069 respectively, though as no dating was available from any of these postholes it is impossible to say when.

Pit 85034 was excavated at the southern corner of the enclosure, where 85118 met 85116. It measured about 3m long, 0.8m wide and 0.6m deep. It had a sole fill which contained three undated but non-local stones, and 104 fragments of Roman pot dated to the 3rd century AD, which may suggest that the pit was contemporary with the final filling of the outer ditch 85116. The function of this pit was unclear, though it may have been an attempt to demarcate the extent of the now abandoned enclosure, or it may have been a waste pit coincidentally located on the corner of the old enclosure.

Gulley 85006 appeared to be a narrow gulley, probably a naturally formed water channel, which truncated the easternmost visible extent of ditch 85116. It measured 7.5m long, 0.6m wide and 0.2m deep and ran on a NW-SE alignment though both ends petered out due to modern truncation rather than as intentional termini. The gulley contained a single fill which produced six sherds of Roman pottery, all dated to the 2nd century AD. It is plausible that these finds were washed into the feature from ditch 85116.

Pit 85080 was excavated which truncated the edge of phase 1a pit or gulley terminus 85078, whilst another pit (85014) truncated the northern side of ditch 85116. Neither of these features produced any datable finds, nor had a clear purpose.

#### ***Unphased***

Remaining unphased due to a lack of artefactual or stratigraphic evidence were five features.

Approaching the site from the SE, the first feature encountered is an irregular sub-ovoid pit (85060). It contained a single fill which produced no finds, but did contain a reasonable quantity of charcoal and similar burnt material. About 20m to the NW of this was a large sub-rectangular pit (85072). This also had a single fill which contained no finds, but again possessed significant quantities of charcoal and similar

burnt material, and as such both features were interpreted as waste pits for the dumping of burnt material, possibly relating to the domestic occupation of the enclosure further to the NW.

Similar in nature to these, but within the bounds of the extended enclosure was an oval pit (85091). It possessed a single fill which contained no finds, and as such could not be dated, though a palaeo-environmental sample taken from it revealed some domestic grain and hazelnut, so it may also have been a waste pit for the disposal of burnt material.

Two postholes were located within the original enclosure, near phase 1a posthole 85087, 3m SE of 85087 was posthole 85084, which was also sub-circular, measuring 0.5m long by 0.43m wide and 0.1m deep. It contained a single fill, which produced no finds. The easternmost and smallest of the postholes, 85086, was again sub-circular and measured 0.36m long, 0.23m wide and 0.1m deep. It also had a single fill which contained two fire-cracked stones which might have been old hearth stones re-used as post packing. The features don't appear to form any structure, but given their shallowness it is possible that further postholes have been entirely truncated and that these did initially serve a structural purpose, suggesting they might be contemporary with 85087.

The possible pit or linear feature containing a whetstone identified during evaluation, in trench 2, was cut down through subsoil, and as such did not survive the removal of overburden from the site.

#### **4.1.9 Plot 496 - Gloucestershire**

##### ***Summary***

The site contained two large Iron Age or early Roman pits, one of which was truncated by an early Roman waste disposal pit. Five other undated pits were in the vicinity, together with three undated tree bole and three undated post or stake holes.

A post-medieval pit was located on the northern edge of site.

##### ***Location, Topography and Geology***

Plot 496 (NGR 36751 22944) was located about 100m north of Kempley Green in Gloucestershire, just to the east of a public bridleway (figure 15). The site was utilised as pasture at the time of excavation.

The topsoil was mid red brown friable clayey silt overlaying mid red brown firm silty clay. These soils were fairly poorly drained and overlay pale brown red compacted clay.

##### ***Archaeological Background***

The archaeological desk-based assessment did not identify any features of significance within the vicinity of the plot (Cotswold Archaeology 2006).

The geophysical survey revealed an anomaly (Bartlett-Clark Consultancy 2007), based on which a single evaluation trench was targeted on this plot (Network Archaeology 2009i). This trench contained two cut features.

Towards the centre of the trench was a sub circular pit-like feature which measured 0.95m in length by 1.16m in width and 0.05m in depth. The sole fill contained abundant charcoal fragments. No finds were recovered from this feature.

Slightly to the south of this was what appeared to be an E-W aligned linear feature. This feature was 3.20m wide by 0.65m deep and contained a series of fills. The primary fill was mid red brown friable clayey sand and was 0.18m deep. The secondary fill was dark grey friable silty sand which was 0.08m deep. Overlying this was a layer of mid red brown sandy clay which was 0.2m deep. This was in turn overlay by a layer of dark grey brown clayey silt which was 0.14m deep. The capping fill was mid red orange clayey sand which was 0.43m deep. With the exception of the primary and capping fills all of the other fills contained finds which included pottery, animal bone and metal slag. These finds were predominantly Iron Age and Roman in date, and the feature was interpreted as a possible boundary ditch, though it was noted that its irregular form may indicate it was an unusually large discrete feature rather than a linear.

The wealth of domestic debris amongst the finds within the feature suggested that a settlement would be in the vicinity, so an open area excavation was defined in advance of construction.

### ***Results***

The disparate nature of the majority of the features, combined with the dearth of material culture from this site makes it very difficult to date or phase, however two datable phases were evident, and the stratigraphy suggested a sub-phase (figure 24). The two main pits were 100% excavated in order to try and fully understand them. No metal detector survey was undertaken within the plot.

### ***Phase 1a: mid-late Iron Age/1st century AD***

The site was dominated by two large pits in the centre. The north-western of these, **90020**, was circular in plan, with steep sides and a flat base. It measured 3.05m in diameter and was 0.22m deep. A single charcoal rich deposit filled this pit, and that produced 24 fragments of animal bone: eight long bones of medium mammals, two large mammal ribs and an unidentifiable bone fragment; there were also small fragments of burnt bone, though the species from which they derived proved impossible to determine, and given the presence of human remains in phase 1b pit **90035** that possibility can also not be ruled out. Alongside the bones were four sherds of indeterminate Mid-late Iron Age or 1<sup>st</sup> C Roman pottery, suggesting that the pit was used for the disposal of domestic waste.

Southeast of **90020** was the second pit (**90040**). This appeared to be much the same size and shape as **90020**, though it was only 0.1m deep, and due to truncation by a later feature measured only 2.64m long by 2.2m wide. It contained two, very similar, charcoal rich fills. Neither of these deposits produced any finds, which may be due to the truncation of the feature. As such it could not be dated, nor could a function be ascribed to it, though it seems likely, given their proximity and physical resemblance that it performed a similar role to **90020**.

The presence of two large refuse pits in close proximity suggests a significant Iron Age or 1<sup>st</sup> century occupation near the site, though no definitive evidence of such was noted within the width of the pipeline. It is possible that such a site might have been truncated by ploughing, and the relatively shallow nature of these pits compared to their diameter might support that theory.

### ***Phase 1b: 1st/2nd century AD***

Phase 1a pit 90040 was truncated by a smaller, sub-circular pit (90035). This measured 2.4m in diameter, was 0.58m deep and it possessed a more gradual concave profile. The pit also contained no less than eight deposits, mainly tipped fills or dumps. The earliest of these deposits appeared to be a slump of material into the pit, possibly from the upcast from the original excavation of the feature. It contained no finds. The first intentional deposit produced a long bone and a rib of a medium mammal; two fragments of apparently Roman iron slag; and 197 sherds of mid-late Iron Age or 1<sup>st</sup> C pot. Over this lay a thin charcoal-rich layer which produced 28 small fragments of unidentifiable bone, and seven sherds of Roman pot, which dated this layer to no earlier than the 1st century AD. Above this was a deposit containing 22 sherds of mid-late Iron Age pot. Unlike many of the other Malvernian potsherds recovered, these were more definably prehistoric, though the layer over that contained 32 sherds of Roman pot dated to the 1st century AD. This layer, interestingly, also contained 70 fragments of probable burnt human bone. The layer sealing this also contained a further 12 pieces of probable burnt human bone, along with the rib of a medium mammal, the rib of a large mammal, three long bones from medium mammals and a sheep or goat mandible. Over this layer was another thin charcoal layer, which contained four pieces of pot all dating to the 1st century AD. The uppermost fill produced two pieces of undiagnostic fired clay; ten sherds of Roman pot; and three solidified droplets of copper alloy melt, which may have been casting dross, perhaps indicating copper working in the vicinity, though it could potentially also represent molten fragments of a copper alloy object as this fill contained other evidence of heat-affected material. The ceramic evidence dated this layer to the 1st century AD. It is likely that this was the deep feature located during the evaluation.

The presence of burnt human remains amongst the other finds is interesting, as the feature otherwise appears to be a domestic waste disposal pit. Ignoring, for now, the possibility of cannibalism, it may be, given the small and fragmentary nature of the pieces, that the residue from nearby funeral pyres was dumped in what otherwise was a domestic waste pit, after the more substantial burnt bone had been carried off for a more decorous disposal. The environmental samples taken from the fills are almost entirely comprised of fuel ash, and include small fragments of burnt bone, considered too small and fragmentary to be usefully assessed, and vitrified material suggestive of intensive burning.

This suggests that the predicted nearby occupation continued relatively unbroken through into the early Roman period, though it was apparently abandoned by the early 2nd century AD.

### ***Phase 3: Post-medieval***

A third pit of notable size (90008) protruded from the northern edge of the excavation area, and continued beyond extent of the pipeline route. As seen it was semi-circular in plan, measured 2.6m wide and protruded 1m from the baulk. It was 0.38m deep when it reached the side of the excavation, though the true base had not been achieved. The feature contained a single fill, though a spread of re-deposited subsoil also covered the feature. The fill of the pit contained a pig mandible, two pieces of fired clay, two pieces of post-medieval or modern tile, barbed wire, and a sherd of 18th or 19th century AD creamware. No finds were recovered from the capping layer.

### *Unphased*

The majority of the features on the site contained no artefactual evidence, nor did they have any stratigraphical relationship to any other feature, and as such they could not be assigned to any of particular phase.

1.5m to the east of pit **90008** pit was another pit (**90005**), which was just beyond the spread of the layer of redeposited subsoil which capped **90008**. It was circular in plan and no finds were recovered from its single fill, and as such it was impossible to determine its purpose.

South of the two large central pits was a cluster of three smaller pits: (**90014**, **90015** and **90037**). **90014** was irregular with a charcoal rich fill, and the presence of root-tunnels in its base, led to its interpretation as a tree bole. **90015** was a sub-rectangular pit, 1.0m long by 0.91m wide and 0.08m deep, whilst **90037** was also sub-rectangular, measuring 1.10m long, 0.7m wide and 0.05m deep. All of these features had a single fill, and none of them produced any finds, excepting charcoal, making them impossible to assign to a function. A small amount of potential vitrified material was recovered from four of the environmental bulk samples but has yet to be assessed. The southeast slope of **90015** was truncated by a later posthole, **90039**. This measured 0.3m by 0.24m and was 0.18m deep, and again no dating was recovered from its single fill. A sample of its charcoal rich fill revealed nothing to assist with dating or interpretation.

16m west of these pits was a lone pit (**90011**). This was sub-circular in plan and no finds came from its single fill. Due to the irregular nature of its profile it was interpreted as a tree bole.

C.6m to the north of the two large central pits was a further pit (**90006**). This pit was, like **90011**, sub-circular and although very charcoal rich it contained no finds and environmental sampling failed to provide any additional information. It was also interpreted as another tree bole.

2m south of **90006** was a possible post or stake hole (**90017**). This was sub-circular and measured 0.28m long by 0.12m wide and 0.09m deep. No finds came from its single fill, and it was impossible to be certain about its function. It contained frequent charcoal lumps.

Another possible post or stake hole (**90002**) was located about 13m ENE of **90017**. This measured 0.23m long and 0.09m wide by 0.15m deep. Its single fill contained a small fragment of undiagnostic CBM, but this could not help to date the feature, or suggest a function for it.

12m SE of **90002** was a further pit (**90022**). This was 0.5m long by 0.32m wide and 0.15m deep, oval in plan and with a concave profile. Again, no finds were recovered from the sole fill, and as such it also could not be dated or interpreted.

The easternmost feature on the site, 8.5m SSE of **90022**, was another pit (**90030**). This was nearly circular in plan, measuring 0.96m long and 0.86m wide. It was, however, extremely shallow, only 0.02m deep. Its sole fill contained a lot of charcoal, but environmental assessment of this was not informative, and no other finds were recovered from it, so no date or function could be determined for it.



## **4.2 “Major” Watching Brief Sites**

There were five sites identified as being of greater significance than the remainder uncovered during the watching brief. These are described below:

### **4.2.1 Plot 49 - Powys**

#### ***Summary***

A post-medieval structure complex was discovered during the watching brief phase. This comprised wall foundations and flagged stone floor surfaces, together with a metallised surface which may have been a yard or barn floor, and a possible well.

Several urned and un-urned Bronze Age cremations were also discovered on the same site.

#### ***Location, Topography and Geology***

Plot 49 (NGR 30735 23785) was located next to a fork in the road opposite Werntoe Farm near Llangoed and Landfalle Common in Powys. The site was positioned on a moderate southwest facing slope, ranging in height from 344m to 348m OD (figure 5). The plot was utilised as pasture immediately prior to excavation.

The topsoil was mid grey to brown friable clayey silt overlaying orange brown loose sandy silt. These soils were well drained and overlay pale red clay consisting of moderate sandstone outcrops.

#### ***Archaeological Background***

The archaeological desk-based assessment identified the existence of two post-medieval buildings, collectively known as Pen Yr Heol Einion House. Earthworks representing the remains of a probable housing platform were also identified (Cotswold Archaeology 2006).

The geophysical survey revealed several anomalies, identified as “linear features: cultivation?” similar to all the fields to either side of the plot, and as such no evaluation trenches were targeted over these geophysical anomalies (Bartlett-Clark Consultancy 2007).

#### ***Results***

The site possesses two clear phases:

##### ***Phase 1: Early Bronze Age***

A small early Bronze Age cremation cemetery was located towards the eastern limit of the plot around the northern wall of the phase 2 barn or yard (49005) (figure 25a). They were positioned around the northern fringes of a sandstone outcrop, in a fairly compact cluster occupying an area 13m in diameter. There did not appear to be any formal arrangement to the layout of the cremations. The grave cuts were not easily detected at first, and were located only after the area north of the cemetery had been benched. It is possible, therefore that some cremation deposits went unnoticed in this area.

There were eight cremations in total (49003, 49012, 49032, 49034, 49039, 49046, 49050 and 49052), and all of them contained large amounts of charcoal and burnt bone, though only 49050 contained substantial enough fragments to be properly assessed as human. Three cremations were contained in fragmented urns, 49003, 49050 and 49052, one of which had been placed upside-down (49050). The fragmentation of these urns presumably occurred during their subsequent historical truncation, rather than being a deliberate act during interment, and resulted in 41 fragments remaining in 49003, 257 in 49050 and 142 pieces in 49052. The majority of the cremations were also badly truncated historically and it is possible that some cremations had been destroyed by one of the post-medieval buildings which stood close by.

Two of the urns, those in cremations 49050 and 49052, were identified as early Bronze Age collared urns. Cremation 49003 appeared to have two vessels, eight fragments from an undecorated Urn, and fourteen from another undecorated vessel that may have been an Urn, both also dating from the early Bronze. The remaining pot fragments from 49003 were too small to identify.

The presence of these cremations would indicate a settlement may have been nearby and the existence of several springs in the area might suggest that the area held special significance to prehistoric people.

### ***Phase 2: Post-medieval***

To the eastern end of the site, northeast of the cremation cemetery, stood one of two possible post-medieval buildings, next to an existing road (348m AOD) (figure 25a). Excavation revealed the foundations of a 28m long stone and turf wall (49005 and 49007) which appeared to continue into the adjacent field where an L-shaped earthwork was observed, possibly suggesting a return to this boundary, though the road separating the two features made it impossible to say for certain that they were the same structure.

Part of a smooth cobbled surface (49006 and 49009) was exposed immediately east of the wall foundations. Considering the size of the structure and the absence of any domestic finds it was possibly a barn and associated yard surface. Evidence of apparent wall collapse and an absence of any burning suggest that any possible barn was abandoned, neglected and probably mostly dismantled. It may be that the feature represents just a walled yard, with internal divisions or lean-tos.

Apparently set into this floor was a stone lined pit 49025, which measured 1.0m in diameter and 0.42m deep. No finds were recovered from this feature, nor could a definitive purpose be assigned to it.

The second building was located a little downhill of the possible barn at 344m AOD and appeared to be a small farmhouse (49036) (figure 25b). A paved stone floor (49035) that measured 4.5m long and 4.2m wide was exposed, as well as a possible hearth recess showing evidence of heat exposure. Large amounts of post-medieval pottery, glass and iron objects (mostly horse trappings) were recovered from within the farmhouse. The building also appears to have collapsed through neglect and been robbed of its stone. Notable amongst the finds were roof slate, window glass and window leading, which were assessed to indicate a relatively high status structure for the period, rather than a simple shepherd's hut.

Two curvilinear rock-cut gullies, (groups 49072 and 49073), were located to the east of the farmhouse. Group 49072 abutted the eastern and northern walls of the

farmhouse (49036) and then turned south, where it was truncated by the wall. Along the gulley's eastern length it was also truncated by the second gulley (group 49073). These are thought to be for drainage and are most likely to be contemporary. Positioned just to the south of the terminus of group 49073 was a square-shaped pit (49048) which appeared to be a construction slot to make the rock surface level. The purpose for this is uncertain but it may be related to the drains and is most likely contemporary with them. A patchy metallised track (49011, not shown on figure) appeared to link the possible farmhouse and barn, and was interpreted as a continuation of layer 49015 (bounded by stone kerb 49017) discovered near the farmhouse.

Near the western boundary of the plot were two large sub-oval pits (49093 and 49096), these were interpreted as rubbish pits as they contained a large quantity of domestic refuse. The soil samples taken from pit 49093 produced a small quantity of burnt material that had derived from burnt flooring or bedding material, suggesting that these pits were in use at the same time as the farmhouse, or were possibly used during the demolition of the property. Two postholes (58607 and 58609) were located close to the sides of pit 49096 which suggested some sort of contemporary structure. A little further southeast of this was a gulley (58613) which appeared very similar to the two gullies located to the east of the farmhouse. This indicated that the drainage system continued down slope from the farmhouse.

Coins were recovered from four separate deposits throughout the post-medieval structures, including a George III penny (from the third issue, 1799) found on the cobbled surface 49006; a George III halfpenny (from the first issue, 1770-1772) from pit 49093; what appeared to be an Irish George II halfpenny (1726-1760) from pit 49096; and a James II halfpenny (1685-1688) from the subsoil layer covering some of the demolition debris from the lower structure. The ceramic evidence from across the site produced a date range from the 16th or 17th century through to the 19th, and was suggestive of an abandonment of the site during the third quarter of the 19th century. 38 Clay pipe fragments were also collected, dating from between the 17<sup>th</sup> and 19<sup>th</sup> centuries, supporting this date range. Window glass from the farmhouse area indicated it came from at least three different sources, dating from the 19<sup>th</sup> and 20<sup>th</sup> centuries. This might suggest that the structure was glazed some time after its initial construction. The most modern finds recovered do not dispute this abandonment date, both copper buttons, one from pit 49048 and one from the demolition spread associated with the lower building. Both of these were machine made and date to the late 19th or early 20th centuries.

The cobbled yards and substantial walls indicate that this was intended as more than a temporary shelter, and may have been part of a larger farm complex, perhaps relating to the Pen Yr Heol Einion House site mentioned in the DBA. The finds evidence suggests that the site may have been utilised for around two or three hundred years: from the 16th or 17th century to the end of the 19th century.

### *Unphased*

Roughly central to the cremation cemetery was a larger, ninth pit (49054) which contained similar burnt material, but lacked the evidence of burnt bone or pot. No dating evidence was recovered from this feature, and it may have been a pit for the disposal of domestic or agricultural debris relating to the nearby post-medieval barn, or a pit for disposal of excess fuel-ash from the early Bronze Age cremation cemetery. The lack of material culture, when compared to the finds-rich nature of the other post-medieval disposal pits, might suggest the latter, though the presence

of cereal grain amongst the environmental sample taken might indicate the former, as no such grain was noted in any of the cremation samples.

Small pit **49044** also remained unphased. Originally interpreted as another cremation pit as it lay in the vicinity of the cremation cemetery, it proved to have no pottery and little charcoal to suggest that it was a cremation. In fact it appeared to possess a post-pipe indicating that it had been a posthole, potentially relating to either the cemetery or structure 49005.

#### **4.2.2 Plot 111a – Powys**

##### ***Summary***

A large Roman boundary ditch, probably a field boundary, divided this area, which was located during controlled strip. A gravel spread slightly overlying the earliest phase of this boundary may indicate that a metallised occupation surface was constructed against this boundary at a later point.

Below this spread were a cluster of prehistoric fire pits and postholes cut into what appeared to be a prehistoric occupation layer, which may relate to the neighbouring Spread Eagle site.

A number of irregular natural features of unknown date were also located around the site.

##### ***Location, Topography and Geology***

Plots 111/ 111a (NGR 31615 23785), representing the mobilisation yard for the PIG trap (in Plot 110) was located immediately north of a disused railway approximately 450m southwest of Pipton Farm, roughly 1km west of Aberllynfi in Powys. It was at the base of a hill, on a river terrace of the river Wye, just south of the A4079. In order to identify this area in terms of the plot number sequence it was referenced as plot 111a (figure 6). The site was utilised as pasture immediately prior to excavation.

The topsoil was mid brown friable clayey silt overlaying dark red brown friable silty clay. These soils were poorly drained and overlay at least three distinct layers of alluvial deposits: Stony red brown friable silty sand, overlaying stony brown friable silty sand which in turn overlay grey green friable silty sand containing pea grit gravels.

##### ***Archaeological Background***

The archaeological desk-based assessment identified the presence of six Bronze Age ring ditches forming part of the Spread Eagle funerary landscape, and a post medieval or modern field system within the vicinity. An aerial photograph from the University of Cambridge shows two parallel lines, which may represent the roman road discovered in plot 110, continuing into the northeast corner of this plot (Cotswold Archaeology 2006).

No geophysical survey was conducted on this plot, so a programme of trenching was devised to evaluate the plot comprehensively (Network Archaeology 2009ii). As such fifteen trenches were proposed, though the area allocated to the mobilisation yard was reduced, and as such only thirteen trenches were excavated.

The majority of these trenches were either empty or revealed naturally formed features such as alluvial layers, interpreted at the time as individual palaeo-channels, or tree boles.

Trench 15, however, located in the north-eastern corner of the plot, contained a feature at the eastern end of the trench. This feature was linear in plan with a rounded U-shape profile, and measured 0.7m wide, 1.5m long and 0.56m deep and was oriented roughly N-S. The primary fill measured 0.34m deep and appeared to be slumped material or in-wash from the western edge. The secondary fill was 0.22m deep. No finds were retrieved from either of the fills. This feature was interpreted as a ditch, possibly a continuation of one of the road-side ditches from the Roman road in plot 110.

Given the potential of the overall area it was decided that a controlled strip of the plot in advance of construction would be an appropriate mitigation strategy.

### ***Results***

The subsoil strip produced two undated flint flakes, a burnt flint flake with proximal shatter, also undated, the distal edge of a burnt half-moon scraper of Neolithic or Bronze Age date, three sherds of early prehistoric pot and ten sherds of Roman Severn valley ware pot.

Beneath this there were two distinct phases identified on the site from the artefactual evidence, with a further phase and a sub-phase suggested by the stratigraphy (figure 26):

#### ***Phase 1: Mesolithic/Neolithic***

The earliest feature on site was a mixed buried soil layer (group 74079), varying from mid red brown silty clay (74015) through brown silty sand (74036) to mid yellow brown sandy silt (74035), revealed as a site “natural”. Sondages through these deposits showed them to be interleaved lenses forming a single layer. Finds were recovered from all three deposits, lense (74015) producing crumbs of pottery that could not be dated, four undated flints, a Mesolithic flint with simple retouch for cutting, a Mesolithic/Neolithic proximal flake shatter and a Mesolithic/Neolithic end scraper with distal retouch. Lense (74035) contained ten undated flints, an undated mudstone flake, a Mesolithic flake with simple retouch and an unmodified edge, and two Mesolithic/Neolithic flakes, one with simple retouch for cutting. Lense (74036) produced an undated flint flake and three sherds of undecorated quartz-filled pottery that whilst clearly prehistoric could not be dated any more accurately. This layer overlay the alluvial gravel and silt deposits, which appeared to be sterile.

A group of five intercutting pits and a posthole (group 74075) were excavated toward the southern end of the excavation area.

The earliest of these (74042) was heavily truncated by the later features, but survived as 1.5m long by 0.9m wide, though its depth could not be ascertained due to the degree of truncation. The remnant of its single remaining fill produced charcoal but no finds. The next pit in sequence was 74041, which was also truncated but survived to a greater degree, with an oval cut. It measured roughly 1m long by 0.19m wide after truncation, and 0.22m deep. It had a single surviving fill, which produced charcoal, burnt clay and a single Neolithic flint with simple retouch.

Environmental assessment of this showed burnt grains, possibly indicative of domestic activity.

Cutting this was posthole **74074**, which measured 0.32m in diameter, though it was only recognised during post-ex and so no other information about it could be ascertained. The posthole was itself truncated by pit **74066**, which measured 0.33m in diameter. Its primary fill was charcoal rich and measured 0.04m deep, over which was a secondary fill 0.1m deep containing charcoal and burnt clay. Environmental assessment of this deposit revealed material very similar to that found in **74041** suggesting that they were used for the same purpose and/or were relatively proximal in date. The tertiary fill was 0.08m deep and contained frequent charcoal, an undated distal flake shatter of burnt flint and an undated burnt flint flake. The upper fill was 0.19m deep and contained charcoal, fired clay, an undated flint flake and a Mesolithic patinated core with a blade or bladelet platform.

Truncating the south edge of **74042** was pit **74067** which measured 0.34m in diameter, though the bulk of its single fill was truncated by later activity. No finds were recovered from that fill, though it did contain charcoal and burnt clay. Truncating both **74066** and **74067** was the uppermost pit (**74078**). This was circular in plan and measured 0.61m in diameter and 0.13m deep. It had a single fill which produced no finds, though an environmental sample of the deposit showed burnt grains, possibly indicative of domestic activity. The presence of burnt clay and charcoal in the majority of these fills suggests that these pits were all used for the same purpose, the burning or cooking of material, possibly for domestic consumption.

To the east of group **74075** was a collection of five discrete postholes and stakeholes (group **74064**) which were also covered by phase 2b gravel layer 74004. These varied in size and shape, and no obvious structure can be discerned in their locations.

The easternmost of these was stakehole **74049**, which was a circular cut with steep sides tapering to a point. It measured 0.08m in diameter and 0.11m deep. North and west of this was an oval cut (**74047**) with steep sides and a rounded base. This measured 0.25m wide and 0.22m deep. Southwest of **74047** was a circular cut (**74051**) with moderately steep sides and a rounded base that measured 0.37m in diameter and 0.2m in depth. Southwest of this, in turn, was stakehole **74054**. This was a circular cut with steep sides tapering to a point. It was only 0.06m in diameter, and 0.07m deep. Northwest of this, and the westernmost of the group, was stakehole **74053**. This was also a circular cut with steep sides tapering to a point, though it measured 0.1m wide in diameter, by 0.06m deep. All of these features had single fills which produced no finds.

Posthole **74074** within group **74075** may well belong to group **74064**, or at least to serve the same purpose, which may help to date that group in context of the other pits.

Just north of **74053** was a small pit (**74060**). It was oval in plan and measured 0.39m long and 0.25m wide by 0.09m deep. It had a single fill which produced no finds. Its proximity and dimensions might indicate it should be included with group **74064**, but as it had no direct relationship with them it was left as an isolated feature.

### ***Phase 2a: early Roman***

Splitting the excavation area roughly in two was a broadly N-S ditch (group **74030**) 31m in length, though it weaved along its course, sometimes aligning NW-SE. It remained fairly constant in dimension along its length, varying between 1.84m and 1.90m in width, and between 0.87m and 0.90m in depth. The fill produced two sherds of Roman Severn valley ware and a fragment of unfinished shale bracelet, possibly originating from Dorset and brought to the site for finishing. The latter has parallels with similar bracelets found in Iron Age contexts in Somerset, though shale bracelets were also made during the Roman period. The ditch was interpreted as a field boundary, though a reasonably substantial one.

### ***Phase 2b: Roman***

Phase 2a ditch **74030** was recut at some later date (group **74028**) and this followed the alignment of its predecessor, including the weaving, accurately, suggesting that the former ditch alignment was still clearly visible when the recut was made. The recut was also consistent in size, varying between 1.25m and 1.35m wide, and 0.60m to 0.62m deep. The fill of this contained four small sherds of Roman Severn valley ware and a Neolithic flint core trimming flake. This presumed to be a reinforcing of the boundary ditches, which was obviously one important enough, and in use for long enough, to warrant maintaining.

To the south edge of the area, slightly overlying the fill of phase 2a ditch **74030** to the east, but having no relationship with the fill of recut **74028**, was an irregular layer of brown silt sand and frequent gravels (**74004**) measuring 10.5m long at its longest by 8m wide at its widest by 0.05m deep. Amongst the gravels were an undated flint flake and a single sherd of Roman Severn valley ware. It may have been a deliberate attempt to lay a hard standing up to the boundary. This layer sealed all the phase 1b features.

### ***Phase 3: Late Roman/post-Roman***

The fill of the boundary ditch recut was cut by three discrete features. The southernmost of these was posthole **74033**, a circular cut that measured 0.26m in diameter and 0.36m deep. The single fill contained two undated flints, one flake and one angular shatter. To the north of this was posthole **74023**, which was a sub-rounded cut that measured 0.3m long by 0.25m wide by 0.36m deep. It had two fills, the primary being quite stony and possibly a remnant of post-packing, though neither fill produced any finds. To the north of **74023** was posthole **74018**, which was circular in plan and was deeper than the other two, measuring 0.26m in diameter and 0.5m deep. Again, it had two fills, and again the primary fill was very stony and may represent post packing. No finds were recovered from either fill. All three were interpreted as postholes, and the similarity in their natures suggests they were either part of the same feature, or were three consecutive attempts to achieve the same purpose, though this seems less likely. They did not seem to form a structure, instead forming more of a line, perhaps indicating that they were a later demarcation of a similar boundary, though no other postholes survive along their alignment to corroborate that. This, however, may be due to the fact that the ditch fills would have provided less sturdy foundations for a post than the surrounding clays, and as such where the post-line crossed the ditch the posts were set much deeper to ensure stability. No exact date could be ascertained for these postholes.

### *Unphased*

Approximately 4m west of layer 74004 was another small pit (74032) which was sub-circular in plan and measured 0.44m in diameter and 0.2m deep. It contained a single fill which produced no finds, and as such no function could be assigned to it.

In the northeast of the area, to the east of ditch 74030, were four more pits. Pit 74069 was the westernmost of these and measured 1.35m long by 0.69m wide and 0.21m deep. Nearly 5m southeast of this was pit 74043, which had a regular oval form in plan, but when excavated proved to be irregular and almost certainly a tree bole. To its northeast was pit 74039 which was also oval. It measured 0.85m long by 0.5m wide and 0.13m deep. 3m northeast of 74039 was pit 74037, a similarly oval pit that was 1.3m long, 0.95m wide and 0.24m deep. All of these pits had single fills with no finds, and it is possible that pit 74069 may be the only anthropogenic feature amongst them.

8m south of pit 74039 and 6m east of ditch 74030 was another probable tree bole 74013. 3m west of 74030 was another large probable tree bole 74016.

## **4.2.3 Plot 160 - Powys**

### *Summary*

Two areas of archaeological interest were discovered during the watching brief phase on plot 160. To the north of a small stream was a large, multi-phase Roman ditch and to the southeast of that was a post-medieval pottery dump and stone trackway.

### *Location, Topography and Geology*

Plot 160 (NGR 32150 24135) lies to the southeast of Pen y-Maes in Powys, near Hay-on-Wye on roughly flat terrain at 101m OD. The site was located just to the north of a small stream (figure 7). The site was utilised as pasture immediately prior to excavation.

The topsoil was mid brown friable clayey silt containing moderate small sub-rounded stone inclusion and post-medieval pottery. The subsoil was pale yellow brown soft silty clay consisting of occasional sub-angular medium stone inclusions. These soils were well drained and overlay dark brown red clay consisting of occasional large degraded sandstone.

### *Archaeological Background*

The plot lay on a re-route of the pipeline, for which a separate archaeological desk-based assessment was undertaken (Network Archaeology 2006i). This showed no features of interest in the vicinity of plot 160.

The geophysical survey identified a strong curving linear feature which was interpreted as a natural feature due to its close proximity to the stream and no evaluation trenches were targeted over it (Bartlett-Clark Consultancy 2007).

### *Results*

There were two distinct phases, and one sub-phase within this plot (figure 27):



### ***Phase 1: Roman I***

Towards the western end of the site, just north of a small stream was a large curvilinear ditch (group **160041**) measuring 3m wide by 1m deep. Roughly 33m of the ditch was exposed. The ditch contained four fills, all of which included Roman pottery dating from the late 2nd to 4th century, abundant charcoal and slag. A single fragment of possibly later prehistoric pottery was recovered from the upper fill, but this was most likely residual. The lower fills contained burnt bone, burnt clay and daub. The amount of slag recovered along with the ferrous residues from the soil samples suggests small-scale iron smithing took place in the near vicinity, though assessment of the slag itself was indicative of domestic hearth linings. The large quantity of pottery found also hints at related occupation; however no structural remains were identified. Charcoal spot samples taken from the upper two fills of the ditch were from birch and alder or hazel, and would be suitable for AMS dating if required.

Only one feature was uncovered within the area enclosed by the curvilinear ditch, this was a small pit (**160022**) containing 3rd century pottery, abundant charcoal and coal fragments. There was also a small amount of ferrous globules and hammerscale identified during an assessment of the deposit which would indicate the presence of hearth or forge waste.

It is possible that the large curvilinear ditch functioned as a defensive enclosure, as the stream to the south is small and easily passable.

### ***Phase 1a: Roman II/Post-Roman***

A small area of this ditch suggests a later phase of occupation. Once the ditch had filled up it was re-cut (**160019**) and a layer that measured 7m long, 1.2m wide by 0.58m deep, which consisted of flat compacted stones was deposited (**160018**). The purpose of this deposit remains unclear; it may have been a type of levelling layer possibly because the deposits that filled the phase 1 ditch were too soft to be easily traversed or constructed upon, and so the stone was laid to form a hard standing over the softer ground. Curiously, ceramic evidence from amongst these stones dated from the 1st or 2nd century AD, predating the ditch they cover, which suggests that the stones may have been re-used from an earlier construction nearby, and the pottery was transported along with it accidentally as part of the make-up material. It is possible, therefore, that these stones were robbed from an abandoned structure which had previously stood within the enclosure. The ditch follows the same alignment as the stream suggesting that the stone layer may be related to the fording of an early stream course.

### ***Phase 2: Post-medieval/Early modern***

To the southeast of the ditch was a post-medieval dumping pit (**160030**) containing pottery, clay pipes, glass and a few iron objects dating to the 20th century which overlay the remains of a northwest-southeast orientated trackway (group **160039**). The trackway measured 2.6m wide by 0.3m deep and up to 17m was exposed. The finds recovered included post-medieval pottery, charcoal and a fragment of slate roof tile. This is probably the remains of a post-medieval farm track, and the finds assemblage suggests that it was in use from the late 16th to mid 18th century. By the 19<sup>th</sup> century, and the earliest surviving maps of the plot, it was no longer in use.

#### 4.2.4 Plot 400 - Herefordshire

##### *Summary*

Two separate sites were recorded within this plot, at the south-eastern end were a pair of discrete pits of postulated Bronze Age date, whilst at the north-western end of the plot was a Romano-British rectilinear enclosure, with an internal division, but few internal features.

##### *Location, Topography and Geology*

Plot 400 (NGR 35054 22611) was located immediately west of Marsh Lane, south of The Hall, and northwest of Treberon, approximately 1km southwest of Pencoyd. The plot occupies a position on the east-facing slope of a low rise, with the west edge of the plot towards the crest (figure 11). The plot was under arable crop prior to excavation.

The topsoil was mid-dark brown friable sandy silt overlaying firm mid reddish brown silty loam. These soils were fairly well drained and overlay firm mid reddish brown sandy clay.

##### *Archaeological Background*

The archaeological desk-based assessment did not identify any previous archaeological records within the vicinity (Cotswold Archaeology 2006).

The geophysical survey did not reveal any significant geophysical anomalies within the plot although coverage was incomplete, and as such no evaluation trenches were excavated within this area (Bartlett-Clark Consultancy 2007).

Based on this evidence it was decided that an archaeological watching brief of the topsoil strip would be adequate mitigation for the plot.

##### *Results*

There were two distinct loci revealed within the plot, and these also appear to represent two separate phases (figure 28):

##### *Phase 1: Early Bronze Age*

At the southeast end of the plot was a pair of pits. Pit 40004 was a sub-circular pit 0.86m long by 0.83m wide and 0.2m in diameter. It had a single fill, which produced an undated burnt chunk of flint and a single sherd of Roman pot. The other pit 40002 was also sub-circular, measuring 0.8m long by 0.78m wide and 0.25m deep. It, too, had a single fill which produced 14 sherds of early Bronze Age pot, probably from a Beaker, or possibly a Food Vessel.

No other pits or anthropogenic feature were located in this area of the plot, and it seems likely that the two pits were individual, discrete features not associated with any further activity. The disparity in the dates from the ceramic evidence is intriguing, as given the scarcity of archaeological activity in this area it seems unlikely that two near identical pits from two separate periods would be excavated side-by-side by coincidence. As such it seems probable that either the Roman potsherd is intrusive or the Bronze Age pot is residual, though to ascertain which is difficult because, whilst the Bronze Age assemblage is clearly larger than the

Roman, it all appears to derive from a single vessel, and the single Roman pot fragment is quite large and only slightly smaller than all the Bronze Age pieces put together. However, it is felt that, given the large quantity of Roman material present in sub-soil and topsoil that it is far more likely for a single sherd of Roman pot to intrude into a prehistoric pit, than it would be for a substantial fragment of Early Bronze Age pot to remain residual within a small Roman pit. Therefore, both of these pits have been deemed to be of Early Bronze Age date. Despite the rarity of Beaker pottery from non-funerary deposits in Britain, it is not believed that these pits are funereal, primarily due to the lack of burnt material, and it appears more likely that they were domestic waste pits or storage pits.

### ***Phase 2: Roman***

Approximately 220m northwest of this area of activity was the second locus of activity. This took the form of the southwest corner of what appeared to be a rectilinear enclosure. Two of the boundary ditches were visible within the plot. As these ditches were distinct and their courses clear, it was decided to maintain a running track for construction traffic through the centre of the site. The western of the ditches (group **40097**) ran NNE-SSW and was 36m long before it was truncated by a modern asbestos dump at the northern extent. No trace of it could be found beyond the asbestos dump. The ditch varied between 1.62m and 2.42m wide and between 0.74m and 0.85m deep. The ditch appeared in plan to have numerous "bulges" along its length, which would usually indicate activity alongside the ditch or recuts, but investigation of these anomalies revealed them to be part of the ditch's construction, either repairs or collapses. For the most part the ditch had a single fill, except where it joined the internal division gully (group **40067**); at the SSW corner with group **40098**; and in a short stretch near the SSW corner where there was evidence of an "ankle breaker" style slot at the base of the ditch which had silted up prior to the final backfill of the ditch, which appeared to be a natural event. Only the main fill produced finds, which comprised a single, undated fragment of iron slag, two fragments of mid-late Iron Age or 1st century AD pot, and 34 Roman potsherds dated to the mid-late 2nd century AD.

At its south-south-western extent **40097** cornered 90° to become an ESE-WNW ditch (group **40098**). This ran for 21m, and then appears to curve slightly to face ENE-WSW as it shallows out and terminates. This was interpreted as the entranceway to the enclosure as the western terminus of another ditch (**40070**) on **40098**'s original alignment was located 3m southeast of the eastern terminus of **40098**.

**40098** was noticeably narrower and shallower than **40097**, varying between 0.83m and 1.45m wide and between 0.31 and 0.64m deep. As it shallowed out at the eastern terminus it was only 0.13m deep. This is likely to be the result of increased truncation rather than deliberate construction. The ditch contained a single fill for much of its length, though at the corner with **40097** and at a couple of other points along its length were localised dumps of material. One of these dumps produced 18 sherds of late Iron Age or 1st century AD pottery and animal bone, including a cow skull. Another produced five sherds of Roman pottery dated to the 1st or 2nd century AD. The remainder of the backfill produced 75 sherds of Roman pot dated to the 1st or 2nd century AD.

The course of **40098** was continued beyond the entranceway by ditch **40070**. This measured 4m long within the plot, extending beyond the pipeline easement to the ESE, and 1.13m wide. It was 0.6m deep, and contained a single fill from which no finds were recovered.

Near the NNE visible extent of **40097** was a short gulley (**40074**) that formed part of an internal division within the enclosure. This division ran ESE-WNW, parallel to ditch **40098**. **40074** was 0.63m wide and 0.19m deep and it had a single fill, which produced no finds. **40074** terminated after 3m, and after a 1.5m wide gap, another gulley (group **40067**) began on the same alignment, suggesting the gap was a means of access from one internal division to the other. This gulley ran for 24m before terminating. Whether this terminus represented another access point is unknown, as the terminus was against the edge of the excavated area. **40067** varied from 0.71m wide at its termini to 0.95m wide at other points, and from 0.24m deep at the termini to 0.35m deep. The gulley had a single fill, which produced an enormous quantity of pottery for its size. From roughly 15% of the gulley was recovered a representative sample of 503 Roman potsherds, all dated to about the mid 2nd century AD.

There were very few internal features within the enclosure ditches, probably due to historical truncation or ploughing. To the south of **40067**, near its ESE terminus, was a small pit (**40076**). This was sub-oval and measured 0.92m long by 0.56m wide and 0.19m deep, with a concave profile. It had a single fill which contained a single sherd of Severn valley ware, dated to the 2nd century AD or later.

5m north of the entranceway in **40098** was the only other internal feature, a large, shallow pit (**40085**) which measured 4.9m long by 2.52m wide as exposed, but only 0.11m deep. As exposed it had a sub-rectangular cut with an irregular profile, though it continued to the west under the preserved running track. It had a single fill which produced 13 sherds of 2nd century AD Severn valley ware. No definite function could be ascribed to the feature.

Environmental assessment of the ditch fills revealed that most contained low densities of charred cereals and seeds. It would appear likely that the material is derived from scattered or wind-blown domestic or agricultural refuse, much of which was probably accidentally included within the feature fills.

### *Unphased*

At the southeastern end of the plot, near the prehistoric pits, were a series of parallel linears (group **40020**). These were shallow and irregular, the longest petering out after 18m. They varied between 0.62 and 1.05m wide, and between 0.14m and 0.34m deep. Their irregularity and sterile silty fills suggested that they were natural water-worn channels.

## **4.2.5 Plot 464 - Herefordshire**

### *Summary*

A concentration of pits and postholes at the eastern end of the plot produced Bronze Age pottery and what might have been cremated human remains, possibly indicative of a settlement or funerary site. A further lone pit was located at the western end of the plot, which may have been a fire pit or ash-dump, but no date could be ascribed to this.

### *Location, Topography and Geology*

Plot 464 (NGR 362125 227690) was located 1.4km north of Phocle Green and 1.6km south east of Hole in the Wall and the River Wye (figure 14). The plot occupied a relatively flat position and was under arable crop immediately prior to excavation.

The topsoil was 0.30m deep, friable, reddish brown, sandy silt. The subsoil was very similar in nature – if a little darker, while the underlying natural geology was a firm, mid orangey brown, clay and sandstone fragment mix.

### ***Archaeological Background***

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i) and geophysical survey (Bartlett-Clark Consultancy 2007) did not highlight anything of significance in this plot.

As such no evaluation trenches were carried out, and the site was stripped under archaeological watching brief.

### ***Results***

The watching brief uncovered a moderate number of archaeological features, principally pits but also a ditch, thought to represent Bronze Age activity – possibly settlement. All but one of these features were clustered toward the northeast corner of the plot (figure 29). The other pit was located toward the northwest corner of the plot (figure 14).

The majority of the pit features seen in the north eastern corner of the site were roughly circular in plan and moderate in size with moderately steep, fairly regular, concave sides and concave bases. All cut through the natural geology and all were sealed by the subsoil. These features are tabulated below;

**Table 4-1 Plot 464 cut features**

<b>Cut</b>	<b>Dimensions (m)</b>	<b>Fill</b>	<b>Description</b>	<b>Finds</b>	<b>Function</b>
<b>46401</b>	0.46 x 0.50 x 0.08	46400	Friable, pale grey brown, silty clay	None	Possible posthole
<b>46403</b>	0.78 x 0.68 x 0.16	46402	Reddish brown friable silty sand with frequent charcoal flecks	Bronze Age pottery, possible cremated human bone	Cremation pit
<b>46405</b>	0.70 x 0.40 x 0.25	46407	Brownish grey silty sand (upper)	None	Possible posthole
		46406	Burnt / heated pinkish clay (side / slump)	None	Possible posthole
		46404	Charcoal rich, brownish grey, sandy silt (lower)	None	Possible posthole
<b>46409</b>	0.67 x 0.70 x 0.12	46408	Charcoal rich, mid grey brown, clayey silt	None	Possible posthole
<b>46412</b>	0.44 (dia) x 0.12	46413	A soft, very dark brownish black, silty sand	None	Possible posthole
<b>46415</b>	0.50 x 0.44 x 0.11	46414	Friable, pale grey, clayey silt. Organic nature to fill	None	Possible posthole
<b>46417</b>	0.36 x 0.30 x 0.11	46416	Friable, pale orange brown, clayey silt	None	Possible posthole
<b>46419</b>	0.73 x 0.80 x 0.21	46418	Friable, mid orange brown, silty sand. Charcoal rich	None	Possible posthole

Cut	Dimensions (m)	Fill	Description	Finds	Function
<b>46421</b>	0.70 (dia) x 0.12	46420	Loose, black, charcoal rich, peaty, loam.	Bronze Age pottery and charcoal fragments	Possible waste pit
<b>46422</b>	0.35 (dia) x 0.11	46423	Soft, dark orange brown, silty sand with frequent charcoal inclusions	Possible cremated human bone	Possible posthole or cremation pit
<b>46425</b>	0.46 x 0.30 x 0.23	46424 (0.15m thick)	Friable, reddish brown, clayey sand with frequent charcoal flecking (upper)	None	Probable diffused remains of post-pipe.
		46426 (0.05m thick)	Compact mid reddish brown clayey sand with much blue clay mixed into the matrix	None	Packing material around post
		46427 (0.08m thick)	Very compact / hard, reddish brown, clayey sand. Frequent stone inclusions	None	May be acting as some form of compact 'post pad'
<b>46428</b>	0.08m (dia) x 0.12m (steep V shaped cut)	46429	Soft, black, silty peat containing many charcoal inclusions	None	Stakehole, part of 46460
<b>46433</b>	0.50 x 0.32 x 0.20	46432	Friable, dark orange brown, silty clay	None	Posthole - truncated by ditch [46431]
<b>46435</b>	0.44 x 0.24 x 0.10	46434	Friable, mid orange brown, silty clay	None	Posthole - truncated by ditch [46431]
<b>46436</b>	0.30 (dia) x 0.10	46437 (0.10m thick)	Mid brownish red sandy silt (lower fill)	None	Posthole
		46438 (0.0m thick)	Blackish brown sandy silt with frequent charcoal inclusions (upper fill)	None	Posthole
<b>46439</b>	0.25 (dia) x 0.11	46441 (0.03m thick)	Mid greyish brown, sandy silt with frequent charcoal inclusions (upper fill)	Early Bronze Age pottery	Posthole
		46440 (0.08m thick)	Dark greyish brown, sandy silt with frequent charcoal inclusions (lower fill)	None	Posthole
<b>46443</b>	0.60 x 0.52 x 0.13	46442	Pale orange brown, clayey silt with a charcoal lens	None	Pit - function unclear.
<b>46444</b>	0.05 (dia) x 0.12	46445	Pale reddish brown sandy silt with occasional charcoal flecking.	Early Bronze Age pottery	Stakehole, part of 46460
<b>46447</b>	0.32 x 0.20 x 0.13	46446	Friable mottled dark grey silt / pale orange brown silty clay	None	Posthole
<b>46449</b>	0.28 x 0.24 x 0.21	46448	Friable, pale grey brown, clayey silt	None	Posthole
<b>46450</b>	0.23 x 0.43 x 0.03	46451	Dark, charcoal rich silt	None	Pit / tree throw

Cut	Dimensions (m)	Fill	Description	Finds	Function
<b>46453</b>	0.30 x 0.36 x 0.14	46452	Friable, pale orange brown, clayey silt	None	Posthole
<b>46459</b>	0.50 (dia) x 0.17	46458	Friable mid reddish brown silty sand	None	Pit – unclear function
<b>46463</b>	0.15 (dia) x 0.22	46464	Friable mid reddish brown silty sand	None	Posthole – truncated by cremation [46403]

Within this collection of pits there were a number of distinct groups or clusters, made up of;

Group 1 - arranged in a roughly square pattern and possibly representative of a structure, consists of features **46443**, **46419**, **46412**, **46401**, **46450** and **46459**. This group also contains **46422** – a possible cremation feature, detailed below

Group 2 – arranged in a rough east - west alignment, consists of features **46449**, **46447**, **46463** and **46433**. This group also contains **46403** – a possible cremation feature, detailed below

Group 3 – arranged in a rough NW – SE alignment, consists of features **46453**, **46409**, **46415**, **46417** and **46453**

Group 4 – a roughly circular cluster of pits, postholes and stakeholes. Centred around pit **46421** with smaller postholes to the south west, **46436** and **46439**. Surrounding these postholes, and the south western quadrant of **46421**, were 14 small stakeholes (group **46460**), each 0.05m – 0.07m in diameter and c. 0.12m deep.

However, for the purposes of this report these groupings have not been used as a basis for phasing, as none of them were completely convincing alignments or shapes. As such the only features to be phased were:

### ***Phase 1: Bronze Age***

Pit **46403** was roughly circular, 0.78m long x 0.68m wide and 0.16m deep, with moderately steep, concave sides and an irregular, slightly concave, base. The fill of this feature was a friable, dark orangey brown, which contained a quantity of burnt bone, potentially human, charcoal and some early Bronze Age pottery. This feature, thought to be a cremation, was truncated by posthole **46463** and truncated the natural drift geology. C. 8m SW of pit **46403** was smaller pit **46422**, which measured 0.35 in diameter x 0.11 deep. This pit also produced burnt bone which might have been human. The bones from both pits were assessed as being greatly fragmented, but likely to be human.

Pit **46403** truncated small post or stakehole **46463**, which measured 0.15m in diameter and 0.22m deep. No finds were recovered from it.

Running through this area of archaeological activity were two linear ditches, (**46465** and **46455**). Ditch **46465** emerged from the northern limit of excavation and ran on a south westerly alignment for 4.20m before ending with a rounded terminus. The feature was between 0.25 – 0.60m in width, and excavation of two 1m and a single 0.50m slots demonstrated a U – shaped profile with moderately steep, regular

concave sides and a concave base. The single fill was friable, pale orangey brown, clayey silt that contained occasional charcoal flecks.

Ditch **46455** ran on exactly the same alignment as ditch **46465**. The rounded, north eastern, terminal end of ditch **46455** being located c. 0.40m to the south west of the terminal end of **46465**. Ditch **46455** ran for 2m before running beyond the southern L.O.E. It is likely that ditches **46455** and **46465** represented a single enclosure / boundary feature with an entrance point in it – represented by the gap between these two ditches.

Ditch **46465** truncated a pair of pit or posthole features, (**46433** and **46435**). No finds were recovered from either feature, and no clear purpose could be assigned to them. It is possible they related to **46463** and represented some pre-Bronze Age activity on the site, but it seems more likely that they were part of the same phase of activity, just short lived and rapidly replaced.

To the east of **46465**, pit and stakehole cluster (**46421**, **46436**, **46439** and group **46460**) all appeared to date from this phase. No clear function could be ascribed to any of them. The Bronze Age pottery from these features appeared to be Beaker, and in the case of the pottery from **46439**, possibly an Urn.

Pit **46401**, to the west of ditch **46455** was also dated to this phase by a single fragment of prehistoric pottery. Though it could not be more accurately dated than that, and was initially believed to be Iron Age, given the preponderance of Bronze Age pot in the other datable features it seems likeliest that this was contemporary with them.

In fact, it is quite likely that all of the features in this area belonged to the same phase of activity, and that the entire complex of features represented Bronze Age use of the area, possibly settlement, as represented by the post holes and possibly the enclosure feature. The probable cremations were also evidence of ritual activity being undertaken in this area, and assessment of the environmental samples showed much of the residue to be related to fuel ash, though whether from domestic fires or funeral pyres could not be determined.

The pottery from the small cluster of features including **46421**, **46436**, **46439** and **46460** appeared to be early Bronze Age, whereas the remainder of the ceramic assemblage is not necessarily early Bronze Age, and may even be later Bronze Age. This might suggest a relatively lengthy occupation or utilisation of the area, or it might reflect some uncertainties in the identification of the prehistoric pot fragments.

The single, isolated, pit to the north-west (**46499**) was 1.45m in diameter and 0.24m deep with shallow concave sides and a concave base. The lower fill of pit (**46497**) was a friable mid pinkish brown, clayey silt and which contained a moderate amount of charcoal flecking. The upper fill (**46498**), was a friable, pale pinkish brown clayey silt which also contained a moderate quantity of ash and charcoal. The heat related nature of these fills indicate that this pit may have been a firepit or hearth clear-out (ash) dump feature, though no date could be ascribed to it.

### **4.3 “Minor” Watching Brief Sites**

A total of 47 smaller sites were discovered during the course of the watching brief. Where small assemblages of finds were recovered without associated features, these



have not been considered sites, and are catalogued in appendix D, as GPS finds. The 47 minor sites are summarised below, by county:

#### **4.3.1 Plot 2 - Powys**

This plot (NGR 303143 / 231891) was located 790m south east of Sarnu, 390m south west of Llandefaelog, in Powys, with the River Honddu running north to south through the eastern edge of the site (figure 2). In this area the topsoil was a 0.27m thick deposit of mid reddish brown, clayey silt. This lay on top of pale pinkish brown, silty clay subsoil, from within which a sherd of Roman pottery was recovered. The natural geology was a hard, mid red, sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey did not highlight anything of significance in this plot (CA 2006i, 2006iv, 2006vii), but the geophysical survey revealed anomalies (Bartlett-Clark Consultancy 2007), based upon which nine evaluation trenches were excavated. None of these trenches produced any significant archaeology, although a single foundation stone course – of uncertain, but probably the base of a stone field boundary of late date was discovered in evaluation trench 4.

The watching brief did not reveal any substantial archaeological remains, however, the work did identify an ancient river channel (20004) located toward the eastern edge of the site. This was aligned with the river Honddu to east and a known, visible, earthwork to the west. This palaeo-channel was visible as a 1m – 2m wide band of mid grey, soft, silty clay that ran, on a slightly meandering route, north to south across the width of the plot. It was not excavated, but was brought to James Rackham's attention who, after initial investigation, decided it was not worth further examination.

#### **4.3.2 Plot 23 - Powys**

This plot (NGR 306010 / 234150) was located 1.2km north east of Garthbrenny, 500m south of Pencaemelyn and 1.2km south east of the mound of Twyn-y-gaer, in Powys (figure 2). At this plot the topsoil was recognised as a 0.20m thick deposit of mid, reddish brown, clayey silt with frequent sand inclusions and the subsoil as a very similar, but darker, deposit. The natural geology was a hard, mid red, sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief did not reveal any significant archaeological remains however, again a 5m wide stretch of soft, dark grey brown, clayey silt ran east to west across the south eastern corner of the site. This deposit (23004) was not excavated and, thought to be representative of another ancient stream or pond. An environmental assessment of the feature found it to be almost entirely composed of a mass of indeterminate roots, stem fragments and moss fronds, most of which were relatively well preserved. Seeds were scarce, but those present were all of wetland plants. The presence of caddis larval cases may have indicated that low velocity water conditions prevailed within the feature, perhaps indicating it was more palaeo-channel than pond.

#### **4.3.3 Plot 29 - Powys**

This plot (NGR 306242 235076) was located 1km south west of Cefnmachllys, 750m east of the mound of Twyn-y-gaer and 1km south of Cwn Gwilym, in Powys (figure 2). Here, the topsoil was recognised as a 0.25m thick deposit of mid, reddish brown, clayey silt with frequent sand inclusions and the subsoil as a very similar, but darker, deposit. The natural geology was a hard, mid red, sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006I, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single, linear, ditch (29004) aligned east to west and running across the width of the plot at its southern end. Excavation of a single slot within the ditch indicated that the feature was 0.60m wide and 0.21m deep with moderately steep concave sides a concave base, and open U – shaped profile. The single fill (29004), was mid brown, silty sand with frequent small stone inclusions. This fill also contained a single, undiagnostic burnt flint, of uncertain date.

#### **4.3.4 Plot 31 - Powys**

This plot (NGR 306222 235076) was located 780m west of Cefnmachllys, 890m east of the mound of Twyn-y-gaer and 630m south of Cwn Gwilym, in Powys (figure 2). At this plot the topsoil was seen to be a 0.18m thick deposit of mid, reddish brown, clayey silt with frequent sand inclusions. The subsoil was soft, pale yellow brown, silty clay. The natural geology was a hard, mid red, sandstone, mixed with solid yellow clay. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief did not uncover any significant archaeological remains. However, an unexcavated spread of soft, dark grey brown, peaty loam (31004) c. 1.80m in diameter and located toward the south eastern corner of the plot may have represented an ancient pond.

#### **4.3.5 Plot 39 - Powys**

This plot (NGR 306404 236258) was located 1km east of Llethercynon, 1.4km west of Wernddyfwg and 300m north-west of Cwn Gwilym, in Powys (figure 2). Here, the topsoil was a 0.15m thick deposit of mid greyish brown, clayey silt, which overlay a mid brownish grey, silty clay subsoil. The natural geology was not revealed at this stage. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single linear ditch, aligned west to east and located toward the south western corner of the site. This ditch (39003) emerged from the western baulk of the plot and ran for 8m before petering out and becoming lost.

Excavation of a single slot in the ditch revealed that this feature was 1.5m wide and 0.33m deep with an asymmetrical, irregular, slightly concave, sides and a narrow, flat, base. The single fill of this feature (39004) was soft, greyish sandy silt, with frequent stone inclusions but did not contain any archaeological finds. The ditch truncated the natural geology and was sealed by the subsoil.

#### **4.3.6 Plot 48 - Powys**

This plot (NGR 307248 237673) was located on the southern edge of the village of Werntoe and 1.4km south east of Llaneglwys, in Powys (figure 2). At this plot the topsoil was a 0.25m thick deposit of friable, mid grey brown loam, while the subsoil was an orange brown, clayey silt with frequent small inclusions. The natural geology was not revealed at this stage. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single linear ditch, running across the width of the site, aligned west to east and located centrally within the plot. A single slot was excavated in this ditch (48003) and revealed the feature to be 1.2m wide and 0.25m deep with steep almost vertical, irregular sides and a flattish base. The single fill (48004) was a pale brownish yellow clayey sand. This fill contained a little modern pottery that was not retained during watching brief.

#### **4.3.7 Plot 59 - Powys**

This plot (NGR 308546 238746) was located 370m east of Tir Bach and 1.6km north east of Werntoe, in Powys (figure 2). At this plot the topsoil was a 0.25m deep deposit of a friable, dark grey, loamy material. The subsoil was brownish orange sandy clay. The natural geology was not revealed at this stage. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single linear ditch, running across the width of the site, aligned north to south and located toward the western edge of the plot. A single slot was excavated in this ditch (59004) and revealed the feature to be 0.6m wide and 0.12m deep with steep almost vertical, regular sides and a flatish base. The single fill (59003) was a friable mid brown sandy loam with occasional small stone inclusions and which did not contain any archaeological finds.

#### **4.3.8 Plot 60 - Powys**

This plot (NGR 308791 238861) was located 2.6km east of Llaneglwys, 1.1km south of Rhiwiau and 1.9km north of Pentrenewbury, in Powys (figure 2). In this area the topsoil was a 0.20m thick deposit of friable, mid grey, sandy loam, which overlay pale brown, sandy, stoney, clay subsoil. The underlying natural geology was not revealed at this stage of the work. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a spread of burnt bone, context 60003 located toward the south eastern side of the plot. This layer was amorphous in plan with an uncertain extent and lay between the topsoil and subsoil. The date of this layer was also unclear. Assessment of the bone revealed it to be human, and may be suggestive of the scattering of ashes.

#### **4.3.9 Plot 61 - Powys**

This plot (NGR 309039 238997) was located 2.8km east of Llaneglwys, 1.2km south east of Rhiwiau and 2.2km north east of Pentrennewbury, in Powys (figure 2). In this area the topsoil was a 0.20m thick deposit of friable, dark brown, sandy loam that contained frequent inclusions of stone. This deposit overlay pale brown, sandy, stoney, clay subsoil. The underlying natural geology was not revealed at this stage of the work. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a moderate sized pit – a possible quarry feature, adjacent to which was a roughly rectangular / amorphous shape in plan with a dome shaped section – representing throw out from this pit. This mound was 7.3m wide, 9m long, 1.08m tall and sat on top of the topsoil, towards the west end of the plot. Sitting directly on the topsoil were layers 61003 – a 0.45m thick deposit of compact clayey sandstone and 61002 – a 1.2m thick deposit of silty clay. Overlying both of these deposits was 61004 a 0.60m thick layer silty clay with a substantial amount of sandstone fragments mixed into the layer – making up around 50% of the soil matrix. Finally, covering the whole mound (and sitting on top of 61004) was layer 61005, a layer of turf. No archaeological finds were recovered from within the mound, or the pit. The nature of this mound, i.e. sitting on topsoil, suggests that this mound – and its associated pit were relatively modern in date.

#### **4.3.10 Plot 74 - Powys**

This plot (NGR 311480 238167) was located 1.8km west of Llyswn, 1.3km west of an earthwork just outside of Tir Gwallter, argued to be variously an Iron Age hillfort, a medieval castle or a natural hill (Remfry, 1998; Remfry 1995; King, 1983), and 1.7km west of the River Wye, in Powys (figure 2). In this area the topsoil was a 0.20m thick layer of friable, mid brown, clayey silt while the subsoil was mid yellow brown silty clay with frequent, small, stone inclusions. The underlying natural geology was greyish pink clay containing frequent, moderately large, sandstone fragments. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single, isolated, archaeological feature toward the centre of the plot – a probable hearth, which was half sectioned in order to understand it fully. The feature consisted of a number of elements. The initial cut

(74003) was 1.2m long by 1m wide and 0.24m deep, with moderately steep, regular, concave sides and a slightly concave base – resulting in a wide, open, U-shaped profile. This initial cut truncated through the natural geology and, once complete, the cut was lined with stone. This lining consisted of uncut, small to medium sized sandstone stones, typically 0.10m thick. These stones, 74004, had areas of pink blush on them – indicating heating. The basal fill (74005), sitting directly on this stone lining, was a 0.08m thick layer of friable, orange, silty sand and may have represented material which built up in the hearth over its useful life. The final, upper fill (74006) was friable, pinkish grey, silty sand which contained much charcoal. This material would appear to represent a combination of burnt material – material representing the final use of the hearth and left in place following the abandonment of the hearth, and naturally derived material which has built up in the feature over time. Unfortunately no archaeological finds were discovered within the feature.

#### **4.3.11 Plot 75 - Powys**

This plot (NGR 311530 237980) was located 1.7km west of Llyswen and the River Wye, 1.2km west of the earthwork outside of Tir Gwallter (see plot 74) and 500m north of Maesgwyr, in Powys (figure 2). Here, the topsoil was a 0.20m thick layer of friable, mid brown, clayey silt which overlay a soft, mid yellow brown, silty clay subsoil, which contained frequent small stone inclusions. The underlying natural geology was pale red brown, compacted clay containing substantial sandstone inclusions. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered two pits, located toward the centre of the plot. Pit 75004 was 0.66m wide, 1.09m wide and 0.34m deep. The entirety of this feature was excavated and this demonstrated that the feature had, steep, straight, side and a narrow, concave base with a V-shaped profile. The single fill (75003) was a dark brown silty loam that contained frequent sand inclusions and some burnt stone, but no archaeological finds.

Pit 75007 was 3.50m long, 2.2m wide and 0.40m deep. One quadrant of the feature was excavated and this revealed that the feature had asymmetrical sides – one long, shallow and straight, the other steeper and concave, with a concave base. The basal fill (75006) was 0.20m deep and consisted of friable, dark grey silt which contained occasional small stone inclusions and a few fragments of early prehistoric pottery. The upper fill (75005) was a friable, very dark grey, silt. This upper fill was sampled and an assessment of that deposit suggested that it was hearth waste.

What the exact function of either of these pits was is not clear, they may have been used for the disposal of domestic waste.

#### **4.3.12 Plot 78 - Powys**

This plot (NGR 311600 237510) was located 890m north east of Ponde, 1.2km south west of the known earthworks outside of Tir Gwallter (see plot 74) and 740m north of Brechfa, in Powys (figure 2). Here, the topsoil was a 0.20m thick layer of friable, mid brown, clayey silt which overlay soft, orange brown silty clay subsoil, which contained frequent small stone inclusions. The underlying natural geology was pale red brown, compacted clay containing substantial sandstone inclusions. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The archaeological watching brief only uncovered a fairly small pit, most likely a tree bole, toward the south edge of the plot.

#### **4.3.13 Plot 79 - Powys**

This plot (NGR 311618 237369) was located 810m north east of Ponde, 1.3km west of the earthworks just outside of Tir Gwallter (see plot 74) and 590m north of Brechfa, in Powys (figure 2). The topsoil in this area was a 0.20m thick layer of friable, mid brown, clayey silt which overlay a soft, mid orange brown silty clay subsoil, which contained frequent small stone inclusions. The underlying natural geology was not revealed at this stage. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a 2.5m long, 0.75m wide stretch of roughly hewn and roughly squared, sandstone blocks that probably represented the remains of a boundary wall, which had become damaged and spread out over time and by the continued agricultural use of the land. This wall was preserved to a height of 0.14m (approximately two courses) and truncated the subsoil, being sealed by the topsoil. This wall ran on a NE-SW alignment across the northern part of the site.

#### **4.3.14 Plot 88(b) - Powys**

This plot (NGR 313120 237520) was located 540m south west of Llyswen and the River Wye and 450m south east of the earthworks outside of Tir Gwallter (see plot 74), in Powys (figure 2). The topsoil at this plot was a 0.20m thick layer of soft dark reddish brown, clayey silt. The subsoil underneath was a firm, mid greyish brown, silty clay, while the underlying natural geology was mix of heavy dark yellow clay and a large blocks/ fragments of limestone. The plot was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment (CA 2006i) revealed a medieval motte 120m to the north, a post medieval house site and trackway 100m to the south and a standing stone 100m to the south east. The earthwork survey (CA 2006iv), fieldwalking survey (CA 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief did not uncover any archaeological features or finds, but did identify an area of colluvial deposition toward the eastern end of the site. This deposit was an amorphous spread of firm, pale yellowish brown, sandy clay with frequent limestone fragment inclusions. This deposit overlay the natural geology and was sealed by the subsoil.

#### **4.3.15 Plot 92 - Powys**

This plot (NGR 313503 237366) was located 580m south of Llyswen and 840m south east of the earthworks at Tir Gwallter (see plot 74), in Powys, with Dderw spring running along the northern edge of the plot (figure 2). In this area the topsoil

was a 0.25m thick deposit of friable, mid red brown, silty clay. The subsoil was soft, pale orange brown, silty clay which contained frequent moderately sized stone fragments. The natural geology was not revealed at this stage. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment and the earthwork survey (CA 2006i, 2006iv) located the Dderw Spring just to the north of the site. The fieldwalking survey (CA 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief revealed a moderately sized oval feature toward the southern edge of the site that contained a single, naturally derived, backfill in which was discovered a single piece of Roman tile. This feature truncated the subsoil and was sealed by the topsoil.

Toward the northern end of the site was a 10m long by 3m wide, 0.10m deep spread of charcoal rich gravely silt which also overlay the subsoil and appeared to represent the dumping of clearly modern industrial waste material, or possibly a metallised surface, none of which was retained.

#### **4.3.16 Plot 95 - Powys**

This plot (NGR 313700 236900) was located 1.1km south of Llyswen, 1.4km south east of the earthworks at Tir Gwallter (see plot 74), 620m west of Pentre Sollars and 1.4km west of a known moat site, in Powys (figure 2). In this area the topsoil was a 0.20m deep, friable, mid red brown, clayey silt while the subsoil was a 0.02m, soft, thick dark grey brown silty clay. Underlying this was pale, yellowish brown, silty clay, which appeared to be a mix of natural geology and naturally deposited colluvial material. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iv, 2006vii) did not highlight anything of significance in this plot, but the geophysical survey revealed anomalies (Bartlett-Clark Consultancy 2007) based upon which two evaluation trenches were targeted on this plot (Network Archaeology 2009i). None of these trenches produced any significant archaeology.

The watching brief revealed four moderately sized, roughly circular pits located toward the south western end of the plot, (95004, 95006, 95010 and 95012). All of these features were half sectioned to investigate their nature and they were seen to truncate the natural geology and to be sealed by the subsoil. All were thought to have been tree boles, although the charcoal content of basal fill 95005 in cut 95006 meant that this feature may have acted as a dump for waste, though it is more likely that the tree was burnt out. No archaeological finds were discovered.

#### **4.3.17 Plot 98 - Powys**

This plot (NGR 314350 236940) was located 800m north west of a known moat site, 720m south of The Dderw and 980m east of Porth-y-morddwr, in Powys (figure 2). Here, the topsoil was a 0.25m deep layer of friable, mid brown, silty clay. The subsoil was soft, dark orange brown, silty clay with frequent small stone inclusions. The underlying natural geology was a light, mottled pinkish grey, clay. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The archaeological watching brief revealed a single amorphous / loosely circular shaped pit toward the south eastern edge of the plot. Half sectioning of this feature revealed it to be 1.24m long, 0.85m wide and only 0.03m deep with shallow irregular sides and an irregular base. This pit (98003) contained a single fill (98004), soft, mottled, dark brownish orange clayey silt which contained infrequent small stone inclusions and more frequent charcoal inclusions. This feature truncated the natural drift geology and was sealed by the subsoil. This feature was probably the heavily truncated remains of a tree bole, although the possible charcoal content of the feature may have been indicative of the dumping of heated waste.

#### **4.3.18 Plot 99 - Powys**

This plot (NGR 314600 237000) was located 650m north of a known moat site, 1.1km south of the River Wye and 1.6km south east of Llyswen, in Powys (figure 2). The topsoil at this plot was a 0.20m deposit of friable, mid reddish brown, clayey silt which sat over subsoil that consisted of a soft, pale orange brown, silty clay that contained frequent inclusions of small stone. The underlying solid natural geology was a firm, mid red, mixed sandstone and clay matrix. The watching brief also revealed areas of compact, mid red brown, sandy silt colluvium, sitting between the subsoil and natural geology on the slope of the hill toward the eastern end of the plot. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

As well as the presence of a colluvial layer, the watching brief also discovered a linear ditch running north-west to south-east across the entire width of the plot, with each end of the ditch disappearing beyond the limits of the excavation. This ditch, (99005) was, therefore, greater than 29m long. Excavation of a single metre wide slot within the body of the ditch showed it to be 0.37m wide and 0.47m deep with steep, regular sides and a narrow, concave base – resulting in a V-shaped profile. The basal fill (99004) was 0.35m deep and consisted of moderately compact, brown, silty sand. The upper fill (99003) was a 0.12m thick layer of moderately compact, red brown, silty sand. Neither contained any archaeological finds. The only archaeological material discovered from this plot was a single fragment of what may have been a late Mesolithic / early Neolithic flint. This ditch truncated the natural geology and was sealed by the subsoil.

#### **4.3.19 Plot 105 - Powys**

This plot (NGR 315416 237236) was located 520m south of the River Wye, 950m north east of a known moat site and 2.1km west of Three Cocks (figure 2) within the centre of which there is an undated earthwork enclosure. A Motte and Bailey site also lies on the north-western edge of Three Cocks, the plot lying 1.8km to the south west of this Motte and Bailey. The plot lay within the county of Powys. The topsoil in this area was a 0.10m thick layer of friable, mid red brown, clayey silt. The subsoil below this was 0.20 thick deposit of soft, dark orange brown, silty clay. The underlying natural geology was matrix of mid pinkish grey clay and sandstone. The plot was utilised as pasture immediately prior to excavation.



The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iv, 2006vii) did not highlight anything of significance in this plot, but the geophysical survey revealed anomalies (Bartlett-Clark Consultancy 2007) based upon which two evaluation trenches were targeted on this plot (Network Archaeology 2009i). None of these trenches produced any significant archaeology.

The archaeological watching brief noted a single pit located in the south western corner of the plot. This feature (105003) was sub circular in plan, 0.68m long by 0.62m wide. Half section excavation of the feature revealed the feature to be 0.13m deep with moderately steep concave sides, a concave base and a U-shaped profile. This feature contained two fills, the basal fill (105004) was 0.08m deep and was a friable, dark brown, clayey silt which contained frequent charcoal fleck inclusions. The upper fill (105005) was 0.05m deep and consisted of soft, pale orange brown, silty clay which contained occasional charcoal fleck inclusions as well as a few fragments of undated slag, with traces of possible hearth lining attached. This ditch truncated the natural geology and was sealed by the subsoil.

#### **4.3.20 Plot 110 PIG Trap ancillary area, west of Plot 110 - Powys**

This plot (NGR 316340 237860) was located 1.2km west of the known earthwork enclosure at Three Cocks and 980m south west of the Motte-and-Bailey just to the north of Three Cocks. It was also 3km east of Llyswen and 410m south of the River Wye, in Powys. In this area the topsoil was a 0.27m thick layer of friable, mid brown, clayey silt. This overlay a 0.35m thick subsoil of soft, mid orangey yellow, silty clay with a moderate level of stone inclusions. The underlying drift geology was a 0.40m thick layer of soft, reddish grey, mottled silty clay. The solid geology below was compacted grey sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii), and evaluation trenching (Network Archaeology 2009ii) did not highlight anything of significance in this plot. No geophysical survey conducted on the PIG trap ancillary area.

The watching brief uncovered a single NNE-SSW aligned, linear ditch (59003), which ran parallel to a known Roman road (see Plot 110 above), though sufficiently distant to not be directly associated. Excavation of the feature demonstrated a depth of 0.82m, moderately steep, concave, sides and a concave base, with a U- shaped profile. The single fill (59004) was a soft, mid red brown, silty clay which contained occasional small stones and charcoal flecks. No finds were recovered from this deposit, and apart from orientation and proximity nothing else linked it to the Roman road in plot 110.

#### **4.3.21 Plot 126 - Powys**

This plot (NGR 317900 238207) was located 770m north east of the earthwork enclosure at the centre of Three Cocks, 390m north west of a Long Barrow to the north east of Three Cocks, 210m west of a Tumulus, 720m east of the Motte and Bailey site and 1.3km East of the River Wye, in Powys (figure 2). The topsoil in this area was 0.20m thick layer of friable, mid red brown, clayey silt. The subsoil below this was 0.20 thick deposit of friable, pale red brown, silty clay. The underlying natural geology was matrix of compact dark red brown clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The archaeological watching brief identified a single, short, linear ditch or elongated oval pit, **126005**, which truncated the natural geology and was sealed by the subsoil. This feature was located centrally toward the eastern edge of the plot and aligned north south. The feature was seen to be 9.50m long with rounded terminals at both ends. Excavation of a metre slot at each end of the feature demonstrated that it was 0.80m – 1.20m wide and 0.14m – 0.23m deep with moderately steep, irregular, slightly concave sides and an irregular concave base. The basal fill (126010) was 0.23m deep deposit of firm, dark greyish brown, clayey silt. The upper fill (126011) was 0.11m thick layer of friable, dark red brown, silty clay which contained a few stone inclusions. The ditch truncated the natural geology and was sealed by the subsoil. While the archaeological feature did not contain any finds the subsoil, however, contained a few scattered fragments of fired clay, pottery and slag. The pottery dated to the Romano British period.

#### **4.3.22 Plot 132 - Powys**

This plot (NGR 318620 238800) was located, 610m south east of Tyruched and the River Wye and 710m north east of the known Tumulus, just to the north of Three Cocks (figure 2). In fact, the plot was located on the north eastern slope of the hill on which the Tumulus sat, in the county of Powys. At this plot the topsoil was a 0.30m thick layer of friable, mid red brown, clayey silt. The subsoil below this was a deposit of friable, dark red brown, silty clay. The underlying natural geology was matrix of compact dark red brown clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

Toward the north eastern edge of the plot, the watching brief identified a single moderately sized (1m long by 1.2m wide and 0.34m deep) irregularly shaped pit (**132003**) which contained a single, sterile and leached, naturally derived infill (**132004**). This feature was thought to be a tree throw which truncated the natural geology and was sealed by the subsoil. No archaeological artefacts or ecofacts were identified during this work.

#### **4.3.23 Plot 144 - Powys**

This plot (NGR 319730 240163) was located 400m south of the River Wye, 1.1km east of Llanthomas and 1km east of a known motte site on the edge of The Paddocks, in Powys (figure 2). At this plot the topsoil was a 0.30m thick layer of friable, mid red brown, clayey silt. The subsoil below this was a deposit of soft, pale orange brown clayey silt. The underlying natural geology was not revealed by this phase of works. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment (CA 2006i) identified the Pont-yr-Angel milestone near the plot. However, the earthwork survey (CA 2006iv), fieldwalking survey (CA 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The archaeological watching brief identified a single pit, roughly central to the plot, which truncated the natural geology and was sealed by the subsoil. This feature, (144003) was an irregular sub circle in plan – 0.40m wide by 0.30m long. Excavation of half of this feature revealed irregular sloping sides and an irregular base, with a depth of 0.07m. The single fill (144004) was a sterile, leached, naturally derived infill. This feature was located roughly centrally within the plot and was probably a tree throw. No archaeological finds were identified at this plot during this work.

#### **4.3.24 Plot 147 - Powys**

This plot (NGR 320300 240470) was located 650m east of the River Wye, 580m west of the known moat near The Paddocks, 990m north west of Llanigon and 3km south west of the historic village of Hay-On-Wye, in Powys (figure 2). At this point the topsoil was a 0.30m thick layer of friable, mid red brown, clayey silt. The subsoil below this was a deposit of soft, pale orange brown, clayey silt. The natural geology was not uncovered at this stage of the works. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief identified a single pit toward the southern edge of the plot. This feature, 147004, was amorphous/ circular-shaped – 0.30m wide, 0.40m long and 0.16m deep with asymmetrical, irregular sides and an irregular, concave, base. The two fills (147006 and 147005) were each naturally derived, the lower of the two, 147006, containing a few charcoal flecks inclusions. This feature was thought to have been a tree throw, which cut through the subsoil and was sealed by the topsoil.

#### **4.3.25 Plot 153 - Powys**

This plot (NGR 320750 / 240610) was located 280m north west of the motte, 700m north west of Llanigon, 970m east of the River Wye and 2.4km south west of Hay-On-Wye, in Powys (figure 2). At this plot the topsoil was a 0.20m thick layer of friable, mid red brown, clayey silt. The subsoil below this was a deposit of soft, yellow brown, silty clay. The underlying natural geology was matrix of compact dark red grey clay and sandstone. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief identified a single pit (153004) located toward the centre of the plot, roughly oval in plan 1m long and 0.50m wide. Half section excavation of the feature revealed the feature to be 0.20m deep with steep, slightly concave sides and a narrow, concave base. The single fill (153005) was a moderately compact, mid red brown, silty sand which contained occasional small stone inclusions as well as some charcoal flecking, but no finds. This feature truncated the natural geology and was sealed by the subsoil.

#### **4.3.26 Plot 178 - Powys**

This plot (NGR 323740 240630) was located 1.8km south east of Hay-On-Wye, 740m south west of the castle earthworks at Cusop and 990m south west of Cusop itself, in Powys (figure 2). At this plot the topsoil was a 0.30m thick layer of friable, mid red brown, clayey silt with occasional small stone inclusions. The subsoil below this was a deposit of soft, pale red brown, clayey silt. The underlying natural geology was matrix of compact dark red brown clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

During the watching brief, a substantial field boundary feature (178002) was observed to run, north to south, along the western limit of the plot. The base of this sat 3.1m below the top of the slopes to either side. The eastern slope was 6.5m wide and the western one 7m, the gap between the two c. 6m. In the centre of the base of this ditch was a stream channel, 0.56m deep and 2.5m wide with a u-shaped profile. The stepped sides appeared to represent the cultural modification of a natural stream channel to allow animal access. Though the feature was a substantial channel, and near the site of the Offa's Dyke Path (designated in 1949 and opened in 1971), it did not represent the actual course of Offa's Dyke itself, which – based on surviving remnants found near Byford in Herefordshire – ran north to south approximately 16km east of here.

#### **4.3.27 Plot 181 - Powys**

This plot (NGR 324200 240400) was located 1km south of some castle earthworks, 560m west of Llangwathan and 1.3km north east of Penhenallt, in Powys (figure 2). At this plot the topsoil was a 0.10m thick layer of friable, mid brown, clayey silt with occasional small stone inclusions. The subsoil below this was a 0.20m thick deposit of soft, pale orange brown, silty clay which contained moderate inclusions of small stones. The underlying natural geology was matrix of compact dark pink red clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

Toward the eastern edge of the plot was large roughly circular feature full of a dark grey, sticky clay. This feature was not excavated but pottery was found on the surface of the fill. This was datable to the 19th century. The feature was probably a pond.

#### **4.3.28 Plot 182 - Powys**

This plot (NGR 324330 240520) was located 970m south east of the castle earthworks at Cusop, 450m north west of Llangwathan and 1.2km south east of Cusop in Powys (figure 2). At this plot the topsoil was a 0.20m thick layer of friable, mid brown, clayey silt with occasional small stone inclusions. The subsoil below was a deposit of soft pale orange brown, silty clay which contained moderate inclusions of small stones. The underlying natural geology was matrix of compact

pale greyish red clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iv, 2006vii) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single irregular, amorphously shaped, tree bole and a post medieval land drain. Both truncated the natural geology and were sealed by the subsoil.

## **Herefordshire**

### **4.3.29 Plot 198 - Herefordshire**

This plot (NGR 324360 242730) was located 560m north west of Mouse Castle Motte and Bailey, 1.6km north east of Hay-On-Wye and 1.4km north of the castle earthworks at Cusop, and nearby Cusop itself, in Herefordshire (figure 3). At this plot the topsoil was a 0.25m thick layer of soft, mid red brown, clayey silt with occasional small stone inclusions. The subsoil below was a deposit of soft pale orange brown, clayey silt which contained moderate inclusions of small stones. The underlying natural geology was matrix of compact dark greyish red clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered two irregular, amorphously shaped, tree boles located toward the centre of the plot. Both truncated the natural geology and were sealed by the subsoil.

### **4.3.30 Plot 199 - Herefordshire**

This plot (NGR 324360 242810) was located 1.6km north east of Hay-On-Wye, 590m north of Mouse Castle Motte and Bailey and 1.7km north of Cusop, in Herefordshire (figure 3). At this plot the topsoil was a 0.25m thick layer of soft, mid red brown, clayey silt with occasional small stone inclusions. The subsoil below was a deposit of soft pale orange brown, clayey silt which contained moderate inclusions of small stones. A 0.05m thick lens of charcoal rich silt was also identified, located roughly within the centre of the plot. The underlying natural geology was matrix of compact dark brownish red clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment (CA 2006i) noted the presence of the Clifford / Cusop parish boundary nearby, while the earthwork survey (CA 2006iii), fieldwalking survey (CA 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief identified two pits in this plot. The first, **199004**, was located toward the south eastern edge of the plot. It was roughly circular in plan 0.74m wide, 0.70m long. Half section excavation of the feature demonstrated that the feature was 0.12m deep with regular, moderately steep, concave sides and a flat base. The single fill (199005) was dark, greyish black, silt with intensive charcoal fleck and fragment inclusion. The other pit, **199006**, was located just to the east of

the centre of the plot. It was sub circular in plan, 0.40m wide and 0.30m deep. Half section excavation of the feature showed the pit to be 0.05m deep with irregular, concave sides and a concave base. The single fill (199007) was the same as 199005. Both features truncated the natural geology and were sealed by the subsoil. Neither contained any archaeological finds. The fill of 199006 was sampled and was assessed to be most likely a discrete dump of hearth waste, suggesting both pits were used to dispose of domestic hearth residue.

#### **4.3.31 Plot 211 - Herefordshire**

This plot (NGR 326188 244072) was located 2.2km south east of Clifford, the nearby Clifford Castle and the adjacent River Wye (figure 3). In this area the topsoil was a 0.30m thick layer of soft, mid red brown, clayey silt with occasional small stone inclusions. The subsoil below was a deposit of soft pale orange brown, clayey silt which contained moderate inclusions of small stones. The underlying natural geology was matrix of compact mid red, clay and sandstone. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based (CA 2006i) assessment noted the presence of a cropmark enclosure 220m to the north west and a medieval building just beyond the plot to the north west, while the earthwork survey (CA 2006iii), fieldwalking survey (CA 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single pit located toward the south eastern corner of the plot. This feature (211004) was an irregular oval in plan, 2.06m long (east to west), 0.40m wide. Excavation of a slot at the western end of the feature revealed that the pit was 0.05m deep with a shallow, slightly irregular side and a concave base. The single fill was a friable, dark grey, silty clay that contained a moderate amount of charcoal inclusions, as well as finds of early modern / late post medieval pottery, 3 roof slates, and a few scraps of degraded iron nails, which were identified as modern by Network Archaeology and not sent for specialist assessment. The function of this pit was most likely a rubbish pit.

#### **4.3.32 Plot 314 - Herefordshire**

This plot (NGR 336993 236156) was located 1.4km to the south of Vowchurch Common and 1.3km to the south west of the Motte and Bailey site at Monnington Court, in Herefordshire (figure 3). The deposit model noted consisted of a 0.40m deep, loose, mid brown, sandy loam that overlay a firm, pale brownish orange, silty clay subsoil. This in turn overlay the natural drift geology, which consisted of a firm, mid to dark brown mixed clay. The plot was utilised as pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iii, 2006vi) recorded surface ridge and furrow in this plot, and the geophysical survey revealed anomalies in this plot (Bartlett-Clark Consultancy 2007), based upon which three evaluation trenches were excavated (Network Archaeology 2009i). These revealed six possible tree boles, a possible ditch, and a possible stream channel. These finds were not considered of sufficient significance to proceed to full excavation, and the site was stripped under watching brief.

The archaeological remains identified during the watching brief consisted of a single circular pit (31400) located in the centre of the area, on the southern edge of

the pipeline trench This feature was 0.74m in diameter and 0.14m deep with steep, straight almost vertical sides and a flatish base. Complete excavation of this feature revealed a single fill - 31401 - a fairly compact mid brown sandy silt which contained a little flint and some fragments of probable Bronze Age pottery. Environmental data recovered from this fill did not reveal any significant data. This feature cut directly into the natural geology and was sealed by the subsoil.

No further evidence of the ridge and furrow was identified.

#### **4.3.33 Plot 331 - Herefordshire**

This plot (NGR 336993 236156) was located 1.3km to the south west of Kingstone, in Herefordshire (figure 3). The overburden consisted of 0.40m deep topsoil - a firm, mid brown, mixed sandy clay and a 0.30m deep firm, mid reddish brown subsoil the matrix of which was mixed silty clay with frequent small stone (gravel) inclusions. This overlay the natural drift geology which was a compact, mid brownish orange, mixed clay and stone material. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iii, 2006vi) did not highlight anything of significance in this plot, but the geophysical survey revealed a few anomalies in this plot (Bartlett-Clark Consultancy 2007), on which four evaluation trenches were targeted (Network Archaeology 2009i). From this, trenches 2, 3 and 4 produced a few minor archaeological features and a small number of associated artefacts, including Iron Age pottery. A full excavation was also undertaken within this plot (see 4.1.6), producing a Romano-British ring ditch and a post-medieval planned landscape.

During the subsequent watching brief a single N-S aligned, linear ditch was seen, running along the north western edge of the plot for 7m before running under a bund to the south and the limit of excavation to the north. This ditch (33100) was 0.50m wide and only very shallow (0.03m max depth). A single fill (33101) was recorded and was a firm, dark grey, silty clay. Again this feature appeared to be cut into the natural geology and was sealed by subsoil. As so little of the ditch survived no finds were recovered.

No evidence of the possible pond or fence line thought to have been identified during the evaluations was found and it is likely that the features identified during the evaluation were, in fact, misinterpreted variations within the natural geology.

#### **4.3.34 Plot 375 - Herefordshire**

This plot (NGR 348519 230655) was located 460m to the south of Much Dewchurch and its associated earthwork just to the east and 1.9km to the south west of Kings Thorn, in Herefordshire (figure 3). The deposit model for this plot demonstrated a soft, mid brown, sandy silt topsoil which was 0.45m deep and overlay a firm, mid orange brown, clay and gravel mix subsoil. In turn this overlay a natural colluvial layer - a 0.20m deep, soft, mid brown, sandy loam which lay above in the solid drift geology, a compact, mid brownish orange, mixed clay and stone matrix. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iii, 2006vi) did not highlight anything of significance in this plot, but the geophysical survey revealed anomalies in this plot (Bartlett-Clark

Consultancy 2007), on which three evaluation trenches were targeted (Network Archaeology 2009i). None of these trenches produced any archaeology.

The only feature noted during the watching brief was a 6m long, 0.40m wide and 0.13m deep stone lined culvert, 37503, constructed from c. 0.10m thick slabs of the local sandstone (37501) and which ran NNW – SSE across the width of the site at its western end. The sides of the culvert were almost straight sided and the base flat. The culvert had become filled up with a naturally deposited, firm, reddish brown, silty clay (37502), which did not contain any finds. This drain *may* be linked to a known moat 100m beyond the southern limit of the site. It is notable, however, that this feature cut through subsoil 37504 rather than the natural geology, and was sealed by the topsoil. This would imply that the culvert was fairly late in date – probably later medieval to modern.

#### **4.3.35 Plot 390 - Herefordshire**

This plot (NGR 349880 228260) was located 1km east of Llanwarne in Herefordshire (figure 3). The topsoil in this area was a soft, very dark brown, loam which overlay the firm, dark brown, clayey silt of subsoil. The underlying natural drift geology was a compact, dark brownish orange, mixed clay and stone matrix. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief found the remains of four, probably farm, buildings which were located centrally against the southern limit of excavation, on the western edge of the pipeline footprint. The buildings occupied a total area of c. 60m (E-W) by c. 30m (N-S). All of the buildings were built using a combination of clay bricks and fairly well squared and dressed stone, and were located just under the topsoil, truncating the subsoil. None survived to a height greater than 0.40m. This stratigraphy, combined with onsite observation of the bricks used in the construction of the buildings, suggested a post medieval date.

Building 39002 appeared to be a moderately sized, at least three roomed, building, 15m wide (W-E) and 12m long (N-S), was the most north westerly of the group of buildings, and was a slightly irregular Z shape in plan

Building 39003 was a roughly rectangular building with at least a single room, 4m wide (N-S) and at least 5m long (E-W), with the western end of the building running beyond the edge of the site, at a central point

Building 39004 was also rectangular in plan, 12m long (N-S) and 5m wide (E-W) with at least two rooms internally. This building was located centrally within the building group area.

Building 39005 was another rectangular structure, aligned NW – SE, 14m long and 5m wide with at least two large internal rooms. The north-western end of the building disappeared beyond the western baulk at its southern end.

No artefacts were retained from this area, as the excavator identified them as very modern, or post-war, though subsequent map studies have not identified these structures.



#### **4.3.36 Plot 416 - Herefordshire**

This plot (NGR 353431 224784) was located 1.5km to the southeast of Michaelchurch, 340m south of Gillow Manor and 1km west of Saint Owens Cross, in Herefordshire (figure 3). In this area the topsoil was recorded as a 0.35m thick layer of soft, mid brown, sandy loam. This overlay subsoil composed of a compact, mid orange brown, sandy silt. The underlying natural geology was a firm mid, brownish orange, sandy silt with frequent sandstone fragment inclusions. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief revealed a single linear ditch feature which was located centrally, toward the southern edge of the site. This ditch, **41603**, was aligned east to west, was 0.72m wide, 0.46m deep and at least 14.50m long. The western end of the feature ran beyond the western baulk of the site, with the eastern end petering out and becoming lost within the body of the plot. The single metre wide slot, excavated within the middle of the ditch, demonstrated irregular, sloping sides and an irregular, concave base – resulting in a wide U-shaped profile. The single fill (41604) was a compact, pale orange brown, silty sand that appeared to be naturally derived and was fairly sterile and leached in nature. The fill contained no archaeological finds of any sort and its nature may have indicated that the feature functioned as an ancient field drain. This ditch truncated the natural drift geology and was sealed by the subsoil.

#### **4.3.37 Plot 444 - Herefordshire**

This plot (NGR 357621 227635) was located 410m north west of Sellack Marsh, 1.2km east of Sellack and 2km south east of Kings Caple and Caple Tump, in Herefordshire (figure 4). In this area the topsoil was seen to be soft, pale red brown, silty clay – 0.35m in depth, which overlay a subsoil of firm, pale brown, silty clay. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006ii, 2006vi) did not highlight anything of significance in this plot, but the geophysical survey revealed anomalies in this plot (Bartlett-Clark Consultancy 2007), on which four evaluation trenches were targeted (Network Archaeology 2009i). These contained only a little archaeology, of fairly low significance, with a single sherd of possible late Bronze Age Urn being discovered in a stone culvert uncovered in trench 1.

The watching brief uncovered two inter-cutting ditches towards the south end of the plot. Both ditches were about 1.0m wide and less than 0.3m deep. However, both were part of a clearly modern drainage system, and no finds were retained.

#### **4.3.38 Plot 449 - Herefordshire**

This plot (NGR 358423 227452) was located 620m to the south of Strangford and 440m north east of Sellack Marsh, in Herefordshire (figure 4), with the River Wye lying 900m to the north and (due to a bend in the river to the east) 500m to the south. The topsoil at the plot consisted of friable, reddish brown, sandy loam which was c. 0.55m thick. The underlying subsoil was a 0.49m layer of firm, reddish brown, silty sand. Below this lay a reddish brown, colluvium beneath which was

the solid geology of mixed clay and stone. The plot was under pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a number of partially surviving walls of what was probably the remains of a single post medieval farm building, toward the eastern end of the plot. All of these walls were constructed from the local red sandstone, bonded with a soft lime mortar. Each roughly hewn stone was c. 0.50m x 0.05m in size.

Wall 44903, as surviving, was 6.30m long (N-S), 0.54m wide and 0.47m tall (approximately four courses) and appeared to be set into a steep sided, square profiled foundation cut (44904), which was 0.31m deep and truncated the natural drift geology. Wall 44908 lay just to the south of 44903 and, based on its position and alignment, may have been a very damaged continuation of wall 44903. Wall 44908 was only 0.58m long (N-S) and 0.52 wide and one course deep. It appeared to have been very heavily truncated with only a cohesive core of five or six stones, the rest being loosely scattered around this core.

Wall remains 44905 were a little more substantial. Although again truncated to a point where only one course survived the remaining stones retained their structure and were less scattered. This wall formed a rough C shape, c. 2m long N-S and 1.87m wide.

Walls 44903, 44908 and 44905 were all, at least partially, overlain by deposit 44909. This layer appeared to be a spread of demolition material, derived from the collapse of the farm building. This material was a compact, mid brown, sandy silt which contained much charcoal and demolition rubble (broken stone blocks etc). In addition, within this layer were some clay pipe fragments and sherds of early modern pottery, as well as small pieces of glass, charcoal flecks and a little animal bone.

Structures 44907 and 44906 appeared to be post pads, associated with the post medieval building. Both were laid directly onto the natural geology (rather than into any foundation cut) and both were one course thick, constructed with local siltstone blocks. Pad 44906 was the northerly of the two, and the smallest at 0.46m x 0.40m (N-S). Pad 44907 lay c. 0.50m directly to the south of 44906 and was 0.58m x 0.59m (N-S).

#### **4.3.39 Plot 459 - Herefordshire**

This plot (NGR 360912 227481) was located 370m east south east of the village 'Hill of Eaton', 1.1km north of Brampton Abbots and 1.2km south of the River Wye, in Herefordshire (figure 4). In this area, the topsoil was a 0.50m thick layer of mid brown, sandy loam. The subsoil was pale brown orange, sandy silt while the natural geology was a dark brown orange, mixed clay and stone material. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single elongated oval pit (45901) located toward the northern end of the plot. This feature was 4.40m long (N-S), 1.30m wide and 0.02m deep, with shallow, concave sides and a flat base. The single fill (45900) was pale greyish brown, sandy silt which contained inclusions of occasional stone as well as charcoal flecks. Artefacts recovered from this deposit include a small quantity of animal bone as well as a little modern glass. This feature cut into the natural geology and was sealed by the subsoil.

#### **4.3.40 Plot 461 - Herefordshire**

This plot (NGR 361130 227730) was located 1km south of Hole in the Wall and the River Wye and 1.3km north east of Brampton, In Herefordshire (figure 4). At this plot the topsoil was a 0.40m thick, friable, mid brown, sandy loam. The subsoil under this was a firm, pale brown, clayey silt. The underlying natural geology was a mid orangey brown, clay and sandstone fragment mix. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single pit, 46103, located toward the north eastern end of the plot. This feature was sub circular in plan, 0.37m long (N-S), 0.46m wide and 0.1m deep with regular, steep, straight sides and a flat base. This pit was filled with a friable, mid grey brown, clayey silt that contained frequent charcoal fragment inclusions as well as small pieces of burnt human bone. The whole of this feature was excavated and it is thought that it was a cremation burial of unknown date.

#### **4.3.41 Plot 462 - Herefordshire**

This plot (NGR 361500 227750) was located 1.1km south of Hole in the Wall and the River Wye and 1.5km north east of Brampton Abbots in Herefordshire (figure 4). Here, the topsoil was a 0.40m thick layer of reddish brown, sandy silt. The subsoil was orange brown, silty sand while the natural geology was a mid orangey brown, clay and sandstone fragment mix. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey and fieldwalking survey (CA 2006i, 2006iii, 2006vi) did not highlight anything of significance in this plot, but the geophysical survey revealed anomalies in this plot (Bartlett-Clark Consultancy 2007), on which two evaluation trenches were targeted (Network Archaeology 2009i). Neither of these trenches produced any archaeology.

The watching brief uncovered an amorphous spread of material at the interface between the topsoil and subsoil, toward the eastern extent of the plot. This layer was roughly 1.4m x 0.60m in plan and around 0.10m deep and consisted of a friable, mid greyish brown, silty sand that contained a moderate amount of charcoal flecking as well as a quantity of slag. This material would appear to represent dumped residue / waste from an industrial activity of an unknown date

#### **4.3.42 Plot 486 - Herefordshire**

This plot (NGR 366071 227961) was located 260m east of Upton Court, near Upton Bishop, in Herefordshire (figure 4). The topsoil was a 0.40m thick mid reddish brown sand, while the underlying natural geology was a firm, mid orangey

brown, clay and sandstone fragment mix. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief identified three pits and a ditch, none of which contained any archaeological artefacts. The features were in relatively close proximity to each other, towards the eastern end of the plot. The nature of these pits is tabulated below;

**Table 4-2 Plot 486 cut features**

<b>Cut</b>	<b>Shape</b>	<b>Dimensions</b>	<b>Fill</b>	<b>Nature</b>	<b>Function</b>
<b>48601</b>	Irregular	0.68 x 0.57 x 0.18	48602	Firm, mid grey, sandy clay with frequent sandstone fragment and charcoal inclusions	Rubbish pit containing the remains of heating activity
<b>48609</b>	Circular	0.72 x 0.68 x 0.09	48603	Firm, dark grey, sandy clay containing sandstone fragment and charcoal inclusions	Possible simple hearth or dump
<b>48605</b>	Circular	2.06 x 1.77 x 0.34	48606	Loose, dark grey, silty sand containing frequent sandstone and charcoal inclusions as well as small pieces of burnt flint as well as small fragments of possible smelting slag	Possible domestic waste dump feature.

These pits were located roughly centrally within the easement but did not appear to relate to each other in any spatial way. All truncated the natural geology and all were sealed by the subsoil.

Palaeo-environmental assessment of the material from pit **48605** showed moderate amounts of charred barley grains, suggesting this may have been a domestic waste dump.

Ditch **48608** was located toward the eastern edge of the area. This ditch was linear and emerged from the southern baulk of the excavation area and ran on a north – south alignment for 10m before petering out and becoming lost. Excavation of a single 1m slot revealed that the feature was 1.4m wide and 0.6m deep with steep, irregular, convex side and a concave base. The single fill (48607) was a firm, grey brown, silty clay. This did not contain any finds.

#### **4.3.43 Plot 487 - Herefordshire**

This plot (NGR 366391 228238) was located 880m south of Fishpool and 1.1m north of Tedgewood, in Herefordshire (figure 4). At this plot the topsoil was a firm, mid yellow brown, clayey silt. This overlay subsoil which was a dark yellow brown, clayey silt which contained a moderate amount of stone. The underling natural

geology was a firm, dark brown, clay with frequent sandstone fragment inclusions. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered five pits located roughly centrally within the easement, midway through the plot, but which did not appear to relate to each other in any way. The nature of these features is tabulated below;

**Table 4-3 Plot 487 cut features**

<b>Cut</b>	<b>Shape</b>	<b>Dimensions</b>	<b>Fill</b>	<b>Nature</b>	<b>Function</b>
<b>48702</b>	Sub-circular	1.25 x 1.20 x 0.20	48701	Firm, very dark grey, silty clay with frequent charcoal fleck inclusions	Pit – nature unclear
<b>48704</b>	Irregular, elongated oval	0.76 x 0.28 x 0.04	48705	Very dark brown, black, silt and charcoal matrix	Pit – Possible industrial dump feature
<b>48707</b>	Sub-oval	1.04 x 0.65 x 0.10	48708	Mid yellow brown, clayey silt. Frequent charcoal inclusions	Pit – Possible industrial dump feature
<b>48709</b>	Oval	1.42 x 1.44 x 0.19	48710	Firm, mid grey, sandy clay with frequent stone inclusions and ferrous slag	Pit – Probable industrial dump feature
<b>48712</b>	Circular	1.7 x 1.75 x 0.18	48711	Firm, black, silty clay with frequent charcoal flecking and ash	Pit – heating waste pit

The only feature which contained any finds was pit **48709**, which contained a quantity of slag, indicating that the feature may have been a waste dump pit, the material dumped into it being derived from a metal working industrial activity. All of these features truncated the natural geology and were sealed by the subsoil.

Environmental assessment of the samples taken from pits 48702 and 48704 produced significant charcoal quantities, but nothing else to help define the nature or purpose of these features.

Truncating the subsoil (and sealed by the topsoil) was layer 48706. This material covered an area of around 0.97m x 0.80m to a depth of 0.03m and was a compact, dark, reddish orange, clay which contained a large amount of black charcoal and frequent patches of burnt red clay mixed in with the soil matrix. This deposit appeared to represent deliberately dumped waste material, derived from a heating / industrial process, though presumably of much later date than the pits sealed by the subsoil.

#### 4.3.44 Plot 488 - Herefordshire

This plot (NGR 366601 228478) was located 630m south of Fishpool and 1.4km north of Tedgewood, in Herefordshire (figure 4). Here, the topsoil was a 0.40m deep reddish brown silty loam. The subsoil was mid yellow brown, sandy clay with frequent inclusions of small stones. The underlying natural geology was a heavy, mid brownish yellow clay that contained frequent stone inclusions. The site was under arable cultivation immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006iii, 2006vi) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief revealed a single isolated pit roughly in the centre of the plot. This feature (**48801**) was circular in plan 1.20m in diameter and 1m wide. The feature was investigated and dismissed as a burnt out tree-bole, and hence not fully excavated. The fill (**48802**), as examined in plan, was dark brownish black, charcoal rich, clayey silt. The pit cut through the natural geology, was truncated by a modern field drain, and was sealed by the subsoil.

### Gloucestershire

#### 4.3.45 Plot 489 - Gloucestershire

This plot (NGR 366877 228773) was located 540m south east of Fishpool and south west of Kempley, in Gloucestershire (figure 4). On this plot, the topsoil was a 0.37m deep deposit of friable, reddish brown, clayey loam. The subsoil, underneath, was a firm reddish brown, clayey loam. The underlying natural geology was a heavy, mid brownish yellow clay that contained frequent stone inclusions. The site was under pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006ii, 2006v) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered a single pit, located toward the northern end of the plot. This pit, **48903**, was roughly circular in plan, 0.98m long by 0.92m wide. Half sectioning of the feature demonstrated the feature to be 0.05m deep with irregular, shallow, concave sides and an irregular / flatish base. The fill, **48904**, was a loose, black, humic silt which contained a large amount of charcoal and 32 fragments of fired clay or highly degraded pottery that could not be dated. The fill did not appear to indicate *in situ* burning but rather the dumping of burnt waste material.

#### 4.3.46 Plot 490 - Gloucestershire

This plot (NGR 366936 228885) was located 510m south east of Fishpool and 730m south west of Kempley, in Gloucestershire (figure 4). In this plot the topsoil was 0.32m deep deposit of friable, orange brown, sandy silt. This overlay a subsoil of firm, orange brown, silty loam. The underlying natural was a heavy orange clay. The site was under pasture immediately prior to excavation.

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006ii, 2006v) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief uncovered three sub circular pits, all located relatively close to each other toward the western edge of the plot. All cut the natural geology and were sealed by the subsoil and all were half sectioned. None contained any archaeological artefacts. The nature of these features is tabulated below;

**Table 4-4 Plot 490cut features**

<b>Cut</b>	<b>Dimensions</b>	<b>Fill</b>	<b>Nature</b>	<b>Function</b>
<b>490001</b>	1.7 x 1.8 x 0.33	490002	Very dark black, charcoal rich, silt with patches of burnt orange / pink clay.	The fill and surrounding natural indicate <i>in situ</i> burning – the feature may have been some sort of hearth or fire pit
<b>490003</b>	0.64 x 1.04 x 0.13	490004	A dark blackish brown, firm silty clay with frequent charcoal inclusions	Unclear if burning was <i>in situ</i> or if burnt waste material was dumped in
<b>490005</b>	1.10 x 1.12 x 0.20	490006	A soft, black, silty loam with frequent charcoal inclusions	Unclear if burning was <i>in situ</i> or if burnt waste material was dumped in

Palaeo-environmental assessment of these deposits showed them to be most likely from brushwood fires, indicative of hedge or woodland management. As the plot does not appear to be particularly close to any extant woodland, this is either archaic clearance or more likely evidence of boundary removal.

#### **4.3.47 Plot 562- Gloucestershire**

This plot (NGR 377662 228815) was located 1.2km south west of Staunton, 600m south of Hethelpit Cross and 1.5km east of a known moat site, in Gloucestershire (figure 4). The topsoil at this plot was a 0.30m thick deposit of pale orange brown, very sandy clay, which overlay a subsoil of pale brown orange, stoney clay. The underlying natural geology was a hard and compact, mid yellow, clay and gravel mix. The site was under pasture immediately prior to excavation

The archaeological desk-based assessment, earthwork survey, fieldwalking survey (CA 2006i, 2006ii, 2006v) and geophysical survey did not highlight anything of significance in this plot (Bartlett-Clark Consultancy 2007).

The watching brief identified a NW – SE aligned linear ditch, **56201**, towards the west end of the plot. This emerged from the eastern baulk and ran for 10m before ending in a rounded terminus. Excavation of a single 1m slot demonstrated that the feature had straight, steep sides and a narrow concave base, with a V – shaped profile. It was 0.50m wide and 0.21m deep. The single fill, 56202 was a compact, pale grey brown silty clay. This material contained 86 sherds of 2<sup>nd</sup> century Romano-British pottery, a not inconsiderable amount for such a small sample, but no associated features could be located within the plot. The feature was, however, indicative of a significant degree of Roman activity within the vicinity.

#### **4.3.48 Find scatters – Powys**

A single finds scatter was recovered during the watching brief of Powys, a concentration of 31 fragments of native Roman pottery in plot 56 (figure 2). These could not be dated more accurately than simply Roman period.

#### **4.3.49 Find scatters – Herefordshire**

Two finds scatters were recorded within Herefordshire:

- A flint cache in plot 368 (figure 3) was recorded and photographed, but could not be retained as the landowner would not allow material to be removed from site. The photographs were studied by Dr Amelia Pannett, and proved difficult to assess. Only one of the flints appeared potentially diagnostic, and that was tentatively identified as an early Neolithic leaf-shaped arrowhead.
- A scatter of 223 Beaker fragments from plot 467, predominantly comprising degraded crumbs. These were recovered during the removal of subsoil from the plot, and no associated features were identified in the vicinity.

### **4.4 Summarised Results of Specialist Assessment**

#### **4.4.1 Earlier Prehistoric Pottery (Neolithic to Bronze Age)**

747 sherds of prehistoric pottery were recovered along the length of the pipeline, predominantly from three sites, plots 49, 464 and 467.

With the exception of 25 mid to late Bronze Age fragments, from plots 464 and 569, all the pottery was of Early Bronze Age date belonging to Beaker/Food Vessel and various urn types. Fabrics varied from grog to quartz filled and organic voids were noted in some sherds including possible seed impressions.

#### **4.4.2 Later Prehistoric and Roman Pottery**

The archaeological work resulted in the recovery of some 9,909 sherds of pottery dating to the later prehistoric and Roman periods.

In total some 309 individual contexts yielded pottery from c.90 separate plots. The assemblages range from single sherds up to a maximum 1169 pieces from one context.

The assemblage revealed evidence of intermittent human activity dating from the earlier prehistory through to the Roman period with little trace of subsequent activity. There appears to be a noticeable absence of early-middle Iron Age material. Refining some of the mid-late Iron Age groups from the later Iron Age-early Roman assemblages may be a problem, as from a purely ceramic basis there is little to distinguish one from the other, particularly when the assemblages are small and unfeatured.

The bulk of the assemblage dates to the early Roman period and there would appear to be an element of continuity from the later Iron Age in some plots. The assemblage has a very local emphasis with few continental or regional imports, the most significant import being Dorset black burnished ware which tends to show consistent presence from the early-mid 2nd century onwards.

There is no evidence of very late Roman or post-Romano-Saxon activity.

#### **4.4.3 Medieval and Later Pottery**

1900 sherds of medieval or later pottery were recovered from the pipeline. The bulk of the material was from watching briefs and probably represents medieval and later



manuring scatters. Only 15 of these sherds were diagnostically Medieval and 19 were oxidised Malvernian wares of 15<sup>th</sup>-17<sup>th</sup> century date. This is of some interest in itself and is probably a reflection of dispersed settlement patterns as well as manuring being concentrated to infield lands close to settlement.

The overwhelming bulk of the assemblage dates from the late 16th century (if not the 17th century) to the present. This reflects a rising population, expanding arable and above all a rise in consumption of ceramics. The large proportion of pearlwares to white wares and the rarity of diagnostically late types suggest a fall off of ceramic deposition in the late 19th century as the rural population declined and arable was converted to pasture.

#### **4.4.4 Ceramic Building Material**

Twenty fragments of Ceramic Building Material (CBM) were recovered during the pipeline works; incorporating seventeen fragments of tile and three of brick. A further four undiagnostic fragments were also recorded.

The fragments were heavily abraded and due to size only basic identification could be assigned i.e. tile or brick. All consist of oxidised sandy fabrics with no other diagnostic features.

#### **4.4.5 Fired Clay and Daub**

77 fragments of fired clay were recovered from six identified sites, two major watching briefs and three other sites along the pipeline route. Six fragments of daub were recovered from Plot 271 in Herefordshire. The assemblage comprises largely of undiagnostic and heavily abraded fragments with a small number of fragments that have the remains of perforations and/or surfaces. Due to the size of the fragments no significant forms were identified. All are in oxidised sandy fabrics.

#### **4.4.6 Mortar**

Fourteen fragments of mortar were recovered from Powys from one major watching brief site (plot 49). The fragments were all heavily abraded with few diagnostic features.

#### **4.4.7 Stone**

A collection of 118 stone fragments was recovered from along the length of the Brecon to Tirley pipeline. Much consisted of fragments of cracked, rounded pebbles, which are often evidence of the presence of a mound of burnt stones, of Bronze Age date. However, very few of these stones were convincing and several were of a coarse sandstone which, if heated and suddenly cooled would probably have disintegrated.

A smaller collection consists of fragments of slate, used in the main as roof slates in the post-medieval, early modern and modern periods.

#### **4.4.8 Faunal Remains**

A total of 821 fragments of bone were recovered along the Brecon to Tirley natural gas pipeline, including those collected by hand and from sieving of environmental samples. The majority of the individual plot assemblages contained very few bone fragments.

Cattle were the most abundant species identified within the assemblage, followed by sheep/goat and pig. Individual fragments of domestic goose (Plot 49) and red deer (Plot 271) were also identified within the assemblages.

The overall condition of the hand collected bone was moderate to poor. The bone collected from sieving was of an overall moderate condition. The latter can be attributed to most of the bone being burnt.

Due to the small size of the assemblage and the condition of the remains the number of remains that could be scored for pathology, butchery, burning, gnawing, measurements and tooth wear ages were minimal.

#### **4.4.9 Cremated Bone**

Burnt bone weighing 121.2g in total was found in 22 contexts from nine sites excavated along the pipeline route. The remains were treated with respect according to accepted standards (McKinley and Roberts, 1993) by Network Archaeology, before being sent to specialists for assessment. The amount of bone recovered per context was generally small and the bone was heavily fragmented. As a result, no firm identification of the presence of animal or human bone could be made in the case of several samples.

#### **4.4.10 Metallurgy (Post Production Residues)**

The assemblage is largely composed of production residues (slag) relating to the production of iron. The assemblage also contains a smaller amount of possible iron smithing slags. A substantial proportion of the assemblage was recovered from contexts that are thought to date from the Late Iron Age/Romano British period and have a relatively narrow time-period, which is not in itself unusual.

Plot 430 is of particular note as it potentially contains material from all stages of iron smelting; slag tapped from the furnace during operation, slag remaining in the base of the furnace and metals which may be the products of the furnace. It is relatively unusual to find a site from this period with such a complete range of materials. This material is a valuable source of research potential and is of national significance (*pers. comm.* D. Dungworth, English Heritage).

#### **4.4.11 Metal and Special Finds**

The pipeline produced a small but interesting collection of metalwork and other material. A total of 40 objects were recovered, predominantly metalwork, but also including a shale bracelet and a glass bead.

The condition of the finds was fairly good although most of the metalwork was corroded with some loss of surface. It was found that the coins were in poor condition but this related, in the main to their heavily worn state at the time of loss. Other than modern material the most common finds were of Roman date, with only two objects, the lead spindle whorl and the buckle fragment dated as late Medieval and there were no Early Medieval finds.

#### **4.4.12 Flint**

The assemblage comprised 212 flints recovered during excavation and watching briefs along the length of the pipeline. While none of the sites excavated on this stretch of the scheme have produced significant assemblages from sealed

contemporary contexts, the presence of material within or associated with later deposits demonstrates the continued use of particular places within the landscape. The recovery of flints as isolated finds also provides a means of tentatively identifying patterns of land use throughout the early prehistoric period.

#### **4.4.13 Glass**

The Brecon to Tirley glass assemblage comprises 104 fragments which originate from two types of glassware, being window glass of 19th and early 20th century date, and utilitarian bottle glass of mainly 18th and 19th century date.

#### **4.4.14 Charcoal**

Charcoal was recovered from the residues from two sediment samples and from six hand-collected charcoal ('spot') samples from deposits recovered from five plots, two of which were 'Identified sites' (Plots 454 and 496) and three were 'Major watching brief sites' (Plots 49, 160 and 464). Archaeological features ranging in date from the Bronze Age to the post-medieval period were encountered.

The small quantities of charcoal recovered probably represent the remains of fuel used at the various sites and included wood species such as alder/hazel, birch and oak. In addition, one small piece of charcoal from a ditch fill from Plot 454 was identified as gorse. From prehistoric times onwards, this species has been used for a variety of purposes including thatching, as fodder for livestock and as fuel. Overall, the quantities of charcoal were too small to be of any real interpretative value, however.

No evidence of the pit identified during the trench evaluation was found. As this feature was seen within the side of the trench and did not cut the natural substrate it is likely that it was not seen and therefore lost during the removal of the topsoil and subsoil.

#### **4.4.15 Clay Tobacco Pipes**

The aggregated assemblage of clay tobacco amounted to 101 fragments, and came from a number of very small assemblages from twenty different plots along the pipeline. Pipes ranging in date from c. the mid 17<sup>th</sup> to the late 19<sup>th</sup> or 20<sup>th</sup> century were present but much of the material consists of stem fragments which are not closely datable. A small number of diagnostic pieces are most closely paralleled by the later seventeenth- and eighteenth-century products of Broseley, Shropshire.

#### **4.4.16 Charred Plant Macrofossils**

A total of 164 samples were assessed from deposits encountered along the pipeline route. These were reported on in three separate reports relating to the phase of works during which they were recovered. BRT75 refers to samples collected during the identified excavations. BRT 96 refers to samples collected during the watching brief of eastern Herefordshire and Gloucestershire, whilst BRT106 refers to samples collected during the watching brief of western Herefordshire and Powys.

BRT 75: Most of the material recovered from the identified sites was probably derived from small quantities of scattered or wind-blown refuse. However, occasional assemblages from features within Plots 111a, 269 and 454 did contain cereals and weed seeds, possibly indicating material derived from either agricultural or domestic waste.

BRT 96: The recovered assemblages were largely composed of charcoal/charred wood fragments although occasional cereals and seeds were recorded, principally from features within Plot 400 and from pit **48605**, Plot 486. All would appear to be derived from low density scatters of domestic and/or agricultural waste.

BRT 106: The assemblages from the Bronze Age cremation deposits (Plot 49) are principally composed of charcoal/charred wood and root/stem fragments, most of which are probably derived from materials used within the pyres. Two post-medieval pit fills from plot 49 appear to contain the remains of charred flooring or bedding materials. The fills from within Roman ditch in plot 160 contain small quantities of indeterminate charred refuse and some possible evidence of nearby smithing activities in the form of hammer scale and ferrous globules.

## 5 METHOD OF ASSESSMENT

### 5.1 Preparation of the Archive for Assessment

Artefacts recovered during the fieldwork were processed as appropriate, weighed, quantified and catalogued according to accepted professional standards and guidelines. The artefacts were divided according to their material types. The pottery was sub-divided into the three main period groupings; prehistoric, Roman and Iron Age, and post-medieval. The material was sent to the relevant specialists, initially to obtain spot dates and following this to produce the full assessment reports. As the nature of some of the prehistoric pottery was uncertain it was assessed by both the early prehistoric and the Iron Age pottery specialists to ensure an accurate assessment.

The written, drawn and photographic archives were cross-referenced and checked, to create a consistent and coherent paper archive. Site plans and matrices were digitised using AutoCAD. The entire paper archive was both scanned and photocopied to provide security copies. Excavation summaries were drafted.

### 5.2 Stratigraphic Assessment

A context matrix was prepared for each site using the written, drawn and photographic records. Stratigraphic relationships and the finds dates, chiefly pottery spot-dates, were used to sub-divide the matrix into phases. This phasing is currently not definitive, and will need updating where appropriate during the analysis phase of the project.

Narratives of the sites are provided in section 4, followed by a brief phased discussion. Figures for each site are provided in appendix F.

### 5.3 Specialist Assessment

In an attempt to ensure mutual compatibility between the three sections of the Milford Haven to Tirley pipeline, where possible the same specialists were used to look at all the assemblages. The following specialists were used on the Brecon to Tirley section of the pipeline:

**Table 5-1 Specialists**

<b>Material</b>	<b>Assessment by</b>
Animal Bone	Jennifer Wood (nee Kitch)
CBM	Rachel Hall
Clay Pipe	Peter Didsbury
Heat-affected clay/daub	Rachel Hall
Flint	Dr Amelia Pannett
Glass	Andrew Richmond
Human remains	
<i>Cremated bone</i>	Anwen Caffell and Malin Holst
Metal and special finds	Kevin Leahy
Pottery	
<i>Prehistoric</i>	Dr Alex Gibson
<i>Roman and Iron Age</i>	Dr Jane Timby

<b>Material</b>	<b>Assessment by</b>
<i>Post-Roman</i>	Paul Courtney
Production process residue	Dr Roderick Mackenzie
Soil samples	Val Fryer
<i>Charcoal (wood ID)</i>	Alexandra Schmidl
<i>Charred plant remains</i>	Val Fryer
<i>Molluscs</i>	Val Fryer
<i>Waterlogged plant remains</i>	Val Fryer
<i>Waterlogged wood</i>	Val Fryer
<i>Pollen</i>	Val Fryer
Stone	Alan Vince and Kate Steane

The only area in which differing specialists were used on the other sections of the pipeline was in the processing of the soil samples, as the sheer volume of material collected along the entire course of the pipeline was considered to be too much for one specialist to process within the required timescales. Wendy Carruthers and James Rackham jointly assessed the material from the Milford Haven to Aberdulais and Felindre to Brecon sections.

The specialists were commissioned to produce MAP2 assessment-level reports to establish if further study of the assemblages had the potential to address any previously established research questions. The specialists were also invited to flag up any site specific or broader research aims to which the assemblages might contribute.

The specialists were supplied with site summaries, a context database, matrices, and site location plans.

## 5.4 Integration of Data

Background information, and the material provided by the specialists, has been integrated into the site descriptions (see Results, section 4) as appropriate. The results of the assessments and the recommendations of the specialists are incorporated into the section 'Statement of Potential', their recommendations are to be considered in the section "Forthcoming Works" and the full specialist reports are reproduced in Appendix E.

## **6 STATEMENT OF POTENTIAL**

This section documents, synthesises and assesses the potential of the archaeological dataset recovered from the Brecon to Tirley section of the pipeline to meet the research objectives laid out in Chapter 1, and any further or objectives that the data might be able to address.

The format of this chapter will be research objective focused, with the dataset presented in section 4 and the specialist reports (appendix E) being used to address each research objective individually. Subsequent comparison with the datasets from the other sections of the pipeline will enable recommendations to be put forward within the Updated Project Design, inline with MAP 2 guidelines (see 6.1).

As the Brecon to Tirley section of the pipeline crosses the national boundary between England and Wales, and as those two entities provided different research aims, the Welsh objectives are addressed first, followed by the English objectives. Following a request by Louise Austin of Dyfed Archaeological Trust, Welsh Research Objective 1 will also be applied to the English counties in order to enable a more comprehensive study of the field boundary data along the entire length of the pipeline. This is referred to as Additional English Research Objective.

### **6.1 Specialist Statements of Potential**

A brief statement of potential from each of the datasets will be included first, as they are fairly specific and feed into the more general research aims.

#### **6.1.1 Statement of Potential of the Stratigraphic Dataset**

The stratigraphy of each major site was assessed and a level of potential for further analysis of the stratigraphic dataset suggested. The following factors were considered: the distribution, form and function of the site, the degree of truncation, the complexity of the stratigraphy, the reliability of finds provenance and dating, the significance of individual elements and the degree of confidence in the overall interpretation.

##### **Plot 49**

The site comprised two fairly compact nuclei, the northern-most of which was highly truncated, whilst the southern-most was only slightly truncated. The stratigraphy was straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination, despite the compact nature of the site. The early Bronze Age cemetery is considered of regional importance, whilst the post-medieval structures are of local importance. AMS dating of suitable material from the Bronze Age cemetery and nearby deposits might further refine its phasing and interpretation. Overall, however, confidence in the initial interpretation of the site is high, and the potential for further analysis is considered low to moderate.

##### **Plot 110**

The site comprised a single compact nucleus, which had suffered only slight truncation. The stratigraphy was straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. The Roman road was considered to be of local importance though this would be elevated to regional importance if it is proven

to be the Brecon to Kenchester road. Comparison with other local Roman roads might lead to the re-assessment of the stratigraphic phasing at this site. Confidence in the initial interpretation of this site is high, and the potential for further analysis is considered low to moderate.

#### **Plot 111**

The site was dispersed and appeared to have suffered moderate truncation in antiquity. The stratigraphy was straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. No features of particular significance were located and, due to the nebulous nature of most of the features, we are unable to put forward a confident interpretation. The potential for further analysis, however, is minimal.

#### **Plot 111a**

The site was relatively compact around a single linear feature, but appeared to have suffered a moderate degree of truncation in antiquity. The stratigraphy was mostly straightforward, and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. No features of particular significance were located on this site, though analysis of the palaeo-environmental data from the small prehistoric pit complex might further refine the site's phasing and understanding. Confidence in the interpretation of this site is moderate to high, and the potential for further analysis low.

#### **Plot 160**

The site had two compact nuclei, and had suffered little obvious truncation, though the lack of features within the Roman enclosure might indicate that these had been truncated in antiquity. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. The large Roman enclosure ditch was of local significance, and specialist analysis of the finds from it might further refine the site's phasing and/or comprehension. Confidence in the initial interpretation of this site is high, and the potential for further analysis is considered low.

#### **Plot 250**

The site was fairly dispersed, and had suffered a moderate degree of truncation. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. No features of particular significance were located and confidence in the initial interpretation of this site is moderate. The potential for further analysis is considered low to minimal.

#### **Plot 269**

The site was compact, and had suffered minimal truncation. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. The prehistoric pit alignment may be of local importance. Confidence in the interpretation of this site is low-moderate due to the restricted access at the time of excavation and the resultant low level of investigation. The



lack of additional data available for study means the potential for further analysis is considered minimal.

#### **Plot 271**

The site comprised a dense concentration of archaeological deposits. The site was mostly protected by alluvial silts and had suffered only slight damage from occasional deep ploughing. The stratigraphy was fairly straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were few concerns regarding cross-contamination. There were no features of particular importance, though the phasing and/or interpretation may need reconsideration in pale of any further specialist analysis. Confidence in the initial interpretation of this site is high. The potential for further analysis is considered low-moderate.

#### **Plot 331**

The site was dispersed and had suffered moderate truncation. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. The penannular enclosure was of local significance, and confidence in the initial stratigraphic interpretation of this site was high. The potential for further analysis is considered low to minimal, though the metallurgical finds may prove to be the exception depending upon the results of further cross-comparison/sourcing.

#### **Plot 400**

The site possessed two compact nuclei, the northernmost and more elevated (hilltop site) of which had suffered a high degree of truncation, whilst the lower (hillslope site) was only moderately truncated. The stratigraphy was straightforward, and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. The prehistoric Beaker pits are of local importance. The phasing and/or interpretation may need reconsideration in pale of further specialist analysis. Confidence in the initial interpretation of this site is high. The potential for further analysis is considered low to moderate.

#### **Plot 430**

The site comprised three compact nuclei, each of which was moderately truncated. The stratigraphy was straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were few concerns regarding cross-contamination. The bloomery furnaces in Area C are considered of local importance and, in conjunction with the metallurgical analysis, may prove to be of national importance. Confidence in the initial interpretation of the site is high, and the potential for further analysis is considered low.

#### **Plot 454**

The site was fairly compact, and had suffered a moderate degree of truncation. The stratigraphy was straightforward and will require little further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. Further analysis of the pottery data might help to tighten the phasing, and verify or dispute the presence of an Iron Age element to the enclosure. Both the phasing and interpretation will have to be reconsidered following analysis

of the finds assemblage. Confidence in the initial interpretation of the site is high, and the potential for further analysis is considered low to moderate.

#### **Plot 464**

The site was fairly compact, with a single, possibly unrelated, element away from the main body of the site, and had suffered only pale truncation. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. Analysis of the cremated remains may further our understanding of the site. Confidence in the initial interpretation of the site is moderate to high, and the potential for further analysis is considered low to moderate.

#### **Plot 496**

The site was dispersed and moderately truncated. The stratigraphy was straightforward and will require no further analysis. Finds provenance was considered highly reliable and there were no concerns regarding cross-contamination. Analysis of the cremated remains and pottery assemblage might result in reconsideration of the dating and/or interpretation of the site. Confidence in the interpretation of the site is moderate to high, and the potential for further analysis is considered low to moderate.

#### **Minor Sites**

The minor sites were considered as a whole to have a minimal potential for analysis at this stage. Interpretations of some of these sites, particularly the cremated remains in plots 60 and 461, may need to be reconsidered in the pale of proposed analysis of the finds assemblages.

### **6.1.2 Statement of Potential of the Earlier Prehistoric Pottery (Neolithic to Bronze Age)**

The Collared urn from Plot 49 is the most important vessel in the assemblage and is a valuable addition to the corpus from Wales and the Marches. Some potential Beaker and/or Food Vessel sherds are also of local/regional significance given their comparative rarity. Provenance studies on the larger sherd assemblages may be useful in determining the local versus imported nature of the ceramic. Generally, however, the sherd material is too small to warrant subjection to destructive analytical techniques.

The assemblages are of regional significance given the comparative rarity of pottery of this date in South Wales and the Marches. It should be documented fully and placed within their local, regional and chronological contexts. The Collared Urn and Beaker sherds in particular should be illustrated, described and discussed. The other material should be checked for any features missed during the rapid assessment, quantified and described. Any conjoining sherds should be repaired using an acetone-based reversible solvent and the sherds packaged sympathetically. The assemblages should be published in a local journal.

### **6.1.3 Statement of Potential of the Later Prehistoric and Roman Pottery**

Although the Samian assemblage is small and in some cases quite abraded and scrappy it might benefit from the input of a Samian specialist to confirm the source attributions and dating. It would not warrant a lengthy report.

A number of vessel profiles can be reconstructed for illustration. It is estimated that 25-30 Roman sherds/ vessels would warrant illustration for publication.

Further work should characterise the individual sites and place them in a wider local and regional framework.

### **6.1.4 Statement of Potential of the Medieval and Later Pottery**

The research assessment for the medieval period in the north and east of Wales notes "There is considerable research potential in the study of the distribution and marketing of medieval goods. Artefacts such as ceramics (and ridge tiles) appear to offer specific avenues for research" (Website 1). However, there is little scope for further work on such a small assemblage.

The most interesting aspect of the assemblage is that it gives some idea of the penetration of post-medieval pottery types into rural Breconshire though interpretation is hindered by the lack of stratigraphic sequences or closed groups in general. It remains uncertain, for instance, when the Coal Measures coarse wares penetrate this area, though they may derive from both Bristol and Staffordshire. The pipeline, for example, confirms the importance of North Devon wares in Breconshire as noted in several recent excavations (e.g. Courtney *et al.* 1995-6) despite their rarity in north Gwent and Herefordshire. Along with the Felindre-Brecon pipeline the project will hopefully add to our knowledge of the inland distribution of North Devon wares and possibly their means of transportation and marketing.

The current data needs summarising for a final report. In addition the specialist recommends digitally photographing the few pieces of transfer ware sherds with non Chinoiserie scenes from the pipeline. In addition a selection of transfer and other designs (floral and Chinoiserie pieces) from plot 49 could also be digitally photographed for archival purposes. The specialist also suggests selecting a few of the LGRE (lead glazed redware) rims from plot 49 to demonstrate the range of forms including the flowerpot variety believed to be from Newent or Walton-on-Wye.

### **6.1.5 Statement of Potential of the Ceramic Building Material**

No further work is recommended.

### **6.1.6 Statement of Potential of the Fired Clay and Daub**

The presence of possible loomweights in plot 271 and 454 may help with the understanding of domestic activities at those sites but overall the small amount of diagnostic material has little potential for further research. No recommendations are made for analysis.

#### **6.1.7 Statement of Potential of the Mortar**

The material might help with the understanding of the construction of the post-medieval structures on plot 49 but overall the assemblage offers little potential and no further work is recommended.

#### **6.1.8 Statement of Potential of the Stone**

The assemblage has little or no potential for further analysis and no further work has been recommended.

#### **6.1.9 Statement of Potential of the Faunal Remains**

Due to the small size and rather poor and fragmentary condition of the assemblage from each plot, further split by each phase of activity, very limited information can be gained, save the presence of the remains on site. Further study is unlikely to reveal underlying animal husbandry and utilisation practices for the various sites, given their size and state. No further analysis is recommended for the assemblage.

The specialist recommends that the results from this section of the project can be compared with those of the Milford-Haven and Felindre-Brecon sections of the pipeline where it is deemed appropriate.

#### **6.1.10 Statement of Potential of the Cremated Bone**

There would be limited value in further analysis of most of the remains, beyond simply providing a full record of the material.

Potential human bone was identified in four contexts and definite human remains could be positively identified in a further four contexts. However, the small quantity and severe fragmentation of some of these assemblages meant that further analysis would not add additional information. However, it is recommended that all cremated bone from plot 496, plot 461, Plot 49 and Plot 60 be analysed in full.

However, in order to be able to carry out appropriate comparisons and discussion, it is essential that a date be established for the material. It is recommended that bone from Plot 461 and Plot 60 should be considered for AMS dating, unless a date can be obtained from any associated artefactual material.

#### **6.1.11 Statement of Potential of the Metallurgy (Post Production Residues)**

Plot 430 is of particular note as it potentially contains material from all stages of iron smelting; slag tapped from the furnace during operation, slag remaining in the base of the furnace and metals which may be the products of the furnace. It is relatively unusual to find a site from this period with such a complete range of materials. This material is a valuable source of research potential and is of national significance (pers com. D. Dungworth, English Heritage).

Plots 331 and 454 are geographically separate to Plot 430 but also date to the Roman period. A detailed review of all residues and the analysis of selected smelting slags recovered from plots could identify geographical patterns in the type of material deposited and differences and similarities in slag composition.

The specialist has made the following recommendations:

It is recommended that scientific analysis of selected pieces of slag and metal from site 331, 430 and 454 is performed. However, considerable quantities of ironworking residues were excavated during the evaluation phase of this project. It is recommended that the slag assessments from the evaluation phase should be reviewed and a sampling strategy for scientific analysis be developed for the whole assemblage from each plot (evaluation and excavation).

Research should be carried out to identify patterns between the plots and to place them in their regional and national context.

Finally, it is recommended that the results of scientific analysis and associated research are presented in a written report.

#### **6.1.12 Statement of Potential of the Metal and Special Finds**

As full assessment of all the material has been undertaken as part of the specialist assessment report there will be no need for further work on the material itself. What has been written can stand as the final report. It may be beneficial to research parallels for specific objects:

- an unstratified and unidentified Cu alloy object from Plot 430;
- an unstratified pre-Roman Iron Age Brooch from Plot 430, find number <19>;
- a probable Medieval unstratified lead spindle whorl from above the Roman road in Plot 110.

The following objects have been recommended for illustration:

- the lead spindle whorl from above the Roman road in Plot 110, as listed above;
- the shale bracelet fragment from Plot 111a, find number <74705>.

#### **6.1.13 Statement of Potential of the Lithics**

This assemblage is of most significance in building up a picture of the exploitation of the landscape across swathes of Powys and Herefordshire throughout the different periods of early prehistory.

As full assessment of all the material has been undertaken as part of the assessment there will be no need for further work on the material itself. The specialist recommends that the stratified material be incorporated into the final excavation reports. For the unstratified find spot material it is recommended that a GIS plot with associated find spot attribute data is included in the project archive. The latter may provide a tentative indication of the locations of settlement activities throughout the prehistoric period.

#### **6.1.14 Statement of Potential of the Glass**

No further work is recommended on this rather diffuse assemblage. The finds from Plot 49 are characteristic of many such assemblages that one would find in any later post-Medieval or early Modern settlement, or its general environs.

#### **6.1.15 Statement of Potential of the Charcoal**

Four contexts were identified (two from plot 160, one from Plot 454 and one from Plot 496) which contained sufficient material for AMS dating. All four, however, originate from previously dated contexts.

No further study of the remains reported in this assessment is considered necessary but they should be retained as part of the physical archive.

#### **6.1.16 Statement of Potential of the Clay Tobacco Pipes**

The assemblage has negligible potential for analysis, though the data might usefully augment distribution patterns for Broseley-style pipes.

#### **6.1.17 Statement of Potential of the Charred Plant Macrofossils**

Most of the material recovered is likely to be derived from either agricultural or domestic waste. With few exceptions, the assemblages studied were very small, and most contained insufficient material for quantification (i.e. <100 specimens). The cereal rich assemblages from Plot 111A are of interest, although analysis of three samples in isolation would probably add little to the data already contained within the assessment. Therefore, no further analysis of these assemblages is recommended but a full written summary of the assessments should be included within any publication of data from this site.

### **6.2 Welsh Research Objective 1**

**To undertake a comprehensive recording survey, where appropriate, of all extant historic field boundaries crossed by the working width of the pipeline corridor, with the intention, if at all possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems, field boundaries, settlement patterns and general landscape development within the region. This will be augmented by a comprehensive record, where possible, of all buried field boundaries encountered within the pipeline corridor, with the aim, where possible, of identifying any evidence of prehistoric field systems**

A total of 277 extant boundaries were recorded during the watching brief stage between Brecon and Hay-on-Wye, in Powys. These included 11 parish boundaries. A further 9 buried boundaries were also recorded during the watching brief.

In order to assess the potential of the extant boundary data recovered to meet this objective, the boundary data was processed and delivered to a qualified landscape archaeology specialist, Dr. Richard Wykes. He studied this data in conjunction with that gathered from the English counties so as to establish a comprehensive overview of the potential of the dataset.

Although the basic statistical analysis indicated the presence of several fundamental boundary and field types it could not, with the data available, assign them to a particular period, group or phase of development, though Dr. Wykes believed that further statistical analysis of the data might help address this objective. The latter would need to be linked to observations in the field such as position and extent of the various boundary types and to be incorporated with the results of more traditional landscape observations. In order to do this the databases would need to be linked to a GIS package so the results could be represented visually in map form.

A total of nine buried field boundaries were recorded within Powys. Eight of these were undated, whilst one, ditch **74030** in the PIG trap mobilisation yard, was dated to the Roman period. The small number of these buried boundaries suggests either poor survival, low detection rates or limited field boundary removal within this region.

All of the buried boundary ditches matched the orientation of their modern counterparts, including the Roman ditch, suggesting little change in field patterns. None of the buried ditches were definably prehistoric or could be identified as part of a wider surviving prehistoric field system.

Due to the potentially complex nature of the suggested analysis it has been recommended that a specialist statistician be consulted. Until that time it is not possible to define the potential scope or feasibility of the works.

As such the collected dataset has currently been given a low to moderate potential for addressing this objective.

### **6.3 Welsh Research Objective 2**

**To address, where possible and appropriate within the working width of the pipeline, the regional bias towards prehistoric sites and find spots on the present day coastline, as there is very little known about inland sites, and sites in upland areas.**

The Brecon to Tirley section of the pipeline crossed mid-Wales, well away from the present day coastline, and as such all prehistoric material recovered will aid in the addressing of this bias. The prehistoric findings from the Powys stretch of the pipeline are summarised by site below.

#### **6.3.1 Plot 49 (figure 25)**

The pottery from the cremation cemetery found at plot 49 was of early Bronze Age date, and the remainder of the features are likely to be of the same period, though AMS dating of pits **49034** and **49054** might clarify this.

As such this site is considered of low-moderate potential to help address this objective.

#### **6.3.2 Plot 75 (figure 2)**

The watching brief of this plot revealed two pits, the larger of which, **75007**, contained prehistoric pottery. Neither prehistoric pottery specialist could give a conclusive date for the pottery, with one suggesting later prehistoric, and the other suggesting earlier prehistoric. It is possible, therefore, that this pottery may have dated from anywhere between the late Bronze Age and early Iron Age. This date range is still however subject to confirmation.

The Iron Age is poorly represented in Powys and, even in areas where the large Iron Age hillforts are known, smaller enclosures and settlement evidence is uncommon (<http://www.cpat.org.uk/projects/longer/pfr/pfrne/pfrne.htm>) and as such the presence of one or two apparently domestic hearth-waste pits dating to this period would be of local significance as the supposition would be the presence of a nearby Iron Age settlement. Equally, though, evidence for the presence of any prehistoric settlement would be of local significance.

Further analysis of the pottery, particularly accurate dating, may increase the value of this site toward addressing the research objective.

### 6.3.3 Plot 111 and the PIG Trap Mobilisation Yard west of Plot 111 (111a) (figures 17 and 26)

The excavation of exposed subsoil material along the alignment of the pipeline trench revealed a number of poorly defined, irregular features, very few of which could be definitively identified as being anthropogenic. Amongst these few were pits **72004**, **72019** and **72055**, and curvilinear **72037**. Within the PIG trap mobilisation yard the pit complex **74075** was identified as being prehistoric.

44 lithics were recovered from these sites, nine from plot 111 and 35 from 111a. The assemblage was flake dominated with two blades, a core and four pieces of angular shatter identified. All the diagnostic retouched pieces point to a late Mesolithic and Neolithic date for the assemblage (Pannett, 2009).

A further 23 flints were recovered from plot 110, to the south. These also suggested a Mesolithic or Neolithic date, though 16 of these were from topsoil, and five from the colluvial spread covering the Roman road. Two Mesolithic flints were retrieved from the latest phase of the road's metalling. One of the flints recovered from the topsoil was a scraper diagnostic of the later Neolithic or early Bronze Age date. Whilst not necessarily indicative of prehistoric occupation in plot 110, this assemblage helps broaden the picture of the prehistoric occupation in the area of plot 111.

From the subsoil deposit within plot 111a six sherds of prehistoric pot were recovered, and determined to be late Bronze Age or later in date.

The dataset is of limited potential, in isolation, to address the stated research objective.

### 6.3.4 Find spots

A total of 21 other lithics were collected along the course of the pipeline within Powys, primarily from the topsoil or subsoil stripping, with the Mesolithic scraper from plot 92 coming from a palaeochannel; whilst the Mesolithic blade from plot 160 came from a later Roman context and is merely included for completeness. No other prehistoric material was recovered as find spots. The lithic find spots are summarised below:

**Table 6-1 Lithic find spots**

Plot	Material	Quantity	Date
1	Fresh flint	2	Mesolithic
11	Patinated flint	1	Mesolithic/Neolithic
12	Fresh flint	1	Mesolithic/Neolithic
29	Burnt flint	1	Undiagnostic
69	Fresh flint	1	Mesolithic
89a	Fresh flint	1	Mesolithic/Neolithic
91	Fresh flint	1	Neolithic
92	Fresh flint	1	Mesolithic
99	Fresh flint	1	Mesolithic/Neolithic



Plot	Material	Quantity	Date
104	Fresh flint	1	Undiagnostic
105	Fresh flint	1	Undiagnostic
106	Fresh flint	1	Mesolithic/Neolithic
131	Fresh flint	1	Neolithic
134	Fresh flint	1	Undiagnostic
160	Fresh flint	5	Mesolithic
165	Burnt flint	1	Undiagnostic

The recovery of lithics as isolated finds provides a means of tentatively identifying patterns of land use throughout the early prehistoric period (Meso/Neo/EBA). This assemblage is therefore of most significance in building up a picture of the exploitation of the landscape across swathes of Powys throughout the different periods of early prehistory (Pannett, 2009, see Appendix E).

It is considered based on these results, and given that the pipeline provided just a narrow window with which to address any bias, that the complete dataset from the Brecon to Tirley stretch of the pipeline has a moderate to low potential to meet this objective.

## 6.4 Welsh Research Objective 3

**Where possible and appropriate within the working width of the pipeline, to undertake palaeo-environmental analysis of suitable deposits, including those at river crossings and the examination of buried land surfaces beneath funerary and ritual monuments and prehistoric earthworks and enclosure banks, will be undertaken.**

A total of 233 environmental samples were taken along the Brecon to Tirley stretch of the pipeline and assessed. Of these 172 were taken during the excavation and watching brief phases, 44 coming from Wales.

Val Fryer assessed these samples and those from the Bronze Age cremation deposits in plot 49 are principally composed of charcoal/charred wood and root/stem fragments, most of which are probably derived from materials used within the pyres. Two post medieval pit fills from plot 49 appear to contain the remains of charred flooring or bedding materials. The fills from within Roman ditch in plot 160 contain small quantities of indeterminate charred refuse and some possible evidence for nearby smithing activities in the form of hammer scale and ferrous globules. The samples gathered from plots 111 and 111a were considered to be typical of prehistoric ritual deposits, though three samples from the prehistoric pits in plot 111a were more domestic in nature.

As none of the recovered assemblages contained sufficient material for quantification (i.e. <100 specimens), no further analysis was considered necessary. Three samples from Plot 49 were identified as being potentially suitable for AMS dating; two came from Bronze Age cremations **49034** and **49050** and a third from an adjacent undated pit **49054**.

Prior to construction the palaeo-environmental specialist, James Rackham, instructed the watching brief archaeologists on the identification of suitable deposits, as a result of which he visited a number of locations which were considered to have palaeo-environmental potential.

A number of these were dismissed as inappropriate for further investigation after a brief on-site assessment, but hand auger samples were taken at three of the locations. The results are summarised below:

- Plot 9 (RDX 53/9): humified organic silt deposits produced a Roman date of AD70-250, but deposits were very shallow and live worms persisted throughout the sequence
- RVX 36: organic sediments dating between BC 1360-1350 and 1310-1050, indicating a probable start to the sediment sequence in the middle to late Bronze Age
- RVX 38: oxidised silt loams with no organic survival

The sample recovered from RVX 36 was in good condition and considered by James Rackham as a deposit that should be subjected to further analysis, whilst that collected from plot 9 was in poorer condition but it was still considered that further analysis would be worthwhile. No further analysis was recommended for the deposit from RVX 38.

Based on these assessments, it is considered that the dataset is of moderate potential in addressing this objective.

## **6.5 Welsh Research Objective 4**

**To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric funerary and ritual landscapes and practices within the region**

### **6.5.1 Plot 49 (figure 25)**

The discovery of eight early Bronze Age cremations within plot 49 was unexpected. They appeared to form a compact cemetery within an area of about 160m<sup>2</sup>, surrounding an undated and unphased burning pit **49054**. It may be that this pit was used to dump pyre material, or equally it may have been used to dump burnt agricultural waste relating to the nearby post-medieval barn.

The eight cremations contained a variety of burial practices, with five being un-urned, and of the three urned cremations, one was inverted. Excavations at Sarn-y-bryn-caled, in Powys, by CPAT suggested that inverted urn burials were not uncommon during the early Bronze Age, though the significance of this in relation to the upright interments is unclear (<http://www.cpat.org.uk/projects/longer/pfr/pfrne/pfrne.htm>). The pottery recovered from one of the urned burials, **49003**, seems to have come from two separate vessels, possibly both urns, suggesting a potential “double burial” of two urned individuals in the same grave.

The cemetery sits on a southwest facing slope, at about 349mOD, in the vicinity of several springs. These springs may have acted as a draw for ancient populations, for both practical and ritual reasons.

The upland distribution of early Bronze Age cemetery sites is noted, and is a perceived continuation from the Neolithic funerary practices, but equally a lack of upland settlements from the Bronze Age is also well recorded (<http://www.cpat.org.uk/projects/longer/pfr/pfrne/pfrne.htm>).

Full analysis of the human bone from this plot is recommended and may provide additional information on cremation practices at this location. Further study and discussion of the pottery assemblage could also shed pale on the provenance of the ceramics and determine if local and/or imported wares were being used in this funerary context.

Unfortunately, the severe truncation by the post-medieval farm structures on this site have isolated the small outcrop of cremations from any surrounding prehistoric landscape that might have been revealed within this plot, and as such they can tell us little about the immediate prehistoric funerary landscape of the area. This, or persistent erosion, has also removed any evidence of any funerary monument which might have accompanied or marked the cremations.

The Research Agenda for Wales notes that *'Almost nothing is known about ritual and burial practices in the later prehistoric period. Knowledge of these systems will help us to understand society in this period... As a first step it is important to identify burial sites and practices. We should look closely at burial practices in the transition periods between the Bronze Age [and the] Iron Age in order to help us to understand later prehistoric customs.'* (IFA Wales 2008)

Three environmental samples from Plot 49 were identified as being potentially suitable for AMS dating; two came from Bronze Age cremations **49034** and **49050** and a third from an adjacent undated pit **49054**. As cremation **49034** contained no pottery evidence, and pit **49054** was not dated either but produced evidence of charred grains, further dating might help shed pale on the full nature of the prehistoric activity within the plot.

No surviving funeral monument, such as a mound, was associated with the cemetery, though this may well be the effect of historical truncation, possibly during the construction of the post-medieval buildings. If not, then Bronze Age cemeteries without funeral monuments tend to be a feature of the later Bronze Age (CADW 2005).

If the site were entirely of early Bronze Age date then it would address the general objective, but not the specific question from the Research Agenda for Wales. Should some elements of the site show continuity into the later Bronze Age, then the site would be of regional significance, and as such could contribute valuable data toward the specific, as well as the general, research objective.

As such the site is considered to have a low-moderate potential for addressing this objective.

#### **6.5.2 Plot 60 (figure 2)**

An un-urned cremation was recorded within this plot, apparently scattered as a layer, rather than confined within a specific funerary cut. No date was obtained for the layer during assessment, but the deposit is considered suitable for AMS dating, and further analysis should shed pale on the cremated individual.

Should the remains prove to be prehistoric, then as an un-urned and lone scatter of remains it would be of low-moderate potential toward addressing this objective.

### 6.5.3 Plot 111 (figure 17)

The Brecon to Tirley section of the pipeline crossed one known prehistoric funerary landscape in Wales: the “Spread Eagle” site contained within plot 111, near Pipton in Powys. The interpretation of the site as funerary appears to have been made purely based on the nature of the cropmarks. It seems likely that cropmarks marking the course of the Roman road found in plot 110 have been mis-interpreted as a cursus monument.

Aerial photographs of this site show a number of ring ditches, one of which fell within the route of the pipeline. Evaluation and subsequent excavation of the site revealed no evidence of the ring ditch, other than, possibly, curvilinear 72037, and this was not in the location suggested by the aerial photograph of the ring ditch. None of the features presumed to be prehistoric in date were diagnostically funerary, nor could they be attributed to any recognised ritual formations.

Two neighbouring plots were also thoroughly excavated, and whilst both produced artefactual evidence of prehistoric activity, and the plot immediately to the west of the Spread Eagle site (the PIG trap mobilisation yard) produced a small quantity of features attributable to the prehistoric period, again no direct evidence of funerary or ritual activity was identified.

No definitive link could be made between the features in either plot 111 or plot 111a and the Spread Eagle funerary landscape, though assessment of the environmental samples taken suggested seven are typical of prehistoric ‘ritual’ deposits (cf the Harford Park and Ride site, Norwich (Fryer forthcoming)), containing little other than a low density of charcoal fragments and occasional grains and nutshell fragments (Fryer 2008).

The artefactual dating from all three plots, primarily from a small number of diagnostic lithics, suggests that there was a degree of Mesolithic or Neolithic activity in the area, whilst there is some scant evidence from less securely stratified finds in topsoil and subsoil that activity continued into the Bronze Age (Pannett 2009; and Gibson 2008, see appendix E).

It is considered that this data is of low to minimal potential for addressing this objective.

## 6.6 Welsh Research Objective 5

**To obtain, where possible and appropriate within the working width of the pipeline, data on prehistoric settlement**

None of the sites discovered in Powys contained direct evidence of the prehistoric settlement of the county. The presence of a number of prehistoric funerary features in plot 49, the undated cremation in plot 60, and the presumed ritual landscape in plots 111 and 111a, intimate the presence of settlement within the vicinity, whilst the prehistoric hearth-waste pits in plot 75 might be a more direct indicator.

The presence of a number of undated postholes sealed beneath a later Roman layer within the PIG trap mobilisation yard (plot 111a), might be indicative of prehistoric structural activity, though the postholes did not seem to form an obvious structure, nor could a definitive pre-Roman date be ascertained for them.

As Dr Pannett observes in her assessment of the lithic assemblage from Powys: *"The recovery of lithics as isolated finds also provides a means of tentatively identifying patterns of land use throughout the early prehistoric period (Meso[lithic]/Neo[lithic]/E[arly] B[ronze] A[ge])"* (Pannett 2009, see appendix E) and as such could be utilised as part of a larger analysis of the prehistoric exploitation of the landscape, which might in turn shed pale on the settlement of that landscape during the early prehistoric period.

It is considered that the dataset recovered from the Brecon to Tirley pipeline, in isolation, is of low potential for addressing this objective.

## **6.7 Further Welsh Research Objectives Suggested by the Dataset**

### **6.7.1 Prehistoric**

The variety in material utilised for construction of the lithic assemblage recovered from the Powys stretch of the Brecon to Tirley section of the Milford Haven to Tirley pipeline might be used to answer one further research agenda for Wales:

- **Industrial processes and access to resources and trade connections:** What stone was being employed for implements and where was it procured? (IFA Wales 2008).

Potentially, the lithic assemblage could contribute towards an understanding of the research agenda *The nature of the Mesolithic/Neolithic transition* (IFA Wales 2008) though only as part of a larger study, as the assemblage itself, without useful context, is not considered substantial enough to address this agenda. (Pannett 2009).

### **6.7.2 Roman**

The Research Agenda for Wales notes that there is a fundamental dearth of data for the Roman period in many fields, and that it thus deserves a high priority in Welsh archaeological research agendas. (IFA Wales 2008).

On the Brecon to Tirley section two definably Roman sites were recorded within Powys; a section of road at Plot 110 and a substantial enclosure ditch at Plot 160.

The identification of a Roman road near Three Cocks, which appears to have previously been misinterpreted as a cursus monument related to the Spread Eagle site, is of great significance and may form part of the known Brecon to Kenchester road, whose route was projected as lying four fields to the east of plot 110. The course of the road, based on the relatively sharp northward turn within the plot, suggest that it intended to cross the river Wye not far to the northwest of the plot.

Dating roads by their surface finds is notoriously inaccurate, though the presence of a Romano-British brooch, datable to the 1st or 2nd century AD (Leahy 2009) from a sealed layer between the second and third road surfaces helps date the road more securely.

The findings at plot 110 might contribute to two further research agenda themes as parts of more extensive studies beyond the scope of this project:

- **The conquest of Wales:** How did the conquest of Wales proceed under the Julio-Claudian and Flavian emperors?

- **Romanisation:** To what extent were the regions of Roman Wales integrated with the imperial economy?

(IFA Wales 2008)

The Roman enclosure partially revealed within plot 160 may also contribute to the latter agenda, with the presence of a number of imported wares amongst its ceramic assemblage. Further work on the pottery assemblage has been recommended for the analysis stage.

The enclosure is also of note due to the presence of a cropmark interpreted as an Iron Age hillfort located only six fields (<0.5km) NNE of it at Gypsy Castle (DBA ref. no. 3712). Whilst the ditch itself appears to be of 3rd century date, the presence of 1st century AD Roman pottery amongst the backfills of the recut might indicate a more prolonged Roman presence in the vicinity than the ditch immediately seems to indicate.

If this was the case, then the earlier activity hinted at by the redeposited material in the recut of the enclosure ditch could have been extant at the time of the occupation of the hillfort, and as such might, though tenuous, contribute to one further research agenda:

- **Processes of Change:** What does the archaeological record tell us about the interface between the [...] Iron Age and Roman periods? (IFA Wales, 2008)

### 6.7.3 Post-medieval/Industrial period

In conjunction with those post-medieval or Industrial period buildings discovered on the other sections of the pipeline in Wales, those discovered at plot 49 might potentially contribute to a wider study in relation to *“To what extent do variations in the design of industrial-period housing and religious building stock reflect patterns of migration and diversity?”* (<http://www.cpat.org.uk/projects/longer/pfr/pfrne/pfrne.htm>).

Whilst the majority of the artefacts recovered from the buildings at Plot 49 suggest an Industrial period occupation, the ceramic assemblage suggests that the property might have been occupied from the 16th century onwards. As such this dataset could be used to address issues raised in the Research Framework for the Archaeology of Wales such as *“There needs to be a greater investigation of deserted and living rural settlement and landscape alongside the medieval in both upland and lowland areas”* (Briggs 2007, in <http://www.cpat.org.uk/projects/longer/pfr/pfrne/pfrne.htm>).

## 6.8 English Research Objective 1

**To extend the use of proven methodologies for site location and interpretation, and encourage the development of new techniques, within the project area**

The staged approach to managing risk adopted during the Milford Haven to Tirley pipeline project meant that the English counties, along with the remainder of the pipeline, were subjected to a number of different methodologies for site location and interpretation.

Alongside proven techniques, such as a desk-based assessment, field walking, field reconnaissance and geophysical survey, the more innovative technique of a LiDAR survey of the entire pipeline route was implemented.

LiDAR (Light Detection and Ranging) is a method of terrain mapping which uses a laser to measure the distance between an airborne sensor and the ground surface, producing a highly accurate topographical map. Whilst not undertaken specifically for the purposes of identification of archaeology on this project, the results of the survey were analysed during the desk-based assessment as a valuable resource in identifying topographical features such as earthworks.

This facilitated a more comprehensive earthwork survey than might normally have been undertaken, helping to confirm areas of high potential, notably in the case of the palaeo-channel to the east of the river Wye crossing.

Further to the standard field boundary recording that would be undertaken on a pipeline project such as this, a comprehensive statistical assessment of the field boundaries was undertaken by Dr. Richard Wykes in order to see whether further analysis would help contribute toward landscape development study along the pipeline route.

A comprehensive, non site-specific palaeo-environmental study was also carried out by James Rackham in an attempt to develop a more thorough understanding of the palaeo-environmental development of the whole study area, from Milford Haven to Tirley.

The geophysical survey was also extended to cover the entire working width and length of the pipeline route, including auxiliary areas and re-routes. This significantly exceeded the sampling approach previously utilised on gas pipelines.

#### **6.8.1 Herefordshire**

The comprehensive use of geophysical survey throughout the county, in conjunction with the earlier mitigation measures, was to prove extremely successful, with only two sites of major significance remaining unidentified prior to construction, at plots 400 and 464. 19 smaller sites and find scatters were also recorded during the watching brief which the geophysical survey had not identified, though these were of a scale and nature that their identification as being of anthropological origin would not be anticipated.

The features in plot 400 were identified by the survey, but dismissed as probably natural, due to the strength of the signals, whilst the features in plot 464 were individually sufficiently disparate and small that identification would have been unlikely.

#### **6.8.2 Gloucestershire**

Similar to Herefordshire, the geophysical survey appears to have been highly successful within Gloucestershire, with no sites of major significance being missed, and only three smaller sites being detected, all of which comprised isolated pits.

As such the methodologies employed on the Brecon to Tirley section of the pipeline are considered to have a moderate to high potential to address this research objective.

## 6.9 English Research Objective 2

### **Encourage works of synthesis within and across periods, settlements, monuments and areas, for the project as a whole**

The dataset recovered offers a high degree of potential to address this objective, with a number of similar site types being located at various locations along the Milford Haven to Tirley pipeline, throughout both English counties, and into Wales too.

As this objective references the entire Milford Haven to Tirley project, rather than individual pipeline section, it shall be addressed by site type, rather than by county. The sites located between Milford Haven and Brecon were referenced by the number of plots east of the nearest road crossing (RDX) to the west, rather than by individual plot number, so for example the third plot east of road crossing 15 would be denoted as RDX 15/3.

### 6.9.1 Ritual and Funerary Sites

On the Brecon to Tirley section of the pipeline human remains were recovered from a number of contexts, notably the early Bronze Age cemetery site at plot 49 in Powys; the cremations within the Roman enclosure in plot 454, in Herefordshire; two possible cremations within a Bronze Age settlement site at plot 464, in Herefordshire; and an isolated un-urned and undated cremation in plot 461, in Herefordshire.

Burnt human bone was also recovered from what appeared to be late Iron Age/early Roman domestic waste pits in plot 496, in Gloucestershire; and from a find spot of an undated spread of burnt bone in plot 60, in Powys. As these features do not at first glance appear to be traditional funerary deposits, comparison of the bone from these sites and the more traditional cremations might provide a fuller picture of variant funerary practices throughout the regions the pipeline traverses (Caffell and Holst 2008).

It was recommended that the undated cremations be subject to AMS dating, through the charcoal deposits, to increase the value of any comparative work between the cremations (Caffell and Holst 2008), at which point analysis of the assemblage would be of value with regard to assessing changes of funerary practice and technique over both time and distance.

The prehistoric activity within plot 111 and the PIG trap mobilisation yard, in Powys, is presumed to be related to the known Spread Eagle funerary landscape, and whilst no funerary remains were recovered the prehistoric features may well relate to ritual activity connected with the ring ditch cropmarks visible on the aerial photographs.

On the Felindre to Tirley stretch of the pipeline a substantial Bronze Age ring ditch was located in plot RDX 38/17. The ditch was c. 8.5m in diameter though no internal mound or bank survived. The only datable artefact from the ring ditch itself was a Mesolithic or Early Neolithic flint flake, but a series of 15 pits within and cutting the ring ditch produced sizeable quantities of charcoal and cremated bone and an early Bronze Age (2200-2470BC) copper halberd of possibly international importance. Radiocarbon dates from some of the other pits returned dates between 1520-1760 BC, placing them in the early part of the middle Bronze Age. Three



further pits 30m SW of the ring ditch produced potsherds of possibly early Bronze Age date.

Another Bronze Age cremation cemetery was discovered at plot RDX 47/1, at Cwm Camlais, near Trallong in Powys. This produced two sandstone cist cremation pits and nine other cremation pits, along with some minor features. The only stratified dating material recovered was from one of the smaller cremation pits, and consisted of two sherds of possible early Bronze Age pottery. The recovered flint was deemed to be residual as it contained some diagnostically Mesolithic and Neolithic material. Radiocarbon dates from two of the pits produced a date range between 1460 and 1880 BC, putting these pits into the early part of the middle Bronze Age, the same as those from plot RDX 38/17.

Comparison of these two sites with that discovered in plot 49 has a moderate to high potential for producing a useful synthesis of data about Bronze Age funerary practices within Powys.

The prehistoric pit alignment within plot 269, in Herefordshire, may also form part of a ritual landscape, though single pit alignments are often interpreted as being Iron Age in date, and delineating landscape divisions during a period of agricultural intensification (Harding, 2000). The only positive dating from plot 269, however, comes from the small lithic assemblage, dated by a single diagnostic piece to the Neolithic, and as such this seems the most likely date to assign at this stage.

On the Felindre-Tirley stretch of the pipeline a prehistoric pit cluster was identified near Llandeilo, at plot RDX 21/2. This comprised 12 pits, four of which contained diagnostically Neolithic artefacts. The pottery also included some possible early Bronze Age fragments, such as Beaker and Collared Urn. A nearby burnt mound could not be dated, but was comparable to other Bronze Age burnt mounds located on the scheme.

Eleven further pits of similar nature, and producing a similar date range of later Neolithic and Bronze Age, were located in plot RDX 23/7. A further pit site was identified in plot RDX 26/5, near Cwmifor, Llandeilo. This comprised three diagnostically Neolithic pits and a large number of pits, postholes and stakeholes that had no artefactual dating, but which were dated tentatively to the early prehistoric period based on the macrofossil assemblage. Eight of the pits formed a possible pit circle, whose morphology might suggest a late Neolithic or early Bronze Age date.

Pit groups are mentioned in the West Midlands Archaeological Research Framework essays only in a Neolithic context. There is ample evidence of pits containing Grooved Ware, and pit clusters are often found in association with ring ditch complexes; in two cases, they were associated with features that may have indicated the presence of houses (Ray, 2002i).

The presumed ritual pit sites from Brecon to Tirley are felt to have a low potential, in isolation, for producing a useful synthesis of data about such sites along the pipeline route but may have a more substantial potential when combined with the data recovered on the Milford Haven to Aberdulais and Felindre to Brecon sections to provide a broader understanding of the nature of late Neolithic and early Bronze Age pit sites.

### **6.9.2 Roads**

A single stretch of Roman road was located on the Brecon to Tirley stretch of the pipeline, in plot 110, Powys, which would benefit from comparison with further stretches of road discovered in Powys: in plot RDX 49/5 at Pont Llyndu; plots RDX 50/1-2 at Aberbran; and in plot 50/11 at Aberyscir. None of these road sections produced Roman material from the construction material, such as the road in plot 110 did, but they revealed surface Roman material. Further comparison of the nature, construction and typology of the road sections is felt to have a moderate potential for synthesis of data on such sites along the pipeline route.

### **6.9.3 Late Iron Age - Romano-British Enclosures**

Seven Romano-British enclosures were identified on the Brecon to Tirley stretch of the pipeline: One in plot 160, in Powys; one in plot 250 in Herefordshire, one in plot 271 in Herefordshire; one in plot 400 in Herefordshire; two in plot 430 in Herefordshire; and one in plot 454 in Herefordshire.

These enclosures represent a variety of sizes and styles, with some (plots 160, 250 and 400) having a single enclosure ditch; one a double ditch (one of the enclosures in plot 430); two a triple ditch (the second enclosure in plot 430, and plot 271); and one a mix of both single and double ditches (plot 454). They also span a variety of periods, from those with potentially Iron Age origins (plot 454), through those from the early Roman period (plot 250, plot 271, plot 400 and both in plot 430) to the later Roman period (plot 160).

The environmental assessments of deposits from these enclosures produced almost uniformly domestic evidence, with occasional traces of agricultural residue. The evidence pointed toward a mostly pastoral economy during the Roman period, with grains being largely imported in a processed state, removing the need for on-site cleaning, and waste being disposed of in the peripheral features (Fryer, 2008). Analysis of these samples is unlikely to be more forthcoming toward producing a useful synthesis of data on the environs of these enclosures.

Two possible enclosures were located on the Felindre to Tirley stretch of the pipeline – a fragment of a putative enclosure in plot RDX 23/4, near Pant-y-Blodau, Llandeilo, which revealed no dating evidence; and a more substantial portion of an enclosure in plot RDX 20/8 which produced some Mesolithic and early Neolithic flints. Iron Age/Roman pottery was also recovered from a pit feature at RDX 20/8 and further assessment of charcoal recovered from environmental samples may identify material suitable for radiocarbon dating to help establish a site chronology.

The enclosures have a moderate to high potential for providing a synthesis of comparison between such sites along the pipeline route, particularly in England, and further work, possibly including geophysical survey to determine the extent and nature of the enclosures beyond the pipeline easement would increase the potential of these sites markedly.

### **6.9.4 Metalworking Sites**

From the late Iron Age, a concentration of ironworking activity has been known in the area of Weston under Penyard and Bromsash, some 6km east of Ross-on-Wye, and close to sources of iron ore in the Forest of Dean to the south. An Iron Age industrial settlement, including several substantial buildings and a number of furnace sites, has been excavated at Bromsash, and four other principal ironworking

sites from a similar period have been identified in the area (Ray, 2002ii). Weston under Penyard itself is the Roman town of *Ariconium*, believed to have been the administrative centre for the iron mines in the area (roman-britain.org). From Peterstow common, 3 miles east of plot 430, a slag deposit over 4m deep was excavated, from which Roman coins and pottery were retrieved (Ray, 2002ii).

A number of the Roman sites contained evidence of pale industrial activity, especially metal working, and in particular, iron working. Plots 331, 430 and 454, in Herefordshire, and plot 496, in Gloucestershire are especially noteworthy for their assemblages.

A substantial proportion of the assemblage of post production residues (PPR) was derived from contexts dated to the late Iron Age or Roman periods. Some of these, particularly from the apparent bloomery furnaces in plot 430, Herefordshire, are considered to be of great importance: *"Plot 430 potentially contains material from all stages of iron smelting; slag tapped from the furnace during operation, slag remaining in the base of the furnace and metals which may be the products of the furnace. It is relatively unusual to find a site from this period with such a complete range of materials. This material is a valuable source of research potential and is of national significance (pers com. D. Dungworth, English Heritage)"* (Mackenzie, 2008).

It is suggested that a detailed analysis of all the residues and selected smelting slags from all of the plots containing Roman or Iron Age PPR, including those recovered during the evaluation trenching, could build up a picture of geographical patterns in the type of material deposited and differences and similarities in slag composition (Mackenzie, 2008). This also meets the English Heritage objective of increasing knowledge of regional variations in slag composition

Comparison of the composition of the smelting slags and slag inclusions in ferrous metal recovered from Plot 430 may identify whether the metal was produced at the site, and will provide a valuable resource for future research into the provenancing of iron objects using slag inclusions. It could also identify the likely source of the ore, providing information on the exploitation of ore sources and trading patterns. It is noted that 'there is a surprising lack of modern work on Roman ... bloomeries and other smelting sites' (Webster, 2002).

The presence of hammer scale and ferrous globules within some of the environmental samples taken could also be considered in this analysis to provide a fuller picture of industrial activity on these sites (Fryer, 2008).

No metalworking sites of note were identified from Milford Haven to Brecon, except one possible post-medieval smithing site. A number of small scatters of industrial residues were recorded, along with occasional traces recovered from environmental samples, but not in significant enough quantities to allow any meaningful synthesis of data.

Very little industrial evidence of significance was recovered from any other periods, and as such the Roman evidence was considered of high potential for synthesis of the dataset, whilst the remainder was considered of very low significance.

#### **6.9.5 Post-medieval/Industrial era agricultural structures**

A total of four post-medieval agricultural structural sites were located on the Brecon to Tirley section of the pipeline. These comprised the substantial structures at plot

49, in Powys; a low field-stone wall foundation found during evaluation in plot 2, in Powys; the heavily truncated foundations of a structural complex in plot 390 in Herefordshire; and the remains of a structure in plot 449, in Herefordshire.

The artefact assemblages, being largely from insecure contexts, are not of great use in understanding these sites, though the post-medieval pottery might be used to give some idea of the penetration, transportation and marketing of these pottery types into rural Wales (Courtney, 2008).

Three further sites were located between Milford Haven and Brecon: a post-medieval garden site at plot RDX 6/3, near Tycroes, Ammanford; a midden and cobbled area dating from the 18-19<sup>th</sup> centuries in plot RDX 13/3, at Llandybie; and three undated rectangular buildings also near Llandybie, in plot 15/1, which produced only three sherds of unstratified pottery, one early modern and two conjoining medieval potsherds.

These sites might be used to build a picture of post-medieval and industrial era agricultural occupation across the counties traversed by the Milford Haven to Tirley pipeline, though the dataset is patchy at best, and is deemed of limited potential in producing a useful synthesis of data to analyse these structures meaningfully.

## **6.10 English Research Objective 4**

**Encourage wide involvement in archaeological research and present modern accounts of the past to the public**

The sites discovered within England, particularly those from Herefordshire, have significant potential to be of public interest, and will be presented in a publicly available format after the completion of the analysis stage.

This format will be decided during the forthcoming Updated Project Design.

## **6.11 English Research Objectives 17 and 18**

**Improve the quality and quantity of environmental data and our understanding of what it represents, from within the pipeline spread. Target specific soil and sediment contexts for environmental information**

A total of 233 environmental samples were taken along the Brecon to Tirley stretch of the pipeline and assessed. Of these 172 were taken during the excavation and watching brief phases, 128 coming from England. In addition a thorough programme of palaeo-environmental augering was undertaken by the palaeo-environmental archaeologist, James Rackham, along the length of the entire pipeline, from Felindre to Tirley (Rackham, 2009).

Based on the results of this programme, James Rackham identified five areas in England which he felt had significant potential to address this aim. These were the crossing of the river Dore (RVX50); the palaeochannel in plot 269(RDX85+); peat in plot 346 (RDX 95/96); organic sediments between plots 405 and 406 (RDX 108); and both the western and eastern floodplains at the crossing of the river Wye (RVX 53). All of these locations were in Herefordshire.

Three areas were investigated at the crossing of the river Dore (RVX 50): A small tributary palaeochannel negative to RVX50 at RVX49, a former course of the River Dore still functioning as a ditch and field boundary, and a possible former mill leat

running along the valley side positive to the river crossing. The latter appeared to be a field boundary ditch and had no suitable sediments within it while a series of seven boreholes were laid across the tributary stream channel (RVX49) and silt and sandy silt loam was recorded in all bores to a maximum depth of 1.3m before being stopped by stones, and with no organic deposits. Boreholes at the ditch and field boundary showed it to possess palaeochannel deposits from the former course of the river. A sample taken from the base of this sequence, at 152cm depth, produced a date of AD 550-660 (Beta – 232448). This was scheduled for further investigation because it was a lowland sequence occurring in a valley that has had a lot of archaeological survey, and with the motte within 1km and an early to middle Saxon date for the base of the core the sequence, is likely to be contemporary with significant activity in the valley. Unfortunately access could not be obtained for further investigation at this site.

The palaeochannel identified during evaluation and excavation at plot 269 was visited after reinstatement and an appreciable linear hollow confirmed its location. A line of auger holes was laid transversely across this depression. Two of these recorded the backfill of the excavation area, while the remaining four recorded the sandy fills of a palaeochannel with preserved roundwood and occasional organics in the lower sediments below 1.2-1.5m depth. Considering the limited character of the organic sediments and the likelihood of fairly poor preservation it was decided that further investigation would not be worthwhile.

A localised area of peat at plot 346 adjacent to a stream was investigated by laying a transect of six auger holes across the width of the deposits. This was used to establish the thickness of the peats and the location of the deepest sequence and produced 0.88m of peat and organic sediments. A location was selected and a core knocked in and then lifted. A sample of wood taken from a depth of 1.2m in this core has been dated by radiocarbon to BC 2460-2200 (Beta – 232453) indicating that the build-up of organic sediments commences at the beginning of the Bronze Age, or the very end of the Neolithic. The only known sites in the area are post-medieval and no archaeology, other than undated ridge-and-furrow in the neighbouring plot, was found on the easement for a kilometre either side of the core site.

Potential organic deposits identified at RDX 108, between plots 405 and 406, were highlighted by the geo-technical borehole survey. Augering, however, identified no organic deposits at the site and no palaeo-environmental potential. The organics recorded in the boreholes may have been degrading roots, and root disturbance, from shrubs in the hedge boundary.

Two cores were taken on the western edge of the river Wye (RVX53), which suggested over 5m of alluvial deposits. Pollen analysis of some of the organic remains in the lower deposits indicated a date somewhere between the late Mesolithic and early Neolithic, but no radiocarbon dating was undertaken on these samples. James Rackham had identified this site as being of importance and wished to return to do further cores, but access could not be obtained following re-instatement.

On the eastern bank of the river a palaeochannel was identified during the LiDAR survey, and was investigated by a series of hand augured boreholes. These produced more than 3m of deposits. A radiocarbon sample submitted from the base of the sequence, at 326cm depth, produced a date of AD 780-1000 (Beta – 253581). This clearly indicated that the palaeochannel was of middle to late Saxon date and although the preservation is likely to be poorer than the peats sampled elsewhere

along the pipeline route the sediments should yield a sequence for the late Saxon period.

Six excavations or watching briefs were located within two kilometres of the Wye crossing, two of these within one kilometre (plots 449 and 454). That immediately north of the river crossing (Plot 449) produced post-medieval wall foundations and associated detritus and probably post-dates any of the organic sediments recovered in the core. The site on the brow of the hill overlooking the southern floodplain of the Wye (Plot 454) and the core site is possibly a multiphase Late Iron Age and Romano-British site, unfortunately pre-dating the sampled sediments. The nearby villages of Wilton, Ross and Brampton Abbots are mentioned in Domesday, the village churches at Bridstow and Foy have Norman foundations and the castle at Wilton was first constructed as a Norman motte in the early 12<sup>th</sup> century. All these lie within 2-3 kilometres of the core site. The sampled sediments are probably contemporary with these late Saxon settlements and maybe with the Norman foundation of the castle, but are unlikely to extend much further into the medieval period (Rackham, 2009).

The 128 bulk samples taken during the excavations and watching brief were assessed by Valerie Fryer, and judged to be largely from wind blown or scattered refuse, with a few relating to deliberate disposal of low density domestic or agricultural waste. As such, no further analysis of these assemblages was recommended but a full written summary of the assessments should be included within any publication of data from this site (Fryer, 2008).

Evidence of post-medieval tree clearance was identified at a smaller number of sites along the pipeline route, most notably at plot 331 in Herefordshire, and possibly also at plot 496 in Gloucestershire. This data was considered of minimal potential with regard to the understanding of post-medieval land clearance within the two counties.

Based on the recovered data it was considered that it had a moderate to low potential to address this objective.

## **6.12 Additional Research Objective**

**To undertake a comprehensive recording survey, where appropriate, of all extant historic field boundaries crossed by the working width of the pipeline corridor, with the intention, if at all possible, of gathering evidence of the construction, phasing, dating, extent and development of field systems, field boundaries, settlement patterns and general landscape development within the region. This will be augmented by a comprehensive record, where possible, of all buried field boundaries encountered within the pipeline corridor, with the aim, where possible, of identifying any evidence of prehistoric field systems**

This is essentially the same as Welsh Research Objective 1 but extended to cover the English section of the pipeline route. The three sections of the pipeline, Milford Haven to Aberdulais, Felindre to Brecon and Brecon to Tirley, were considered and reported on individually, but were intended to form a complementary archive, with data from each informing the assessment of the others.

As with the Welsh section, the field boundary database was reviewed and statistically tested by Dr Wykes to ascertain whether there was potential to undertake a further, more complex programme of statistical analysis which could form the basis of a landscape study. The results of the basic statistical analysis of the

field boundaries were quite encouraging. The data from all databases and samples appeared to conform to normal distributions, and bimodal distributions indicated that there were several fundamental types of boundary and field present.

A sample area between Dorstone (RDX79) and Peterchurch (RDX88) was further tested to see if the process of statistical analysis could identify and isolate particular data populations. This area was selected as the extent of medieval common fields could be identified with a reasonable degree of certainty, and as such provided the most promising element of the dataset to test the likely success of further analysis. The results for the Dorstone-Peterchurch section are summarised below (the overall conclusions can be found in appendix E19):

The F-Test, a single variable statistical tool, was used to demonstrate whether the apparent medieval samples were derived from a different statistical population than the apparently non-medieval samples. The results, however, were disappointing as high probability factors for bank widths and Area implied that the two sets of data derived from the same population. This could partly be due to problems arising from the small sample size

The Chi-Square Test was also applied to demonstrate if there was any preference to particular boundary orientations and field block extent. Once again the probability value showed no preferences, possibly as a result of the small sample sizes adversely affecting the final calculations.

Despite some disappointing results Dr Wykes is of the opinion that the database as a whole has potential for further, more complex, analysis. As with the Welsh section the latter would need to be linked to observations in the field such as position and extent of the various boundary types and to be incorporated with the results of more traditional landscape observations. In order to do this the databases would need to be linked to a GIS package so the results could be represented visually in map form.

Due to the potentially complex nature of the suggested analysis it has been recommended that a specialist statistician be consulted. Until that time it is not possible to define the potential scope or feasibility of the works.

As such the dataset has currently been given a low to moderate potential for addressing this objective.

## **6.13 Further English Research Objectives Suggested by the Dataset**

### **6.13.1 Roman agricultural evidence and rural settlement**

The presence of a possible Iron Age or Romano-British field or settlement enclosure in plot 250, coupled with what might have been an animal pen or similar rural structure within plot 331, might help address a research priority derived from one of the group of essays that comprise the nucleus of the proposed Archaeological Research Framework for the West Midlands:

- Identify more rural sites and disentangle the local settlement pattern (Guest 2002)

Whilst data from neither of these plots is definitively agricultural, they would both be relevant as rural sites, and it is noted that *'Field systems that are clearly datable to the Romano-British period are of course extremely difficult to locate'* (Ray

2002ii), though the recovered dataset is not substantial enough to be of more than low potential to address this aim.

#### **6.13.2 Early Bronze Age sites**

It is noted that there is little conclusive evidence for Bronze Age settlement within Herefordshire, and a similar lack of evidence prevails throughout much of the West Midlands, though there is evidence from within neighbouring Powys (Halsted 2002).

Whilst no specific research aims have been presented relating to the early Bronze Age, it is noted that “*the identification of ... such sites in the landscape is problematic.*” (Halsted 2002) and that the identification of settlement sites should be a priority.

As such the apparently non-funerary pits in plot 400, and the potential settlement site in plot 464 may help to address this aim. Whilst the find scatter of Beaker pottery in plot 467 is not necessarily indicative of Bronze Age settlement, its proximity to the site at plot 464 helps define a broader view of Bronze Age activity within Herefordshire particularly.

Taken as a whole the early Bronze Age evidence is considered to have a moderate potential to address an aim of identifying early Bronze Age settlements within the West Midlands.

#### **6.13.3 Pit alignment**

The prehistoric pit alignment in plot 269 could help with an understanding of such phenomena within the West Midlands. The sole dating from the plot 269 pits was a single Neolithic flint, which would seem to meet the expectations for such pit groups in the West Midlands. An undated semi-circular crop-mark was identified by the Golden Valley Survey 250m to the south of the plot (DBA ref. 5584) which, were it to be the remains of a ring ditch, might hint at a larger ritual landscape, as is often the case (Ray 2002i).

Pit groups represent the first activity identified on several multi-period sites; some of these sites were later to develop into important burial sites (Jackson 2002). Monument complexes, spanning the Neolithic to the Iron Age or Romano-British periods, are more widely recorded in Warwickshire and Staffordshire than in the rest of the West Midlands, but it is possible that such complexes are present, but as yet unrecognised, elsewhere. Pit groups or alignments frequently occur as a part of such complexes.

The nearby Roman site at plot 271 appears to be broadly contemporary with the palaeochannel which truncated the pit alignment, and as such is not deemed to relate to this complex at all.

The dating of pit alignments is identified as a research objective, particularly to answer the question of whether these alignments pre-date the larger features in these complexes (Woodward 2002).

Due to the limited evidence it was possible to retrieve from the excavation, it is felt that the site at plot 269 has only low potential to address this aim.



#### 6.13.4 Roman enclosures

Whilst also being used to address English Research Objective 2, the Roman enclosures in plots 250, 271, 400, 430 and 454 may also contribute to such research priorities as:

- Complement past and future work on 'major' settlement sites... with an awareness that the rural landscape has an important role to play in identifying social and economic change; and
- Identify more rural sites and disentangle the local settlement pattern (Guest 2002)

These smaller rural settlement enclosures are deemed to be of moderate to high potential with regard to both of these aims, and could hopefully assist in building up a more thorough picture of Roman rural exploitation and occupation in the vicinity of the pipeline.

#### 6.13.5 The Iron Age/Roman interface

A number of the Roman sites identified along the pipeline also contain evidence of pre-Roman or native occupation amongst the ceramic assemblage (Plots 250, 271, 331, 400, 454 and 496). Most notably this is apparent in plot 454, where it appears that an earlier Iron Age enclosure is later occupied and expanded during the Roman period, with no obvious cessation in occupation.

This site might be covered by research priorities identified in 'The Iron Age-Roman Interface', which states that *'Assessing the impact of Roman material culture on different social groups throughout the region would raise the issue of acceptance and resistance among its communities, and the timescale over which such cultural responses took place or changed... Unfortunately, this type of speculation is beyond the current level of knowledge in much of the West Midlands where very limited field work has been carried out on rural sites of either Iron Age or Roman date, and even investigation of Romanised settlements is patchy. In Herefordshire, for example, little is known about the Roman period at all.'* The suggested lines of investigation include:

- What impact did the introduction of Roman customs and practices have on different people in the region?
- Did communities actively accept or resist Roman material culture?
- Was the change from Iron Age to Roman gradual or sudden?
- Were these archaeologically visible changes economically or socially driven?
- How localised were responses to the Roman occupation?

These lead to suggestions for research priorities including:

- Improve absolute dating, particularly for periods of transition such as from Iron Age to Roman (when did Iron Age traditions of pottery production disappear?) (Guest 2002)

The article on Roman pottery in the West Midlands Research Agenda documents indicates that the distribution of Severn Valley ware *'could be studied in more detail, compared with the distribution of other artefact types such as Iron Age coins, brooches and quern stones, and correlated with 'known' tribal boundaries in order to assess its significance'*. Analysis of quantified data from western Herefordshire

and Shropshire is particularly called for in order to ascertain the western edge of the Severn Valley ware zone.

The West Midlands region in the Iron Age divides into a southern zone with a strong ceramic tradition and a northern zone with very little ceramic tradition, and Romano-British pottery needs to be studied in the pale of this division, to see if it carries over into the Roman period. Data from rural sites is particularly called for in this context. The dominance of oxidised local wares in a significant part of the region, rather than the reduced wares more typical of local production elsewhere in Roman Britain, is noted as potential evidence of regional variations in ceramic technology or use.

The pottery report from the excavation notes that both types of wares were found along the pipeline, although the predominance at these sites is for the local Malvernian ware. The research agenda article also mentions that 'characterising and comparing the material culture of individual sites can provide useful evidence of 'Romanisation', with variations in the levels of finewares and the proportion of amphorae on military, urban and rural sites (Evans 2002).

The Brecon to Tirley Iron Age and Roman sites, and plot 454 in particular, are considered to have a moderate potential to address most if not all of these questions and priorities. Further work at the analysis stage would characterise the individual sites and place them in a wider local and regional framework.

## **7 FORTHCOMING WORKS**

### **7.1 Forthcoming Updated Project Design**

The Updated Project Design (UPD) will, as laid out in MAP 2, put forward the proposals for work to be carried out in the analysis stage. This will involve definition of the objectives of the analysis phase, and the strategies and resources necessary to achieve them (EH 1991).

Where a particular objective requires the input of more than one specialist, the sequence will be identified and an agreed programme formalised.

Further research aims and objectives obtained from the curatorial authorities will also be considered during this stage.

Resources required for the curation of the archive will be addressed during this stage.

The UPD will contain a synopsis for the final publication, which will be a synthesis of both the Brecon to Tirley section of the pipeline, and the remainder of the route.

### **7.2 Forthcoming Analysis, Publication and Presentation**

Following approval for the UPD by the relevant curatorial bodies, full analysis of those areas highlighted by the relevant specialists will be undertaken with an aim to addressing the research aims put forward in the UPD.

The results of the analysis will then be synthesised with the results from the other sections of the Milford Haven to Tirley pipeline into one comprehensive publication.

## 8 ARCHIVE MANAGEMENT

The project archive will be managed and prepared in accordance with national guidelines (IFA 1999i, 1999ii, 2001; MGC 1996; SMA 1993; UKIC 1990).

The artefacts and ecofacts will be conserved and stored as recommended by the relevant specialists (see Appendix E).

Herefordshire Museum and Art Gallery will receive the Herefordshire and Gloucestershire archives, as the Gloucestershire City Council and Museums Services are not accepting archaeological archives at present. Brecknock Museum will receive the Powys archive.

An appropriate discard policy will be agreed with Brecknock Museum and Herefordshire Museum and Art Gallery, and implemented prior to deposition. The full requirements of these two museums are yet to be agreed. Accession numbers have been issued by these museums and these can be found below in table 8.1. Those projects which have an accession code beginning with HRFD will be deposited with the Herefordshire Museum and Art Gallery. Those projects which have an accession code beginning with CPAT will be deposited with the Brecknock Museum of Powys.

Network Archaeology Ltd will be responsible for arranging the signing of consent forms by landowners and for the transfer of title of artefacts to Brecknock Museum and Herefordshire Museum and Art Gallery. The archive will include copies of electromagnetically stored or processed data, supplied on compact disc.

Completed forms for each site will be submitted to English Heritage for inclusion in the *Online Access to the Index of Archaeological Investigations* (OASIS) ([www.english-heritage.org.uk/server/show/nav.1306](http://www.english-heritage.org.uk/server/show/nav.1306)).

**Table 8-1 Accession numbers for different fieldwork stages**

County	Powys		Herefordshire & Gloucestershire	
	Project code	Accession number	Project code	Accession number
Geophysical survey	BRT 33	CPAT 06.12	BRT 33	HRFD 2008-18 & 19
Evaluation of pipeline	BRT 44	CPAT 06.12	BRT 44	HRFD 2008-10 & HRFD 2006-40
Evaluation of ancillary areas	BRT 54	CPAT 06.12	BRT 54	HRFD 2008-11 & 12
Watching brief of ancillary areas	BRT 66	CPAT 06.12	BRT 66	HRFD 2008-11 & 12
Excavation	BRT 75	CPAT 06.12	BRT 75	HRFD 2008-13, 14, 20, & 21
Controlled strip	BRT 75	CPAT 06.12	BRT 75	HRFD 2008-13, 14, 20, & 21
Watching brief	BRT 106	CPAT 06.12	BRT 96	HRFD 2008-15 & 16

## 9

**ACKNOWLEDGEMENTS**

Network Archaeology Ltd would like to thank all those listed below in Tables 9.1 and 9.2.

**Table 9-1 Client, contractor and curator personnel**

<b>Name</b>	<b>Role</b>	<b>Organisation</b>
Tony O'Sullivan	Project Manager	Murphy Pipelines Ltd.
Thomas Leeke	Agricultural Liaison Officer	
Shane Quill	Environmental Advisor	
Peter Lawrenson	Agricultural Liaison Officer	
Phil Allen	Project Engineer	National Grid
Linda Bonnor	Archaeological Advisor	
Mark Walters	Development Control Archaeologist	Clwyd-Powys Archaeological Trust
Julian Cotton	Development Control Archaeologist	Herefordshire County Council
Tim Hoverd	Archaeological Monitor	
Peter Dorling	Archaeological Monitor	
Christopher Atkinson	Archaeological Monitor	
David Williams	Archaeological Monitor	
Keith Ray	County Archaeologist	
Charles Parry	Senior Archaeological Officer	Gloucestershire County Council
Paul Nichols	Archaeological Monitor	

**Table 9-2 Network Archaeology personnel**

<b>Name</b>	<b>Role</b>
David Bonner	Senior Project Manager responsible for final report review and approval
Dan Hounsell	Project Manager responsible for post-excavation management and report text editing
Graham Cruse	Senior Project Officer in the field and also main author
Dan Barrett, Anni Byard, Andy Hunn	Project Officers in the field and contributions to report text
Rachel Savage	Reports Officer, research

<b>Name</b>	<b>Role</b>
Janey Brant	Finds Officer, specialist liaison
Jacqueline Harding	Illustrations Officer, final report illustrations
David Watt	Plan digitisation, final report illustrations
Julian Sleaf	Plan digitisation
Susan Freebrey	Location figures and GIS work
Mick Coates, Ben Curtis, Ian Dixon, Fred Garrett, Paul Gelderd, James Holman, Lucy Loughman, Kevin Moore, Sarah Mounce, Bryan Murray, Jon Onraet, Catherine Rees, James Stanley, Steve Thorpe, Richard Woolley, Allen Wright	Project Supervisors in the field, site narratives (ST and SM) and stratigraphic analysis (SM)
David Andrews, Kerry Ashworth, Ed Blinkhorn, Les Bognar, David Browne, Jessica Bryan, Geraldine Crann, Mark Dennett, Christine Elcock, Eleri Farley, Margaret Feryok, John Foulkes, Claire Gannon, Anthony Haskins, Yvonne Heath, Sean Jackson, Sam Keenan, Rachel Kidd, Alison Lane, Ross Lane, Jeff Lowrey, Gwynfor Maurice, Fiona McGill, Chris Merrifield, Lydia Northcott, Dawn Powell, Russell Priest, Brian Pugh, Diana Quinn, Hayley Saul, Daniel Sausins, David Simon, Fay Slater, Catherine Smyth, Fraser Stewart, Martin Thorburn and Jay Wood	Fieldwork Project Assistants

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