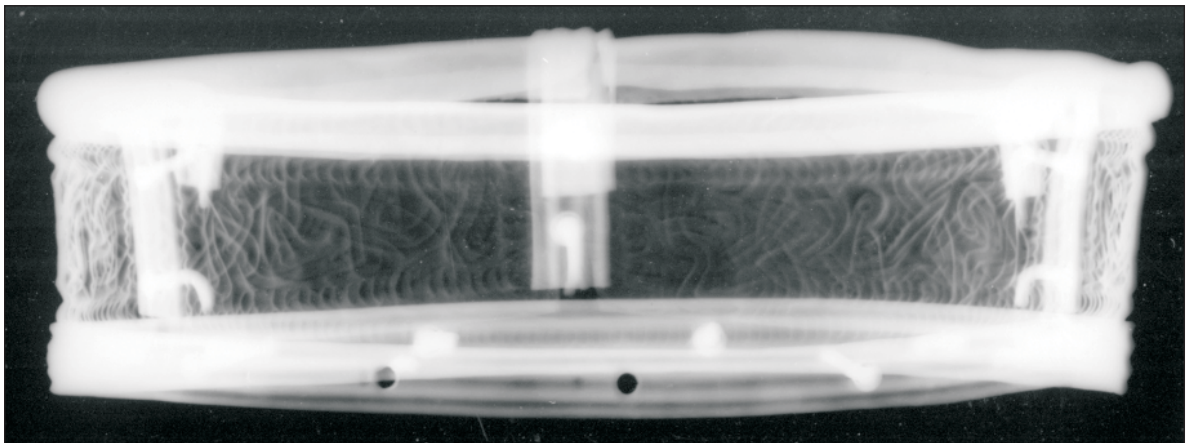


Farningham To Hadlow, Kent 1200mm Natural Gas Pipeline

POST EXCAVATION ASSESSMENT REPORT
AND UPDATED PROJECT DESIGN

MITIGATION AREAS AND WATCHING BRIEF



**FARNINGHAM TO HADLOW
KENT
1200MM NATURAL GAS PIPELINE**

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AND UPDATED PROJECT DESIGN**

MITIGATION AREAS AND WATCHING BRIEF

Prepared for

**Fabricson Ltd
5 Commerce Way
Leighton Buzzard
Bedfordshire
LU7 4RW**

On behalf of

**Southern Gas Networks Ltd
55 Vastern Road
Reading
RG1 SBU**

By

**Wessex Archaeology
Portway House
Old Sarum Park
Salisbury
Wiltshire
SP4 6EB**

Report reference: 70302.2

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Summary

Wessex Archaeology was commissioned by Fabricon Ltd, acting on behalf of Southern Gas Networks Limited, to undertake a programme of targeted archaeological excavation and watching brief in mitigation of a 22km pipeline between Farningham (NGR 557870E 167180N) and Hadlow (NGR 562350E 149300N), Kent. The majority of the route crossed the Kent Downs.

The excavation and watching brief phases of the project formed part of a staged process of archaeological works on the route and were aimed at determining the character and extent of archaeological remains previously identified by Desk Based Assessment, Fieldwalking, archaeological evaluation and geophysical survey. The majority of works were undertaken in response to areas of high archaeological potential along the pipeline route which had been identified in RSK's Environmental Impact Assessment and also to mitigate against those remains that could not be anticipated prior to the topsoil strip.

The archaeological remains encountered during the project included four archaeological sites which ranged in character from Late Iron Age and Romano-British enclosures to an Anglo-Saxon cemetery and a Romano-British villa. In addition, several further archaeological features of varying dates were identified during the watching brief phase of the project.

The excavation and watching brief was undertaken between 7th December 2008 – 24th July 2009.

This document assesses the potential of the data collected from all aspects of the fieldwork to contribute to archaeological knowledge and contains a proposal for further analysis and publication in the form of an article in a suitable national or regional journal, possibly combining print and web formats. This reflects the local, regional and national significance of the findings from the project.

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The project was managed for Wessex Archaeology by Richard Greatorex (Senior Project Manager). The fieldwork was directed by and this report was written by Rob De'Athe (Project Officer). The finds were assessed by Matt Leivers (flint assessment), Francis Wenban-Smith (Palaeolithic flint), Rachel Seager-Smith (pottery, CBM & fired clay), Nick Stoodley (Anglo-Saxon metalwork), Jessica Grimm (animal bone), Jörn Schuster (non-cemetery metalwork), Lorraine Mephram (miscellaneous finds) and Nick Cooke (coins). The report graphics were prepared by Linda Coleman. The environmental samples were processed by Nicki Mulhall. The bulk samples were assessed by Sarah F. Wyles. This report was edited by Richard Greatorex and Karen Walker (Principal of Specialist Services).

**FARNINGHAM TO HADLOW
KENT
1200MM NATURAL GAS PIPELINE**

**POST EXCAVATION ASSESSMENT REPORT
AND UPDATED PROJECT DESIGN:**

**MITIGATION AREAS 1-5 AND
WATCHING BRIEF AREAS**

1 INTRODUCTION

1.1 Project Background

- 1.1.1 Wessex Archaeology (WA) was commissioned by Fabricon Ltd to undertake a programme of site specific, targeted archaeological strip; map and record excavations associated with the 22km pipeline route between Farningham and Hadlow, Kent, hereafter the Route (see **Figure 1**). The pipeline was installed by The Murphy Group on behalf of Southern Gas Networks Ltd. This report details the results of the archaeological excavations and watching brief undertaken over an eight month period (7th December 2008 – 24th July 2009).
- 1.1.2 The Route was the subject of a detailed impact assessment which formed part of an Environmental Statement (RSK 2008a). The desk-based baseline information for the assessment was derived from a combination of Kent County Council's (KCC) Archaeological and Historic Building Record and English Heritage's National Monuments Record. This baseline information was also augmented by a walkover survey (RSK 2008b). The baseline information was used to establish the distribution of known archaeological sites and find spots within a defined Study Area of 1km, based on the pipeline's centre line. Additionally, the assessment contained the results of a fieldwalking survey (RSK 2008b) and a preliminary geophysical survey (Bartlett-Clark Consultancy 2007). The results of the assessment led to the identification of a number of areas of likely high archaeological potential that would be crossed by the Route.
- 1.1.3 These areas and other possible sites were the subject of trial trench evaluation (WA 2008) undertaken in the autumn of 2008, the results of which were used to inform the subsequent nature and extent of the archaeological mitigation works.
- 1.1.4 The mitigation fieldwork programme was undertaken in accordance with a brief for the mitigation works developed by RSK Environment (2008e) and a Written Scheme of Investigation (WSI) compiled by Wessex Archaeology, which defined the aims and methodology of the archaeological excavation and watching brief phases (WA 2008a). Prior to the commencement of fieldwork, in keeping with the standards and guidance issued by the Institute of Field Archaeologists (IFA 2008) and contained in Management of Archaeological Projects (English Heritage 1991), this WSI was approved by the Senior Archaeologist for KCC, Wendy Rogers.

1.2 Background to fieldwork

1.2.1 The excavation and watching brief formed part of a programme of archaeological mitigation works prior to and during construction of the pipeline, intended to satisfy the requirements of the County Archaeological Officer for Kent County Council. Additionally, fieldwork included a watching brief maintained during stripping of the pipeline Route. A Written Scheme of Investigation for the excavation (WA 2009a) and subsequently for the watching brief (WA 2008a) was prepared and submitted to the County Archaeological Officer for approval prior to implementation.

1.3 The Route, Topography, Geology & Hydrology

1.3.1 The pipeline runs for approximately 22km from Farningham to Hadlow in Kent (National Grid Reference (NGR) 557870E, 167180N to 562350E, 149300N). The route passes beneath the M20 and M26, in close proximity to Ash Green, Borough Green and Tonbridge (**Figure 1**).

1.3.2 The topography of the pipeline route is, in the main, gently undulating. Most plots are flat, or do not exceed 20° in slope angle. The exception to this is the steep escarpment at road crossing (RDX) 08/02 (Cooper's Wood), which provides commanding views to the south and east.

1.3.3 The solid geology is characterised by Chalk in the northern region of the Route overlain by sand and clay outcrops. The drift geology along the Route included alluvium, gravel terrace deposits, head deposits and clay-with-flints (BGS 1971 & 1988 Solid and Drift 1:50,000 Sheets 287 & 271).

1.3.4 Most of the route lies within the Kent Downs. Farningham lies on the chalk ridge, one of south-east England's highest points which rises to 250m above ordnance datum (aOD). This consists of Upper Chalk (chalk with flints), Middle Chalk and Lower Chalk. South of this lies a single narrow outcrop of Gault Clay followed by two east-west aligned outcrops of Folkstone Sand and Sandgate Clay. To the south again is a broad outcrop of Hythe Sand, and finally the pipeline terminates in another area of Weald Clay.

2 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 A full archaeological and historical background may be found in the RSK document, Archaeological Desk Based Assessment and Walkover Survey, prepared for Southern Gas Networks Ltd (2008b).

2.2 Early and Middle Palaeolithic

2.2.1 Due to its vicinity to the Continent, Kent was the first area within Britain to be settled by *Hominins* during the Middle Pleistocene, and activity patterns are believed to have fluctuated as the ice caps advanced and retreated. Kent remained relatively unaffected by glaciation, resulting in positive preservation conditions for the largest assemblage of artefacts of that date in Britain. Palaeolithic evidence mostly derives from deep deposits, where they have been either redeposited or buried in the course of subsequent geological and climatic events.

- 2.2.2 These deposits include river gravels and alluvium along ancient river terraces; colluvial and solifluction deposits in valleys, valleys slopes and hollows; aeolian and loessic deposits, such as brickearth; and residual finds spots, mostly on higher ground and associated with clay-with-flint drift, which were either re-exposed through erosion or never covered by Pleistocene deposits (Williams 2007, 42–64).
- 2.2.3 Swanscombe and the Ebbsfleet Valley, approximately 15km from the northern section of the pipeline route, is one of the richest find spots for evidence of the earliest Lower Palaeolithic date, and includes key sites such as Barnfield Pit, which produced the Swanscombe skull (the oldest found in Britain) from stratified river gravels, and the Southfleet Road Clactonian Elephant Butchery site, one of the very few occupation sites of the Lower Palaeolithic (*ibid.*). *In situ* sites are not common for this period; where they occur, they usually survive buried in deep deposit sequences.
- 2.2.4 Although Swanscombe lies some distance to the north of Farningham, both areas form part of the same prehistoric landscape; a large number of Palaeolithic implements have been collected within the immediate area of the pipeline. These include a fair number of residual finds from clay-with-flints drift deposits from the higher terrain of the North Downs, although the majority of finds were recovered from colluvial/solifluction deposits in the area between the North Downs and Greensand Ridge (*ibid.*). The wider locale around Ash and Ightham in particular is recognised as the most prolific for high-level surface finds in Britain (Wessex Archaeology, 1993, 73).
- 2.2.5 Many of the finds from the area were collected by Benjamin Harrison, a local enthusiast from Ightham, who assembled a vast collection of Palaeolithic material and field observation during field walks between 1865 and the end of the 19th century in a radius around his home, much of it derived from the gravels of the river Bourne or Shode and the eastern slopes of Oldbury Hill (*ibid.*, 93). This includes a large number of Palaeolithic and Mesolithic finds, particularly from the northern portion of the pipeline route.

2.3 Late Upper Palaeolithic and Mesolithic (c. 12,000–6,000 BP)

- 2.3.1 It was not until the last glacial retreat (at about 12,000 BC) that southern England became permanently available for human exploitation. During this time, the climate stabilised, although the landscape continued to transform as ice shelves melted, affecting sea and river levels. Evidence from the earliest millennia after the ice age is scarce, with much of it lying inundated beneath the North Sea and English Channel. Re-colonisation of the British Isles during the early Mesolithic period is thought to have occurred from the west, and consequently sites of that date in Kent are rare. These become more common from around 8,000BP, although cultural material remains restricted to lithic assemblages. The scarcity of Mesolithic material in Kent adds group value to individual entries.

2.4 Neolithic (c. 4000 – 2400BC)

- 2.4.1 During the later 4th millennium BC, new types of artefacts appear in the archaeological record, such as querns, sickles and pottery vessels. These changes are usually seen as indicative of a shift from hunter-gatherer

societies to sedentism, and agricultural and industrial subsistence strategies; however, recent thinking sees this change as more gradual and complex than traditionally assumed. Earliest feature evidence for the periods takes the form of pits, often with structured deposits, and very occasional rectangular post-built structures. One of these few early Neolithic long-houses in the country was discovered during mitigation works for Phase 1 of the Channel Tunnel Rail Link (CTRL) at White Horse Stone, about 12km to the east of the Study Area (Williams, 2007). Communal ritual activity commences during this period with the construction of monuments, including cursus monuments, causewayed enclosures and megaliths. Good examples of this latter type of monument can be found within 20km of the pipeline route with the Medway megaliths, a group of Neolithic chambered long barrows and other megaliths located in the lower valley of the River Medway that, apparently, respect the route of the North Downs Way and Pilgrims Way. The group consists of the Coldrum Stones (a long barrow), Addington long barrow, Chestnuts long barrow, Kit's Coty House (a long barrow), the Countless Stones and the Coffin Stone (Williams, 2007). In the later Neolithic/early Bronze Age, new monument types, such as henges and stone circles come into use, as do individual burial mounds (barrows). Settlements evidence, albeit often ephemeral and heavily truncated, first enters the archaeological record also mostly in the form of pits and ditches, although the most common find for the period is unstratified struck flint.

2.5 Bronze Age (c. 2400 – 700BC)

2.5.1 Evidence for Bronze Age activity in the vicinity of the Route is scarce. Bronze Age sites are more common towards the north-east and south-east of the Route and include Brisley Farm & Westhawk Farm near Ashford, Coldharbour Road in Gravesend and the Hoo Peninsula (Williams, 2007). It is likely that any possible barrow locations and flint tools finds around Ightham are associated with such Bronze Age occupation.

2.6 Iron Age (c. 700BC – AD 43)

2.6.1 Iron Age occupation is known throughout the pipeline Study Area with sites such as Oldbury Hillfort (Scheduled Ancient Monument 23018) near Ightham and Castle Hill in Tonbridge (Williams, 2007). The later Belgic period of the Iron Age was heavily influenced by Roman artefacts. Again, evidence for this has been found in the pipeline Study Area.

2.7 Romano-British Period (AD 43 – 410)

2.7.1 Romano-British remains are particularly common throughout Kent. Rochester and Canterbury developed as Roman towns and Watling Street was an important Roman road linking the port at Dover with London. Settlement developed throughout the countryside with civilian and military sites, as well as high status buildings such as villas. Two examples of these high status sites are known from the immediate area of the pipeline, the villa at Farningham Manor House and Lullingstone Villa, although many more Roman sites are known from the wider area, including a villa at Dunk's Green (Williams, 2007). Two further villa sites are known at Plaxtol.

2.7.2 Beyond evidence of high status buildings such as villas, this period is not well represented within the pipeline Study Area itself, but it is likely that there

was a widespread population living within the area during the Romano-British period. In addition, Roman industrial activity is attested to within the wider area, as locally obtained iron ore was exploited resulting in evidence for a number of Roman iron working sites within west Kent. Some of these sites may predate the Roman period, as recent archaeological work indicates Iron Age iron working in this area as well (Williams, 2007).

2.8 Anglo-Saxon Period (AD 410–1066)

2.8.1 Place names provide some evidence for the origins of some of the settlements. Wrotham was first recorded in 788 as Uurotaham; Shipbourne was recorded in 1100 as Sciburna; Hadlow was recorded in the 11th century by Textus Roffensis as Haeselholte; and Ightham is believed to derive from the Saxon 'Ehtaham', a Jutish personal name.

2.9 Medieval Period (AD1066–1499)

2.9.1 *Domesday* Book (1086) lists many of the villages within the wider area of the pipeline, suggesting that they already existed at the time of the Norman Conquest. A large number of buildings dating from the medieval period are recorded within the Study Area, and high status sites from this period are evident in the area such as Ightham Mote, Old Soar Manor at Plaxtol and Eynsford Castle.

2.10 Post-medieval Period (AD1499–1900)

2.10.1 This period saw increased industrialisation in the area. Evidence for this can be seen in the development of small-scale industries such as paper, brick and tile making. Some of the agricultural activities took on an industrial appearance, for example hop growing and fruit production with their associated structures such as oast houses. In this period, more formal enclosure of the land into fields also took place, as well as an increase in the clearance of woodland for agricultural purposes.

2.11 Modern (AD1900 Onwards)

2.11.1 During the Second World War, numerous aircraft were shot down during combat or crash landed in Kent. The exact location and nature of military aircraft crash sites can sometimes be vague, but being the county closest to the Continent which contained strategic targets; and en route to the capital, Kent was heavily bombed. Open countryside, through which the Route passes, was sometimes on the receipt of 'tip and run' raids where bomber aircraft intercepted by RAF fighters would drop their bomb loads in the hope of facilitating their escape. As a result, unexploded air delivered ordnance has been recovered from rural sites in Kent.

3 PROJECT AIMS AND OBJECTIVES

3.1 General

3.1.1 To establish and confirm through a programme of Preservation *by record* and/or Preservation *in situ*, the nature and date of any remains previously identified during the trial trench evaluation and any potential remains perhaps already anticipated/postulated through desk-based assessment,

geophysical survey or fieldwalking and trial trench evaluation.

- 3.1.2 To subsequently provide an assessment report of the results.
- 3.1.3 To finally disseminate the results of the excavation through the deposition of an ordered archive at an appropriate depository and by the production of a fieldwork report, and if appropriate, by the production of a suitable publication.

3.2 Mitigation Fieldwork Programme

- 3.2.1 The aim of the mitigation programme was to offset the impact of the pipeline route by preserving *by record* (archaeological excavation) five sites of archaeological significance that had been in the brief for the mitigation works (Mitigation Areas {MT} 1 – 5, **Figures 1 & 2-5**), and by preserving *by record* archaeological remains revealed in the course of pipeline construction, in a watching brief.
- 3.2.2 Each of the areas had distinct archaeological potential. It was the aim of the programme and subsequent post-excavation works, to address that potential in relation to local, regional, and wider research objectives as reported here.

Mitigation Area	Name/Plot	Aim
MT01	Ash 4/1	Targeted excavation to define whether remains were associated with the medieval manor at Ash
MT02	Pilgrims Way 8/03	Targeted excavation to define any remains associated with Pilgrims Way
MT03	Kemsing Road 11/2-11/3	Targeted excavation to define whether iron ore and slag identified in this area were associated with any industrial activity
MT04	Golden Stable Wood 19/13	Targeted excavation to define whether varied groups of finds represent chance finds or were associated with more concentrated activity
MT05	High House Lane 19/15	Targeted excavation of post medieval 'High House' attested in this location

Table 1: Mitigation Area locations and targeted aims

4 METHODOLOGY/STRATEGY

4.1 Introduction

- 4.1.1 All works were undertaken in accordance with the standards set out within this Written Scheme of Investigation (WA 2009).

4.2 A Programme of Strip, Map and Record Excavation

- 4.2.1 The final individual site footprints were as follows:
 - **MT01 (Plot 4/1)** = approximately 7.6 hectares (ha)

- **MT02 (Plot 8/3)** = approximately 11.1ha
- **MT03 (Plot 11/2-11/3)** = approximately 1.9ha
- **MT04 (Plot 19/13)** = approximately 3.1ha
- **MT05 (Plot 19/15)** = approximately 0.74ha

4.2.2 The above site footprints were extended from the original project design following the identification of archaeological remains to ensure sites could be understood and interpreted as far as was possible within the easement footprint.

4.2.3 Stripping of the topsoil/subsoil in the individual footprints (see **Figures 1 & 2-5**) was undertaken using a 360°-tracked excavator with a toothless bucket under the direct supervision of an archaeologist. Any archaeological remains/artefacts were recorded (including an appropriate record of the stratigraphic context) and surveyed into the Ordnance Survey grid. Prior to hand excavation, a pre-excavation plan (from the site survey) was produced and submitted to KCC's Senior Archaeological Officer, identifying all archaeological features, significant geological changes and any modern truncation. Copies of the pre-excavation plan were also made available to the Senior Archaeological Officer and the client's consultants (RSK). Once archaeological deposits and remains were exposed and cleaned, further excavation proceeded by hand and the appropriate use of machine where necessary. Once the surface had been stripped down to the archaeological horizon no traffic of any kind was allowed to traverse the cleaned surface until formally handed over by the archaeologist in charge.

4.2.4 A sampling strategy specific to different deposits and remains encountered was agreed upon with Kent County Council's Senior Archaeological Officer and the archaeological consultant from the RSK Group.

4.3 General Excavation of Features

4.3.1 The sampling levels for archaeological remains were determined according to their importance, quality and nature of survival, but normally sought to identify areas of potential/absence, relationships, extent, depth, complexity and approximate date.

4.4 Recording

4.4.1 All exposed archaeological deposits were recorded using Wessex Archaeology's *pro forma* recording system. Where appropriate, significant artefacts were recorded three dimensionally and detailed plans made of any special or placed deposits.

4.4.2 A complete drawn record of mapped archaeological features and deposits was compiled. This included both plans and sections (sections where appropriate or safe within test pits), drawn to appropriate scales (1:20 for plans, 1:10 for sections), and with reference to a site grid tied in to the Ordnance Survey National Grid. The Ordnance Datum (OD) height of all principal features and levels were calculated and plans/sections were annotated with OD heights.

4.4.3 A full photographic record was maintained using both colour transparencies and black and white negatives (on 35mm film). Slide and digital photography

was employed where appropriate. The photographic record illustrated both the detail and the general context of the principal features, finds excavated, within the individual sites as a whole.

4.5 Archaeological Watching Brief

4.5.1 The watching brief was conducted along the entirety of the Route and in areas identified for off-easement access groundwork. It included attendance during topsoil and subsoil stripping.

4.5.2 Where archaeological remains were identified, access to investigate the remains was agreed and sample excavation and recording was carried out in accordance with the Written Scheme of Investigation (RSK Environment Ltd 2008e).

4.5.3 During the excavation the limits of interventions, datum lines and grid points were surveyed using a GPS device and later transferred onto digitised site plans.

4.6 Weather and ground conditions

4.6.1 The investigations were carried out in winter through to late summer and weather conditions ranged from cold with snow to hot and dry combined with periods of wet weather. In general, weather conditions were good with little impact on the archaeological works throughout the duration of the project.

5 STRATIGRAPHIC ASSESSMENT

5.1 Introduction

5.1.1 The text below summarises the significant evidence obtained from all archaeological works carried out, by period and feature type (**Figures 1-5**). Contexts representing the fill, deposition and re-deposition or reworking of material, signifying use/disuse are enclosed in round parenthesis i.e. **(00)**. Those representing the actions of cuts, construction, reconstruction or truncation are enclosed in square brackets i.e. **[00]**. Where separate contexts have been obtained from sample excavation of a single feature these have been grouped together and are described by **Group** number. The artefactual assemblage from the excavation is assessed in **Section 7** and the environmental evidence is assessed in **Section 8**.

5.2 Preservation

5.2.1 In general the preservation of artefactual and ecofactual remains across the Mitigation and Watching Brief Areas was good.

5.3 Mitigation Area 01

5.3.1 MT01 (**Figure 2**) was located on land at Ash and was centred on NGR 560190 164690. The mitigation area comprised a roughly east-west aligned area initially measuring 70m x 25m which was subsequently extended to the east, the final stripped area measured 268m x 31m at its widest. The natural geology was chalk with a brick earth capping, with some outcrops of clay

with flint, into which all archaeological features were cut (**Plate 1**).

5.4 Mesolithic

- 5.4.1 Palaeochannel **[6455]** filled with **(6174)** was located to the east of centre of the area and was aligned roughly north/east-south/west (**Plate 2**). Although it was a natural feature, a significant quantity of struck flint was recovered from the upper silty fill during the course of the excavation. Following trenching by mechanical trenching machine a further quantity of struck flint was recovered from the single identified fill (**Plate 3**). The flint has been assessed as being Mesolithic in date (**see section 7 below**) and suggests activity of this date in the immediate area as the flint shows little sign of being abraded by significant movement within the channel.

5.5 Late Iron Age/Early Romano-British

- 5.5.1 Ditch (Group 6434) was located in the western portion of the area and was observed to extend southwards from the northern baulk on a roughly north-south alignment. The ditch curved slightly towards the east before terminating approximately 10m from the northern baulk section. The ditch has been interpreted as an enclosure ditch and was defined by a cut measuring c.1.3m wide and c.0.65m deep (Plate 4). The ditch is related to ditch (Group 6435) to the south and formed an entrance into the enclosure.
- 5.5.2 Ditch (**Group 6435**) was located in the western portion of the area and along with ditch (**Group 6434**) has been interpreted as an enclosure ditch forming an entrance way. The ditch was observed to extend from the southern baulk on a roughly north-west/south-east alignment with a slight curve to the north before terminating c.20m from the southern edge of the area. The distance between the terminal ends of both ditches formed an entrance 3.5m in width. The ditch was defined by a cut measuring c.1.2m wide and c.0.60m deep.
- 5.5.3 Pit **[6014]** was situated in the western region of the area approximately 12m inside the enclosure and measured c.2.1m in diameter and c.0.38m in depth. The pit contained a single sherd of pottery with moderate amounts of charcoal flecking and may be related to pit **[6029]** adjacent to the west.
- 5.5.4 Ditch (**Group 6439**), which was cut by pit/pond **Group 6451**, was aligned north-west/south-east and traversed the entire easement until it was cut by a rectilinear enclosure ditch **Group 6436** (see 5.5.7). The ditch was defined by a shallow concave cut with a similar profile seen in the base. The ditch also cut earlier ditch (**Group 6450**) which traversed the area on an identical alignment on the immediate western side of this ditch. Both ditches have been interpreted as providing an internal division within the larger enclosure.
- 5.5.5 Ditch (**Group 6450**) was aligned on an identical orientation and was cut by ditch **Group 6439** mid way across the area. It is believed this feature also provided an internal division within the enclosure which was re-established by the cutting of later ditch **Group 6439** along a similar alignment.
- 5.5.6 Ditches (**Groups 6439 & 6450**) were both cut by ditch (**Group 6438**) in the southern portion of the area. Ditch **Group 6438** is described below.
- 5.5.7 Ditch (**Group 6436**) has been interpreted as an enclosure ditch and was located in the western portion of the area and was sited adjacent

to the northern baulk. This ditch was observed to extend 3.4m from the baulk section before turning to the east forming a right angle approximately 9m to the east of enclosure ditch (**Group 6434**). The ditch then traversed the area to the east for a distance of 54.5m before tuning to the north again, forming a rectilinear enclosure. The ditch was defined by a cut measuring c.1.8m wide and c.0.40m deep. The cut was concave in nature with a shallow concave base.

- 5.5.8 Pit [**6349**] was located in the northern portion of the central region of the area. The pit was sited within rectilinear enclosure (**Group 6436**) and was observed to extend from the northern baulk section. The pit was defined by an irregular cut measuring c.0.80m in width and c.0.75m deep. The pit had very steep straight edges falling to an irregular base. Three abraded sherds of pottery were recovered from a single fill.
- 5.5.9 The most enigmatic feature on site was pit/pond (**Group 6451**) located in the central region of the area. The feature measured c.15m in diameter and was 2m south east of enclosure ditch **Group 6436 (Plate 7)**. The feature was extensively metal detector surveyed which yielded several coins ranging in date from the 1st to 4th century, several iron objects including a knife, lead curses and a broken bronze drinking vessel. Pottery and sparse amounts of animal bone were also recovered from the surface of the feature. A machine excavated 1m wide section was excavated through the centre of the feature on an east-west tract which revealed a rich dark organic sequence of fills which may suggest wet conditions in antiquity. The machine excavated slot did not expose the base of the feature so a hand augur survey was undertaken which proved the base, in the centre, of the feature at approximately 3.5m below ground level (**Plate 9**).
- 5.5.10 The feature was monitored during pipe trenching of this stretch of the Route and the spoil subject to further metal detector survey during which a further coin was recovered. The section was then photographed (no access to the pipe trench was undertaken due to Health & Safety considerations). The fully trenched section revealed a moderately steep sided cut; the base was not reached during this operation. It appears possible that this is a natural feature utilised in the Romano-British period for the deposition of votive offerings or a deliberately 'cut' feature possible to extract brickearth. The coins range relatively widely in date from the 1st century to the 4th and suggest the deposits within the feature formed over a considerable period of time (**see section 7 below**).
- 5.5.11 Ditch segment **Group 6438** was situated in the southern central portion of the area and was aligned east-west. The ditch was defined by a steep sided cut falling to a flat base and measured 0.45m deep and 0.60m wide. The ditch may be associated with Ditch (**Group 6437**) to the south-west forming a right angle and may suggest a small enclosure, however no corresponding ditch was observed at the eastern end of Ditch **Group 6439** so this interpretation is tenuous. The ditch was also seen to cut Ditch **Groups 6439 & 6450** in the southern central portion of the area.
- 5.5.12 Ditch **Group 6437** extended from the southern baulk in the central portion of the area on a north-south alignment by a distance of c.10m before termination approximately 1.7m to the east of ditch **Group 6439**. The ditch was defined by a shallow concave cut measuring c.1m wide and 0.35m

deep. This feature has been interpreted as possibly forming an enclosure with Ditch **Group 6438**.

- 5.5.13 Ditch segment (**Group 6440**) was situated in the central region of the mitigation area and was aligned roughly north-east/south-west. The ditch segment was approximately 15m long and was defined by a shallow narrow cut measuring c.0.50m wide and 0.20m deep. The function of the feature is unknown but possibly formed a further internal division within the larger enclosure in general. It is also possible this ditch segment is associated with Ditch segment **Group 6438** potentially extending a small enclosure.
- 5.5.14 Gully segment (**Group 6441**) was sited in the northern central portion of the area. The feature was approximately 20m in length and was aligned roughly east-west. The gully exhibited a narrow shallow concave cut which was c.0.25m wide and 0.10m deep. The feature has been interpreted as forming an internal division within the wider enclosure.
- 5.5.15 Ditch segment (**Group 6442**) was positioned in the eastern central portion of the area and was on a roughly east-west orientation. The segment measured approximately 11m in length and was defined by a moderately steep concave cut measuring c.0.60m wide and 0.27m deep. The segment was observed to be cut by later gully (**Group 6443**) and later ditch (**Group 6444**) towards its eastern end. Segment **Group 6442** may also be associated with Ditch segment **Groups 6440 & 6438** to the west and may be an extension of an enclosure.
- 5.5.16 Narrow ditch segment (**Group 6443**) was located in the central portion of the area, was approximately 10.5m long and was orientated roughly north/south. The ditch was defined by a very steep sided cut with a flat base measuring 0.60m wide and 0.20m deep. The ditch mirrored an identical ditch segment (**Group 6446**) 5.4m to the east which was observed to be on an identical alignment and was also c.10m in length. Ditch segment **Group 6446** had a similar steep profile with a flat base measuring 0.70m wide and 0.30m deep. Both ditch segments exhibited very similar profiles and lengths and have been interpreted as being related although the function of these two ditches is unclear. It may be they are the remains of a track within the larger enclosure however, no other similar segments were observed to the north of south of these two features.
- 5.5.17 Ditch (**Group 6444**) was observed to span the entire width of the easement and was orientated roughly north/south. This ditch was seen to cut earlier ditch **Group 6442** and was defined by a moderately steep concave profile and a flat base measuring 1.27m wide and 0.60m deep. It is possible this ditch is the main enclosure ditch at its eastern limits.
- 5.5.18 Narrow shallow ditch (**Group 6445**) was also roughly aligned north/south and was positioned c.2m east of ditch **Group 6444**. The ditch was characterised by a concave profile which was 0.30m wide and only 0.10m deep. The ditch was observed to cut ditch segment (**Group 6449**) at the extreme southern edge of the area and may be related to the ditches, **Groups 6444, 6443** to the west and **6446** to the east, forming a series of trackways on the same alignment in this region of the site.
- 5.5.19 Ditch segment **Group 6449** was located at the extreme southern central

portion of the area and was seen to terminate approximately 2m north of the southern baulk. The feature was characterised by a straight steep sided cut with a flat base measuring 0.70m wide and 0.30m deep shallowing to a moderately concave terminal. The ditch was cut by later narrow ditch **Group 6445** as described above and in turn cut a small possible posthole **[6257]** along its western side, although very little remained of this small feature. It is possible this ditch represents a boundary feature however; as such a short amount of the ditch was available for investigation this interpretation of its function remains unproven.

- 5.5.20 Ditch **[6172]** was located in the central part of the area and spanned the easement on a north/south alignment. The ditch was defined by a moderately straight sided concave based profile and measured 1.3m wide and 0.60m deep. The ditch is believed to be post-medieval in date and may delineate the boundary of an extant paddock through which the easement was cut.
- 5.5.21 Ditch (**Group 6447**) was situated in the eastern portion of the area and again was observed to span the entire width of the easement on a north/south orientation. The ditch was characterised by a steep concave profile which was 1.4m wide and c.0.70m deep. The ditch was cut by later ditch (**Group 6448**) towards the northern edge of excavation and also by a large pit (**Group 6452**). The ditch has been interpreted as possibly forming the eastern limits of a D-shaped enclosure which is formed by ditch **groups 6434 & 6435** (although the eastern limits may also have been formed by ditch **group 6444** as described above).
- 5.5.22 Ditch (**Group 6448**) was aligned east/west and was located in the eastern portion of the site. This ditch was observed to be very narrow towards its western end gradually widening towards its eastern where it terminated approximately 11m east of ditch **group 6447**. The profile of the ditch was characterised by a 1.7m wide moderately shallow convex profile with a concave base at its widest and was c.0.50m in depth. Towards the west the ditch narrowed considerably to only c.0.35m and the depth shallowed to a maximum of 0.20m although the ditch did not appear to be truncated as the ground level did not change from being relatively flat. The function of this feature remains unclear, it was not observed any further to the west and did not extend from the other side of a 'step' left in the baulk section where it would be expected if it indeed carried on westwards suggesting the feature either terminated beneath the baulk or in fact turned towards the north.
- 5.5.23 Pit **Group 6452** was located in the eastern portion of the area and was oval in plan. The pit was seen to cut ditch **Group 6447** towards the southern edge of the site. The pit measured c.5m in diameter and was excavated to the safe depth of 1.2m although this did not reach the base of the original cut. The sides were characterised by a steep convex profile and the pit contained several distinct deposits from which a variety of finds were retrieved including pottery, animal bone, worked and burnt flint two coins (one dating to the late 3rd century and one worn sestertius of the late 1st early 2nd century (believed to be residual in this context), CBM and several sherds of Late Saxon pottery believed to be residual in nature. The pit has been interpreted as a possible waterhole/quarry pit although this remains unproved. Following excavation of the pipe trench, the base of the pit was seen at c.2m below ground level. No additional finds were retrieved from this

feature during the pipe trenching operation.

- 5.5.24 Pit **[6084]** was located 10m to the north/east of pit **group 6452** and was sub oval in plan. The pit measured c.3m in diameter and was characterised by steep concave sides with a flat base and was 1m in depth (**Plate 8**). The pit was filled with deposits which contained slag, animal bone, struck and burnt flint, a quern stone fragment, pottery sherds and charcoal. The upper deposits on the southern edge were cut by a smaller pit **[6080]** which measured c.1.5m in diameter and was 0.40m deep. This smaller feature contained slag, struck flint and animal bone including a horse skull. The function of both of these features is unclear, it is possible that the larger pit **[6084]** was initially cut for the extraction of brickearth and was later utilised for the disposal of general waste material. The smaller pit, **[6080]**, may have been used primarily for the disposal of rubbish in the form of animal bone. The struck flint recovered from both features is believed to be residual as both are microliths and probably derived from the palaeochannel to the west.
- 5.5.25 Possible ditch terminal **[6048]** emerged from the northern baulk section in the eastern part of the area by a length of 1.5m. The profile of the feature, which rises towards the southern end, is suggestive of a ditch terminal and measured 1.5m wide and 0.35m deep. The profile was moderately concave with a concave base and contained a single fill. The fill included CBM, animal bone components and a quern stone fragment (obj. no. 33).
- 5.5.26 Pit **[6153]** was larger than adjacent pit **[6118]** and measured 1.7m in diameter and was 1m in depth. The pit was characterised by steep concave (and slightly undercut on the eastern edge) sides with an irregular base. A complex sequence of silting and backfilling events were discerned from the fills contained within the pit. From these deposits pottery, animal bone, burnt flint and CBM were retrieved. However, most of this material derived from the upper two fills. Only sparse charcoal flecks were observed in the lower fills.
- 5.5.27 Sub-oval pit **[6122]** was situated in the far eastern part of the area and was isolated from other features. The pit was characterised by steep irregular sides and a slightly concave base and measured 2.1m in diameter and 0.83m in depth. The feature was excavated in quadrants which revealed a basal deposit of clay rich material which was overlain by a very charcoal rich deposit from which a bone comb was retrieved (obj. no 51). Above this layer a deliberate backfill deposit was observed probably a 'capping' deposit to cover the organic rich fill below. The upper fill contained fragments of copper alloy foil (obj. no 52) and degraded animal bone along with ten sherds of Saxon pottery believed to be residual in nature as the lower fills of the pit contained Late Iron Age. The function of the pit is unknown but it may have been excavated in antiquity for brickearth extraction prior to being used for the dumping of waste material.
- 5.5.28 Oval pit **[6229]** was located against the southern baulk section in the eastern part of the area. The pit was 1.5m in diameter and 0.70m deep with steep concave sides and a flat base. The pit contained several fills from which struck flint, animal bone and pottery dating to the Late Iron Age/Early Romano-British period was recovered. The feature has been interpreted as functioning as a rubbish pit.

- 5.5.29 Directly adjacent to pit **[6229]** to the south was pit **[6239]**. This smaller pit measuring 0.75m in diameter and 0.30m deep. No relationship was observed between the two pits and they have been interpreted as being contemporary with each other. No finds were retrieved from this smaller pit.
- 5.5.30 Pit cluster (**Group 6451**) was located in the eastern part of the area and was observed to emerge from beneath the northern baulk section. The cluster was irregular in plan and measured 10m at its (observed) widest and spanned a distance of 5m from the northern edge of site. The cluster comprised a total of five pits and was situated between ditch **[6048]** to the west and pit **[6366]** to the east. Upon investigation it was revealed that two distinct pit clusters were present with a spread of silty material masking the natural geology between them. The western cluster contained two pits; the initial pit **[6406]** contained three fills which were cut by later pit **[6410]**. This latter pit measured c.2.7m in width, was 0.76m deep and was characterised by steep stepped sides and a concave base. Finds retrieved from the fills of this large pit included animal bone, pottery, slag and flint. To the east the second cluster comprised three pits, **[6399, 6391 & 6395]**. In this sequence pit **[6391]** was the initial feature cut by **[6395]** to the west. It was in turn cut to the east by large pit **[6399]** which measured 3.1m in width and was 1.27m deep. Finds retrieved from all pits are suggestive of the pits being used for the disposal of waste material. However, it is believed all pits within these clusters were initially excavated for the removal of brickearth.
- 5.5.31 To the far east of the area a series of post-medieval/modern pits were also identified. These were machine excavated to confirm the presence or absence of any material predating the post medieval period. None was found and the features were noted but not investigated further.
- 5.5.32 Pit **[6241]** was located in the northern central portion of the area and was circular in plan with steep sides and a concave base and measured 1.8m in diameter and 0.70m in depth. The pit was contained several fills from which a moderate amount of dateable material was recovered comprising pottery and worked flint. Some animal bone was noted but was too degraded to retrieve. The pit has been interpreted as functioning as a rubbish pit.
- 5.5.33 A number of pits (**[6175], [6135], [6185]** and **[6272]**) were located in the central portion of the site, and closely associated with post hole groups (**6453**) and (**6454**) Pit **[6175]** was located 7m to the west of **[6135]** and was circular in plan with steep concave sides and a concave base and measured 1.13m in diameter and 0.65m in depth. The pit contained several fills from which pottery, animal bone and CBM were recovered.
- 5.5.34 Pit **[6185]** was located to the immediate south/west of **[6175]** and was circular in plan with shallow concave sides and a flat base. The small pit measured 0.60m in diameter and was 0.17m deep. No finds were retrieved from the single fill but it is likely to be associated with the other pits located between the fence lines in this region of the site.
- 5.5.35 Pit **[6272]** was the furthest west of the three and was located 8m from **[6175]**. The pit was characterised by a circular cut with shallow concave sides and a concave base. The pit measured 0.75m in diameter and was only 0.10m in depth. All three of these pits were sited in a line orientated east/west and were similarly distant from each other. The finds from all three

suggest the dumping of general domestic waste and they have been interpreted as rubbish pits.

5.6 Late Iron Age/Early Romano-British by Association

- 5.6.1 The following features contained no definitive dating evidence but have been assigned to this phase by association.
- 5.6.2 Oven/kiln (**Group 6110**) was located 10m outside the D-shaped enclosure ditch to the south/west and was sub-rectangular in plan with steep to vertical concave sides and a concave base. The feature measured 3.2m in length, 1.60m in width and was 0.47m in depth (**Plate 5**). The edges of the feature were lined with fired clay with the main firing area at the western end with a possible stokehole at the eastern which rose at a 45° angle to a slightly bulbous end. Deposits within the feature comprised both primary and secondary destruction layers (**Plate 6**). Charcoal rich fills were observed above the clay lining with a thick deposit of collapsed superstructure comprising fired clay above this. The superstructure material had wattle impressions on the fired clay. A series of associated postholes were located in the area of the feature, **[6095, 6102, 6104, 6106 & 6108]** and may have been related to the superstructure.
- 5.6.3 At the potential stokehole end of the oven/kiln another posthole **[6093]** was located which indicated evidence for a wooden frame internally within the feature. The deposits within the structure were extensively environmentally sampled to try to ascertain its function as no pottery wasters or material associated with a pottery kiln was identified. A large quantity of charred cereal remains and wheat seeds were recovered.
- 5.6.4 Pit **[6147]** was located at the extreme southern edge of the western region of the mitigation area and was 4.5m to the south of feature **[6110]**. The pit was sub oval in plan with irregular steep sides and a sloping base. Not all the feature was visible as it extended beneath the southern baulk section. The pit measured c.2.5m in observed diameter and was 0.80m deep. The pit has been interpreted as being excavated in antiquity possibly to provide clay material for oven **[6110]** and was subsequently used for the disposal of waste possibly from **[6110]** as it contained abundant fired clay and daub with burnt flint and charcoal inclusions.
- 5.6.5 Pit **[6029]** was located adjacent and to the west of pit **[6014]**. The pit was oval in plan and characterised by moderately sloped concave sides and a concave base, the pit measured 2m in diameter and was 0.60m in depth. No finds were retrieved from the fills only sparse charcoal flecking was observed. The function of this feature is unknown.
- 5.6.6 Pit **[6011]** was located c.9m to the south/west of pit **[6029]** and was also oval in plan with concave sides and a concave base. The pit measured c.2m in diameter and was 0.52m in depth. Finds retrieved from the fills included ceramic building material (CBM), burnt flint and fired clay fragments. The function of the feature is unclear but this pit along with **[6014 & 6029]** may have been excavated for the extraction of brickearth in this region of the site.
- 5.6.7 Postholes **[6276 & 6278]** were situated in the eastern central part of the mitigation area and were 2.8m apart with **[6278]** to the south/east of **[6276]**. The postholes measured 0.25m and 0.10m and 0.33m and

0.12m in diameter and depth respectively. It is possible these are related but no further postholes were revealed in this region of the Site so their function remains unknown.

- 5.6.8 Postholes (**Group 6453**) comprised **[6343, 6322, 6320 & 6345]** and were located in the southern central part of the area. The group was in line, orientated east/west and was 4m in length. The postholes ranged in diameter size from 0.26m – 0.38m and in depth from 0.04m – 0.08m. It is likely that two further postholes of similar size, **[6321 & 6331]** to the west, are associated with this group forming a fence line 16m long.
- 5.6.9 A parallel line of seven postholes (**Group 6454**) was identified 6.5m to the south. This group comprised **[6285, 6274, 6259, 6315, 6247, 6219 & 6217]** and ranged in diameter size from 0.27m – 0.45m and in depth from 0.07m – 0.19m. This line of postholes was aligned roughly east/west and ran for a distance of 6.6m. A further three postholes, **[6333, 6335 & 6337]** were situated c.5m to the west of this post line and may be interpreted as being part of the same group forming a fence line approximately 12m in length. The three postholes ranged in size from 0.21m – 0.28m in diameter and 0.12m – 0.15m in depth.
- 5.6.10 If we interpret these two posthole alignments as being fence lines it is interesting that a series of three pits were situated between these ‘fences’ also on an east/west alignment. Pit **[6135]** was the most easterly of the three and was characterised by an oval cut with convex steep sides and an irregular base. The pit measured just over 1m in diameter and was 0.50m deep. Animal bone was recovered from the main fill.
- 5.6.11 Pit **[6190]** was located in the central portion of the area and was observed to be cut by ditch segment **Group 6440** at the extreme eastern end of the segment. The pit was defined by a relatively shallow concave cut with a flat base and contained a moderate amount of charcoal in the fills. The pit has been interpreted as being utilised for general waste disposal.
- 5.6.12 Pit **[6250]** was located in the central region of the area and was situated 5.5m to the west of ditch **group 6443**. The pit was characterised by a circular shallow cut with steep sides and a flat base. The pit measured 0.60m in diameter and 0.14m in depth. Only flecks of charcoal and CBM were observed in the single fill. The function of the pit remains unknown.
- 5.6.13 Pit **[6366]** was also located in the eastern portion of the area and was 16m to the east of **[6048]**. The pit emerged from the northern baulk section and measured 1.60m in diameter and 0.56m in depth. The profile was defined by steep almost vertical sides and a flat base. The pit contained two distinct fills which were environmentally sampled due to abundant charcoal inclusions. Animal bone and burnt flint were also retrieved from the feature.
- 5.6.14 Two postholes **[6115 & 6364]** were sited to the south and east respectively of pit **[6084]**. The postholes ranged in size from 0.25m-0.29m in diameter and were both 0.16m deep with steep straight sides and flat bases. It is likely that these postholes are associated with the pit although the exact function of the posts they would have supported is unknown.
- 5.6.15 Pit **[6354]** was located 3m to the south of pit **[6084]** the profile was characterised by moderately concave sides with a concave

base. The pit measured 0.64m in diameter and was 0.20m deep. Only fragments of animal bone and some charcoal flecks were observed in the single fill. It is possible this represents a small waste disposal pit.

- 5.6.16 Isolated truncated posthole **[6369]** was situated in the eastern portion of the mitigation area and was 0.2m in diameter and only 0.10m deep. No finds were retrieved from a single fill.
- 5.6.17 Pit **[6118]** was situated in the southern part of the eastern portion of the mitigation area and was adjacent to larger pit **[6153]** which was immediately to the south/east. The pit was 1.4m in diameter and 0.30m in depth with moderately concave sides and a flat base. The pit was filled with a single deposit from which struck and burnt flint, iron slag, animal bone and sparse pieces of CBM were recovered. No pottery was retrieved. It is likely this represents a rubbish pit.
- 5.6.18 Pit **[6181]** was located centrally in the eastern portion of the mitigation area and was circular in plan with steep slightly concave sides and a slightly concave base. The pit measured 1.04m in diameter and was 0.40m deep. A single mixed brickearth and silt deposit was contained within the cut from which burnt and struck flint was recovered.
- 5.6.19 Several other postholes were scattered across the western portion of the area **[6303, 6313, 6305, 6311, 6307, 6309, 6358, 6360 & 6380]** forming no discernable pattern.

Summary

- 5.6.20 To summarise, the archaeological features revealed at MT01 are indicative of an enclosure system with few phases that can be identified at this assessment stage of the project. However, it has been possible to identify at some phases of activity by assessing the stratigraphy of intercutting features and the spatial pattern of others.
- 5.6.21 Phase A may be defined by the small segmented ditches located within the wider enclosure and included ditch **Groups 6450, 6439, 6438, 6437, 6440, 6441 & 6442.**
- 5.6.22 Phase B appears to be represented by enclosure ditch **Groups 6434 & 6435** and possibly **Group 6444.** These ditches form a relatively large enclosure measuring c.108m in diameter within which are a quantity of discreet features comprising pits and postholes and the Phase A features described above.
- 5.6.23 Phase C appears to be represented by the smaller rectangular enclosure ditch **Group 6436** which is located in the northern region of the site which is defined by a signature shape which is distinctly Roman.
- 5.6.24 The features in the far eastern portion of the site comprising **Groups 6448, 6447 & 6452** are likely to be related to the Phase B or Phase C activity although this has yet to be confirmed.
- 5.6.25 It is anticipated the remaining features and confirmation of the above phasing will be refined during the analysis stage of the project.

5.7 Mitigation Area 2 Plot 8/3 Pilgrims Way

5.7.1 Mitigation Area 2 was located in Plot 8/3 and straddled Pilgrims Way, to the north-west of Wrotham. The area was roughly centred on NGR 559480 159580 and was (initially) an east/west orientated rectangular site measuring 0.37ha (**Figure 3**). Upon topsoil stripping a shallow grave was identified in the northern portion of the area, subsequent discovery of a small cemetery (**Plates 10 & 11**) provoked an increase in the scale of the area to the north and east to 11.1ha in total. The focus of the extended area was to the north to ensure no further graves were present that could have been impacted upon from the installation of a directional drill site to install the pipe below the North Downs escarpment.

5.8 Saxon

5.8.1 Sixteen graves were identified of which eleven contained human remains and five contained no human remains. The graves were confined to an area measuring c.23m x 19m, Nine of the graves were orientated roughly north/south and seven roughly east/west. The focus of the cemetery was a large grave contained within a barrow ditch with two further penannular barrows and associated graves in close proximity. Six further burials were located to the east of this main focus area.

5.8.2 Grave **[7003]** was the first grave to be uncovered by machining of topsoil and was located in the north/eastern portion of the area. The grave was orientated north/south and was sub-rectangular in shape with very shallow concave sides and a relatively flat base. The grave measured 1.82m long, 0.62m wide and was 0.08m deep. The shallowness of the grave is believed to be the result of truncation as other graves within the cemetery were deeper. The grave contained the skeleton of an adult male (**7004**) which was in the supine position with the head to the south and arms extended down each side. The majority of the hand and feet bones were absent probably due to truncation.

5.8.3 The grave goods interred with the individual comprised a sword, which was placed along the centre line of the body with the handle toward the chest, and three copper alloy (Cu) fittings (**Plate 12**).

5.8.4 Grave **[7006]** was located 11m to the south/west of **[7003]** and was also orientated roughly north/south. The grave was sub-rectangular in shape with moderately slopped irregular sides and a flat base. The grave measured 2.47m long, 1m wide and 0.20m deep. The grave contained a single adult male (**7007**) in the supine position with the head to the south and arms extended along the sides in poor condition. Grave goods comprised an iron spearhead positioned by the left shoulder and an iron (Fe) knife placed horizontally across the chest.

5.8.5 Grave **[7023]** was located about 5m south of grave **[7003]**. The grave was sub rectangular in shape with shallow irregular sides and an irregular base and was orientated east/west. The grave measured 1.78m in length, 0.90m in width and was 0.37m deep. The grave contained a single adult (possibly female) in the supine position with the head to the west and arms along the sides. The skeleton was in poor condition with only skull and long bones present in any quantity. No grave goods were identified within the grave

although a single sherd of presumably residual Late Iron Age/Romano-British pottery was recovered from the backfill.

- 5.8.6 Grave **[7010]** was situated 8m to the west of **[7003]** and was orientated roughly north/south. The grave was sub-rectangular in shape with near vertical sides and a flat base. The grave measured 2.98m long, 1.56m wide and was 0.52m deep. The grave contained a single adult male in the supine position with the head to the south and arms positioned along both sides (**Plate 13**). The skeleton was in moderate condition with both feet and most of the hand bones absent. Grave goods associated with the burial comprised sword, spearhead and counter weight, shield boss, knife and Cu fittings. Three sherds of Early Roman pottery were also identified within the grave backfill.
- 5.8.7 Grave **[7020]** was situated in the southern part of the area and was c.3.6m to the west of grave **[7006]**. The grave was orientated north/south and was sub rectangular in shape measuring 2.82m long, 1.10m wide and 0.47m deep with steep concave sides and a flat base. The grave contained a single adult (possibly male) in the supine position with the head to the south. The skeleton was in poor condition with only c.15% surviving. Grave goods comprised a spearhead at the left shoulder, shield boss on the right side near the knees, shield stud, knife and Cu fitting and Fe object.
- 5.8.8 Grave **[7077]** was located immediately to the east of the entrance to penannular ditch (**Group 7065**) and was orientated north/south. The grave was sub rectangular in shape with very steep straight sides and a flat base and measured 2.12m long, 0.82m wide and 0.40m deep. The grave contained a single adult male in the supine position with the head to the south and arms crossed across the waist. The skull had slumped backwards and to the right and the legs were slightly aligned to the left towards the feet. The bone was in good condition with c.90% surviving. Grave goods comprised a Fe knife and a Cu buckle.
- 5.8.9 Barrow **Group 7065** comprised a penannular barrow ditch/gully surrounding grave **[7049]** (**Plate 14**). The ditch/gully was 5.1m in (external) diameter with an entrance at its eastern side which was 1.8m wide. The ditch/gully was very shallow and had a maximum depth of 0.17m making it impossible to distinguish any tip lines to suggest a bank or central mound. The ditch/gully was cut by a small natural (possible vegetation hollow) at its western side and also cut earlier barrow (**Group 7175**) to the immediate north. A single sherd of Romano-British pottery was retrieved from the southern terminus of the ditch.
- 5.8.10 Grave **[7049]** was located within a penannular ditch (**Group 7065**) in the south western region of the area (**Plate 14**). The grave was orientated north/south and was sub rectangular in shape with steep straight sides and a flat base. The grave measured 2.77m long, 0.93m wide and 0.45m deep and contained a single adult male in the supine position with the head to the south and arms extended along the sides. The skeleton was in moderate condition with c.50-75% surviving. Grave goods comprised a decorated spear head (**Plate 15**) and counter weight along the right side, shield boss on the right side near the knees and a knife adjacent to the left forearm. There is evidence to suggest the individual was buried within a coffin or between planks as there were clearly defined layers of redeposited chalk

against each side of the cut which were distinct from the main grave backfill material, although no nails or staining to confirm this was observed. Several fragmented vertebrae were identified between the knees of the individual which appear to be disarticulated. It was unclear on site, whether these were part of the same individual. The unexpected position of these bones may suggest some disturbance of the grave possibly from animal burrowing.

- 5.8.11 Barrow (**Group 7175**) was located to the north and cut barrow **Group 7065** (**Plate 14**). The barrow was characterised by a penannular ditch/gully measuring 4.2m in diameter with an entrance 2m wide on its eastern side. The depth of the ditch/gully was recorded at a maximum of 0.22m where it was identified as cutting a small roughly north/south grave **[7040]** (see below). The ditch/gully also cut earlier large barrow (**Group 7034**) to the immediate west. Once again the shallowness of the surviving gully did not allow for the identification of mound or bank material. Contained within the barrow were two graves both orientated east/west.
- 5.8.12 The central grave **[7009]** was 2.45m long, 0.80m wide and 0.43m deep. The grave contained a single individual (possibly female) in the extended supine position with the head to the west and the arms along the sides. The skeleton was in poor condition and was unaccompanied by finds. Evidence to suggest individual was interred in a coffin was present and was defined by a vertical dark silty clay stain along the northern edge of the grave for a length of 1.35m. No corresponding stain was apparent on the southern side of the grave although a shallow line of chalk rubble was noted which appeared to have been reveted.
- 5.8.13 The smaller grave **[7033]** measured 0.95m long, 0.45m wide and was 0.12m deep. The grave contained no identifiable skeletal remains but may have contained an infant inhumation the bones of which have subsequently decayed. It is likely that if such an infant were buried within this grave it would have been related to the adult in grave **[7009]**.
- 5.8.14 Small grave **[7040]** was cut by penannular gully **Group 7175** although this did not disturb the skeletal remains contained within the grave (**SK 7041**). The grave was roughly aligned north/south and measured 1.33m in length, 0.63m in width and was 0.30m deep. The grave contained a single juvenile (possibly female) in the crouched position laid on the right side with the left arm beneath the chin and right arm possibly wrapped around the chest with the head to the south (**Plate 16**). The bone was in poor condition and very fragile although approximately 75% survived. Grave goods comprised a single copper alloy buckle beneath the ribcage.
- 5.8.15 Barrow complex **Group 7034** was defined by a circular ring ditch c.10m internal diameter which measured c.2m wide and c.0.40m deep (approximately 60% of the ditch was visible with the remainder beneath the western baulk section) (**Plate 17**). The ditch was cut by penannular barrow **Group 7175** at the eastern edge and was also cut by satellite burial **[7095]** part of (**Group 7179**) along its southern length. Within the ditch were five postholes **[7105, 7037, 7056, 7035 & 7075]** spaced fairly evenly around the internal edge of the ditch except **[7037]** which was positioned further towards the centre of the barrow. All the postholes were of similar profile and measured c.0.60m in diameter and c.0.20m in depth.

- 5.8.16 At the centre of the ring ditch was a central grave containing a rich burial roughly aligned north/south measuring 3.2m in length, 1.7m in width and 0.80m in depth. The grave **[7067]** contained a single male individual **SK 7068** in the extended supine position with arms along the sides of the body and the head to the south (**Plates 18-20**). The bone was in poor condition with approximately 25% surviving. Grave goods interred with this individual comprised a full warriors assemblage including sword, shield boss and studs, spearhead and counterweight, a pair of silvered drinking horn mounts, a glass vessel, a bone comb, several copper alloy and iron fittings and wooden vessel fittings (**Plates 21-23**). It is possible the individual was also interred in a coffin as an organic stain was observed throughout the excavation of the grave. A single sherd of Early Romano-British pottery was also recovered from the southern side of the barrow ditch.
- 5.8.17 Satellite burial **Group 7179** was located in the southern portion of the ring ditch and comprised a small grave cut into the ditch itself. The grave **[7095]** was orientated east/west and measured 1.46m long, 0.70m wide and 0.46m deep. It contained a single infant of which only the skull fragments (**SK 7096**) remained, the skull was to the west. Grave good comprised a glass bead, a copper alloy pin, an iron knife and a complete pottery vessel placed at the feet. Surrounding the grave on the southern side was an ephemeral, possibly penannular gully with an internal diameter of c.1.8m of which approximately only one quarter was still visible, due probably to truncation as a result of ploughing. The gully was observed in plan but only measured 0.18m in width and 0.04m in depth. Due to the surviving elements of the gully its relationship with barrow ditch **Group 7064** was unclear but it is believed to have cut the larger ditch.
- 5.8.18 A second possible ring ditch **[7156]** was observed extending from the northern baulk section 1.5m to the north/east of the main barrow. The feature was 1.6m wide and 0.22m deep and extended from the baulk for a distance of 2.5m before curving towards the north again. It is possible this represents a second barrow although as only a short length of the feature was visible this remains unproved.
- 5.8.19 Possible empty grave **[7047]** was situated approximately 1.8m to the east of the main barrow ditch **Group 7034**. The grave was orientated north-west/south-east and measured 2.5m in length, 1m in width and 0.08m in depth. No skeletal remains or grave goods were recovered from the feature. It is possible this represents an unfinished grave or a grave that was subsequently moved away from the central burial complex.
- 5.8.20 Possible lynchet **[7088]** was located 26m to the north of **[7081]** and also traversed the entire site on an east/west alignment. This feature was 1.16m at its narrowest and 14m at its widest. Interpreted as a possible lynchet or a deposit of hillwash at the base of the escarpment. Sparse pottery sherds dated to the Iron Age and struck flint were recovered from the fill single fill which are likely to be residual in nature.

5.9 Undated features

- 5.9.1 Pit **[7153]** was located to the east of the main cemetery activity and was characterised by a sub-circular cut 0.80m in diameter and 0.44m deep with a steep straight sided and concave base profile. No finds were recovered from

the feature which has been interpreted as a possibly posthole, perhaps containing a marker post for the cemetery itself.

5.9.2 **Group 7066** comprised a short linear feature orientated north/south with two associated potholes to the west. The feature measured 3.22m in length and was c.0.50m wide with a depth of 0.13m. The feature may have been utilised to receive a beam for upright posts which would have formed a simple structure incorporating the postholes. The northern posthole was located 1.3m west of the northern end of the linear feature with the southern posthole 1.2m west of the southern end. Both postholes were similar in profile and described a circular cut c.0.40m in diameter and c.0.20m in depth. No dating evidence was retrieved from this group but it has been interpreted as forming a simple structure associated with agricultural activity.

5.9.3 Linear feature **[7081]** was located to the north/east of the main cemetery and was 2m to the north of **Group 7066**. The feature was aligned east/west and measured 3m wide, 0.12m deep and traversed the entire site. No dating evidence was recovered from the feature which has been interpreted as being a possible ploughed out lynchet.

5.10 Mitigation Area 03 Plots 11/2-3

5.10.1 Mitigation area 03 was located just north of the M26 motorway in Plots 11/2-3 an irregular shaped area which was split in two by the position of a north-east/south-west orientated agricultural drainage ditch (**Figure 1**). The area was roughly centred on NGR 559534 158555. No archaeological features were observed in the area which was crossed with several modern field drains. Two tree throw hollows were observed and investigated by hand excavation but not recorded as no finds were retrieved from either.

5.11 Mitigation Area 04 Plot 19/13

5.11.1 Mitigation area 04 was located on land near Golden Stable Wood and was a rectangular parcel of land 100m in length and 26-40m (at its widest) in width centred on NGR 561293 151008. No archaeological features were observed within this area (**Figure 1**).

5.12 Mitigation Area 05 Plot 19/15

5.12.1 Mitigation area 05 was located approximately 871m to the south/east of Mitigation area 04 and was to the immediate north/west of High House Lane. The area was triangular in shape and was positioned on the projected location of post-medieval 'High House' (**Figure 1**). The area was centred on NGR 561864 150341 and contained a single archaeological feature located in the extreme western portion of the site. An area of modern disturbance was also noted adjacent to High House Lane which contained modern brick, glass and general rubble material.

5.12.2 Feature **[9006]** was a circular small hearth measuring 1m in diameter and 0.09m in depth. No dating evidence was recovered from the feature although it was sampled for environmental remains. The hearth has been interpreted as being associated with post medieval agricultural activity.

6 WATCHING BRIEF

6.1 Introduction

6.1.1 The watching brief effectively covered the entire Route focussing on particular areas of high archaeological potential, based on the results of previous assessment, aerial photographs, geophysical survey and evaluation, (**Figure 1**). Archaeological features were revealed in Route **Plots 0/00, 2/03, 3/03, 3/08, 5/04, 10/01, 11/01, 11/02, 12/08, 16/01, 17/02, 18/01, 19/13 and 20/02**.

6.1.2 The features included linear and discrete features, of different dates and were predominantly discovered on sections of the Route that crossed chalk. However two significant discoveries were made at **Plots 12/08 and 16/01**, a Late Iron Age/Early Romano-British enclosure and a Romano-British villa respectively.

Plot 0/00

6.1.3 Ditch **[20050]** was orientated east/west and measured 7.1m in width and 0.83m in depth. The ditch had moderate concave sides and a flat base, pottery recovered from the fills of this feature suggests this is a post-medieval boundary ditch.

Plot 2/03

6.1.4 Ditch **[20012]** was located in **Plot 2/3** and was orientated east/west. The ditch measured 1.07m wide and 0.24m deep with irregular sides and a flat base. No finds were recovered from the ditch but it has been interpreted as a post medieval field boundary truncated by ploughing activity.

Plot 3/03

6.1.5 Ditches **[20083]** and **[20085]** were located in **Plot 3/03**. These features were only visible following heavy rain and were not excavated due to Health & Safety concerns as the pipe trenching machine was in operation within this plot as they were identified. Ditch **[20083]** was approximately 0.50m wide and was orientated north/west-south/east. The relationship with adjoining north/east-south/west aligned ditch **[20085]** to the south was unclear. Pottery dating to the Roman-British period was recovered from the upper fill of **[20085]**. Both ditches have been interpreted as boundary/enclosure ditches.

Plot 3/08

6.1.6 Possible mortuary related deposit **[20009]** was situated in **Plot 3/08** and comprised a sub circular cut with moderate concave sides and a flat base containing a single Late Bronze Age vessel which contained a charcoal rich fill but no cremated bone. The vessel had been heavily truncated by plough damage with only approximately 5cm of the vessel surviving. A similar ritual deposit was identified at Star Lane in Manston, Kent (Dinwiddy, K. Egging, and McKinley J.I. 2009).

Plot 5/04

6.1.7 Posthole **[20006]** was sub-circular in plan with vertical straight sides and a flat base, the feature measured 0.36m in diameter and 0.14m in depth. No finds were retrieved from the single fill.

Plot 10/01

- 6.1.8 Pit **[20077]** was located to the south/east of MT02 and was characterised by a sub-oval cut with moderately sloped concave sides and a concave base. The pit measured 1.4m in diameter and was 0.32m deep. No dating evidence was retrieved from the single fill.
- 6.1.9 Feature **[20081]** was sub circular in plan with shallow concave sides and a concave base measuring 0.20m in diameter and 0.07m in depth. The feature has been interpreted as a possible truncated posthole or cremation burial and was located 3.4m to the east of cremation burial **[20080]**. The single fill was charcoal rich although no burnt bone was observed.
- 6.1.10 Un-urned adult cremation burial **[20080]** was ovate in plan with shallow concave sides and an irregular base measuring 0.40m in diameter and 0.08m in depth. Profuse charcoal and cremated bone was present in the single fill.
- 6.1.11 Pit **[7134]** was situated to the south of Pilgrims Way and was characterised by a sub-rectangular cut with steep straight sides undercut at the lip of the feature and a flat base. The pit measured 1.40m long, 1.20m wide and 1.70m deep. Artefacts comprising flint and pottery dating to the Late Bronze Age/Early Iron Age were recovered from the upper fill of the feature; no further artefacts were retrieved from the feature which has been interpreted as a prehistoric storage pit.
- 6.1.12 Pit **[7120]** was sub circular in plan with moderate concave sides and a concave base measuring 0.60m in diameter and 0.17m deep. The feature contained pottery dated to the Iron Age, worked flint and a piece of burnt sandstone.
- 6.1.13 Pit **[7122]** was located 0.50m to the south/east of pit **[7120]** and described a similar size and profile. Pottery dating to the Iron Age and worked flint were recovered from the single fill of this pit.
- 6.1.14 Pit **[7124]** was situated 7.5m, to the south of pits **[7120 & 7122]** and was 1.05m in diameter with moderate to shallow concave sides and a concave base, the pit was 0.20m deep. Pottery, worked flint, quern stone fragments, a flint scraper, animal bone and burnt sandstone were recovered from the feature which has been interpreted as a small Iron Age rubbish pit truncated by ploughing.
- 6.1.15 Un-urned cremation burial **[20014]** was defined by a sub circular cut with moderate sloping sides and an irregular base measuring 0.40m in diameter and 0.13m deep. Burnt bone of an adult and abundant charcoal was observed in the single fill of this feature.
- 6.1.16 Small pit **[20018]** was located 14m to the south of cremation burial **[20014]** and was circular in plan with steep regular sides and a flat base. The pit contained pottery dated to the Middle Bronze Age and struck flint. This small pit was one of a group of four small pits within a small area.
- 6.1.17 Pit **[7127]** was located 4.2m to the south/east of **[20018]** and described similar size and profile. Pottery dating to the Middle Iron Age

was retrieved from the fills of this small waste pit.

- 6.1.18 Pit [7141] was situated 5.2m to the north/east of [7127] was oval in plan with steep concave sides and a concave based. The pit measured c.0.90 in diameter and was 0.30m deep. Animal bone, burnt sandstone and worked flint were recovered from the fills of this small rubbish pit.

Plot 11/01

- 6.1.19 Small pit [20016] was located in **Plot 11/01** and was ovoid in plan with moderate straight sides and a flat base. The pit measured 0.66m in diameter and 0.10m in depth. Animal bone and worked flint were recovered from the single fill. The function of the pit is unknown.

- 6.1.20 An un-urned cremation burial of a juvenile/sub-adult [20027] was situated 42m south of [20016] and was characterised by a circular pit 0.27m in diameter and 0.14m deep with steep straight sides and a flat base. No dating material was recovered from the single fill of this feature.

- 6.1.21 Pit [20022] was located c.6m to the east of [20027] and was sob ovoid in plan with moderate straight sides and a flat base. The pit measured 1.57m in diameter and 0.57m in depth. Pottery of Saxon date was recovered from the feature, the function of which is unknown.

Plot 11/02

- 6.1.22 A series of five un-urned cremation burials [20029, 20031, 20033, 20035 & 20037] which had been heavily disturbed by machining were identified within the southern portion of **Plot 11/02**. All described a diameter of c.0.25-0.45m and depths of c.0.06-0.25m. No dating evidence was identified during the excavation of these features.

Plot 12/07

- 6.1.23 Un-urned cremation [20072] was located approximately 137m to the north/east of the enclosure in **Plot 12/08** described below. The cremation cut was sub-circular in shape with steep concave sides and a concave base. The feature measured 0.40m in diameter and was 0.15m deep. No dating evidence was present in the feature which was environmentally sampled.

6.2 Plot 12/08 Pipe Dump

Introduction

- 6.2.1 Between December 2008 and January 2009 the removal of topsoil, in preparation of the establishment of a pipe dump revealed archaeological remains. Where insufficient topsoil cover remained to protect archaeological remains, subsoil was also removed (**Figure 4**). This exposed a curvilinear ditch with numerous discrete features located within its borders (**Plate 24**).

Late Bronze Age

- 6.2.2 Pit [5387] was located in the extreme northern portion of the area and was a shallow oval pit 1.8m in diameter with gently sloping sides and a concave base. The feature had been cut by a modern land drain along its western edge. A total of seventeen vessels of various size were retrieved from the pit all of Late Bronze Age date which may have been deliberately placed.

Late Iron Age/Early Romano-British

- 6.2.3 Initial phase enclosure ditch (**Group 5409**) had been cut through the underlying sand geology to a depth of c.1.3m and was c.2m in width. The ditch was characterised by a steep sided profile with a concave base and described a D-shaped enclosure approximately 50m in diameter. This enclosure had an entrance in the north-western corner defined by ditch terminals which formed an entrance 5.5m across (**Plate 25**). The ditch had been subsequently re-cut by ditch (**Group 5410**). This re-cut followed the same orientation of the initial phase of enclosure along the northern, western and eastern sides but extended a further 7m along the southern side effectively enlarging the enclosure to the south. The re-cut phase was observed to be much shallower than the initial phase ditch and was c.0.8m deep, although it mirrored the original ditch in width (**Plate 26**). This second phase ditch was also cut across the entrance in the north/western corner, effectively destroying it. No indication of a second entrance of this later phase has been observed, and it is assumed that it was bridged although no evidence of bridging was identified. No evidence of dwellings were definitively identified within the enclosure (i.e. drip gullies/structural post groups) however, the plan of the enclosure has revealed two areas devoid of archaeological features which have the capacity to site two round houses.
- 6.2.4 It may be that any evidence for such structures has been truncated by subsequent agricultural practices. The amount of domestic pottery recovered from the features within the enclosure does suggest this was not a seasonal stock enclosure but more probably an inhabited site.
- 6.2.5 Some sherds of Late Bronze Age and Saxon pottery were recovered from the re-cut ditch, these have been categorised as residual and intrusive finds respectively but suggest activity on or near the site which significantly predates the Late Iron Age/Romano-British periods.
- 6.2.6 Ditch segment (**Group 5407**) was located in the south/western portion of the enclosure was c.6m long and described a shallow arc curving from the south/east to the north/west. The feature was 1.10m wide and 0.60m deep with moderately sloping straight sides and a flat base. It is believed this feature may have formed a windbreak or internal division within the enclosure.
- 6.2.7 Curvilinear ditch (**Group 5408**) was located in the western central region of the enclosure and was orientated north/south before curving towards the east where it was cut by large pit [5340] (**Plate 27**) and terminated. The ditch was observed to be wider at its eastern end c.1.2m and narrower along its western side c.0.50m. The profile of the ditch was shallow concave sided with a concave base and was 0.10m deep at its shallowest and 0.60m at its deepest. This feature has been interpreted as forming an internal division within the enclosure.
- 6.2.8 Pit [5340] cut ditch **Group 5408** mid way long the western arm of ditch. The pit was circular in plan and measured 3.2m in diameter with steep to straight vertical sides and a flat base. The pit was 1.10m in depth and contained an abundant amount of fired clay and daub. The feature has been interpreted as a potential rubbish pit; however, this may not have been its primary

function. It may have been utilised for storage before being used to discard general waste materials.

- 6.2.9 Pit **[5238]** was sited in the central southern region of the enclosure and was roughly circular in plan with straight sides and a flat base. The pit measured c.2.2m in diameter and was 0.30m deep. The feature had possibly associated truncated postholes **[5256, 5258 & 5260]** adjacent to its eastern edge. These postholes ranged in size from c.0.15-0.50m in diameter and c.0.08-0.15m in depth. The function of the feature is unknown although pottery dating to the Late Iron Age was retrieved from the upper fill.
- 6.2.10 Pit **[5242]** was located in the south/western portion of the enclosure and was defined by a sub-circular cut with steep almost vertical sides and a flat base (**Plate 28**). The pit measured c.1.70m in diameter and was 1.04m deep. The pit contained multiple fills and placed deposits of pottery and loom weight fragments. The pit has been interpreted as being a storage pit.
- 6.2.11 Pit **[5048]** was located 3m to the north/west of **[5242]** and was oval in plan with straight sides and a flat base. The pit measured 0.75m in diameter and was 0.14m deep. No dating evidence was retrieved from the single fill within the pit, but it has been assumed that by association that it is likely to be Late Iron Age/Early Romano British in date.
- 6.2.12 Small shallow pit/posthole **[5053]** was located in the central southern part of the enclosure and was cut by adjacent small pit **[5052]**. The pit/posthole was ovate in plan with steep sides and a concave base and measured 0.70m in diameter and 0.20m in depth. Adjacent pit **[5052]** measured 1m in diameter and was 0.24m in depth and cut **[5053]** on its eastern side. This pit exhibited moderately sloping sides and a concave base. A pottery vessel interpreted as a placed deposit was recovered from the base of this feature.
- 6.2.13 Pits **[5040 & 5046]** were located in the southern part of the enclosure and were approximately 6m to the east of **[5052]**. The pits were shallow in depth c.0.15m and had diameters of c.1.2m. Both had moderate to steep sides and concave bases. Pit **[5040]** contained large pottery sherds and a substantial part of a pot base interpreted as a placed deposit.
- 6.2.14 Pit **[5215]** was located in the centre of the enclosure and measured 1.10m in diameter and 0.17m in depth. The feature was characterised by shallow concave sides and a concave base. The function of the pit is unclear but there was a suggestion of some possible *in situ* burning in the base of the feature although not enough to suggest the feature was a hearth.
- 6.2.15 A small cluster of pits **[5022, 5085, 5087, 5042, 5137 & 5033]** were sited in the north/eastern portion of the enclosure. All were either sub-rectangular or ovate in plan and ranged from c.0.6m - 2.2m in diameter and c.0.15- 0.36m deep. It is possible that **[5085]** was initially a vegetation hollow subsequently re-used for the dumping of domestic waste. The fill of this feature had been re-cut by pit **[5087]** in its northern portion which also contained rubbish material. The remaining shallow pits have been interpreted as waste pits albeit truncated by ploughing.
- 6.2.16 A second area containing shallow pits was located in the north/western portion of the enclosure. Pits **[5007, 5075, 5077, 5093, 5054 & 5068]** were mainly ovate or sub-rectangular in plan with sizes ranging from

0.85m-2.5m in diameter and 0.07m-0.20m in depth. The function of these pits is uncertain as it is believed they are heavily truncated by ploughing, however, they may all be waste pits.

Saxon

- 6.2.17 Ditch [5010] was situated 113m to the south/west of the enclosure and was orientated east/west. The feature was 4.7m wide and 0.60m deep with shallow concave sides and a flat slightly concave base. Finds retrieved from the feature comprised Saxon pottery sherds, a single possibly dressed stone and several small fragments of fired clay.

Undated

- 6.2.18 Gully [5303] was situated outside the enclosure and was 17m to the north/west of the main entrance. The gully was orientated roughly north/south and measured 0.74m wide and 0.11m deep. No dating evidence was retrieved from the feature.

Late Iron Age/Early Romano-British by Association at the Pipe Dump

- 6.2.19 Postholes [5050, 5278, 5280, 5213, 5209, 5211, 5270 & 5284] were widely spaced throughout the enclosure and formed no cohesive pattern. Postholes [5290, 5273, 5089, 5091, 5058, 5274 & 5276] were clustered to the immediate south of ditch **Group 5408** but again formed no discernable pattern.

- 6.2.20 Shallow pit [5027] was situated 3m east of the eastern terminal of ditch **Group 5408** and was sub-oval in plan with a diameter of c.0.70m. The pit was 0.17m deep and likely truncated by ploughing. No dating evidence was retrieved from the feature.

Summary

- 6.2.21 To summarise, the features revealed at the Pipe Dump represent a multi phase enclosure with two distinct phases of activity.
- 6.2.22 Phase A was defined by an enclosure ditch, **Group 5409**, which was D-shaped in plan with an entrance in the north-western corner which measured c.5.6m in width. It is anticipated that discrete features associated with this initial phase will be identified in the analysis stage of the project.
- 6.2.23 Phase B was again defined by a later enclosure ditch, **Group 5410**, which followed the same alignment as Phase A albeit with a short c.5m extension along the southern side. It is expected that discrete features within the enclosure will also be assigned to this phase during the analysis stage of the project.
- 6.2.24 Some internal features can be phased by stratigraphy and comprised ditch **Group 5408** and large pit [5340] which are described above in detail. Spatial assessment of the enclosure may also suggest two areas large enough to accommodate two roundhouses and although there is no structural remains to confirm this, the site did show signs of truncation in these areas which may have subsequently removed structural remains. Also, the sheer quantity of domestic pottery suggests the site may have been occupied, albeit on an intermittent basis.
- 6.2.25 It is expected that the analysis stage will refine the interpretation of the site

in general and contribute to the phasing of discrete features.

6.3 Plot 16/01 Fairlawn Estate, Plaxtol

Introduction

- 6.3.1 During the course of topsoil stripping the watching brief identified a wall of unknown date orientated north/east-south/west was revealed in Plot 16/01 on land at Fairlawn Estate, Plaxtol. Upon further investigation a stone building was uncovered which has been identified as a Roman-British villa (**Plate 29**). Further stripping of overburden to the north and south of the building revealed features associated with the villa comprising ditches, pits, postholes and a well (**Figure 5**).
- 6.3.2 The building was rectilinear in shape and measured c.31m long, c.11m wide and comprised nine walls four of which were external [**8038 (Plate 30), (8049=8051), (8053=8055) & 8187**] the remaining five were internal [**8041, 8043, 8059, 8045, 8057 & 8047**] forming potentially seven rooms. The building was orientated north/east-south/west, was constructed of local Ragstone blocks, and occupied a slight prominent with the land to the south sloping away. The building has been interpreted as a small villa and has been dated to the late third century A.D on the basis of coins retrieved from within and without the structure.
- 6.3.3 A possible flue [**8188**] was observed within the structure which may have connected to a potential stoke hole [**8126**] on the southern side of the building. Preservation *in situ* meant that the building was not fully excavated, as a result the possible stoke hole and flue remain unproven at this time but are suggestive of under floor heating. Room 1 (**Plate 31**) was located in the north/eastern portion of the building and measured 3.8m x 4.2m, Room 2 was located to the north of Room 1 and measured an observed c.4m x 1.5m, Room 3 was the largest observed room and measured c.9m x 5.7m, Room 4 can be measured at potentially 5m x 3m (**Plate 32**), Rooms 5, 6 and 7 were not observed in their entirety and only Room 8 was to the south/east of Rooms 1 and 2 and measured c.8m x 4m. No corridors or entrances were observed although the entire building was not revealed during the excavation due to the constraints of preservation *in situ*. The structure was cleaned by hand to establish the sequence of rooms and character of the building but no excavation of the interior was possible, as a result it is unclear whether any floor surfaces survived.
- 6.3.4 Ditch (**Group 8194**) was located to the north of the building on slightly higher ground and was orientated north/east-south/west. The ditch measured c.0.50m wide and c.0.60m deep and was observed to terminate midway along its visible length although a continuation of the feature was observed defined by a smaller shallower gully along the same alignment. The function of the feature has been interpreted as a drainage ditch which diverted rainwater from flowing down slope into the building.
- 6.3.5 Pit [**8020**] was located 5m to the south/east of the building and comprised an oval cut with concave sides and a concave base. The feature was shallow and measured 1m in diameter and 0.09m in depth. The pit, although shallow, contained a relatively high percentage of pottery within the single fill.

- 6.3.6 Pit cluster (**Group 8198**) was located approximately 14m to the south/east of the building and comprised three intercutting pits [**8072, 8075 & 8078**]. The pits were all concave in shape and were between 0.65m and 0.87m deep. The function of the pits is unclear as they did not contain general domestic waste. Several stone blocks were retrieved from the fills along with sparse pottery sherds and some animal bone but these are probably residual in nature.
- 6.3.7 Intercutting pits (**Group 8199**) were located approximately 1m to the south of **Group 8198** and comprised two intercutting pits [**8062 & 8088**]. The function of these features is uncertain. Ragstone blocks were observed within three features but, as with **Group 8198** above, these are probably residual in nature.
- 6.3.8 Posthole [**8129**] was located 9.5m to the south/east of pit cluster **Group 8198**. The posthole was 0.35m in diameter and 0.14m deep with steep concave sides and a concave base. This posthole may be associated with a small kiln [**8109**] 3m to the south.
- 6.3.9 Small kiln/oven [**8109**] was keyhole shaped in plan and measured 1.12m long, 0.77m wide and was a maximum of 0.43m deep (**Plate 33**). The kiln exhibited a shallow stoking area at its northern end which contained a rich charcoal fill which dropped almost vertically into a circular bowl with steep concave sides and a slightly undercut side at its eastern edge. The kiln contained two possible episodes of dome collapse and charcoal within the bowl area. It is likely this is associated with the building and forms part of the wider Romano-British landscape within this portion of the pipeline.
- 6.3.10 Shallow pit [**8115**] was located 3m to the south of kiln [8109] and was sub-rectangular in shape with straight sides and a flat base. The pit measured 1.12m long, 0.38m wide and 0.16m deep. Some fired clay and pottery was recovered from the fills of the pit, the function remains unclear.
- 6.3.11 Intercutting pits (**Group 8200**) were located roughly centrally within the site and comprised two shallow pits containing pottery, burnt sandstone and a potential quern stone fragment.
- 6.3.12 Oven [**8160**] was located roughly centrally within the mitigation area and was rectangular in shape measuring 1.80m long, 0.60m wide and 0.20m deep. The edges of the feature exhibited *in situ* burning and were baked hard. Pottery retrieved from the feature has suggested it is contemporary with the other activity on the site.
- 6.3.13 Ditch (**Group 8195**) was located to the south/east of the building and was in the eastern portion of the mitigation area. The ditch spanned the entire easement on a north/east-south/west alignment and is believed to be associated with corresponding ditch (**Group 8196**) (**Plate 34**) 6m to the east. Both ditches showed similar profiles and depths. These two ditches are suggestive of trackway ditches and have been interpreted as such. The ditches run parallel with each other and are on a very slightly different alignment to the building.
- 6.3.14 The position of the ditches relative to the structure may hint at further features of Roman-British date in the fields to the north of the activity observed within the easement area. Ditch **Group 8195** was cut

by pit **[8143]** at its northern end and was seen to cut through pit **[8149]** in this area also.

- 6.3.15 Pit **[8143]** was located in the northern portion of the site and cut through ditch **Group 8195**. The pit was sub-square in shape with steep straight sides and a flat base. The pit measured 1.72m long, 1.46m wide and was 0.25m deep. The feature has been interpreted as a rubbish pit based upon material recovered from the fills.
- 6.3.16 Ditch terminus **[8191]** was situated to the south of ditch **Group [8195]** and was on a roughly north/south alignment. The terminus exhibited moderate concave sides and a concave base and measured 1.50m wide and 0.33m deep. Pottery recovered from the single fill has been dated to the Late Iron Age/Early Romano-British period suggesting this ditch pre dates the majority of the activity on the. The ditch is probably truncated by pit **[8149]**.
- 6.3.17 Well **[8092]** was situated in the extreme south/east of the area and was circular in plan with steep convex sides, the base was not excavated beyond 1.2m (**Plates 35 & 36**). The upper fills were consistent with dumping of material after the feature had gone out of use. The base of the well was auger surveyed to a depth of 3m before a large obstruction prevented further augering. Following excavation of the pipe trench the well was observed in section to be at least 3.5m deep and has been interpreted as being a potential source of water for the building to the north/west.
- 6.3.18 A shallow irregular feature adjacent to the well **[8113]** has been interpreted as a possible local holloway which may have been formed by trample formed from individuals accessing the well in antiquity.
- 6.3.19 Pits/postholes **[8104 & 8166]** were located in the southern portion of the area and were of similar size and oval shape with **[8166]** exhibiting evidence of packing material. Other unrelated postholes scattered across the area comprised **[8107, 8164, 8158, 8156 & 8168]**.
- 6.3.20 To the far south/east of the main activity a ditch **[8067]** was identified. This ditch which measured 1.20m in width and was 0.55m in depth showed concave sides and a concave base and was orientated north/west-south/east. A silvered Cu pin was retrieved from the fill of this feature as was pottery sherds dating to the Romano-British period. The feature has been interpreted as being a possible enclosure ditch for the main activity to the north.

6.4 Romano-British features by Association at Plot 16/01

- 6.4.1 Postholes **[8025, 8131, 8133, 8135 & 8317] (Group 8197)** was located c.6m to the east of ditch **Group 8196** and comprised five postholes arranged in a semi-circle. The postholes ranged in size from 0.40m – 0.60m in diameter and 0.08m – 0.30m in depth. The function of the postholes has been interpreted as forming a small windbreak. The postholes were arranged around a small vegetation hollow. Finds were only retrieved from **[8025]** in this group, no finds were retrieved from the tree throw.
- 6.4.2 Postholes **[8068, 8070, 8081, 8083 & 8018] (Group 8193)** was located 11m to the south/east of posthole **Group 8197** and comprised five postholes of similar shape and depth to those of **Group 8197**. Again these

were arranged in a semi-circle and have also been interpreted as forming a small windbreak. Posthole [8018] within this group produced dating evidence.

- 6.4.3 Modern features on the site were defined by a single trackway [8086] located to the south/east of the main site on a north/west-south/east alignment. It is believed this track is related to the main Fairlawn Estate.

Summary

- 6.4.4 To summarise, the features revealed at **Plot 16/1** provide evidence for a Romano-British building and associated features which include pits, ditches a well and a trackway. It is likely that further analysis of the ceramic assemblage will allow a more refined chronology of the site to be established, particularly when interpreting the relationship between the building and the trackway to the east which is on a slightly different alignment and may be related to further, as yet undiscovered, remains in the field to the north of the site.

Plot 17/02

- 6.4.5 Pit [20039] was located in **Plot 17/02** and was circular in shape with step straight sides and a concave base. The pit measured 1.60m in diameter and was 0.30m deep. Within the base of this pit was a posthole [20042] which was also circular in plan and 0.30m deep. This appears to represent a post pit; finds retrieved include Romano-British pottery and a pudding quern stone. The pit is believed to be on the outskirts of a wider Romano-British activity area in this region of the pipeline.
- 6.4.6 Truncated pit [20044] was situated 67m south of post pit [20039] and was circular in shape with moderate concave sides and a flat base measuring 0.60m in diameter and 0.10m deep. No finds were retrieved from the feature but it is believed to be Romano-British in date.
- 6.4.7 Gully [20046] was situated 8m to the south of pit [20044] and was orientated north/east-south/west. The gully was 0.26m wide and 0.13m deep with steep concave sides and a flat base. Pottery recovered from the gully has been dated to the Romano-British period. The function of the feature is unknown.
- 6.4.8 Shallow ditch [20048] was located 13m to the south of gully [20046] and was orientated north/east-south/west. The ditch measured 0.65m wide and 0.16m deep with shallow concave sides and a concave base. Pottery retrieved from the feature is of Romano-British date. The ditch has been interpreted as a possible boundary feature probably associated with the features to the north.

Plot 18/01

- 6.4.9 A small group of pits [20059, 20054, 20057, 20061 & 20063] was located in **Plot 18/01**. All were of similar size c.1m in diameter and depth c.0.20m. A single sherd of possible residual Roman pottery in very poor condition was recovered from an environmental sample from pit [20063]. They have been interpreted as probably being derived from modern farming practices.

Plot 19/13

- 6.4.10 Possible truncated hearth [20065] was situated in **Plot 19/13** and was circular in plan with shallow concave sides and a concave base. The feature measured 1.35m in diameter and was 0.07m in depth. Evidence of

in situ burning was observed but no dating evidence was identified. This feature was located 64m to the north/west of similar possible hearth [20068] which was of similar size and shape but showed no signs of *in situ* burning. These features have been interpreted as being modern in date and probably relate to farming practices.

Plot 20/02

6.4.11 Curvilinear ditch [20070] was situated in **Plot 20/02** and was 1.44m wide and 0.46m deep. The ditch exhibited steep irregular sides and a flat base and was observed to be roughly east/west aligned curving towards the north at its western end. No finds were retrieved from the feature and its function remains unknown.

6.4.12 Several other linear features were observed along the length of the pipeline which were investigated and proved modern in nature. These features were subsequently noted but not recorded.

6.5 Evaluation Trenches

6.5.1 Two evaluation trenches (TR 32 & 33) which were not completed in the evaluation stage of the project due to lack of access were excavated. These were located in **Plot 12/8** and were aimed at establishing the presence or absence of archaeological remains in this area. No archaeological features were revealed in either trench.

6.6 Geotechnical test pits

6.6.1 In addition to the above, the watching brief also monitored the excavation of geotechnical test pits. The test pits were interspaced approximately every 200m along the length of the Route and were monitored for the presence of archaeological features, artefacts and geology which may have indicated the presence of Palaeolithic deposits. No Palaeolithic deposits, artefacts or archaeological features were identified during the excavation of these test pits.

6.7 Synthesis of archaeological features by period

Mesolithic

6.7.1 The Mesolithic is characterised by a moderate assemblage of flint located within a silty deposit emanating from a palaeochannel identified at **MT01**. The flint artefacts have been assessed as being indicative of activity very close to the palaeochannel as they show no signs of damage typically caused by rolling. Other artefacts of this period are defined by two axes recovered during the watching brief one from **Plot 11/02** and an unstratified find in **Plot 03**.

Neolithic/Bronze Age

6.7.2 Neolithic activity is attested to via the recovery of flint artefacts mainly confined to **MT01**. These are believed to be primarily residual in nature. Bronze Age activity is suggested by residual flint and pottery artefacts but also by the identification of a pit containing multiple pottery sherds at **Plot 12/08** the Pipe Dump. A single feature containing a possible mortuary related deposit was also recovered from **Plot 3/08**. A pit located in **Plot 10/01** yielded pottery dating to this period and a small pit also within this Plot revealed pottery dated to the Middle Bronze Age. Undated

possible cremation deposits within Plot 10/01 may also relate to this period.

- 6.7.3 A pit located in the northern portion of **Plot 12/08** to the north/west of the Late Iron Age enclosure contained several pottery vessels dating to the Late Bronze Age. It should be noted that some residual sherds of pottery dating to the Late Bronze Age were also identified within features in the Late Iron Age enclosure at **Plot 12/08**. **Plots 11/01** and **11/02** revealed six un-urned cremation graves which may also pertain to this period.

Middle Iron Age

- 6.7.4 A single small pit within **Plot 10/01** has been assigned to this period.

Late Iron Age/Early Romano-British

- 6.7.5 Features dating to this period were the most common encountered throughout the project. Within **Plot 10/01** three pits of Iron Age date were identified. The enclosure at **Plot 12/08** has been described in detail above as has the site at **MT01**. Pottery recovered from a gully and a ditch in **Plot 17/02** has also been assigned to this phase and pottery (albeit likely residual) has been retrieved from one of several pits in **Plot 18/01**.

Romano-British

- 6.7.6 The building and associated features within **Plot 16/01** have been assigned to this period on the basis of pottery and coinage recovered, which will also later enable further definition within this period. In addition, the design and layout of the building is typical of a 'lower' status Romano-British villa of which similar examples are known locally in the Plaxtol area. Ditches identified during the watching brief in **Plot 3/03** have also been dated to this period.

Anglo-Saxon

- 6.7.7 A pit located within **Plot 11/01** contained pottery dating to the Anglo-Saxon period and potential residual sherds of pottery were also identified within features at **MT01**. The main activity relating to this period is the cemetery site at **MT02** described in detail above. It should be noted that intrusive pottery of Saxon date was also recovered from the Late Iron Age enclosure in **Plot 12/08**.

Medieval/Post-medieval

- 6.7.8 Features relating to these periods were identified along the pipeline route mainly confined to field boundaries and some small feature containing either burnt material or exhibiting some burning *in situ*. All have been interpreted as probably being related to farming practices of these periods.

7 RESULTS OF COMPARISON BETWEEN HISTORIC HEDGEROW ASSESSMENT AND FIELDWORK

7.1 Overview

- 7.1.1 Prior to any fieldwork being undertaken RSK Environment Ltd was commissioned by Southern Gas Networks to produce an historic hedgerow assessment for the route to supplement the previous Environmental Statement produced by RSK in 2002.

- 7.1.2 The aim of the report was to provide an assessment of historically significant hedgerows across the route corridor. Historically significant

hedgerows are those that pre-date the Parliamentary Inclosure Acts (1720-1840). Where such ancient hedgerows exist they may indicate units, such as administrative, legal and property land divisions, of great antiquity. As a result they may hold considerable potential to be associated with above ground features such as banks or below ground features such as ditches which may contain archaeological evidence which indicates their earliest implementation. This may also include environmental indicators such as past land use.

- 7.1.3 A total of 90 hedgerows were selected (**Figures 7 & 8**) which were classed as important and or were associated with banks, ditches, mature trees or footpaths and trackways. A significance rating was assigned to the hedgerows: a very high rating was assigned to hedgerows that coincided with important administrative boundaries such as hundreds and lathes; a high rating was assigned to hedgerows which coincided with historic boundaries, or important cultural features of antiquity such as Pilgrim's Way' a moderate rating was assigned to hedgerows that were considered ancient on ecological grounds or were present on historical mapping, in the wider vicinity of an historic feature, ran along a parish/historic boundary or whose position suggested it may have been of earlier permutation. A low rating was given to remaining hedgerows.
- 7.1.4 A total of four hedgerows were considered very high significance; 14 were considered of high significance; 12 were of moderate significance and 60 were of low significance.

7.2 Results

Methodology

- 7.2.1 Controlled machine breaching of these hedgerows was monitored under targeted watching brief conditions by a senior archaeologist. Any features were to be mapped using Global Positioning Systems and sample excavated with any finds collected and provenanced if possible. All spoil from hedgerow breaching was stockpiled adjacent to the breach and fenced to minimise any cross-species environmental contamination. The stockpiled spoil was examined for the presence of any archaeological evidence which would be retained with a specific hedgerow context number. Once the breaching had occurred and initial visual inspection of the area completed, a period of several days was allowed to pass before a second visual inspection of the breach was undertaken. This was implemented to allow for any weathering of potential features.

Hedgerows with very high significance

- 7.2.2 Hedgerows RSK **79-81** ran along Pease Hill, the historic boundary between Ash and Stansted and the modern boundary between Tonbridge and West Malling. It has been suggested this may also have been the boundary between the Hundreds of Axtane and Wrotham as well as the division between the lathes of Sutton-at-Hone and Aylesford. Close monitoring of the controlled breaching of these hedgerows revealed no sub-surface features of finds other than modern debris. The spoil generated from the breaching was also inspected for finds – none were observed.

Hedgerows with high significance

- 7.2.3 Hedgerows, RSK **8, 87, 88, 118, 149e-f, 397, 399, 401, 428-9, 433, 435** and **437**, were assigned a high rating. Hedgerows 8 and 118 coincided with historic parish boundaries between Horton Kirby and Fawkham and Stansted and Wrotham respectively.
- 7.2.4 Hedgerows 87, 88 and 149e-f ran alongside trackways of antiquity such as Wise's Lane and Pilgrim's Way. Hedgerows 397, 399 and 401 followed the modern boundary between Shipbourne and Hadlow. The remaining hedges in this category 428-9, 433, 435 and 437 all followed land divisions associated with the proposed site of High House.
- 7.2.5 Monitoring of the breeching of all the high rated hedgerows revealed no archaeological features or finds. Inspection of the stockpiled spoil also yielded no finds other than modern material.

Hedgerows of moderate significance

- 7.2.6 Hedgerows, RSK **31a, 34, 42, 43, 139, 209, 309, 352a, 369, 370** and **374** included systems of three hedges of which one was deemed very old on ecological grounds (**31, 31a-34**) and one, **139**, which possibly crossed an ancient trackway (the Cross-in-Hand). The remaining hedgerows were associated with parish/property boundaries.
- 7.2.7 No archaeological features were observed during or following breeching of these hedgerows. No finds of archaeological significance were identified either from the breeching or stockpiled spoil.

Hedgerows of low significance

- 7.2.8 The remaining sixty hedgerows revealed no archaeological evidence in the form of features or finds.

7.3 Summary

- 7.3.1 Although several the hedgerows described above had the potential to reveal archaeological features of some significance none were identified during the course of the fieldwork stage of the project. This is despite close archaeological monitoring by senior archaeologists and return visits to each breach following a period of weathering. This may be due to one of two factors:
- 7.3.2 Firstly - the methodology of the hedge breeching was such that a minimum amount of damage to the hedge itself was caused. In addition, the impact on the immediate ground below the hedge was limited. In many cases therefore the subsoil was not penetrated by machining.
- 7.3.3 Secondly – Many of the historically significant hedgerows occupied proposed boundaries, i.e. these had not been confirmed but merely suggested locations; and it may be that such boundaries had shifted over considerable periods of time to lie adjacent to the pipeline route footprint rather than fall within it.

8 RESULTS OF COMPARISON BETWEEN FIELDWALKING SURVEY AND FIELDWORK

8.1 Overview

- 8.1.1 RSK Environment Ltd was also commissioned by Southern Gas Networks to undertake a field walking survey in accordance with the WSI (RSK Sept, 2007) prior to the implementation of fieldwork. The aim of the survey was to collect material to identify and determine the character, Importance and date of any archaeological remains present in the route corridor, collate and analyse data with regard to location, character and density to highlight areas of concentrations of material types to indicate sub surface archaeological remains, to provide an assessment of the potential importance of each plot and to provide information regarding and archaeological mitigation required.
- 8.1.2 A 40m wide survey width based on walking four 10m spaced transects was undertaken. Finds were bagged and marked according to project number and land parcel which could be tied into future fieldwork areas. All artefacts apart from obviously modern material were collected. Where large concentration of certain material such as CBM or burnt flint was identified a sample of the material was retained.
- 8.1.3 A total of 9,510m of visible ground was subject to survey which comprised approximately 44% of the final route corridor. A further 2,595m of superseded route was also surveyed.

8.2 Results

- 8.2.1 Lithic artefacts were collected along the route corridor with rare artefacts such as those of Palaeolithic origin found at **RDX4a- 04 plots 01-05 (MT01)**. Further lithic material indicating a sequence of evidence of activity spanning the Neolithic to Bronze Age was also found.
- 8.2.2 This mirrors the excavation results which also found lithic material of Neolithic and Bronze Age date but also revealed significant quantities of Mesolithic material not recorded in the field walking survey.
- 8.2.3 A pottery assemblage of Iron Age and Romano-British dates along with CBM of Romano-British date also coincides with the excavation results.
- 8.2.4 A lithic cluster of Mesolithic/Neolithic material was identified at **RDX10 plot 01 (MT02)** along with evidence of Romano-British soil improvement. No Anglo-Saxon material was identified. This is at odds with the excavated features at **MT02** which was confined to Anglo-Saxon cemetery and undated but possibly associated features.
- 8.2.5 The **Pipe Dump area Plot 12** was not walked as it was under pasture as was **Plot 16** at the Fairlawn Estate.
- 8.2.6 The proposed site of High House was walked (**RDX 20 plot 02**) and material of post-medieval material along with a rare Palaeolithic flint artefact was recovered. The post-medieval material mirrors that found during machine stripping of this area where similar material was identified during the fieldwork phase.

8.3 Summary

- 8.3.1 Apart from general background finds retrieval during the fieldwalking survey the majority of the evidence for archaeological features was confined to **MT01** where both Iron Age and Roman-British material was identified during the survey. This proved to indicate a potential area of archaeological features which was revealed during the subsequent trial trench evaluation and excavation phases.

9 PALAEOLOGIC INVESTIGATIONS FOR THE FARNINGHAM TO HADLOW PIPELINE

9.1 Summary

- 9.1.1 A comprehensive, phased programme of investigation was carried out along the pipeline Route to evaluate for Pleistocene deposits and Palaeolithic remains, followed by a watching brief to gather further information on the deposits encountered and to monitor for discovery of unexpected Palaeolithic remains. Although no significant Palaeolithic remains were identified, Pleistocene deposits of potential significance were present at several locations along the Route, as indicated by the preliminary Desk-Based Assessment (RSK 2008b). The phased investigation programme proved an effective strategy for evaluating for the presence of Palaeolithic remains, and successfully avoided excavation of a substantial number of evaluation test pits into areas without Pleistocene deposits — which would have been the case if a conventional evaluation programme had been followed, with test pits sited purely on the basis of geological mapping. Seven gravel samples were taken for clast lithological analysis, and a sequence of four OSL (optically stimulated luminescence) dates was taken through the Pleistocene terrace encountered at the southern end of the pipeline, in **Plot 21/1** at Hadlow. When full reporting and analysis has been completed, the results will make a major contribution to: (a) understanding the Pleistocene geology of the area crossed by the pipeline; and (b) improving understanding of the Pleistocene context of the recorded Palaeolithic remains in the area, which will help target any future Palaeolithic/Pleistocene investigations.

9.2 Introduction

- 9.2.1 Wessex Archaeology was commissioned by Southern Gas Networks to carry out archaeological evaluation, followed by mitigation and watching brief requirements, for the Farningham to Hadlow Gas Pipeline. Following prior recognition at the Desk-Based Assessment stage (RSK 2008b) that the pipeline crossed an area potentially rich in Palaeolithic remains, a specific Palaeolithic investigation strategy was developed and implemented in conjunction with the period specialist Francis Wenban-Smith (Department of Archaeology, University of Southampton). This brief interim report summarises the Palaeolithic investigations carried out, highlights the main results (provisional, pending more detailed work) and outlines the more detailed reporting that will follow.

9.3 Background

- 9.3.1 The Desk-Based Assessment (RSK 2008b) identified 11 zones along the

pipeline Route of differing geological character and likely Palaeolithic potential, including several areas with a record of previous Palaeolithic finds in the vicinity. It was, however, not possible to accurately predict any particular location where Palaeolithic remains would definitely be present.

9.3.2 Therefore a phased investigation strategy was implemented that:

(a) initially identified areas where deposits with Palaeolithic remains were most likely to be present, through a combination of desk-based study of previous finds and geological mapping, supported by a walk-over survey of the stripped pipeline easement;

(b) investigated the quality and importance of any Palaeolithic remains present, by means of targeted test pits in potentially significant locations, as indicated by the desk-based work and the walk-over survey;

(c) followed up the test pits with a targeted watching brief on potentially significant stretches of the pipeline trench and road-crossing launch/reception pits.

9.4 Walk-over survey

9.4.1 The walk-over survey was carried out between 16 April 2009 and 29 May 2009, following easement stripping as it progressed southwards along the pipeline Route. Its main aims were: (a) to identify areas of sub-surface Pleistocene deposit requiring evaluation test pits; and (b) to recover any Palaeolithic artefactual remains exposed by the easement strip, particularly from Clay-with-flints in the northern sector of the pipeline.

9.4.2 A total of 38 lithic artefacts were recovered (**Table 2**). These were mostly Late Prehistoric debitage and tools (Mesolithic or Neolithic, most likely). A few artefacts were probably of Palaeolithic origin, particularly three stained/patinated flakes found in **Plots 13/5** and **13/7**, where the gravelly sub-surface deposits reflected the presence of Pleistocene deposits. However, no significant concentrations of Palaeolithic artefacts were identified, and no definitely Palaeolithic artefacts were recovered from Clay-with-flints.

9.4.3 The easement strip did not always provide a clear view of the underlying deposits. Nonetheless, enabled a preliminary assessment of the presence/nature of any Pleistocene deposits. The easement strip revealed that previous mapping of Pleistocene deposits was for the most inaccurate, although the combination of geological mapping and landscape topography provided a useful aid to modelling their likely location. Generally, Pleistocene deposits were identifiable as gravel concentrations on top of the Sand/Clay Wealden series, although, prior to the excavation of any test pits, the subsurface sequence remained very uncertain. In some locations, **Plots 15/2**, **15/3** and **20/2**, there was absolutely no sign of Pleistocene deposits corresponding with geological mapping, so the intended test pits in these locations were not dug. In others, **Plots 13/4** and **13/5**, Pleistocene deposits were identified in unmapped locations; and in several locations, **Plots 13/6-8** and **18/1**, sub-surface gravel concentrations were revealed that did correspond with Pleistocene mapping. Evaluation test pits were dug,

therefore, in these latter two locations.

9.5 Test pits

- 9.5.1 Following the results of the walkover survey, a total of 43 test pits (TP) (**Table 3**) were dug in different parts of the Route to investigate for Pleistocene deposits and Palaeolithic potential. Test pits were dug between 18 May and 28 May 2009. No test pits were dug into Clay-with-flints, due to lack of discovery of any part of the deposit containing Palaeolithic remains. In some areas (**Plots 13/7-8** and especially, **17/2**) Pleistocene deposits were less developed than hoped. In others (**Plot 13/4**) a major unmapped Pleistocene fluvial gravel outcrop was encountered, although unfortunately the main body of the deposit was not investigated as it was just off the pipeline footprint, although it would be of significance for future investigation. And in yet others (**Plots 18/1** and **21/1**) Pleistocene deposits were encountered where expected; in **Plot 21/1** in particular a major terrace sequence was encountered, extending north into **Plot 20/4**.
- 9.5.2 Disappointingly, no deposits containing any concentrations of Palaeolithic artefactual remains were encountered, not even in the mapped gravel deposits of Dunks Green (**Plot 18/1**) which previous records indicate to have produced substantial quantities of handaxes. A single flint flake was, however, recovered from gravel at test pit (**TP**) **5**. Nonetheless, the results of the evaluation work have made a contribution to: (a) understanding the Pleistocene geology of the area crossed by the pipeline, by for the first time, comparing geological mapping with real ground-truth data; and (b) improving understanding of the Pleistocene context of recorded Palaeolithic remains in the area, which will help target any future Palaeolithic/Pleistocene investigations. Seven gravel samples for clast lithological analysis were taken from the major outcrops encountered, which will establish whether or not they are fluvial deposits, and, if fluvial, establish which river system they formed part of — in particular, whether they were linked to the Darent system, draining north towards the Thames; or whether they were part of the Medway system, draining south.
- 9.5.3 A deep sequence of fluvial terrace deposits (sands/gravels) was encountered at the southern end of the pipeline, in **Plot 21/1**, extending from, and continuing under, a mapped spread of brickearth, near a small outcrop of mapped terrace deposits (**TP2**) c.1 ha in extent which was present c.200 m to the southeast. The base of the Pleistocene fluvial sequence was not reached in the test pits. Four OSL dating samples were taken in **TP42** through the sandy upper beds of the fluvial sequence. The results are currently being processed, but, when available, they will for the first time provide a dating tie-point for the mapped terrace sequence (which goes from **TP1** to **TP4**) in the lower stretch of the Bourne as it approaches its confluence with the main Medway.

9.6 Watching brief

- 9.6.1 Following completion of the test pit programme, a monitoring programme was determined for Palaeolithic remains (**Table 4**). The main aims of this programme were: (a) to identify any Palaeolithic remains not picked up in the targeted evaluation programme; and (b) to improve understanding of the Pleistocene deposits seen hitherto. The watching brief work commenced on

15 June 2009 with an examination of trenching in the Clay-with-flints. No Palaeolithic remains were recovered, but key results of the watching brief have been:

- the Clay-with flints is of substantial thickness (at least 5m) in places, and in places contains quite extensive pockets of brickearth, for instance in the launch pit on the north side of **RDX 07** — although no artefacts were found, these observations suggest there is at least potential for the deposit to contain artefact-rich pockets, as suggested by some workers;
- the absence of mapped Pleistocene deposits was confirmed in several locations;
- the extent of mapped deposits was clarified in some locations;
- the lower parts of the fluvial sand/gravel terrace sequence at the southern end of the pipeline were exposed and logged, with a basal gravel layer revealed — see in the reception pit on the south side of **RDX 21**, although the base of the sequence was still not reached.

9.7 Post-excavation analysis and reporting

9.7.1 A more detailed programme of post-excavation analysis and reporting is now underway. The four OSL dates are currently being processed, and the seven clast lithological samples also need to be studied. A report will be produced on the lithic artefacts recovered from the walk-over survey and the test pit programme. Detailed logs will be written up for all the test pits, and separate reports produced for each cluster of test pits, reviewing and interpreting the geological sequence, incorporating data from the watching brief. All reporting will be combined into a single archive report for KCC, that will also provide a revised summary of the deposits encountered in each of the zones of Palaeolithic character identified in the initial Desk-Based Assessment (RSK 2008b), comparing the predictions with the actual deposits/remains encountered, and considering whether any useful lessons can be learned for future assessments of Palaeolithic potential in the area.

Table 2: Recovery of flint artefacts during walkover survey

<i>Plot</i>	<i>Small find Δ</i>	<i>Details</i>
1/3	105	
"	106	
"	107	
2/3	124	Large, Late Prehistoric "Thames Pick"
"	125	Scraper?
3/3	102	
"	103	
3/8	100	
"	101	
3/11	104	
4/1	98	
"	99	
6/4	94	
"	95	
"	96	

"	97	
8/1	88	
"	89	
"	90	
"	91	
7/2	92	
"	93	
8/3	108	
11/1	109	Axe-thinning flake, Neo or Pal?
12/3	121	
13/5	123	Large, cream-stained flake; this one looks very Palaeolithic
13/7	119	Patinated/stained, looks very Palaeolithic
"	120	Patinated/stained, looks very Palaeolithic
14/3	122	
14/11	110	
15/1	111	
"	112	
17/2	113	
"	114	
"	115	
17/3	116	
18/1	117	
20/3	118	

Table 3: Test pit programme (Palaeolithic)

Plot	Test pit no.'s	Total n
8/3	1-3	3
13/4	4-6, 9	4
13/5	7-8	2
13/7	10-11	2
13/8	12-13	2
14/10	14	1
14/11	15-19	5
14/12	20-21	2
17/2	22-25	4
17/3	26	1
17/4	27-29	3
18/1	30-33	4
20/3	35	1
20/4	34, 36-38	4
21/1	39-43	5
Total		43

Table 4: Palaeolithic watching brief requirements/undertakings

Plot	RDX	Background	WB objectives
5/1-4	5 (South) 6 (North)	<ul style="list-style-type: none"> Nearby Palaeolithic handaxe finds Near British Association "Ash" excavations of early 1890s Curious pebble beds observed under/over clay-with-flints during walkover survey 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence Record nature and stratigraphic position of pebble beds, and establish their age
6/4	7 (North)	<ul style="list-style-type: none"> Nearby Palaeolithic handaxe finds Three finds during walkover survey 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence
8/3	-	<ul style="list-style-type: none"> Potential for buried Palaeolithic remains at foot of chalk scarp slope Find during walkover survey Varied chalk solifluction deposits outcropping at surface and seen in test pits 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence
13/1-9	13 (South) 14 (North)	<ul style="list-style-type: none"> Fluvial gravels present in vicinity of plot 13/2-5 Fluvial gravels and gravel-filled fissures seen in plots 13/4 and 13/5 Fresh flake recovered from sieving of gravel in test pit 5, plot 13/4 Previous records of Palaeolithic finds from mapped Head outcrop Three probable Palaeolithic finds during walkover survey at plots 13/5 (n=1) and 13/7 (n=2) 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence Identification and recording of any further fissures
15/1-3	15 (South)	<ul style="list-style-type: none"> Mapped Head deposits, possibly fluvial gravel Two finds during walkover survey 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence
17/4	18 (North)	<ul style="list-style-type: none"> Previous records of numerous Palaeolithic finds from mapped Head outcrop (Dunks Green) Gravel-filled pockets seen in test pits 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence
18/1	18 (South)	<ul style="list-style-type: none"> Previous records of numerous Palaeolithic finds from mapped Head outcrop (Dunks Green) Gravel deposits seen in test pits, possibly of fluvial origin 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence
20/1-3	20 (South)	<ul style="list-style-type: none"> Mapped Terrace 2 and brickearth outcrops Find during walkover survey Deep fluvial sequence seen in test pits 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence Correlation of fluvial deposits between test pits
21/1	21 (South)	<ul style="list-style-type: none"> Mapped Terrace 2 and brickearth outcrops Deep fluvial sequence seen in test pits 	<ul style="list-style-type: none"> Recovery of any Palaeolithic finds Recording/interpretation of Pleistocene sequence Correlation of fluvial deposits between test pits

10 ARCHIVE SUMMARY

10.1 Stratigraphic records

10.1.1 The contents of the stratigraphic archive from the excavation are summarised in **Table 5**. The excavation records are held under the project site code: 70301.

Table 5: Contents of the stratigraphic archive

Details	Format	No. Sheets
Project Specification	A4	41
Day Book	A4/5	139
Context Index	A4	51
Context Records	A4	1352
Graphics Register	A4	20
Survey Data Register	A5	c.50 pages
Photographic Register	A4	59
Environmental Sample Register	A4	9
Environmental Records	A4	88
Objects Register	A4	16
Object Records	A4	202
Site Graphics	A4	174
Site Graphics	A3	68
Site Graphics	A1	14
B+W Negatives	35mm	39 (c.1408 images)
Colour Slides	35mm	39 (c.1408 images)
Digital Images recorded	.jpg	1080
Trench Records	A4	2

10.1.2 Post-excavation work to date has comprised a phase of checking and ordering of the stratigraphic archive, followed by a short phase of analysis of the stratigraphic sequence intended to provide provisional phasing of the archaeological information recorded. This has included:

10.1.3 Selected key stratigraphic relationships have been checked within the Mitigation Areas and watching brief.

10.1.4 An Access database has been compiled of all context records for the Route. In addition, databases of all survey data and finds have also been compiled

10.1.5 All excavation areas, cut features, section lines and sample interventions have been digitised into AutoCAD 2004

- 10.1.6 Provisional ceramic dating has been completed and related to the stratigraphic sequence.
- 10.1.7 Assessment work on all classes of finds include human bone, animal bone, worked flint, slag and environmental samples has been completed and selected data entered on to the project database.
- 10.1.8 From the stratigraphic assessment it is concluded that overall the archaeological remains along the Route provide evidence for phases of activity spanning the Early Mesolithic (palaeochannel at **MT01**) to the Anglo-Saxon (cemetery at **MT02**) and medieval but appears principally focussed on the Late Iron Age and Romano-British periods.
- 10.1.9 Provisional phasing has been set out in **Section 5** above. Further post-excavation analysis will need to determine the degree of confidence that can be placed on this phasing; and the degree to which it can be refined.

11 ARTEFACTUAL ASSESSMENT

11.1.1 Introduction

11.1.2 This section considers the finds recovered from all stages of fieldwork on the pipeline route, from evaluation to watching brief. An assemblage of moderate size was recovered, with a wide chronological range from early prehistoric to post-medieval. This includes significant collections of Romano-British material from two areas (**MT01** and watching brief **Plot 16/01**), and an early Saxon funerary assemblage from a small cemetery at **MT02**. A group of Mesolithic flintwork recovered from a palaeochannel at **MT01** is also of interest, as are the cremated human remains from six unurned burials of probable prehistoric date from **Plots 11/01** and **11/02**.

11.1.3 All finds have been quantified by material type within each context; totals by material type are given in **Table 6**. For the purposes of this assessment, all material types have been at least visually scanned, in order to ascertain their nature, condition and potential date range. Spot dates have been recorded for datable finds (pottery, coins, other metalwork). All data have been entered on to the project database (Access).

11.1.4 The following section describes the finds largely by material type (the Saxon funerary assemblage being considered as a single block), and it is on this information that the archaeological potential of the finds is based (Section **9.2**), while Section **10.2** presents method statements outlining proposed further work on the finds in order to achieve that potential.

11.2 Pottery

11.2.1 Pottery was recovered from four of the investigated areas as well as the watching brief. A breakdown of the sherds by chronological period and site is shown in **Table 6**, while a summary of the ware types present is presented in **Table 7**.

Middle Bronze Age

11.2.2 Sherds identified as belonging to the Deverel-Rimbury tradition (124 sherds) are all tempered with coarse flint. Most (116 sherds) are from a single vessel, a small bucket urn with a rounded, inturned rim decorated

with finger-nail impressions and a ring of raised bosses, from pit [7127] at **Plot 10/01**. The other eight sherds, including one with a finger-pressed applied cordon, were found in pit [20018] during the watching brief (**Plot 10/01**, to the south-east of **MT02**).

Late Bronze Age to Middle Iron Age

- 11.2.3 Material assigned to this period (356 sherds) includes a range of finer and coarser flint-tempered fabrics, some of which can be relatively confidently dated to the Late Bronze Age or Early Iron Age, while other, less diagnostic sherds can only be broadly dated at this stage as Iron Age. Most sherds came from the Pipe Dump (**Plot 12/08**), with three small, plain body sherds from **MT01 (Groups 6441 and 6446)** and 15 sherds, including a rim from a thin-walled jar, from **MT02 (pit [7134])**.
- 11.2.4 Two significant groups were recovered from the Pipe Dump. The first of these, from the subsoil (**5001**), consisted of sherds from the base and lower body of at least one, possibly two, large jars. Sufficient survived to suggest that the vessel(s) may have been deliberately deposited. At least 17 vessels are represented in the group from pit [5387]. Forms include shouldered jars of various sizes, including one complete profile and some with very thin-walled rims, as well as small, rounded cups/bowls. Decoration includes finger-tip and nail impressions while surface treatments consist of smoothing, tooling and finger-smearing. Rims from ovoid jars were also found in posthole [5046] and pit [5068].
- 11.2.5 Similar forms occur commonly in Kent. Locally, flint-dominated Late Bronze Age assemblages occur at Hoo St Werburg (Moore 2002), at Margett's Pit, Burham (Leivers in prep.) and sites such as White Hill Road, Cobham Golf Course and White Horse Stone on the route of the Channel Tunnel Rail Link (CTRL) (Barclay *et al.* 2006). In the east of the county, similar material also occurs at Beechbrook Wood, Little Stock Farm and Saltwood Tunnel on the CTRL route (*ibid.*) as well as at Monkton Court Farm (Macpherson-Grant 1994) and at Highstead (Bennett *et al.* 2007) on the Isle of Thanet and at Cliffs End Farm, Ramsgate (Leivers in prep.).

Late Iron Age

- 11.2.6 Sherds dated to the Late Iron Age (437 sherds) broadly span the period from c. 100 BC until c. AD 70. Although the period is traditionally closed by Julius Caesar's visit to Britain AD 43, the continued use of relatively coarse, handmade, fabrics tempered with flint, glauconitic sand, grog and shell well into the third quarter of the 1st century AD, if not beyond, means that the difficulties of distinguishing ceramic groups of pre- and post- Conquest date in this area are well known (e.g. Pollard 1988, 29-33 and 41; Booth 2009, 4-10). For convenience, then, at this stage, this earliest Roman material has been considered along with that of the preceding Late Iron Age period.
- 11.2.7 The majority of Late Iron Age sherds were from the Pipe Dump (417 sherds), with smaller groups from **MT01** and **Plot 16/01**, and one sherd from **MT02**. Most sherds survive in moderately good condition (mean sherd weight 13.1g) although rims are relatively scarce (c. 8% of the total) and many are broken at the neck/shoulder junction, hindering the precise identification of vessel form.
- 11.2.8 The fabric composition of the assemblage (**Table 7**) is comparable to others

from the Medway valley area (Kelly 1971, 78-84; Biddulph 2004; Barclay *et al.* 2006; Booth 2009; Jones 2009). Evidence of cross-channel trade, or at least trade in the empty containers, was provided by three Dressel 1sp. wine amphora sherds from the plot 16/01 Roman villa site, although these may be residual in the context in which they occurred (**Group 8196**). Flint-tempered wares, firmly rooted in the earlier ceramic traditions of the area, continued to be common. These wares were certainly made on the north Kent marshes during the trans-Conquest period (Monaghan 1987, 179, fabrics F1 and F2), although earlier production centres have yet to be identified, but their use declined rapidly after AD 70 (Booth 2009, 7). Evidence from the CTRL sites at Hockers Lane and Thurnham (Booth 2009, 5) and Queen Elizabeth Square, Maidstone (Biddulph 2004, 18) indicates that glauconitic fabrics preceded the appearance of the grog-tempered wares, although with a substantial chronological overlap between the two groups. The glauconitic fabrics seem to have been abandoned in the early decades of the 1st century AD (Pollard 1988, 33). Non-glauconitic sandy wares were never popular in west Kent (*ibid.*, 31; Barclay *et al.* 2006) while the calcareous wares were present in small quantities in the Medway valley from the later 1st century BC. Similarly, the grog-tempered ware enjoyed a long period of popularity in this area (Booth 2009, 7).

- 11.2.9 In general, the Late Iron Age vessel forms display the characteristics of the Aylesford-Swarling (Cunliffe 1978, 83-93) or 'Belgic' (Thompson 1982, 4-5) styles of pottery, with angular or rounded vessel shapes, some based on north Gaulish prototypes, and often with pedestal or footring bases and decoration based on curves, corrugation and cordons. Forms include plain, everted rim, necked jars; tall narrow jars with corrugated shoulders; tall barrel jars; plain, everted rim jars; and large storage jars (Thompson 1982, types B1-1, B1-2, B2-3, B5-3, C2-3 and C6-1) as well as the ubiquitous bead rim jar forms (*ibid.*, types C1-2, C1-4, C3 and C5-1). Rarer examples of imitation Gallo-Belgic platters and girth-beakers (*ibid.*, types G1 and G4) and at least one lid were also noted.

Romano-British

- 11.2.10 Significant Romano-British assemblages (totalling 2983 sherds) were recovered from three sites, with smaller quantities from elsewhere (**Table 6**). Unsurprisingly, the largest was from Plot 16/01 (the Roman villa site), with smaller numbers of sherds from MT01 and the Pipe Dump. At this latter site, activity continued on from the preceding Late Iron Age period and was confined to the later 1st to early 2nd centuries AD (c. AD 70-120/130). Activity at the other sites was more chronologically spread. Sherds which could be assigned early, middle (c. AD 120/130 – to the early/mid 3rd AD) and late (late 3rd – 4th century AD) Romano-British dates (as opposed to a generalised 'Roman' date) indicate the continued dominance of early Roman material at both sites (52% of the sherds from MT01 and 70% of those from the Roman villa site at Plot 16/01) with more restricted Middle (33% and 15% of the sherds respectively) and Late Roman (2% and 6%) activity.
- 11.2.11 Although present on other sites in the region (e.g. Booth 2009, 7), Gallo-Belgic imports were not found on the pipeline route. Continental imports are limited to 1st and 2nd century AD southern and central Gaulish samian (forms 18/31, 31, 33, and 35 or 36), and seven pieces of Dressel 20 olive oil amphora. Mortaria, too, are poorly represented, although this mirrors the situation in other parts of Kent (Barclay *et al.* 2006; Seager Smith *et al.*

forthcoming). Examples were only found on Plot 16/01 and were limited to four body sherds from a single Central Gaulish samian vessel of late 2nd or early 3rd century AD date, from possible stokehole [8126] and three Oxfordshire whiteware sherds, including a rim (Young 1977, type M18) dated to c. AD 240 – 300, from Room 4.

- 11.2.12 Three joining pieces of Stamped London ware were found in **group 6436** at MT01. Although generally found in 2nd century AD contexts, these wares were probably manufactured on the Hertfordshire/Essex border during the mid to late Flavian period (Rodwell 1978, 234-45; Davies *et al.* 1994, 151). Prior to the infiltration of Kentish markets by the Oxfordshire potters around the middle of the 3rd century AD, fine tablewares were provided by the local Thames industry. The fine greywares include both poppy-head and carinated beakers (Monaghan 1987, class 2A and 2G), as well as fine cordoned bowls (class 4J). The oxidised ware sherds are mostly derived from flagons from a variety unidentified sources, while the white-slipped red wares, mostly Hoo wares (Monaghan 1987, 253, fabric N4/1a; Davies *et al.* 1994, 38), include both flagon and fine carinated bowl forms. Sherds from a single Verulamium region whiteware ring-necked flagon of late 1st or early 2nd century AD date were also found in pit [5238] at the Pipe Dump site.
- 11.2.13 The relative paucity of Oxfordshire colour-coated wares reflect the limited late Romano-British activity on the pipeline sites. Three of the sherds, including a bowl rim, were found in **groups 6436** and **6451** at MT01 but the form (Young 1977, 158, type C49) was made throughout the life of the industry. The remaining sherds were all from **group 8197** at the Roman villa site (plot 16/01). The other colour-coated wares were also from the Roman villa site and include at least one sherd from a Nene Valley hunt cup, probably of mid/late 2nd to early 3rd century AD date.
- 11.2.14 The coarseware assemblage is also dominated by local products. Patchgrove ware (Ward-Perkins 1939, 176-8), developing out of the earlier grog-tempering tradition, became especially common during the later 1st and early 2nd century AD, perhaps continuing, at least for a limited range of larger jar forms, into the 3rd century AD. Similarly, the north Kent/south Essex shell-tempered wares, predominantly used for bead-rimmed and large storage jars, peaked in importance during the Flavian to Trajanic periods, declining sharply after the mid 2nd century AD. The production of a wide range of sand-tempered wares (Thameside products) in the north Kent coastal zone also seems to have begun around the middle of the 1st century AD, with the industry experiencing a major expansion during the period between c. AD 70 and 120/130 (Monaghan 1987, 216). Vessel forms in this assemblage indicate that the Thameside industry continued to be the major supplier of utilitarian coarseware vessels until its demise in the early 3rd century AD. Thereafter, greywares were obtained from a variety of more distant sources, including the Alice Holt kilns (Lyne and Jefferies 1979) on the Surrey/Hampshire borders and the south-east Dorset Black Burnished ware industry, located in the Wareham/Poole Harbour region. A limited number of sherds, including two bead-and-flange bowl/dish rims, of the distinctive hard grog-tempered fabric characteristic of the period after the mid 4th century AD in west Kent (Pollard 1988, 149) were noted from the Roman villa site, in Rooms 4 and 8, and wall (8044), but this fabric has not been separately quantified at this stage.

Saxon/Early Medieval

- 11.2.15 Sherds of early to mid Saxon (c. AD 575 – 800) organic-tempered ware (similar to Canterbury [CAT] fabric EMS4: Macpherson-Grant *et al.* 1995) were recovered from four features along the pipeline route. These include a complete necked, sub-biconical jar, with a deliberate, post-firing perforation in its base, deposited as a grave good in grave [7095] at the cemetery site at **MT02**. A tiny (less than 1g) shell-tempered sherd from this same context may be of late Saxon/early medieval date but is likely to be intrusive. The other organic-tempered sherds occurred in pit [6122] at **MT01**, watching brief pit [20022] (**Plot 11/01**), and alongside sandy sherds, probably of similar date in ditch [5010] at the Pipe Dump.
- 11.2.16 Sherds of early medieval shell-tempered ware (CAT fabric EM2-type; c. AD 1050 – 1225), including three everted jar rims, were found in **Group 6452** at **MT01** and in Room 4 on the Roman villa site, although this latter sherd may well be intrusive as the bulk of the sherds from this feature were of late Romano-British date.
- 11.2.17 Post-medieval/modern
- 11.2.18 These sherds consisted of glazed earthenwares, Staffordshire-type slipwares and a wide variety of later factory-produced wares, found mainly unstratified at High House (60 sherds, 920g). Other pieces were found in the topsoil and subsoil during the watching brief and in ditch [20003] as well as a single, probably intrusive piece from wall (8038) at **Plot 16/01**.

Table 6: Finds totals by material type and by site sub-division

Material	MT01	MT02	Plot 12/08	Plot 16/01	Other	TOTAL
Pottery	714/12,509	17/640	1372/20,534	1597/29,329	383/3344	4083/66,358
<i>Prehistoric</i>	3/8	-	358/5965	1/21	147/1210	509/7204
<i>LIA/Romano-British</i>	694/12,253	14/168	1009/14,519	1594/29,285	160/1116	3471/57,341
<i>Saxon</i>	14/188	2/471	4/44	-	6/23	26/726
<i>Medieval</i>	3/60	1/1	-	1/19	-	5/80
<i>Post-Medieval</i>	-	-	-	1/4	5/40	6/44
<i>Undated</i>	-	-	1/6	-	3/14	4/20
Ceramic Building Material	77/8074	-	1/51	426/40,006	61/3666	565/51,797
<i>Roman</i>						488/46,991
<i>Medieval/Post-Medieval</i>						77/4806
Mortar	-	-	-	180/1998	-	180/1998
Fired Clay	3380/87971	-	659/15,872	215/4961	383/1498	4637/110,302
Stone	80/9073	-	108/56,194	205/12,488	18/13,589	411/91,344
Worked Flint (no. pieces)	651	6	57	7	266	987
Burnt Flint	676/6112	2/5	349/1035	4/171	388/1917	1419/9240
Glass	-	130/311	1/1	4/7	11/122	146/441
Slag	506/37920		8/53	31/1331	369/328	914/39,632
Metalwork (no. objects)	141	75	-	103	24	343
<i>Coins</i>	20	-	-	28	4	52
<i>Silver</i>	1	3	-	-	-	4
<i>Copper Alloy</i>	40	24	-	16	13	93
<i>Lead</i>	29	-	-	21	2	52
<i>Iron</i>	51	48	-	38	5	142
Shale (no. objects)	-	-	-	1	-	1
Worked Bone (no. objects)	1	1	-	1	-	3

Human Bone	<i>Inhumed</i>	-	9 indiv.	-	-	-	9 indiv.
	<i>Cremated</i>	-	-	13g	-	1281g	1294g
Animal Bone		2367/11,434	-	9/7	304/2072	184/916	2864/14,429

Table 7: Breakdown of pottery assemblage by ware type

Date Range	Ware type	No. sherds	Weight (g)
LBA to MIA	Flint-tempered	508	7199
	Sandy	1	5
	<i>sub-total LBA to MIA</i>	509	7204
LATE IRON AGE	Glauconitic sandy ware	206	2602
	Amphora (Dressel 1sp)	3	150
	Flint-tempered	52	218
	Shelly ware	43	457
	Grog-tempered ware	161	2212
	Sandy ware	23	284
	<i>sub-total Late Iron Age</i>	488	5923
	ROMANO-BRITISH	Samian	22
Amphora (Dressel 20)		7	346
Nene Valley colour-coated ware		1	16
Oxon colour coated ware		9	39
Oxon whiteware mortaria		3	153
White-slipped red ware		42	477
Misc. colour-coated ware		6	9
Stamped London ware		3	4
Grog-tempered ware		280	4353
N Kent/S Essex shell-tempered ware		144	6818
Flint-tempered ware		10	41
Fine greyware		85	403
Greyware		45	694
Patchgrove ware		1493	30699
Sandy ware		54	351
Shelly ware		21	119
SE Dorset Black Burnished ware	8	78	
Thameside greyware	679	6108	
Verulamium region white ware	10	37	
Oxidised ware	61	480	
<i>sub-total Romano-British</i>	2983	51,418	
SAXON/MEDIEVAL	Organic tempered ware	20	681
	Sandy ware	6	45
	shelly ware	5	80
	<i>sub-total Saxon/medieval</i>	31	806
POST-MEDIEVAL	Refined whiteware	62	943
	Staffordshire-type slipware	2	18
	Redware	4	26
	<i>sub-total post-medieval</i>	68	987

UNDATED	Grog-tempered ware	1	5
	Shelly ware	3	15
	<i>sub-total undated</i>	4	20
		4083	66,358

11.3 Ceramic Building Material (CBM)

- 11.3.1 The CBM is predominantly of Romano-British date although small quantities of medieval/post-medieval peg-hole roof/wall tile and early post-medieval unfroged brick fragments were also found at various points along the route.
- 11.3.2 The bulk of the Romano-British material came from the villa site (**Plot 16/01**: 408 fragments, with a smaller quantity from **MT01** (75 fragments). Although highly fragmentary (average fragment weight = 92g), the assemblage includes pieces from *tegula* (25) and *imbrex* (7) roof tiles, but these do not occur in sufficient quantity to suggest that any of the buildings in the immediate vicinity boasted tiled roofs. Only two of the *tegulae* have surviving complete dimensions; one with a pre-firing nail hole is 305mm wide, while the other is 380mm wide and has a two-finger concentric semi-circle 'signature' at one end. Relatively large pieces of two *tegulae* were found built into wall (**8187**), and it is likely that most of the ceramic roofing material was used in a similar way.
- 11.3.3 A variety of Romano-British brick types (22 fragments) were also identified. A complete *lydion* formed part of wall (**8187**) while the thickness (58mm) of a second brick from this same context suggests that it derives from one of the large, square forms (*sesquipedalis* or *bipedalis*; Brodribb 1989, 3). Overall, the brick fragments range from 36mm to 58mm thick, suggesting that the assemblage also includes examples of the small square *bessalis* and *pedalis* types, as well as the larger ones noted above. Bricks were most commonly used as lacing and bonding courses in walls and in the construction of hypocausts.
- 11.3.4 Other evidence for the possibility of a hypocaust heating system comes from the 16 pieces of box-flue tiles recovered (one from gully **[20046]** in **Plot 17/02**, and all the others from the **Plot 16/01** Roman villa site). All are too fragmentary to be assigned to type (e.g. Brodribb 1989, 70-83; Betts *et al.* 1997, 8-12); most carry combed keying on at least one face but five pieces (all from **Plot 16/01**) are of particular interest in that they have a roller-stamped design indicating their manufacture by a tiler named Cabriabanus (Betts *et al.* 1997, 102, die 31).
- 11.3.5 Associated pottery suggests that the tiles are of 3rd century AD date. At the nearby Plaxtol and Darenth villas, the Cabriabanus die is predominantly used on voussoir tiles rather than wall tiles (*ibid.*, 102). Betts and his co-authors (1997, 11) also note that voussoirs are far more commonly stamped on all four faces than box flue tiles, so that one small fragment which has the roller-stamped design on two adjacent faces may lend further weight to the suggestion that these roller-stamped fragments actually derive from voussoirs.

11.4 Mortar

- 11.4.1 Further building material is represented by fragments of mortar; the material

was collected as samples from eight wall contexts at **Plot 16/01**.

11.5 Fired Clay

11.5.1 Portable objects

11.5.2 The fired clay assemblage includes 28 pieces (3617g) from at least seven flat, triangular objects with rounded corners, each pierced by a hole from side to side. All were from **Plot 12/08** (Pipe Dump), including pit **[5007]** (four examples), pit **[5242]** (two examples) and pit **[5340]**. These items are traditionally interpreted as loomweights, although it is possible that some were used in different ways, perhaps as oven furniture (Lowther 1935; Poole 1995). However they are interpreted, these items are common in Late Iron Age contexts across the whole of southern Britain, remaining current well into the 2nd century AD (Wild 2002, 10). Locally, examples are known from the Farningham Hill Iron Age enclosure (Parfitt 1984, 35, fig.14, 8), the villa site at Keston (Philp 1991, 151, fig.42), and at Springhead (Poole forthcoming).

Structural material

11.5.3 The remainder of the assemblage (3886 pieces, 103.375kg) consists of structural fired clay and daub. The overwhelming majority of this material is presumed to be of Late Iron Age or Romano-British date.

11.5.4 Most fragments are in soft, slightly sandy fabrics with occasional additional inclusions of shell, flint, organics and/or chalk inclusions. Most are oxidised (yellow, orange, red brown hues) although grey-brown, dark grey and black colours were also noted. The larger, better preserved fragments have a roughly flat, outer surface of variable quality with roundwood wattle impressions, representing the core studwork of the wall, on the inside; the original wall would therefore be twice the thickness of the fragments. Most of the wattle impressions ran in a single direction, but in one or two instances (e.g. kiln/oven **[6064]**), interwoven impressions are preserved. The thickness of the fragments and diameter of the wattles were not measured at this stage, but at Springhead the wattles used during the Late Iron Age/early Romano-British period were notably narrower than those from Middle Roman contexts (Poole forthcoming), highlighting the potential for chronological differentiation within this material type.

11.5.5 This material was especially prolific at **MT01** where significant concentrations occurred in kiln/oven **[6064]**, adjacent pit **[6147]**, and pit **[6175]**. Similarly large amounts were also found in large pit **[5340]** at **Plot 12/08** (Pipe Dump).

11.6 Stone

11.6.1 Just over 91kg of stone was retained from the pipeline route. A rapid scan has established the range and number of worked stone objects and has provided a broad indication of the lithologies present within the assemblage as a whole, but no detailed geological identifications have been made at this stage.

11.6.2 The retained stone includes fragments from nine quern/mill stones, two rubbers/pounders/grinders, two possible architectural fragments and a single

whetstone.

- 11.6.3 The remainder of the assemblage (261 pieces, 61.347kg) shows no obvious signs of working although two large, roughly rectilinear blocks, one of sarsen (ditch [5010]) and one of Kentish ragstone (**group 5410**) were perhaps utilised as building stones. Of the unworked pieces, approximately half (86 pieces; 28.7kg) consist of fragments of ironstone which occurs locally, in the Tertiary deposits and interbedded within the Lower Greensand of the Folkestone Beds, while a further 11kg comprises sandstone fragments, probably from a variety of different lithologies, including Kentish Ragstone. The rock types of the remaining fragments remain unidentified at this stage.
- 11.6.4 All the worked stone objects are of lithologies expected in this part of Kent (Philp 1991, 180; Roe 1999; Shaffrey 2009; Shaffrey forthcoming), and most are of Romano-British date. The quern/mill stones include a possible sarsen saddle quern fragment from pit [5387], part of a Hertfordshire Puddingstone beehive quern, probably of 1st to 2nd century AD date from in pit [20039], and a rotary quern fragment of coarse, pinkish sandstone, possibly Millstone Grit, from Room 8 at the villa site (**Plot 16/01**). Fragments of Mayen lava, probably derived from querns, were found in **group 6448**, pit [6380], **group 6452** and well [8092]. One of these (from pit [6380]) is sufficiently complete to suggest that it had a raised collar around a central hopper. The coarse white sandstone millstone from Room 8 is approximately 760mm in diameter, with a raised kerb around its circumference. A fist-sized sandstone pebble used as a rubber/pounder/grinder was found in feature [5085], while part of a second came from late prehistoric context (7126). The whetstone, a tapering rod-shaped fragment, was found unstratified at High House, and is probably post-medieval. The architectural fragments from pits [6084] and [6175], both of a fine-grained white sandy limestone with a few green (?augite) grains, may be of medieval date.

11.7 Worked Flint

Introduction

- 11.7.1 In total, 654 pieces of worked flint were recovered. The material was recovered from five sites or phases of work: from **MT01**, from **MT02**, from **Plot 12/08** (Pipe Dump), **Plot 16/01** (Roman villa), and from the watching brief. Four of these produced small amounts of material, mostly redeposited. Only one (**MT01**) produced any quantity of material which could be considered as *in situ*, and this included a significant group of Early Mesolithic material. **Table 8** gives a breakdown of the assemblage by type.

Table 8: Breakdown of the worked flint assemblage by type (excludes evaluation)

Flint Types	Number	% of assemblage
Retouched tools:		
Microliths	3	0.46
Scrapers	13	1.99
Core tools (picks, axes, etc)	3	0.46
Piercers	1	0.15
Barbed & Tanged arrowhead	1	0.15
Misc. retouched pieces	58	8.88
<i>Retouched tools sub-total</i>	79	12.09
Debitage:		
Flakes (incl. broken)	484	73.97
Blades/bladelets (incl. broken)	38	5.82
Core preparation / rejuvenation pieces	4	0.61
Cores / core fragments	25	3.83
Irregulardebitage	24	3.68
TOTAL	654	100.0%

Raw Materials

11.7.2 Raw materials are entirely flint. Most flint is a pale brownish grey, often with frequent cherty inclusions and thermal flaws, with a chalky cortex that is often (but not always) quite worn. The most likely sources are the clay-with-flints and the upper chalk, crossed by the route at various points along its course. There are a small number of pieces (mostly blades or trimming flakes from blade cores) in other types – one a very dark grey/black flint without obvious flaws. This material may also be available locally (presumably within the chalk) – similar raw good quality raw materials are known from other sites in east Kent. There are a very small number of pieces of glauconitic (Bullhead) flint, which occurs Thanet beds and gravels.

11.7.3 Most of the unstratified material and the pieces from **Plot 12, MT02** and **Plot 16/01** have a variable cream/white patina. A small number of pieces have been stained orange, presumably having spent time in iron-rich gravel terrace deposits. On **MT01**, there is a distinction between worn pieces which are patinated and unpatinated pieces in mint condition.

Watching Brief

11.7.4 Only 13 pieces were recovered, 11 of which are unretouched flakedebitage. Of the tools, one (from **Plot 11/02**) is a Mesolithic tranchet axe, while the other (from **MT01**) is a flake with miscellaneous retouch (not closely dateable, but likely to post-date the Middle Neolithic). Two small groups of flakes (from context **20017** in pit **[20016]** and pit **[20018]**) are smaller and more carefully struck. One has come from a ground flint axe; the rest from a grey cherty flint with chalky cortex; all are likely to be Neolithic.

Plot 12/08 Pipe Dump

11.7.5 Twenty pieces were recovered, all unretoucheddebitage (one a burnt and broken blade fragment) with the exception of an end and side scraper of Late Neolithic/Early Bronze Age type.

MT01

- 11.7.6 A total of 540 pieces came from **MT01**, as shown in **Table 9**. Pieces were recovered from a palaeochannel (**[6455]**), from later prehistoric features cut into it, and from topsoil and unstratified positions. Although the latter three location types contained chronologically-mixed assemblages, the material from the palaeochannel (or from those parts of it undisturbed by later features) contained no diagnostic retouched tools later than the Mesolithic period.

Table 9: Breakdown of worked flint assemblage from MT01

Flint Types	Number	% of assemblage
Retouched tools:		
Microliths	3	0.56
Scrapers	7	1.30
Core tools (picks, axes, etc)	3	0.56
Piercers	1	0.18
Barbed & Tanged arrowhead	1	0.18
Misc. retouched pieces	53	9.83
<i>Retouched tools sub-total</i>	67	12.61
Debitage:		
Flakes (incl. broken)	387	71.62
Blades/bladelets (incl. broken)	36	6.68
Core preparation / rejuvenation pieces	4	0.74
Cores / core fragments	21	3.90
Irregular debitage	24	4.45
TOTAL	540	100.0%

Mesolithic

- 11.7.7 Diagnostic tools of Mesolithic types include three microliths and three core tools. One of the microliths is a straight-backed blade 48mm long, of early Mesolithic type (topsoil). A broken example of a similar piece came from **6379** in ditch **group 6444**. An obliquely-blunted point 45mm long (but lacking the tip of the distal end) came from topsoil.
- 11.7.8 The core tools mostly fall within the parameters of the pick or chisel type: roughly-knapped partially cortical nodules with one pointed end. Examples were recovered from **6045** in **group 6448** and **6197** in **group 6444**. A large plunging flake (from palaeochannel **[6455]**) blunted along one edge derives from such a tool, and must either be an attempt at resharpening, or an accident during use.
- 11.7.9 Other less certainly Mesolithic tools include a number of notched blades and bladelets (**6009**; **group 6448**)
- 11.7.10 Complete cores include single platform blade/bladelet cores, usually sub-pyramidal with cortical backs. Abandonment of these pieces usually appears to have been due to recession of edge angles rather than exhaustion. In some instances cores were rotated through 90 or 180° and a few rudimentary flakes removed.

- 11.7.11 Although cores are not common, their preparation and maintenance is attested. A number of trimming flakes from blade and bladelet cores were recovered, some of which had been used subsequently. Although much of this re-use will have been contemporary with their creation, this was not always the case: one heavily patinated and mottled piece has a short length of semi-abrupt retouch on the left dorsal margin which has removed the patinated surface and revealed the black flint beneath.
- 11.7.12 Apart from the presence of technological and morphological traits, the Mesolithic material is distinguishable from much of the later material on the basis of its condition. For the most part, the Mesolithic material is free from patina, gloss, staining or rolling, and what damage there is to the edges appears to derive from use rather than post-depositional movement.
- 11.7.13 The bulk of the material from all contexts (c.72%) is flake debitage, but the contextual associations and condition of a portion of this material suggests that it too is Mesolithic. The implication of this is that all stages of manufacture from the preparation and reduction of cores to the retouching and use of tools took place in the immediate vicinity of the site.

Later prehistoric

- 11.7.14 Later pieces generally consist of broad, squat, hard hammer struck flakes with incipient cones of percussion littering the platforms, and heavy chopping tools which are often little more than crudely-trimmed nodules with crushed edges (for instance, from **6124** in pit **[6122]**). Both are likely to be Iron Age in date. The condition of this material is generally rather poor.
- 11.7.15 To some extent this is due to the fact that the flakes and tools are substantial, and have consequently survived in topsoil and other redeposited contexts better than earlier, finer pieces. The rolled, battered and patinated state of many of the pieces attests to this.
- 11.7.16 Neolithic and Bronze Age pieces are scarce. There are a number of multi-platformed flake cores which could be Late Neolithic and/or Early Bronze Age. A piercer from **6005** in **group 6434** has a centrally-placed, snub spur of a type that is most common in the later Neolithic. A broken barbed and tanged arrowhead came from **6059** in **group 6110**. An end scraper from layer **6342** (palaeochannel) is likely to be contemporary. Many of the pieces that appear to be of this date are rather glossy, although it is difficult to identify a reason for this.

MT02

- 11.7.17 The 62 pieces from **MT02** include three scrapers, otherwise all are unretouched (including a flake core and a core fragment). One end scraper (from topsoil) has been made on a trimming flake from a blade core, and appears to be Mesolithic. The remaining two (also end scrapers, from a possible lynchet **[7102]** north of the cemetery at **MT02** and **7126** in pit **[7124]**) are Late Neolithic/Early Bronze Age types; one (from **[7102]**) has a knife-like retouch on one ventral margin.

Plot 16 Roman Villa

- 11.7.18 Only four pieces of unretouched flake debitage were recovered.

Unstratified

- 11.7.19 Amongst the 15 pieces from unstratified locations are a large

Thames Pick of Mesolithic date; and a triangular-cross sectioned (probably thermal) secondary flake, heavily iron-stained, with crude retouch on one margin, and another retouch (made through the staining) on one end – chronologically ambiguous, but perhaps earlier than the bulk of the material.

Burnt Flint

- 11.7.20 Burnt, unworked flint was also recovered, in small quantities (just over 7kg in total). This material type is not intrinsically datable, although is often taken as an indicator of prehistoric activity. In this instance, however, the majority of the burnt flint (just over 6kg) came from **MT01**, and much of this was from Late Iron Age or Romano-British contexts. However, the only context to produce more than 1kg of burnt flint (1014g) was the palaeochannel [6455], which also contained a significant Mesolithic worked flint assemblage. The distribution of burnt flint generally is low level across all sites.

11.8 The coins and tokens

- 11.8.1 One silver and 50 copper alloy coins and tokens were recovered. The majority (45 coins) are Roman in date, with the remaining six dating to the post-medieval period. Most of the coins show signs of post-depositional corrosion, whilst many also show signs of wear. Despite this, it is possible to identify the majority to period. Only seven of the Roman coins cannot be closely dated, with three dated to the 1st to 3rd centuries AD and four to the 3rd and 4th centuries AD.
- 11.8.2 The coins and tokens were recovered from three sites along the length of the pipeline (MT01, Plot 16/01 and MT05). All of the Roman coins were recovered from MT01 and Plot 16/01, and four post-medieval coins from MT05.

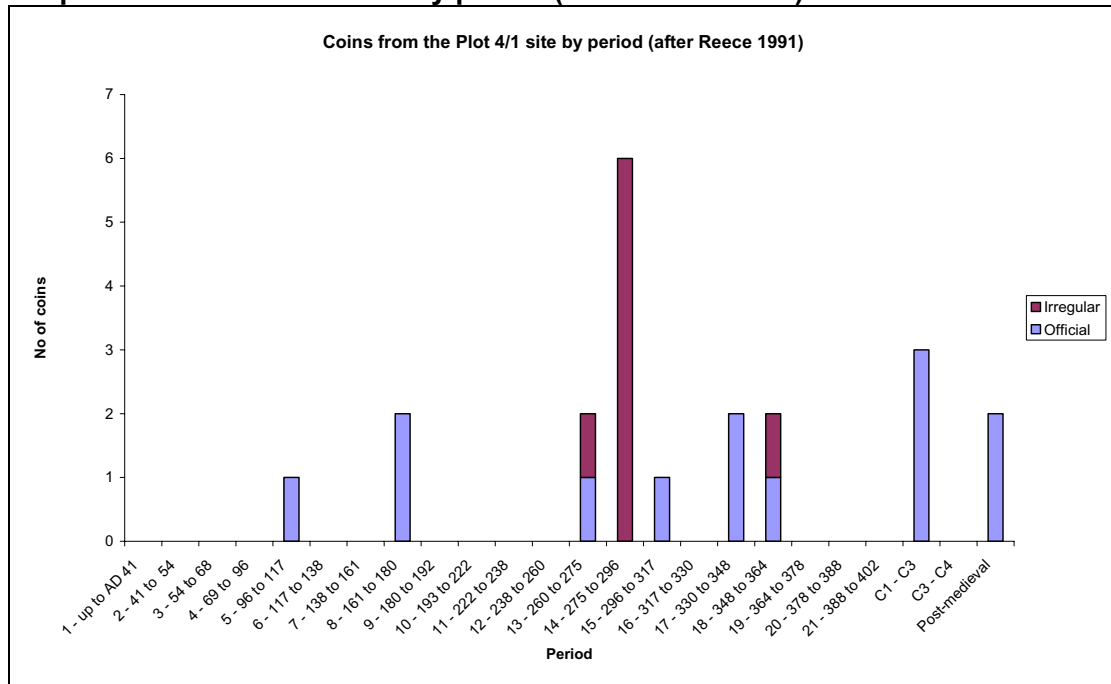
MT01

- 11.8.3 Nineteen Roman coins and two post-medieval/modern tokens were recovered from MT01. All but three of the Roman coins can be dated to period (see **Graph 1**). These three poorly dated coins comprise two *asses* or *dupondii* and an illegible *denarius*, all likely to be dated to the 1st to 3rd centuries AD.
- 11.8.4 The earliest closely dated coins from the site are a heavily worn *sestertius* of Trajan (context **6415** in **group 6452**) and two *asses* of Faustina II (both from topsoil). These, together with the three poorly dated 1st to 3rd century coins, point to activity on the site from the late first century onwards.
- 11.8.5 There are significant periods of coin loss shown in periods 13 and 14 on **Graph 1**. These comprise radiate *antoniniani* of the late 3rd century AD. A large proportion of these are likely to be copies or irregular copies of 'official' coinage. These contemporary copies of 'official' coinage, also known as 'Barbarous Radiates' were probably struck to compensate for gaps in supply of coinage to Britain, supplying sufficient small change for the province's needs. It is unclear whether these copies were officially sanctioned, if at all, but they are common site finds, and seem to have circulated in the same fashion as officially struck coins.
- 11.8.6 The remaining coins all date to the 4th century AD, and include a *Soli Invicto Comiti* issue of Constantine I (topsoil) struck in London, two *Gloria Exercitus*

issues struck by Constantius II between AD 330 and 335 (contexts **6046** and **6372** in **group 6452**), and two period 18 coins – a copy of a ‘Fallen Horseman’ issue (context **6046**) and one struck by Constantius Gallus (context **6372**). The absence of any coins of the House of Valentinian (period 19) from the site clearly suggests that there was little coin use on the site by this period.

- 11.8.7 Two tokens were found unstratified. These comprise a heavily corroded post-medieval token struck on a thin flan and a 19th or early 20th century token for 1½d inscribed Vinson Ruxley. Both were recovered from topsoil.
- 11.8.8 In addition to providing evidence for the longevity of coin use on the site, the coins can also be useful in providing dating evidence, particularly where more than one coin was recovered from a single context. In these cases, it is often possible to assign dates with some confidence, as well as allowing an assessment of likely residuality to be made. On **MT01** more than half of the coins (14 out of 21) were recovered from three contexts.
- 11.8.9 Eight coins were recovered from context **6046**. These range in date from the corroded 1st to 3rd century silver *denarius* to the ‘Fallen horseman’ copy struck between AD 350 – 360, and include five radiate *antoniniani* and a *nummus* of Constantius II. This is an unusual assemblage for a single context, as it contains a wide range of dates. The two latest coins clearly suggest that deposition continued well into the 4th century AD, but neither the silver *denarius* nor the bulk of the *antoniniani* are likely to have been in circulation as late as AD 350. This suggests that either the deposit was formed over a considerable period of time, or that the bulk of the coins from this deposit are residual, and may have been disturbed from an earlier deposit.
- 11.8.10 A similar pattern is evident from context **6372**, from which four coins were recovered. Two of these date to the 4th century AD, while the remaining two coins are both copies of radiate *antoniniani* of the late 3rd century AD, neither of which are likely to have remained in circulation long into the 4th century. Again, the earlier coins must be residual in this context.
- 11.8.11 Two coins were recovered from context **6415** – a radiate *antoninianus* copy of the late 3rd century and a worn *sestertius* of Trajan. Once again, the coin of Trajan is almost certain to be residual in this context.
- 11.8.12 The coins from **MT01** indicate that there was coin use and loss on the site from the late 1st or early 2nd century through to the mid 4th century AD. This activity appears to have declined by the mid 360s AD, as no Valentinianic coins were recovered. Analysis of coin groups from contexts suggests that there is a high level of residuality.

Graph 1: Coins from Plot 4/1 by period (after Reece 1991)

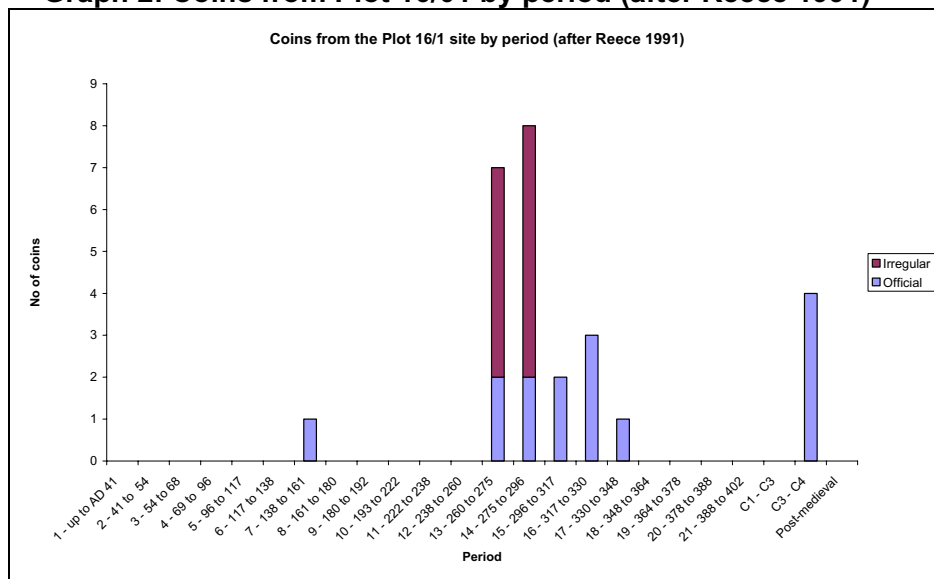


Plot 16/01

11.8.13 Twenty-six coins were recovered from this site. Four of these cannot be dated closely, although their size and shape suggests a date in the 3rd or 4th century AD. The remaining coins are all Roman, and range in date from the late 2nd to mid 4th centuries AD (see **Graph 2**).

11.8.14 The earliest coin recovered from the site is an extremely worn *sestertius* of Antoninus Pius (context **8035** in Room 8). Despite these high levels of wear, this coin is unlikely to have remained in circulation beyond the mid to late 3rd century AD.

Graph 2: Coins from Plot 16/01 by period (after Reece 1991)



- 11.8.15 The main peaks of coin loss on this site were in periods 13 and 14 (**Graph 2**) – comprising the radiate *antoniniani* of the late 3rd century AD. In total, 15 of the 26 coins recovered date to periods 13 or 14. Most of these coins (11 out of 15) are either copies or probable copies. Two of the ‘official’ issues from period 13 still bear traces of having been silvered.
- 11.8.16 Smaller quantities of 4th century AD coins were recovered. These do not correspond to the normal pattern of 4th century coin loss, however, where coins of periods 17 and 19 tend to dominate, but instead comprise small quantities of period 15, 16 and 17 coins.
- 11.8.17 The two period 15 coins are issues of Maximian (minted in AD 302 – 3) and Constantine I (struck in AD 310). Three period 16 coins were found – two struck by Constantine I (both from context 8029) and a third by Crispus (context 8036). The single period 17 coin (context **8099** in well **[8092]**) is a probably copy of an ‘Urbs Roma’ issue of the House of Constantine, minted between AD 330 and 345.
- 11.8.18 A number of contexts on the Plot 16/1 site contain more than one coin (Contexts **8029**, **8030**, **8031**, **8033**, **8035**, **8036** and **8039** all within the building). Context **8029** contained two coins; both are *nummi* struck by Constantine I in AD 319 and 318 – 324 respectively. The close similarity between the dates of these coins strongly suggests that the context in which they were found was contemporaneous. The five coins recovered from context **8030** are also likely to form a contemporary group. These include three probable radiate copies, a corroded coin of 3rd to 4th century AD date and an *antoninianus* of Allectus (AD 293 – 296), the latter suggesting a date late in the 3rd century or very early in the 4th century AD. Two radiate copies and an *antoninianus* of Postumus (AD 259 – 268) were recovered from context **8031**, and suggest a late 3rd century AD date for this context.
- 11.8.19 The two coins from context **8035**, however, do not provide a similar date; here, the context is dated by the follis of Maximian minted in AD 302 – 3, not by the *sestertius* of Antoninus Pius, which is residual. Likewise, two radiate *antoniniani* are also likely to be residual in context **8036**, which is dated by a *nummus* of Crispus minted in AD 319. Only one of the coins in context **8099** in well **[8092]** can be closely dated – a copy of an ‘Urbs Roma’ issue of the House of Constantine, minted between AD 330 and 345. The second can only be dated to the 3rd or 4th century on the basis of its size
- 11.8.20 The pattern of coin loss for Plot 16/1 is unusual. The single early coin hints at coin use on the site as early as the 2nd century AD, whilst the majority of the remaining coins point to activity in the late 3rd and early 4th century AD. The pattern of 4th century coin loss is particularly unusual, with only a single period 17 coin and no period 19 coins recovered. This could indicate that coin use on the site had largely ceased by this time or that the majority of the coins on the site are derived from a dispersed hoard originally deposited in the AD 330s. Further stratigraphic analysis is needed to explore this possibility further.

MT05

- 11.8.21 Four post-medieval coins were recovered from MT05. These comprise a heavily worn half penny of George II, struck between AD 1729 and 1739, and three illegible post-medieval tokens likely to date to the 18th or early 19th

century, all topsoil finds.

11.9 11.9 Metalwork from non-grave contexts

Silver

- 11.9.1 A silver finger ring was recovered from MT01, from a topsoil context. Its date is uncertain, but is likely to be relatively recent.

Copper alloy

- 11.9.2 There are 73 copper alloy objects from non-grave contexts; these came from the evaluation (one object), MT01 (41 objects), MT02 (five objects), plot 16/01 (16 objects), MT05 (seven objects), and miscellaneous watching brief contexts (three objects). Most of the objects (55) were recovered by metal detector from topsoil contexts.
- 11.9.3 At least seven objects are of Romano-British date. These comprise a finger ring, an armlet, a possible intaglio setting, two hairpins, a decorative fitting, and a small cup. Apart from the armlet fragment (topsoil), all these objects came from stratified contexts – the cup formed part of the group from pit/pond **group 6451** at MT01. Both hairpins (one from context **6224**, the other from **8065**), are both complete and can be paralleled within the assemblage from Colchester (Crummy 1983). A decorative fitting from context 8029 is possibly a box clasp, with a rear loop (*ibid.* no. 2223). No detail is visible on either the (incomplete) finger ring, which came from context **8099**, or the possible oval intaglio setting, from context **8036**, both from plot 16/01.
- 11.9.4 A late Saxon strapend from topsoil at MT01 can be paralleled within Thomas's typology (Thomas 2003, class A); cleaning by a conservator will probably reveal more decorative detail which can be used to narrow the typological identification.
- 11.9.5 Twenty-five objects are post-medieval; these comprise two cartridge cases, 11 buttons, a strapend, a rumbler bell, three thimbles, four vessel fragments, two buckles and a lock-plate. All these were topsoil finds.
- 11.9.6 The remaining objects are either unidentifiable, or are miscellaneous scraps and fragments of unknown function.
- ### **Lead**
- 11.9.7 The 29 lead objects from MT01 predominantly consist of scraps and off-cuts of sheet or waste metal fragments. Only one object, part of a possible lead curse of Romano-British date was found in pit/pond **group 6451**. All the other objects were metal-detector finds. These include a reel-shaped, Romano-British pot-mend recovered from the topsoil, similar to examples from Springhead (Schuster forthcoming, type 1); and two perforated tags or labels and a piece of lead shot (diameter 14mm), all of post-medieval date.
- 11.9.8 Two more reel-shaped and one cramp-like (Schuster forthcoming, type 2) pot-mends were also found by the metal-detectorists in the topsoil of Plot 16/01, the Roman villa site. Other items include a stack of at least eight octagonal washers fused onto a short iron rod, a small hemispherical one-ounce weight, a short, slightly curving, tapering rod, and numerous scrap/sheet metal fragments, all of uncertain date.

- 11.9.9 The lead from MT04 consists of a small, cone-shaped half-ounce weight and a sheet metal off-cut, both from the subsoil (**9004**).

Iron

- 11.9.10 Iron from non-grave contexts amounts to 105 objects. The majority of objects came from MT01 (51 objects) and plot 16/01, the villa site (38 objects). Of the total, 61 are nails; there are also seven hobnails. Other identifiable objects comprise a small pair of scissors, a knife (plus two other possible knives), a belt fitting and two handles. The iron objects are in general very badly corroded, and identification for some objects has been only possible through X-radiographs, and even then some objects remain unidentified. Investigative cleaning of a small selection of objects (see below, Storage and Curation) from well stratified context may enable further detail (and hence possible identifications) to be determined.

11.10 Slag

- 11.10.1 Approximately 39.6kg of certain or possible metalworking debris was recovered from all phases of intrusive archaeological work on the Hadlow - Farningham pipeline; other material was recorded during the earlier walkover survey (RSK 2008b). Virtually all of the excavated material derives from iron working.

- 11.10.2 The material was recovered from four principal sites or phases of work: from MT (Mitigation Area) 01, from MT04 (Golden Stable Wood, plot 19/13), from plot 12/3 (pipe dump), and from plot 16 (Roman villa); additional material came from the evaluation and from the watching brief. Four of these sites / phases of work produced very small amounts of material, and only two (MT01 and plot 16) produced any quantity of material which could be considered significant in terms of metalworking activity.

Evaluation trenches

- 11.10.3 Just 140g of debris came from the evaluation trenches, and comprises fuel ash slag (FAS) / clinker and possible smithing slag.

MT01

- 11.10.4 This site produced by far the largest assemblage of debris from the entire route, amounting to approximately 37.4kg. A single fragment of bun-shaped copper (alloy?) ingot weighing 223g was recovered from topsoil, but virtually all of the remainder of the debris can be attributed to iron working.

- 11.10.5 The iron working debris comprises 36.84kg of probable or certain smithing slag and a further 567g of possible smithing slag; there is also 292g of FAS and one notably dense piece of slag that might be part of a furnace bottom (and thus evidence for smelting), though it too most likely derives from smithing. Amongst the material there are a moderate number of complete or fragmentary smithing hearth bottoms (SHBs), the bun-shaped accumulations of slag which accumulated in the base of smithing hearths. The SHBs all came from the seven largest groups of debris: **6047** (3.134kg), **6086** (2.250kg), **6087** (15.795kg), **6090** (5.770kg), **6091** (2.320kg) all in pit **[6084]**, 6144 in ditch **group 6448** (3.316kg) and **6423** in pit **group 6452** (2.241kg), attributed variously to the Late Iron Age and (early) Romano-British periods. These groups of material and most of the remainder came from a variety of ditches and the fills of a large pond-like feature.

MT04

- 11.10.6 The 132g of debris from this site comprises entirely small, naturally-formed concretions of iron-rich material.

Plot 16 Roman Villa

- 11.10.7 Approximately 1kg of debris was collected, from 11 contexts, with almost half coming from a single context layer **8038**. The material comprises almost entirely of certain or possible smithing slag and small quantities of FAS; there are several pieces of very dense material that may be smelting slag, but smithing is considered a more likely source. Such debris is likely to derive either from construction activities associated with the villa and / or from related agricultural activity.

Plot 12 Pipe Dump

- 11.10.8 Only 53g of debris was recovered, all FAS, which may not necessarily derive from metalworking. On this site, where no other evidence for ironworking was found, it is most likely to derive from some other high-temperature process, possibly even an intense domestic fire within the Late Iron Age enclosure.

Watching Brief

- 11.10.9 The 55g of debris from the watching brief comprised entirely small, naturally-formed concretions of iron-rich material.

11.11 Metalwork and other grave goods from the Saxon cemetery (MT02)**Introduction**

- 11.11.1 Metalwork and other finds were recovered from a group of 16 Anglo-Saxon inhumation burials at **Plot 8/03** (Pilgrims Way). Ten graves produced grave goods, and of these nine had assemblages that contained metalwork. The cemetery is close to the village of Wrotham where several groups of Anglo-Saxon graves have previously been encountered. This report describes and discusses the results of a rapid assessment of the cemetery finds.

The quantity of material

- 11.11.2 The assemblage of artefacts considered in this report consists mainly of iron and copper alloy objects (**Tables 10-11**). In total the graves produced 64 objects: 36 are iron and 20 copper alloy. In addition, there are two silver gilt drinking horn mounts, vessels of glass and pottery, a small collection of glass beads, plus a bone comb (**Table 12**).
- 11.11.3 Despite the presence of several fragmentary objects, it has been possible, with varying degrees of certainty, to identify all the artefacts. There are a number of objects that were assigned separate Object Numbers during excavation, but which are now known to form part of a single object (where this is the case it has been noted in the Tables).

Table 10: Iron artefacts by type (number in brackets = quantity)

Iron artefacts		
Object	No.	Types
Sword	3	all long swords
Shield	4	all Type 6
Spear	5	E2 (2), E3, C2, transitional E3/C3 type
Shield board stud	4	
Spear ferrule	3	
Knife	8	Type A (2), Type C (3), unidentified (3), NB: 233/234 (same knife)
Buckle and plate	3	Inc. SF55 (grouped with knife)
Pursemount	1	Triangular shape with curved terminals
Fitting	2	226 (2x), 231 (1x) triangular fitting with copper alloy rivets: ?part of sword scabbard
Nail	2	
Fragment	1	245 (?part of spear/ferrule)
Knife (non-Saxon)	1	

Table 11: Copper alloy artefacts by type

Copper alloy artefacts		
Object	No.	Types
Buckle and plate	6	All small fasteners
Frag. loop	1	
Pin	1	Loop-headed
Pyramidal stud	3	With garnet inlay
Vessel fitting	1	Copper alloy fittings
Rim piece	1	Copper alloy fitting (belongs with other vessel fittings)
Fitting	5	43 & 46 (?scabbard belt), 227-28, 236 (belt set)
Strip	1	237 (part of belt set)
Clip	1	84 (?drinking horn repair)

The provenance of material - Archaeological

11.11.4 The vast majority of the material derived from sealed, discrete graves within a cemetery that has probably only been partially investigated. The limits of the cemetery appear to have been found in the east, and possibly also to the south, but there is a strong possibility that further graves may exist to the north and west of the excavated area. There does not appear to have been any significant disturbance to the graves [7050] and [7077] (may have suffered slight disturbance by animals), and this is supported by the fact that no unstratified grave goods were recovered.

The provenance of material - Cultural provenance

11.11.5 The range of artefacts recovered from this group is typical of an assemblage from a 'late' or final-phase cemetery. Because of the breakdown in regionalisation that occurred in the early 7th century, the majority of the grave goods from this period are not culturally diagnostic. There are,

however, concentrations of certain artefact types in Kent that suggest local production centres, and which give the region a subtle cultural identity. The clearest examples from Farningham are a fragmentary glass claw beaker, and the two silver drinking horn mounts. The former is a type of vessel that is largely restricted to East Kent (Evison 1982), while the Style II decoration on the latter is mainly found adorning wealthy objects that are concentrated in eastern Kent (Speake 1980, 38-9). Several of the spearheads, and the shield bosses, are types that are relatively common in the county, although they do occur in quantities in other areas. Nevertheless they might have been signalling a low level of cultural affiliation.

- 11.11.6 The objects are discussed by type, and where appropriate, by sub-type. The main schemes of artefact classification have been followed. The discussion of the spearheads is based on Swanton's study (1973). The majority of the Farningham pieces have angular blades. Examples of straight-sided angular blades were recovered from three graves. Two specimens belong to Group E2, which has a wide distribution, but records a notable concentration in East Kent; while one is a Group E3, which is a longer blade, but with a similar distribution to the E2 Group. A particularly long weapon was found in grave [7049], which can be classified as a Group H3 spearhead: an angular, but concave-sided blade. This is another widely distributed type, but which is again concentrated in East Kent. The radiograph of this spearhead has revealed a small circular cell (diameter 7mm) in the area of the shoulders (lower blade). It contains a cross, which is very similar to the garnet crosses that are surrounded by quadrants filled with white material, such as found on plated disc brooches (a mainly Kentish type of brooch; Avent 1975). Although Group H3 spearheads are the most likely type to display decoration, it is mainly found at the junction of the socket and blade, and takes the form of inlaid bronze bands (Swanton 1973, 113-114). A decorative motif, in a similar position to the Farningham example, was revealed by a radiograph of a Group G2 spearhead from Holborough (G7). In this case it consists of a rune made up of inlaid wires (Evison 1956, 97-100, plate III a). These two examples might be evidence for a rare, possibly overlooked, and perhaps Kentish, method of decorating such weapons.
- 11.11.7 The final example is a leaf-shaped spearhead (Group C2). This is a widely distributed group, but has a pronounced concentration in the Upper Thames Valley, the Lower Thames and Kent. As a group, leaf-shaped spearheads are the most common type in the region, for example they outnumber all other forms at Springhead and Polhill (Stoodley 2008; Philp 1973). It may be significant that the majority of the spearheads from Farningham have angular-shaped blades, which contrast with the general shape of the weapons from the other West Kent burial grounds.
- 11.11.8 All the shield bosses belong to Dickinson and Härke's Group 6. Although a rare type of boss (Geake 1997, 67), the type is relatively well represented in Kent, with three examples from Holborough (Evison 1956), and four from the East Kent cemetery of Dover Buckland (Evison 1987).
- 11.11.9 One grave produced a pursement with incurving terminals; parallels can be found throughout the country, although they are relatively well represented in Kent, with four examples coming from Polhill (graves 66, 68A, 84 and 85) and three from Springhead (Stoodley 2008). Knife types do not exhibit

regionalization, and the majority of the buckles are small copper alloy loops with plates, which are not diagnostic either. Although the pyramidal studs and drinking horn mounts are elite objects, they are not culturally diagnostic; rather they belong to a social tier that cut across political boundaries.

The chronology of the objects and graves

- 11.11.10 Only a small number of the grave goods can be closely dated, most have to be ascribed a wide date. This is especially the case with the spearheads: although Groups C2 and E2 are found in 7th century contexts, they were also deposited during both the 5th and 6th centuries. Group E3 has a slightly narrower date, being retrieved from graves of the 6th and 7th centuries, while H3 spearheads are mainly confined to the later 5th and 6th centuries.
- 11.11.11 The swords are of the long two-edged (parallel-sided) type, also known as the *spatha*. Current sword typologies are based on the various metal scabbard fittings (Härke 1992, 88-9) and because the Farningham examples lack such accessories, it is impossible to provide them with anything other than a broad 5th to 8th century date.
- 11.11.12 The simple iron and copper alloy buckles were used throughout the 5th to 7th centuries, although the tiny copper alloy examples tend to be concentrated in 7th to early 8th century graves. Knives of Böhner (1958) Type A, although mainly found in the 5th and 6th centuries, have also been found in the 7th, and conversely while Type C knives are generally found in the 7th century, they originated in the preceding century. Two copper alloy and silver fittings derive from a wooden vessel which cannot be closely dated.
- 11.11.13 Only a few pieces of jewellery were recovered. A small copper alloy pin with perforated head is not chronologically diagnostic. Of greater interest are the two beads from grave [7095], because both may be Roman heirlooms; this certainly appears to be the case for the faience blue melon bead, and may also apply to the green cylinder bead.
- 11.11.14 The fragments of the glass claw beaker can be reconstructed to give a probable Evison Type 3 (c) which is a (mid) 6th century type. The bulk of the remaining chronologically diagnostic finds can be comfortably accommodated within the late 6th and 7th century. The shield bosses of Dickinson and Härke Group 6 are dated from the late 6th to the mid 7th century (Dickinson and Härke 1992, 20). The two drinking horn mounts are probably the most chronologically diagnostic objects from the assemblage. The style of zoomorphic interlace that decorates both mounts probably dates to the first half of the 7th century (Høilund Nielsen 1999). Three pyramidal studs were recovered from grave [7010]. Geake (1997, 101-2) states that such fittings seem to have been restricted to the 7th century, particularly its first half, when associated with swords. Finally, the purse-mount with incurving terminals belongs in the mid to later 7th century.
- 11.11.15 The chronologically diagnostic artefacts suggest a wide date, one that certainly covers the 6th and 7th centuries, and may also possibly stretch back as far as the 5th. If actual *assemblages* of grave goods are considered, then the period covered by *the accompanied burials* can be significantly reduced. Certainly there are no 5th century assemblages. Moreover, all the potentially earlier grave goods are associated in graves with objects that are dated to the late 6th to 7th century. It is also significant that there are no objects that

belong to the later 7th and early 8th century, such as Type 7 shield bosses.

11.11.16 A number of weapon burials contain spears with date ranges beginning in the 6th century, or in some cases earlier (see above). Yet all but one of these also contains a Type 6 shield bosses, which indicates a date of deposition in the late 6th or mid 7th century (graves 7010, 7020, 7049 and 7067). In addition, grave [7010] (pyramidal studs) and grave [7067] (drinking horns) had objects that identify these burials as having been deposited in the 7th century, probably its first half. Graves [7010 and 7067] also contained a sword, and Geake (1997, 71) found that the majority of sword burials in her study of Conversion-period burials belonged to the earlier 7th century. Grave [7003] had a sword, but no other weapon, and it may be correct to place the deposition of this burial in the late 6th to earlier part of the 7th century. On the basis of the purse-mount, grave [7020] may be one of latest graves and should be placed in the middle of the 7th century.

11.11.17 Graves [7077 and 7095] contained Type C knives, and a date in the early to mid 6th century cannot be ruled out. A small number of graves do not contain diagnostically late objects, and it is conceivable that some of these were also interred before the late 6th century. For example, grave [7006] which produced a Type E3 spearhead, in addition to an iron buckle with copper alloy/silvered rivets, and grave [7115] with a solitary bead. Taking into account the number of securely datable graves, it is probable that all the interments (including the unaccompanied burials) were made at a roughly similar time, and therefore a date range of about 100 years, from c. 575 to 675 AD for this part of the cemetery can be suggested. This is, however, a conservative estimate and allows for the possibility that several graves, without objects diagnostic of the 7th century, were dug in the late 6th century. The chronology of most the burials centres on the first half of the 7th century, and a narrower period of time, i.e. 600-650 AD, is more realistic.

11.11.18 All of the mortuary structures are intercutting in one way or another, and it should be possible to determine a sequence of relative events from an analysis of the stratigraphic relationships. This will be undertaken during the analysis stage, and it may result in the absolute dates, as ascribed by the grave goods, being strengthened or modified.

The range and variety of materials

11.11.19 The metalwork mainly consists of copper alloy and iron objects, with the latter outnumbering the former (**Tables 10-11**), which is typical for a group of Anglo-Saxon burials. Two silver drinking horn mounts were also recovered, plus a glass vessel, a pottery vessel, three beads, and a bone comb.

11.11.20 Disturbance to the interments appears to have been minimal, and therefore the chance of contamination to an assemblage from intrusive objects is low. The potential for the movement and breakage of copper alloy is also low, especially coupled with the good preservation of this metalwork. The identification and interpretation of these objects, and their role in burial practice, can be described as good. Obviously the iron work is more poorly preserved (see below), and it has suffered greater damage, but a visual inspection of the objects, coupled with the evidence from the radiographs, has allowed the bulk of the assemblage to be identified.

11.11.21 The range of copper alloy objects is dominated by buckles of simple form,

plain loops and loops with rectangular plates, and fittings that were probably associated with belts/straps of one form or another. Although the types of buckles are typical of the period, the proportion of burials with them (n=6: 67% of burials with metalwork, 35% of all burials) is unusually high for a cemetery of this date. For example, 8% of burials at Polhill were accompanied by copper alloy buckles of simple form (Philip 1973, fig. 54), while at Springhead the figure is 9% of all burials.

- 11.11.22 Three pyramidal sword studs were recovered from grave [7010]. This is a very important find because the majority of these objects have been found by metal detector users. Moreover, it is usually only a single example that is found in a grave. Each stud was made from copper alloy; it was then silvered and inlaid with garnets. The detail is clearest on Obj. No. 64, but the other two studs were probably very similar. Each face of the stud displays three interlocking garnet triangles separated by a wide band, which is flanked by a single grooved line. Each stud is hollow, and has a band running across the open base. A garnet may be present in the square setting at the apex of Obj. No. 64, but appears to be missing from the other two studs. A similar pyramidal stud was recovered by a metal detectorist at Headbourne Worthy (Hampshire) (Evans 2004, 84-5).
- 11.11.23 The assemblage contains very little jewellery. Because of changes to the costume, dress fasteners and other pieces of jewellery are much rarer in 7th century graves, but such accessories were found at both Polhill and Springhead. In addition to three beads, the only other piece of jewellery from Farningham is a simple copper alloy pin. This might reflect a lack of females in the excavated sample, or a deliberate decision not to deposit jewellery with the female dead.
- 11.11.24 Compared to copper alloy, there is a greater range of iron objects (**Table 10**), with knives figuring as the most common artefact overall. As can be expected, the iron was in worse condition than the copper alloy, with some of the larger artefacts being in a fragmentary state. The grave fills were thoroughly sampled and it is doubtful whether any objects or fragments were overlooked.
- 11.11.25 Spearheads are the most popular weapon type – a result that can be paralleled throughout 7th century Kent (**Table 9**). But there is also a relatively high proportion of swords and shields: 18% of burials had swords, while 24% were accompanied by shields. For comparison, at Holborough 5% of burials produced swords and 8% had spears and/or shields, while at Polhill no shields or swords were identified, but 12% had spears. Three iron buckles, all with plates, were recovered. Grave [7006] produced an example with a rectangular plate secured by four rivets that had either copper alloy or silvered heads. Further investigative work will be necessary to identify the material.
- 11.11.26 As with all Anglo-Saxon cemeteries, composite weapons, such as shields and spears, are mainly represented by the survival of the metal elements, although fragments of preserved wood should allow the species to be identified. In addition, the swords have evidence of the materials used for their scabbards, especially the example in grave [7067], which will allow the original form of the weapon to be reconstructed. A visual examination of the knives demonstrates that some have retained evidence of the organic

material used for the handle, probably horn, while on others, fragments of the scabbard survive.

11.11.27 Silver artefacts are generally scarce, especially outside East Kent, with the majority being buckles, or small objects. For example, at Springhead three small buckles, a pin and small necklace fittings were retrieved from G4709, while silver fittings and rivets were associated with the scabbard of a knife in G4621. The silver drinking horn mounts from Farningham are therefore a rare and particularly significant find. The mounts are very similar in terms of construction and decoration. Each would have decorated the mouth piece of a drinking horn (remains still attached) and were formed from a silver U-shaped rim held in place by three vertical four-fluted bands, each one being riveted to the vessel at the point where two decorative panels meet, thus giving the impression of a continuous field of decoration. Below the rim are three separate panels decorated by tightly-knit gilt repoussé zoomorphic interlace contained within a cabled border, and under this is a narrow band that is riveted to the remains of the vessel and decorated with four horizontal flutes.

11.11.28 The presence of five fittings in grave [7067] testifies to the existence of a more modest wooden vessel, albeit with silvered copper alloy rim fittings, while the same grave also produced a fragmentary glass claw beaker.

Table 12: Artefacts of other materials

Artefacts of other materials		
<i>Object</i>	<i>No.</i>	<i>Types</i>
Drinking horn rims	2	Silver with gilt
Pottery vessel	1	
Glass vessel	1	Claw beaker ?Type 3C
Comb	1	Bone with iron rivets
Beads	3	Faience blue Roman melon bead; green Roman cylinder bead (Roman cane), and one bead not seen

The condition of material

11.11.29 The copper alloy is generally well preserved with the form of almost all objects immediately identifiable. Overall the assemblage of objects can be described as good.

11.11.30 The silver drinking horn mounts are fragile, but if stored and handled carefully their integrity will be assured. Precious stone settings survive on the pyramidal studs. The studs are robust, and given the correct storage conditions, their long-term wellbeing should not be an issue.

11.11.31 All the iron objects are in poor to very poor condition, and many suffering fragmentation and flaking. However, the radiographs have helped to reveal the types and subtypes of many artefacts e.g. knives, buckles and spearheads, although some have suffered to such an extent that only a tentative assessment of the type, for example knives, can be made. The long-term preservation of the iron is therefore more problematic, but with the correct packaging and close monitoring, their wellbeing should be assured.

The corpus can be described as being in poor condition.

11.11.32 Several complex objects are represented by groups of now disparate artefacts, for example the belt set from grave [7067]. By carefully examining the location of the objects in the graves, and referring to comparanda, it will be possible to reconstruct the original form of such artefacts during the analysis stage.

The existence of primary sources or relevant documentation that may enhance the study of site data

11.11.33 There is no record of any previous finds of Anglo-Saxon date at the site, but a number of separate discoveries of 5th to early 8th century burials have been made in the nearby town of Wrotham. At White Fields (Wrotham I), several graves were disturbed, which produced weapons and jewellery of probable 5th to 6th century date, while at Wrotham II (Bardford Platt) burials were found with objects, of which the sceattas are definitely early 8th century (Meaney 1964, 141-2). In 1939, four graves were excavated near Farningham at Charton Manor Farm, and a pottery urn, knife, spearhead, ?seax and a Group 7 shield boss (*ibid.*, 118), were recovered - the latter indicating a date in the later 7th century for that particular burial. It is unfortunate that so little is known about these sites. Nevertheless, they are important for assessing the local context of the cemetery.

11.11.34 In addition, a number of well-excavated final-phase Kentish cemeteries will provide the regional (West Kent) background against which the significance of Farningham will be assessed. Especially important is Dunton Green, Polhill (Philp 1973; Hawkes 1973), an early 7th to early 8th century cemetery c. 7 km to the south-west of the site. The bulk of this burial ground has been recovered, and it has also benefited from a relatively thorough publication. The burial grounds of Holborough and Springhead will also provide valuable comparanda (**Table 13**).

11.11.35 It is worth noting that Polhill, Holborough and Springhead contained groups of spatially separate graves, and at each site a number of external structures were associated with graves on the south-west edge of the cemetery. Is it possible that at Farningham the external structures were also on the peripheral edge a larger burial ground? This is a key question that will be considered during the analysis stage.

Table 13: Number of weapons in 7th to early 8th century Kentish cemeteries

Cemetery	Axe	Seax	Shield	Spear	Sword
Broadstairs I			3	12	1
Dover Buckland		5	10	26	13
Holborough			3	4	2
Polhill		5		15	
Sarre	1	3	13	25	10
Springhead		7	4	23	4

11.12 Shale

11.12.1 A small fragment from a plain shale armlet of Romano-British type was recovered from context (**8036**) a layer to the west of the building at plot

16/01.

11.13 Human Bone

Introduction

- 11.13.1 Human bone from 21 contexts was subject to assessment. Most of the bone derived from features excavated within the central area of the pipeline route, just to the west of Wrotham.
- 11.13.2 Bone was recovered from 11 of a possible 16 Early Anglo-Saxon inhumation graves. The group probably forms part of a larger cemetery, only the eastern margins of which fell within the area of excavation. One of the graves (**7067**) lay central to barrow **Group 7034**, and two others were surrounded by smaller penannular ditches (**Groups 7065 and 7175; Figure 3**).
- 11.13.3 Cremated bone was recovered from ten contexts including the remains of a minimum of three unurned burials. Other deposit types are of uncertain form but probably include the remains of a further four burials. Most of the cuts also contained pyre debris (**Table 15**). Four deposits were recovered from a small group of features situated c.900m to the south of the Anglo-Saxon cemetery; the rest represent singletons spread along the route between the cemetery and the Late Iron Age enclosure c.2km to the south. No dating evidence was recovered from any of these deposits but they are likely to be later prehistoric.

Methods

- 11.13.4 All the bone was subject to a rapid scan to assess the condition of the bone, demographic data, potential for indices recovery and the presence of pathological lesions. Any deposits comprised entirely of animal bone were separated-out for assessment by the archaeozoologist. All the cremated bone was weighted by context (**Table 15**). Assessments of age and sex were based on standard methodologies (Buikstra and Ubelaker 1994; Scheuer and Black 2000). Grading for preservation of the unburnt bone follows McKinley (2004a, fig 6).

Results

- 11.13.5 A summary of the results is presented in **Tables 14** (unburnt bone) and **12** (cremated bone).
- 11.13.6 Only one inhumation grave had been cut by a later feature, the central section of grave **7040** having been truncated by the insertion of the penannular ditch around grave **7009**. The most north-easterly grave, **7003**, was also substantially shallower than the others within the group (0.08m deep), and had been subject to both plough damage and disturbance during machine stripping of the site. The remaining inhumation graves had all survived to a relatively substantial depth (0.21-0.80m, average 0.44m) and no bone will have been lost as a result of disturbance. The surviving depths of the features containing cremated bone was substantially less than that of the inhumation graves with a range of 0.06-0.24m, average 0.14m.
- 11.13.7 It is possible that bone may have been removed from some deposits as a result of truncation, particularly those of less than 0.10m depth (two features), although there is no direct correlation between the quantity of bone recovered and the depth of the feature.

11.13.8 Bone survival from the inhumation graves is variable, with a range of c. 3-87% skeletal recovery; average c. 54%. The bone is generally in very poor condition; heavily root etched/degraded, low survival of trabecular bone and often extensively fragmented. The condition is consistent with that often seen in remains recovered from graves cut through the chalk where large blocks form part of the backfill and water percolation affected to the detriment of the bone. Some reconstruction will be required to enable measurements to be taken and various skeletal indices to be calculated; though the latter will be limited. The cremated bone is also in relatively poor condition; much of it is slightly worn and chalky in appearance, little trabecular bone was observed in the scan and the bone fragments are generally small. These observations are commensurate with burial in an acidic environment (most were recovered in areas with silty clay or sand geology).

11.13.9 Each of the 11 inhumation graves contained the remains of one individual. The assemblage comprises nine adults, seven males and two females, and two immature individuals of between 3 and 7 years of age. The latter group may be under-represented within the excavated section of the cemetery due to poor bone survival. Four features of a similar size, shape and form to the graves of these young individuals were excavated but no bone was recovered from them. Whilst the poor skeletal recovered from grave **7095** (c. 3%) would lend support to the possibility of these feature representing graves, it is countered by the 72% skeletal recovery from grave **7040**. All the possible empty graves are smaller than the two from which bone was recovered and may, consequently, have held the more fragile remains of younger infants most likely to be lost to the aggressive burial environment. The much greater proportion of male adults compared with females (3:1) may be unrepresentative of the population being served by the cemetery as a whole; the excavated segment clearly forms part of a larger cemetery in which the balance between the sexes may be more equitable.

Table 14: Summary of results from scan of unburnt bone

CONTEXT	CUT	QUANTIFICATION	AGE/SEX	PATHOLOGY	COMMENT
7004	7003 (0.08M)	C. 65%	ADULT C. 21-35 YR. MALE	CARIES	5+ SOME TRABECULAR; HEAVILY FRAG.; FEW INDICES; STAINING RIGHT ANTERIOR PROX. FEMUR & RIGHT 1 ST MTC
7007	7006 (0.21M)	C. 48%	ADULT >45 YR. MALE	CARIES	5+; FRAG., SOME TRABECULAR; FEW INDICES; MOST AXIAL SKELETON GONE
7011	7010 (0.52M)	C. 75%	ADULT C. 23-29 YR. MALE	CORTICAL DEFECT – RIGHT CLAVICLE; MV – WORMIAN BONES	4-5+; SKULL HEAVILY FRAG.; MODERATE TRABECULAR; SOME INDICES; ?MAXILLA MISSING

7017	7009 (0.43M)	49%	ADULT >35 YR. ??FEMALE		5-5+; LITTLE TRABECULAR MOST AXIAL GONE; SKULL PARTIALLY RECONSTRUCT
7021	7020 (0.47M)	C. 47%	ADULT C. 30-50 YR. ??MALE	CARIES; OSTEOMYLITIS? (HEALED) – RIGHT TIBIA; ENTHESOPHYTES - RIB	5-5+ (SKULL BEST; WILL RECONSTRUCT); NO TRABECULAR.
7024	7023 (0.37M)	C. 38%	ADULT C. 40-50 YR. ??FEMALE	CALCULUS; OSTEOARTHRITIS – C1-2	5+; VERY HEAVILY FRAG.; SOME TRABECULAR; FEW INDICES
7050	7049 (0.45M)	C. 69%	ADULT C. 30-45 YR. MALE (VERY LARGE)	CALCULUS (HEAVY); AMTL; CARIES; OSTEOMYLITIS – LEFT TIBIA; PNB – RIGHT FEMUR; OP – C1-2, LUMBAR BODY SURFACE MARGINS; MV – ACETABULAR CREASE	4-5; MODERATE TRABECULAR (LITTLE AXIAL SKELETON); SOME INDICES; FE STAIN LEFT FOREARM
7055	7040 (0.31M)	C. 72%	JUVENILE C. 6-7 YR. ??FEMALE	CARIES (DECIDUOUS); CALCULUS; PNB (EXTENSIVE) – LEFT TIBIA, RIGHT FIBULA, LEFT RADIUS; CRIBRA ORBITALIA	3-4; FRAG. – SKULL SHATTERED, SOME RECONSTRUCTION POSSIBLE; GREEN CU-ALLOY STAINING ANTERIOR RIBS
7068	7067 (0.80M)	C. 47%	ADULT C. 18-25 YR. MALE	CALCULUS	5+, EXCEPT SKULL (LEFT LOWER GONE) 2-3; MINIMAL TRABECULAR & AXIAL SKELETON
7078	7077 (0.40M)	C. 87%	ADULT C. 45-55 YR. MALE	CALCULUS; OP – RIGHT DISTAL TIBIA, RIGHT PROX. ULNA, C1-2; DDD – LUMBAR	2-4; HEAVILY FRAG. (MANY FRESH BREAKS) RECONSTRUCTION NEEDED, MOST MAJOR INDICES; CU-ALLOYS STAINING RIGHT ILIUM
7096	7095 (0.46M)	C. 3% S.	INFANT C. 3-5 YR.		5+ (WILL NEED TO CLEAN TEETH)

KEY: aml - *ante mortem* tooth loss; pnb - periosteal new bone; ddd - degenerative disc disease; mv - morphological variation

11.13.10 A minimum of four, possibly seven individuals is represented within the cremated bone assemblage; one immature individual and three adults (two possibly male).

11.13.11 No pathological lesions were observed in the cremated remains. A variety of lesions were observed in nine of the individuals from the inhumation graves

including the juvenile (**7055**; **Table 14**). The commonly observed dental lesions were fairly minimal in this assemblage suggesting the population enjoyed a beneficial high-protein diet. The extreme paucity of evidence for conditions indicative of childhood dietary deficiency, and the generally large size and skeletal robusticity of both male and female adults, lends further support to this suggestion. The lack of evidence for joint disease will undoubtedly be, at least in part, due to the dearth of trabecular bone, but even where the latter does survive there is limited indication of degenerative changes.

11.13.12 Evidence for infection was more widespread with two adult males having evidence for healed osteomyelitis in a tibia shaft (possibly as a result of trauma?). Thick woven periosteal new bone seen in several of the bones of the juvenile (**7055**) show that the child was suffering from a chronic infection at the time of her death; the spread of such an infection to the vital soft tissues may indeed have caused it.

11.13.13 Despite the poor condition of much of the unburnt bone and the limits this will place on the calculation of indices and stature estimations, many of the adult males were clearly very large and robust in build, with strongly marked masculine features. The supra-orbital ridges were very pronounced in several cases, the large mandibles showing markedly flared gonions, and in one case (**7068**) the size of the nasal spines and shape of the glabella region indicated the individual had a very large nose, whilst **7050** had unusually prominent cheek bones. Many of these individuals would have been very distinctive in appearance.

11.13.14 The nature of some of the cremation-related deposits is currently uncertain. At least three represent the remains of unurned burials, as may a further four but alternative interpretations need to be investigated. No bone was recovered from the partial Middle Bronze Age vessel excavated from pit **[7127]** at MT02, which had a charcoal-rich fill, but this has some similarities with ritual deposits - sometimes associated with cremation cemeteries - observed from a growing number of Bronze Age sites (Dinwiddy and McKinley 2009).

Table 15: Summary of result from scan of cremated bone

CONTEXT	CUT	DEPOSIT TYPE	BONE WEIGHT	AGE/SEX	COMMENT
5382	5374 (1.24M)	REDEP. ?RPD	13.3G	SUBADULT/ADULT >13 YR.	LITTLE TRABECULAR BONE; BURNT MATERIAL EDGE DITCH TERMINAL
20015	20014 (0.13M)	UN. BURIAL + RPD	317.9G	ADULT >18 YR.	5 BAGS; CONC. NE; SOME BLACK INNER; SLIGHTLY WORN & CHALKY; LITTLE/NO TRABECULAR; FILL CHARCOAL RICH, ABUNDANT BURNT FLINT

20028	20027 (0.14M)	?UN. BURIAL + RPD	39.2G	JUVENILE/SUBADULT C. 5-15 YR.	3 BAGS; CONC. S. HALF; SOME BLACK INNER; SLIGHTLY WORN & CHALKY; LITTLE/NO TRABECULAR CHARCOAL & BURNT FLINT IN FILL
20030	20029 (0.06M)	?UN.BURIAL + RPD	26.4G	SUBADULT/ADULT	5 BAGS; CONC. N.; SLIGHTLY WORN & CHALKY; LITTLE/NO TRABECULAR; CHARCOAL & BURNT FLINT IN FILL
20032	20031 (0.11M)	?UN. BURIAL	26.4G	SUBADULT/ADULT	5 BAGS; CONC. E.; WORN & CHALKY, NO TRABECULAR; ?ROTTED WOOD/CHARCOAL, ABUNDANT BURNT FLINT IN FILL
20034	20033 (0.20M)	? UN. BURIAL + RPD	60.9G	SUBADULT/ADULT	5 BAGS; CONC. S.; CHARCOAL STAINED; SLIGHTLY WORN & CHALKY; LITTLE/NO TRABECULAR BONE CHARCOAL-RICH, ABUNDANT BURNT FLINT; BADLY DISTURBED IN MACHINING
20036	20035 (0.24M)	UN. BURIAL	339.1G	ADULT ??MALE	6 BAGS, CONC. S HALF; CHARCOAL STAINED; VERY SLIGHTLY WORN, SOME TRABECULAR
20073	20072 (0.15M)	CRD	9.3	SUBADULT/ADULT >16 YR.	4 BAGS; CONC. SW LOWER 0.04M DEPTH
20074	20072	?RPD	10.4G	SUBADULT/ADULT	4 BAGS; UPPER CHARCOAL RICH FILL; EXCAVATORS COMMENT RE. CENTRAL CONC. BONE UNRELIABLE SINCE ALSO NOTED LITTLE BONE IN LOWER LEVEL & IS ACTUALLY SAME AS HERE.
20079	20080 (0.08M)	UN. BURIAL + RPD	451.4G	ADULT >18 YR. ??MALE	4 BAGS; SCARCE NW, ?CONC. E; SLIGHTLY WORN & CHALKY FEW BLACK/GREY, LITTLE TRABECULAR; CHARCOAL RICH FILL WITH BURNT FLINT

KEY: un. - unurned; rpd - redeposited pyre debris; crd - cremation-related deposit

11.14 Animal Bone

Introduction and methods

11.14.1 The assemblage from the Farningham to Hadlow pipeline consists of 927 hand collected mammal and bird bone fragments. Conjoining fragments that were demonstrably from the same bone were counted as one bone in order to minimise distortion, and therefore specimen counts (NISP) given here may differ from the absolute raw fragment counts in **Table 16**. There may also be some discrepancies when bone is fragile and may fragment further

after initial quantification. (Partial) skeletons were given a count of 1. On the basis of associated finds, the material is mainly Late Iron Age/Roman or Saxon in date with small quantities of material dating to the Bronze Age. The bones have been grouped according to mitigation area (MT).

Table 16: Identified animal bone fragments (NISP) per MT and period

Period	n	NISP	Horse	Cattle	Sheep/Goat	Pig	Dog	Deer	Bird	Other
MT 01										
LBA	1	-								
IA	9	2	1	1						
LIA	7	2		2						
LIA/ER	118	37		27	8	1			1	
Roman	208	67	4	45	6	9	1	1		1
Saxon	240	124		73	19	28			4	
?	132	44	2	28	7	5	1			1
MT 02										
MBA	1	-								
LBA/EIA	1	1		1						
IA	4	-								
?	3	2		2						
Plot 16/01 (Villa)										
Roman	174	58	1	38	6	5		8		
Plot 12/08 Pipe dump										
LIA	1	-								
Roman	1	-								
Saxon	1	1		1						
Watching brief										
Saxon	1	-								
?	25	4		4						

11.14.2 The potential of the assemblage to provide information about husbandry patterns, population structures and consumption practices was ascertained from the number of bones that could give information on the age and sex of animals, butchery, burning and breakage patterns. The number of bones that could provide metrical information was also counted.

11.14.3 No fragments were recorded as 'medium mammal' or 'large mammal'; these were instead consigned to the unidentified category.

11.14.4 The extent of mechanical or chemical attrition to the bone surface was recorded, and the numbers of gnawed bone were also noted. Marks from chopping, sawing, knife cuts and fractures made when the bone was fresh .

Condition and preservation

11.14.5 The overall condition of the bones is fair with a number of contexts in poor condition (**Table 17**). The presence of canid gnawing marks indicates that bone waste was accessible or fed to dogs. This means that the assemblage is biased towards the larger bones of larger animals. The butchery marks show that at least part of the material consists of butchery and kitchen waste. Burnt fragments might derive from burning waste or cooking practices.

Table 17: Animal bone taphonomy (n)

Area	n	NISP	Condition	Gnawing	Burning	Loose teeth	Butchery
MT 01	715	277	Fair	13	7	20	4
MT 02	9	3	Very poor	-	-	-	-
MT 03 (Villa)	174	58	Fair	5	1	6	2
Pipe Dump	3	1	Poor	-	1	1	-
Watching brief	26	4	Poor	-	-	-	-

Species proportions

- 11.14.6 All assemblages are dominated by cattle (**Table 16**). Small proportions of sheep/goat, pig and horse complement the livestock. The remains of dog, cat, deer and bird were also found.
- 11.14.7 The deer remains consist mainly of antler (contexts **6405** in **group 6434** at **MT01, 8028** in Room 1, **8029** in Room 2, **8031** in Room 4 and wall **8038** at the building in **Plot 16/01**) and to a lesser extent bone fragments (contexts **8031** and layer **8190** within the building at **Plot 16/01**). The deer antler could have been collected, but the bone fragments prove that deer were occasionally hunted.
- 11.14.8 Context **6121** in **group 6440** contained the complete skeleton of a cat, and context **6070** contained the partial skeleton of a pig, while a heavily fragmented horse skull was found in context **6081** in pit **[6084]** all at **MT01**.
- 11.14.9 None of the species present are unusual for the periods. It is equally common to find complete animal skeletons in settlement contexts.

Population characteristics

- 11.14.10 Quite a high proportion of the identifiable bones from MT 1 can inform on the age at death of the animal and a small proportion can inform on the phenotype of the animal (**Table 18**). The assemblages contained bones from both juvenile and adult animals.

Table 18: Animal bone potential population characteristics (NISP).

Area	NISP	Measureable	Ageable
MT 01	277	11	55
MT 02	3	-	-
MT 03 (Villa)	58	1	13
Pipe Dump	1	-	-
Watching brief	4	1	1

- 11.14.11 A Saxon cattle rib from context **6126** in **group 6440** showed signs of a healed fracture. Broken ribs in cattle occur when they butt each other, when they slip and fall or when a human care taker has been too forceful.

Butchery

- 11.14.12 Only a small proportion of bones showed signs of butchery (**Table 17**). Butchery marks were made by knives and cleavers. The assemblages were not characterised by a particular type of waste, with elements from all parts of the skeleton present. It thus seems that complete carcasses were

processed at the sites.

12 ENVIRONMENTAL ASSESSMENT

12.1 Introduction

12.1.1 150 bulk samples were taken from a range of features from ten areas along the pipeline and were processed for the recovery and assessment of charred plant remains and wood charcoals.

12.1.2 Four mollusc samples were taken from the Saxon mortuary enclosure **Group 7034** in **MT02**.

12.1.3 The bulk samples break down into the following phase groups:

Table: 19 Sample provenance summary

Phase	MT01	MT02	MT05	Plot 10/01	Plot 11/01	Plot 12/07	Plot 12/08	Plot 16/01	Plot 18/01	Plot 19/13	Total
LBA	-	-	-	-	-	-	1	-	-	-	1
Late Prehistoric	-	-	-	2	-	-	-	-	-	-	2
?Late Prehistoric	-	-	-	9	25	8	-	-	-	-	42
LIA	3	-	-	-	-	-	-	-	-	-	3
LIA/RB	-	-	-	-	-	-	22	-	-	-	22
RB	40	-	-	-	-	-	-	13	-	-	53
Saxon	-	19	-	-	-	-	-	-	-	-	19
Undated	-	-	1	-	-	-	-	-	-	-	1
?Modern	-	-	-	-	-	-	-	-	5	2	7
Totals	43	19	1	11	25	8	23	13	5	2	150

12.2 Charred Plant Remains

12.2.1 Bulk samples were processed by standard flotation methods; the flot retained on a 0.5 mm mesh, residues fractionated into 5.6 mm, 2mm and 1mm fractions and dried. The coarse fractions (>5.6 mm) were sorted, weighed and discarded. Flots were scanned under a x10 – x40 stereobinocular microscope and the presence of charred remains quantified (**Table 19**) to record the preservation and nature of the charred plant and wood charcoal remains. Preliminary identifications of dominant or important taxa are noted below, following the nomenclature of Stace (1997).

12.2.2 The flots varied in size and contained high to low numbers of roots and modern seeds that may be indicative of the degree of contamination by later intrusive elements. Charred material comprised varying degrees of preservation.

MT01

12.2.3 High numbers of charred cereal remains and weed seeds were recovered from enclosure ditch **Group 6435** and pit **[6011]** of Late Iron Age date. The cereal remains consisted of grain fragments of hulled wheat, emmer or spelt (*Triticum dicoccum/spelta*), and barley (*Hordeum vulgare*). The weed seeds included those of oat/brome grass (*Avena/Bromus* spp.), vetches/wild peas (*Vicia/Lathyrus* spp.), knotgrass (Polygonaceae), mallow (*Malva* spp.), brassicas (Brassicaceae), clover/medick (*Trifolium/Medicago* spp.),

scentless mayweed (*Tripleurospermum inodorum*), poa grass (Poaceae) and goosefoot (*Chenopodium* spp.).

- 12.2.4 All four samples from Romano-British ditches produced charred cereal remains, in particular those from ditch **Group 6436**. These cereal remains comprised grain and glume fragments of hulled wheat, and barley grain fragments. Fragments of hazelnut (*Corylus avellana*) shell were observed in a number of the ditches. The weed seed assemblage included seeds of knotgrass, clover/medick, buttercup (*Ranunculus* spp), ribwort plantain (*Plantago lanceolata*) and oats/brome grass.
- 12.2.5 Large quantities of charred cereal remains, again of both hulled wheat and barley grain fragments, were observed in the majority of the samples from kiln **Group 6110**. A few oat awns were also observed in this feature group as were hazelnut shell fragments in five of the samples. Large numbers of weed seeds were recorded, in particular from **[6078]** in **Group 6110**. The range of weed seeds was similar to those observed in the Late Iron Age samples and those from the Romano-British ditches but also included seeds of nipplewort (*Lapsana communis*), cleavers (*Galium* spp.), rye-grass/fescue (*Lolium/Festuca* spp.) and stinking mayweed (*Anthemis cotula*).
- 12.2.6 Eight of the 24 samples from pits and postholes of Romano-British date contained high numbers of charred cereal remains. These were mainly fragments of grains and chaff of hulled wheat and barley, but possible grains of free-threshing wheat (*Triticum aestivum/turgidum* type) were present in pits **[6122]** and **[6147]**. Fragments of hazelnut shell were recovered from nine of the samples and of sloe (*Prunus spinosa*) stones from two features. Large quantities of weed seeds were recorded in three features, pits **[6122]** and **[6147]** and posthole **[6380]**. The species range is similar to those observed from other features in MT01 but also included seeds of Celtic beans (*Vicia faba*), flax (*Linum usitatissimum*), sedge (*Carex* spp.) and stitchwort (*Stellaria* spp.).

MT02

- 12.2.7 Unsurprisingly very few charred plant remains were recovered from the 19 samples from the Saxon grave features in **MT02**. These plant remains included a few indeterminate grain fragments from ditch **[7131]**, part of mortuary enclosure **Group 7034**, and from barrow gully **[7018]** in **Group 7065**.

MT05

- 12.2.8 No charred plant remains were recorded from the undated hearth **[9006]**.

Plot 03/08

- 12.2.9 A few seeds of vetch/wild pea were observed from the Late Prehistoric cremation related deposit **[20009]**.

Plot 10/01

- 12.2.10 The possible Late Prehistoric cremation related deposits **[20014]** and **[20080]** contained a few seeds of hawthorn (*Crataegus monogyna*), goosefoots and vetch/wild peas. Whereas the samples from the Late Prehistoric pits **[7127]** and **[20018]** produced small amounts of cereal remains, including grains and glume fragments of hulled wheat and barley,

and a few hazelnut shell fragments and seeds of hawthorn.

Plot 11/01

- 12.2.11 25 samples were taken from six potential Late prehistoric cremation related features. Very few charred plant remains were recorded from these features. These comprised a few indeterminate grain fragments and seeds of *Poa annua* type grass from [20031], seeds of vetch/wild pea from [20029], a few tubers of onion couch grass (*Arrhenatherum elatius* ssp *bulbosus*) from [20031] and [20033], a few hazelnut shell fragments from [20035] and a few oat/brome grass seeds from [20037].

Plot 12/07

- 12.2.12 The cremation related feature [20072] of potential Late Prehistoric date contained a few indeterminate grain fragments and seeds of hawthorn, plantain and vetch/wild peas together with fragments of sloe stones and onion couch grass tubers.

Plot 12/08

- 12.2.13 Very few charred remains were recovered from Late Bronze age pit [5387]. These included indeterminate grain fragments, seeds of brassica and hazelnut shell fragments.

- 12.2.14 Low to moderate quantities of cereal remains were observed in the Late Iron age/Early Romano-British ditch samples. These were mainly grain and chaff fragments of hulled wheat, including a few remains of probable emmer wheat (*Triticum dicoccum*). The moderate weed seed assemblage was similar to those recovered from MT01. Higher numbers of cereal remains were recovered from the Late Iron Age/Early Romano-British pits, in particular pits [5215, 5242, and 5340]. These included remains of barley and hulled wheat, with the probable presence of both spelt and emmer. Large numbers of weed seeds, of similar species to those observed within the ditch samples were also recorded in these three pits.

Plot 16/01

- 12.2.15 The Romano-British kiln/ovens [8109] and [8160] contained large quantities of cereal remains, mainly those of hulled wheat. Charred weed seeds and hazelnut shell fragments were generally present in small amounts, with the exception of the bigger assemblage from [8160].

Plot 18/01

- 12.2.16 A few barley grain fragments and probable modern seeds of goosefoot were recovered from pit [20059]. No other charred plant remains were observed in these five possibly modern pits.

Plot 19/13

- 12.2.17 No charred plant remains were retrieved from the two possible modern hearths.

Summary

- 12.2.18 Good charred plant remain assemblages were mainly recorded in the Late Iron Age and Romano-British features. The cereal remains were mainly those of hulled wheat and barley, typical of assemblages of this period. The probable presence of emmer, although it is considered to be a species which is generally replaced by spelt during the Late Bronze Age into the Iron Age in most of Southern Britain, is comparable with other sites in

Kent where emmer has been recovered from these later features such as at West Malling (Stevens 2009). The weed seeds are generally typical of those favouring disturbed and cultivated ground and field margins. These are comparable with material recovered from other sites in the area like West Malling (Stevens 2009, 41-47), Queen Elizabeth's Square Maidstone (Pelling 2004) and Thurnham Roman Villa (Smith and Davis 2009).

12.3 Wood Charcoal

12.3.1 Wood charcoal was noted from the flots of the bulk samples and is recorded in **Appendix 2**. The wood charcoal was mainly mature wood fragments.

MT01

12.3.2 Large quantities of wood charcoal were retrieved from a number of the Romano-British features, including ditch **Group 6436**, kiln **Group 6110**, pits **[6084, 6122, 6366]** and pit **Group 6414** and posthole **[6380]**.

MT02

12.3.3 Very little charcoal was recovered from the Saxon features in this area.

MT05

12.3.4 Large quantities of wood charcoal were observed from the undated hearth **[9006]**.

Plot 3/08 and Plot 10/01

12.3.5 Only small amounts of charcoal were recorded in these possible Late Prehistoric features.

Plot 11/01 and 12/07

12.3.6 The possible Late Prehistoric cremation related deposits from Plot 11/01 mainly produced small numbers of charcoal fragments, with features **[20029]** and **20035]** containing the most charcoal, whereas moderate quantities of charcoal were recovered from feature **[20072]** in Plot 12/07

Plot 12/08

12.3.7 A number of the Late Iron Age/Early Romano-British features produced abundant charcoal fragments, including ditch **[5010]**, ditch **group 5409** and pit **[5215]**.

Plot 16/01

12.3.8 Large quantities of charcoal were retrieved from the Romano-British pits **[8115]** and **8119]** and well **[8092]**. Only small numbers of pieces were recovered from the kiln/ovens **[8109]** and **8160]**.

Plot 18/01 and Plot 19/13

12.3.9 The possible modern pits and hearths all contained large amounts of wood charcoal.

12.4 Land and fresh/brackish water molluscs

12.4.1 Four samples of 1500g from mortuary enclosure **Group 7034** were processed by standard methods (Evans 1972) for land snails. The flots (0.5mm) were rapidly assessed by scanning under a x 10 – x 40 stereo-binocular microscope to provide some information about shell

preservation and species representation. The numbers of shells and the presence of taxonomic groups were quantified (**Appendix 3**). Nomenclature is according to Kerney (1999).

- 12.4.2 High shell numbers with good species diversity were recovered from these samples. The mollusc assemblages appear to be indicative of the presence of shady niche habitats, such as areas of long grass, within and nearby the ditch in an open wider landscape. There are small differences in composition between the assemblages from the four ditch sections.

13 STATEMENT OF POTENTIAL AND UPDATED PROJECT DESIGN

13.1 Archaeological Deposits

- 13.1.1 The majority of the mitigation areas produced archaeological remains (although **MT03/04 & 5** produced only a single potential modern hearth). A number of natural and modern features, tree throw hollows and geophysical anomalies were also sample excavated across the length of the Route.

MT01

- 13.1.2 The excavation at **MT01** revealed evidence of Late Iron Age/Romano-British settlement in the form of an enclosure with internal and external features comprising ditches, pits, a pond/pit, palaeochannel and postholes. The context of the results should be considered further in light of the known Romano-British archaeological remains (including a villa) to the north. The site has the potential to contribute to the study of the development of the landscape of the Late Iron Age and Romano-British periods.

MT02

- 13.1.3 The excavation at **MT02** revealed a small Anglo-Saxon cemetery with sixteen graves three of which were wealthy burials contained within barrows. Radio carbon and isotope analysis of the inhumations will allow a correlation with the assessed date of the grave goods and will confirm the origin of the individuals which exhibited distinct appearances. The site and grave goods will be put into a wider local, regional and national context with focus upon the known Saxon estates in this area of Kent. The cremation burials to the south of the area will be radio carbon dated and also put into a local and regional context.

MT03, 4 & 5

- 13.1.4 Only a single undated and likely post-medieval hearth was revealed within these areas and it is proposed to omit the areas from the publication.

Plot 12/8 The Pipe Dump

- 13.1.5 The excavation at the Pipe Dump in **Plot 12/08** revealed archaeological remains dated to the Late Bronze Age, Late Iron Age/Early Romano-British in the form of a D-shaped enclosure with internal features comprising ditches, pits and postholes; and a single ditch dated to the Saxon period. It is proposed to consider the significance of the enclosure and other archaeological remains within a wider Late Iron Age landscape.

Plot 16/01 Romano-British Villa and associated features

- 13.1.6 The excavation at **Plot 16/01** revealed remains of Romano-British date comprising a stone built building interpreted as a small villa with internal rooms, ditches, pits, postholes and a well. It is proposed to

place the building and associated features in local context with focus on the relationship with other known Romano-British villas and Romano-British landscape in the Plaxtol area.

13.2 Artefacts - Prehistoric

13.2.1 Artefactual evidence for the prehistoric period is relatively limited, and is indicative of sporadic activity at various sites.

13.2.2 The occurrence of Mesolithic flintwork, possibly *in situ*, in the palaeochannel at MT01 is of interest. The condition and provenance of this assemblage suggests the presence of a much larger and relatively undisturbed scatter, potentially a campsite beside a watercourse. Although not unknown, earlier Mesolithic sites are scarce in Kent, and this material is therefore of some significance.

13.2.3 The later prehistoric period (Middle Bronze Age to Middle Iron Age) is represented by a small amount of pottery and worked flint. A number of urned and unurned cremation burials revealed during the watching brief may also belong to this phase. A partial Middle Bronze Age vessel from MT02 was apparently not used as a cremation vessel, but has the appearance of a deliberate deposit of a type increasingly encountered on other Middle and Late Bronze Age sites.

13.2.4 Currently the date of the cremation-related deposits is unknown and without this information they cannot be set in their local and regional temporal context. Singletons (lone burials) and small groups of burial remains are a common feature of the prehistoric landscape and are likely to have been made in a liminal area but close to the settlement from which the individuals derived. Radiocarbon dating of a sample of the burial remains will allow them to be placed within their chronological as well as their physical setting. Similarly, the form and nature of the cremation-related deposits will be considered in their regional and national contexts.

13.3 Artefacts - Late Iron Age and Romano-British

13.3.1 Extensive Late Iron Age and Romano-British activity was revealed at **MT01**, **Plots 12/03** and **16/01**, and significant assemblages of pottery, ceramic building material, fired clay, coins and metalwork were recovered. These represent settlement debris, with hints of possible industrial activity in the form of an enigmatic feature at **MT01**, filled with fired clay.

13.3.2 Chronological evidence is provided by the pottery, coins, and some metal objects; these have already informed the preliminary site phasing, and this is unlikely to change significantly, although some refinement may be possible. Ceramic loomweights and quernstones, and a few metal objects, provide some limited functional evidence, while the ceramic building material and nails indicate structural components. Local and regional contacts are implied by the presence of vessel glass, pottery ware types, shale and quernstones).

13.3.3 Further analysis of selected material types, combined with data gathered as part of this assessment phase, will inform discussion of the nature of the individual sites, but will also highlight inter-site variations, either chronologically or functionally based, and may allow comment

on the relative status of sites within the local settlement hierarchy.

13.4 Anglo-Saxon

- 13.4.1 The interest within this period lies in the small cemetery revealed at **MT02**, with an assemblage of grave goods. Overall the quality of the metalwork recovered from the cemetery varies according to material, but the brief typological analysis has demonstrated that it is possible to identify the type and subtype of most of the grave goods. The potential to ascribe most artefacts to an established type series, and to cite well-provenanced and dated parallels, is very good. It is therefore possible to pose and answer, with some degree of accuracy, a number of key questions. The period that the excavated part of the cemetery was in use, and the date of most burials, can be ascertained. Questions about cultural identification and association can also be considered. Because of a lack of regionally-specific types, however, it is much harder to recognize patterning in the archaeological record of the 7th century, compared to the later 5th and 6th (Geake 1997, 125). The region of West Kent loses the Saxon identity that had been expressed through certain brooch types during the migration period, and which clearly differentiated it from East Kent.
- 13.4.2 Farningham has produced several artefacts that appear to be concentrated in Kent, and which demonstrate that a low level of cultural awareness may still have been signalled. But it is one that was found throughout the county of Kent, and may be explained by the political changes that occur during the 7th century. A more detailed enquiry into the chronology and distribution of these objects will help to determine the extent to which this community was integrated into the region.
- 13.4.3 The potential exists to make inferences about the manufacturing techniques used in the construction and decoration of artefacts. For the bulk of the objects this can be determined by a visual analysis, e.g. the buckles, but for complex composite artefacts, such as the pyramidal studs and drinking horn mounts, more detailed investigative action is required.
- 13.4.4 The majority of the iron work was forged, and the radiographs of the swords, spearheads and knives have provided an insight into manufacturing processes. Information about the scabbards associated with the swords and knives has also been gleaned from both the x-rays and a visual examination of the objects. The three swords have mineralised scabbard remains, and in the case of one (Obj. No. 223) they are extensive. Three of the knives also have mineralised scabbard remains. The organic material preserved on the tangs of several knives will reveal what material was used for their handles. Mineralised wood, preserved within the sockets of several spearheads, will require analysing to facilitate the identification of species and thus aid reconstruction. Finally, mineralized wood adheres to two shield bosses and associated fittings. The analysis of this evidence, in addition to the spatial relationship of the metal fittings to the boss, e.g. Grave **[7010]**, will help to reveal the original form of these composite artefacts, in addition to how they were manufactured. In addition, traces of mineral-preserved material preserved by iron corrosion on several artefacts, will contribute to an understanding of the organic objects that the metalwork was in association with. Mineralised textiles will provide insights into the manufacture and technology associated with the production of costume/soft furnishings, for

example on Obj. No. 68 (knife) and Obj. Nos. 77 and 81 (buckles).

- 13.4.5 Overall it will be possible to gain additional information about the original shape and structure of a number of the artefacts, and insights into techniques of construction and the materials involved. On the basis of this information Farningham should be evaluated against the wider Kentish dataset.

New research questions resulting from the data collection

- 13.4.6 An overall assessment of the nature of grave good deposition can be undertaken. The lack of any significant disturbance will allow an accurate distributional analysis of the location of the objects in the grave. The relatively large number of weapon burials, and the multiple weapon types that were deposited, will provide important information about the furnishing of such graves, and how it compares to the evidence from other Kentish cemeteries.
- 13.4.7 Together with the evidence from the metalwork, and the wider aspects of the burial rite, and taking into account what information can be acquired about the layout of the burial ground, there is the potential to make important inferences about the community interred at Pilgrims Way. It is quite clear that the burials contain a range of wealth, which probably reflects vertical status divisions. Variations in the composition of weapon assemblages may reflect different ranks within the 'male' population. Particularly noteworthy is Grave [7067], a weapon burial with the full warrior's ensemble (sword, shield and spear), plus a range of vessels of various materials. This individual (or their family), had access to objects and precious materials that were not available to everyone in this community.
- 13.4.8 The metalwork can be analysed against the sex and age of the interred to provide additional information about how aspects of horizontal status were structured (Stoodley 1999, 2000). The sample can be compared to similar studies already undertaken for other Kentish Anglo-Saxon cemeteries (Richardson 2005, 210-48; Stoodley 1999). The relatively high proportion of weapons, coupled with the dearth of jewellery, suggests that was not a community cemetery. It appears to have served a group which had a particularly martial, male-based, character, perhaps a war band. The analysis of the skeletal material should confirm if this is the case. It is possible, however, that graves of women and children remain in the unexcavated portion of the cemetery. For example, at Polhill a number of weapon burials were concentrated on the south-west edge of the burial ground (Stoodley 1999, 128). There may also be potential to examine for trauma, stress and other indications of lifestyle which, when analysed against the metalwork, may provide a deeper understanding of status differentials and how they were expressed materially.
- 13.4.9 During analysis some artefacts that are fragmentary, will be reconstructed e.g. the glass claw beaker. The analysis programme however will also consider examples that are now represented by separate objects, but which at one time were combined to form single artefacts. For example, Obj. Nos. 227-228 and 236 were once probably part of an elaborate belt set. Identifications will be made on the basis of similarities to artefacts of a known form, and in order to achieve this, it will be necessary to consult a wider corpus of material than has been possible in the confines of this

assessment.

- 13.4.10 Evidence for the wider aspects of the burial rite was recovered, and the metalwork can be examined against this data to deepen knowledge about burial practice. The number and types of grave goods can be examined against the position or alignment of the burial to see if these variants are linked to the deposition of wealth. The presence of a grave structure can also be examined against the metalwork to identify whether there is any correlation which might reflect social differentiation. For example, the coffin that enclosed skeleton **(7068)** in Grave **[7067]**, and the external structure, indicates a considerable investment of resources, which is in keeping with the quality and quantity of the portable wealth that had been deposited.

The potential value of the data-collection to local, regional and national research priorities

- 13.4.11 The corpus contains a number of artefacts that are of significance to national research questions: the silver drinking horn mounts, because of their rarity, but also because of their context. Such vessels are usually discovered in graves of exceptional wealth, i.e. the tier of princely burials, for example at Taplow and Sutton Hoo (Bruce-Mitford 1983). The analysis of Grave **[7067]**, and the associated mortuary structure, will lead to a better understanding of the social context within which these vessels were deposited. A detailed examination of the mounts, how the various elements were constructed, how they fitted onto the horn and the Style II animal art that adorns them, will make a valuable contribution to several fields of knowledge. Also of national significance are the three copper alloy pyramidal studs inlaid with garnets. The majority of these objects are unstratified finds that have been recovered by metal detectorists in other areas of the UK, and thus information about their context is often lacking. In fact, very few have been excavated from sealed grave contexts, and when this does occur, it is usually only a single example. In the early 7th century, they are believed to have functioned as sword fittings, and this is supported by the location of the studs in Grave **[7010]**. The data from this grave thus provides an excellent opportunity to reconstruct in detail how such accessories functioned.
- 13.4.12 A number of objects, such as the Group 6 shield bosses and glass claw beaker, are important in terms of regional research priorities, and have the potential to contribute chronological and contextual information about the use of these objects in the burial rite. Comparisons will be sought from other West Kent cemeteries. The corpus is clearly important locally: it will refine the chronology of the cemetery and provide a more detailed and accurate assessment of cultural identity.

Site specific questions that the data collection has the potential to answer

- 13.4.13 The metalwork will allow a distributional analysis of the graves to be undertaken to examine the reasons behind the laying out of this part of the cemetery. The plan demonstrates that the graves appear to have been sited around a large structure, which enclosed a wealthy weapon burial (**Group 7034**). Moreover, two of the 'satellite' burials were enclosed by smaller penannular ditches, one of which post-dates **Group 7034**. It is not unusual for the cemeteries of East Kent to produce graves that are associated with a range of different structural features, from large, often prehistoric, barrows, to individual barrows, and other related features, such as ring-ditches,

sockets and ledges (Hogarth 1973), e.g. at Broadstairs III and Dover Buckland, but the practice is also observed in West Kent at both Polhill and Springhead. The reasons why certain individuals were associated with structures can be examined through the deposited metalwork. It is notable that the three graves enclosed by mortuary structures all contained weapons, which raises questions about gender and status. In fact, if weapons are indicative of gender, then it would appear that the whole of the excavated sample has a relatively high proportion of males.

13.4.14 The cemetery's value is to regional and local research priorities. Because it was carried out under controlled conditions, the quality of the excavated data is high. A number of themes that Farningham has the potential to contribute to research priorities are discussed below. The analysis will have to take into consideration the fact that the cemetery was not completely excavated, however. This has a bearing on the accuracy of any interpretations that are reached regarding burial practices and the organization of the burial ground.

13.4.15 The county of Kent boasts a high number of Anglo-Saxon cemeteries that spanned the 5th to earlier 8th centuries AD, and the regional and local context of Farningham can be reconstructed with a certain degree of certainty. Although a number of burial grounds are relatively short-lived, such as the 6th century one at Mill Hill, Deal (Parfitt and Brugmann 1997), most of the examples in East Kent appear to be longer-lasting: good examples being Dover Buckland and Finglesham. It is rare for a cemetery in the east of the county to contain primarily final-phase interments. West Kent has produced several final-phase cemeteries, e.g. Holborough, Polhill and Springhead, and although the evidence is far from satisfactory, there appears to have been two chronologically separate cemeteries at Wrotham. This raises the question whether there was a deliberate attempt to separate the final-phase period burials from the 5th and 6th century ancestors – a situation that is encountered more frequently in Saxon and Anglian regions. It is possible that there is a distinction between East and West Kent, with Farningham having the potential to contribute important information about the topic of cemetery relocation. Overall, sufficient evidence exists to support an examination of 7th century burial practice and how it may have varied at a time when significant political changes were afoot that saw West Kent coming under the control of East Kent. The site is also important in terms of the recent interest in the early medieval landscape, especially regarding and siting of cemeteries close to the evidence from earlier periods. It has been suggested that this was to communicate political messages about the current occupiers and to demarcate boundaries and territory (Brooks 2007; Semple 2004; Williams 1997). The location of the cemetery a short distance to the north of the Pilgrims Way cannot be accidental. The burial ground must have been deliberately sited in order to have been in view of travellers. In addition, the cemetery was sited on the edge of a steep ridge and looked out across lower lying ground to the south. The external grave structures would have marked out the location of the cemetery and rendered it clearly visible to people travelling along the valley bottom.

Conclusion

13.4.16 This brief assessment of potential has demonstrated that the finds from the 2009 work at Farningham are of value locally and regionally, but the site has also produced several artefacts of national importance. At this stage there

do not appear to be any imports, which is surprising given the level of wealth deposited in some of the graves. Most of the grave goods are of types that are commonly found in Kent, and demonstrate the close links that the cemetery has with other cemeteries in the county. The nature of the mortuary structure that enclosed grave [7067] marks the cemetery out as, at least, regionally important. To confirm and extend these preliminary findings the metalwork needs to be fully discussed in terms of chronology, parallels and cultural associations, while the implications that it has for burial practice, individual and community identity, and social status should also be tackled. Individual artefacts should be related to established typologies and where possible the original form of the object should be reconstructed. The data should be supported by a fully illustrated catalogue. Coupled with the good comparative data that Kent offers, a clearer understanding of this community's place culturally, socially and chronologically can be achieved. It will also be of value in answering questions about the changing nature of burial customs in Kent during the 7th century.

The human remains

- 13.4.17 Analysis will provide more detailed demographic data with regard to the age and sex of individuals which, considered together with other data both from this cemetery and elsewhere in the county (see below), should help illustrate the nature of the population being served by the cemetery. The recovery of metric data from the unburnt bone – including that used for stature estimates – will be limited due to poor skeletal recovery and the heavily fragmented condition of the bone; with reconstruction some data can be recovered for at least six individuals. Recording of pathological data will allow assessment of the life style, health and, by inference, potentially the status of Early Anglo-Saxon individuals and the, albeit small, population group. These data can be compared with that from other contemporaneous Kentish sites, though that from many is similarly compromised due to problems of poor preservation (e.g. Anderson and Andrews 1997; McKinley 2009; Powers and Cullen 1987; Tester 1968).
- 13.4.18 Currently the date of the cremation-related deposits is unknown and without this information they cannot be set in their local and regional temporal context. Singletons and small groups of burial remains are a common feature of the prehistoric landscape and are likely to have been made in a liminal area but close to the settlement from which the individuals derived. Radio-carbon dating of a sample of the burial remains will allow this exercise to be undertaken. Similarly, the form and nature of the cremation-related deposits will be considered in their regional and national contexts.

13.5 Environmental Remains

Charred plant remains

- 13.5.1 The detailed analysis of the charred plant remains has the potential to provide information on agricultural processes and settlement activities during the Late Iron Age - Romano-British periods in this part of north Kent. The presence of weed seeds as well as cereal remains creates the opportunity to examine crop husbandry techniques, and to determine the farming economy, nature of tilled soils and time of harvest. The plant remains from **MT01** and **Plot 12/08** have the greatest potential.
- 13.5.2 These can be compared with previous work in the area from sites such as

West Malling (Stevens 2009), Thurnham Roman Villa (Smith & Davis 2009) and Queen Elizabeth Square Maidstone (Pelling 2004). This data will augment the archaeo-botanical information for the vicinity. While there have been a large number of studies on charred plant remains to the east of the site as part of the work on the Channel Tunnel Rail Link from Northfleet to Folkestone, as well as other work in the Ashford area such as Westhawk Farm (Pelling 2008) and on the Isle of Thanet such as the Weatherlees-Margate-Broadstairs wastewater pipeline (Stevens 2009 125-127), less work on large plant assemblages from the immediate vicinity has been carried out.

Wood charcoal

- 13.5.3 There is potential for the analysis of the wood charcoal to provide information on both funerary practices and the management and exploitation of the local woodland resource. An analytical programme will enable comparison between wood charcoal assemblages from the funerary deposits and those from features representing general settlement activities. Any spatial differences should also be discerned. Samples from the cremation-related deposits should provide data on the possible Late Iron Age while those from settlement features relate to the Late Iron Age and Romano-British periods. These can be compared with data obtained from other sites in this part of Kent such as the material from West Malling (Barnett 2009).

Land Snails and fresh/brackish water molluscs

- 13.5.4 Detailed analysis of the mollusc assemblages from ditches forming part of the Saxon mortuary enclosure **group 7034** at **MT02** has some limited potential to provide information on the nature of the local landscape and assist in ascertaining the land-use in the vicinity.

14 METHOD STATEMENTS

14.1 Stratigraphic

- 14.1.1 The provisional stratigraphic phasing will be checked and refined at the analysis stage. It is anticipated that many of the context groups of ambiguous date (marked and noted as possible in the text and figures) will be reconsidered. Through spatial analysis and by re-examining the pottery some of the stratigraphic relationships can be resolved. For example it should be possible to clarify the sequence of development for phases within each mitigation area.

14.2 Artefacts - Introduction

- 14.2.1 Further analysis of the artefactual assemblage will contribute to four outputs:
- archive enhancement, to ensure that minimum standards are met for all artefact types, and that the archive forms a coherent and cross-referenced whole;
 - stabilisation of vulnerable elements within the artefactual assemblage, to ensure that the requirements for long-term curation are met;
 - detailed reporting, with supporting grave catalogue, for the Saxon cemetery at MT02;
 - summary reporting, with supporting tabulated data, for the Late Iron

Age/Romano-British sites at MT01 and plots 12/08 and 16/01; and for the remainder of the pipeline route.

- 14.2.2 The first two outputs, concerned with archive consolidation, will also contribute to the other two (reporting) outputs. Method statements for the two latter are presented separately below, and will involve varying levels of analysis for the various material types and site assemblages. Conservation requirements are summarised here, but are detailed further elsewhere (below, **Storage and Curation**, and **Appendix 4**).

14.3 **Artefacts: Saxon cemetery at MT02**

Introduction

- 14.3.1 The traditional format will be followed for the presentation of the grave goods from the cemetery: a grave catalogue, giving full descriptive details of each artefact, with accompanying text discussing the grave goods by functional type, i.e. weapons, jewellery, etc. All grave goods will be illustrated by grave, except for small, undiagnostic fragments. Iron objects will be drawn largely from X-rays, given the condition of the objects.

Metalwork

- 14.3.2 The majority of the metal objects will require some form of conservation treatment, ranging from partial cleaning to full cleaning and consolidation (see below, **Storage and Curation**). Surviving mineralised organic remains on selected objects will be submitted to an external specialist for identification and comment.
- 14.3.3 Following conservation treatment, catalogue-style entries will be prepared for all the metal objects, which will form the basis of the grave catalogue. At this stage, further research will be undertaken for some of the less common artefact types, to ensure that all relevant parallels are examined, and identifications and dating confirmed. Any new details of manufacturing techniques revealed by the programme of conservation treatment, as well as information from the investigation of mineralised organic remains, will also feed into this process.
- 14.3.4 The metalwork will be discussed by functional group (e.g. weapons, personal items, etc), summarising the range of types present, and their chronological implications. The date of individual burials will be confirmed.
- 14.3.5 Cultural affinities and associations will also be considered, to inform a discussion of cultural identity. Analysis of the grave goods against the demographic data (sex and age) will generate a discussion of the possible status of individuals within the cemetery. The whole discussion will be placed within the regional context of Anglo-Saxon burial in the south-east.

Other objects

- 14.3.6 The single pottery vessel, the glass vessel and beads, and the bone comb, will be described for the grave catalogue and briefly discussed in terms of their chronological and other implications, to be integrated into the discussion of the metal grave goods.

14.4 Artefacts from other sites along the pipeline route

Introduction

14.4.1 The emphasis in this group will be on providing summary reports, drawing out the salient facts of each material type, and supported by tabulated data. For some material types the information gathered as part of this assessment phase will be sufficiently detailed, while for others, some archive enhancement and/or further analysis is proposed. Each material type will be discussed as a single assemblage, but the tabulated data will make clear the quantities and types present for each site discussed within the text. Illustration will be restricted to objects of intrinsic interest, and (for the pottery) good, well stratified context groups.

Pottery

14.4.2 Significant groups of prehistoric and Romano-British pottery, selected for reasons of combined stratigraphic and ceramic interest, will be subjected to detailed fabric and form analysis, following the standard Wessex Archaeology recording system and fulfilling minimum standards of recording (e.g. SGRP 1994; PCRG 1997). These groups have yet to be identified, so estimates of resources have been based on a maximum likely selection.

14.4.3 Where possible fabrics will be correlated with known local and regional types (e.g. Thompson 1982; Monaghan 1987). Reports will be prepared, presenting the range of types present for each chronological period, and discussing them in terms of known and potential sources, with any economic and chronological implications.

14.4.4 A representative selection of vessels will be illustrated. No further work is proposed for the medieval or post-medieval sherds.

Fired Clay

14.4.5 The larger groups of structural origin (including the kiln/oven **group 6110** will be re-examined to determine whether one or more fabrics are present, and to measure the withy diameters and fragment thickness, in order to provide additional information about the original structure(s). The results of this analysis will be presented in a report, with a discussion noting any differences and/or similarities between them; and with a comparison to other sites in the region e.g. Springhead (Poole forthcoming). In addition, a short summary of the perforated triangular objects will be prepared, based on the results of this assessment, and including additional information on context and associated finds.

Ceramic Building Material (CBM)

14.4.6 The results of this assessment will be presented for publication in a brief report, enhanced by limited further work on the roller stamped tiles – these will be drawn and/or photographed, and their fabric described. The remainder of the assemblage will be quickly re-examined to determine the range of other brick/tile types made in this same fabric, in order to identify other products of this tiliary. Associated finds will be checked in order to help establish the date of these pieces.

Stone

14.4.7 The results of this assessment will be presented for publication in a short report. No further analysis is required, but it is recommended that a geologist

check all stone identifications. Unworked fragments can then be discarded, unless there is something very significant about their lithography. The stone objects will be described and discussed within functional groups, citing parallels and comparisons with other sites in the area, e.g. Springhead (Shaffrey forthcoming). No illustration is required.

Worked Flint

14.4.8 The material from **MT01** would repay further study. A selection of diagnostic pieces should be illustrated, accompanied by a full quantification and description, supported by stratigraphic analysis. A small selection of objects may be illustrated (to a maximum of 15 pieces).

14.4.9 No further analysis is proposed for the worked flint from other parts of the pipeline route.

Burnt Flint

14.4.10 No further analysis is proposed for the burnt, unworked flint. Its date is uncertain, and the distribution is not sufficiently dense to warrant further comment.

Metalwork

14.4.11 Following conservation treatment on a small selection of copper alloy and iron objects, the archive catalogue entries for the metalwork will be enhanced as appropriate, citing relevant parallels to support identifications and dating. Objects apart from nails will be discussed within functional groups. The distribution of the nails by site will be briefly considered, but it is unlikely that quantities or concentrations are sufficient for any structural analysis.

14.4.12 The possible lead curse has not been unrolled or examined in detail at this stage. This item will require additional specialist conservation treatment to confirm (or not) its identification. Any surviving inscription will need to be read by a Roman epigraphy specialist, and a report prepared. No further work is required for any of the other lead objects, but a brief text comment, focusing on the pot-mends and weights, will be prepared based on the results of this assessment.

Shale

14.4.13 No further work is proposed for the shale armlet.

Slag

14.4.14 The material from MT01, in particular, would repay further study. The smithing hearth bottoms (SHBs) should be quantified, weighed and measured, and the date and nature of the associated contexts (from where the vast majority of the debris comes) briefly assessed in terms of any significance these might have in terms of the metal working evidence. The results might then be considered in terms of the evidence available for iron working in the wider area in this part of Kent, including the material from fieldwalking on the pipeline route, notably from MT03 (Kemsing Road, plots 11/2 – 11/3) where no further metalworking debris was forthcoming from the subsequent excavation.

Human Bone

14.4.15 Analysis of the cremated bone will follow the standard procedure outlined in McKinley 1994, 5-6; 2004b. All unsorted <4mm residues will be

subject to a rapid scan at this stage to extract any identifiable material, osseous or artefactual.

- 14.4.16 Taphonomic factors potentially affecting differential bone preservation will be assessed. The age of individuals will be assessed using standard methodologies (Brothwell 1972; Beek 1983; Buikstra and Ubelaker 1994; Scheuer and Black 2000). Sex will be ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994). Where possible a standard suite of measurement will be taken (Brothwell and Zakrzewski 2004) and non-metric traits recorded (Berry and Berry 1967; Finnegan 1978).
- 14.4.17 Pathological lesions are recorded in text and via digital photography. The bones with potential osteomyelitis will require x-radiographs, and some will need to be photographed for publication purposes.
- 14.4.18 It is strongly recommended that cremated bone from at least four deposits from discrete undated features is submitted for radio-carbon dating to allow the data to be set in its correct temporal context.
- 14.4.19 The distinctive skeletal appearance of several of the individual, particularly the adult males, within the unburnt bone assemblage raises interesting questions as to their place of origin and whether they represent first or subsequent generation migrants.

Animal Bone

- 14.4.20 No further analysis is proposed for the animal bone, as none of the site assemblages are sufficiently large (in order to avoid small sample bias, a combined cattle, sheep and pig NISP of no less than 300 is required; Hambleton 1999, 40). The results from this assessment will be used in the publication.

14.5 Environmental

Charred plant remains

- 14.5.1 It is proposed to analyse the plant remains from 15 samples from along the pipeline, concentrating on those samples of Late Iron Age and Romano-British date, in particular those from MT01 and Plot 12/08 where there is the greatest potential.
- 14.5.2 All identifiable charred plant macrofossils will be extracted from the 2 and 1mm residues together with the flot. Identification will be undertaken using stereo incident light microscopy at magnifications of up to x40 using a Leica MS5 microscope, following the nomenclature of Stace (1997) and with reference to modern reference collections where appropriate, quantified and the results tabulated.

Wood charcoal

- 14.5.3 It is proposed to analyse the wood charcoal from the samples from a selection of cremation related deposits and settlement features.
- 14.5.4 Identifiable charcoal will be extracted from the 2mm residue together and the flot (>2mm). Larger richer samples will be sub-sampled. Fragments will be prepared for identification according to the standard methodology of Leney and Casteel (1975, see also Gale and Cutler 2000). Charcoal

pieces will be fractured with a razor blade so that three planes can be seen: transverse section (TS), radial longitudinal section (RL) and tangential longitudinal section (TL). They will then be examined under bi-focal epi-illuminated microscopy at magnifications of x50, x100 and x400 using a Kyowa ME-LUX2 microscope. Identification will be undertaken according to the anatomical characteristics described by Schweingruber (1990) and Butterfield and Meylan (1980). Identification will be to the lowest taxonomic level possible, usually that of genus and nomenclature according to Stace (1997), individual taxon (mature and twig) will be separated, quantified, and the results tabulated.

Land snails and freshbrackish water molluscs

14.5.5 No further analysis is proposed.

15 PUBLICATION PROPOSAL

15.1 Place of publication

15.1.1 The national and regional significance of the results obtained from the excavations and the watching brief warrants their publication in an appropriate academic journal. It is therefore proposed that the areas will be combined into a single report to be submitted to an appropriate national or regional journal and it is intended that both print and electronic publications will be produced. This will enable relatively rapid publication as well as dissemination to as wide an audience as possible. It is further proposed that the report will provide an overview of the results obtained from sites **MT01, 3, 4 & 5** and the watching brief, and detailed reports on the sites investigated at **MT02** & the sites at **Plots 12/08 & 16/01**.

15.1.2 The publication will include appropriate illustrations and photographs in support of the text.

15.1.3 The proposed format of the report is outlined below in **Table 20**. The final format and precise word counts and illustrations will be subject to variation during the course of final analysis work. The views of the County Archaeological Officer to the recommendations may also need to be taken into account.

Table 20: Publication report synopsis

Section heading	Pages (c. 1000 words pp)	Figures and Plates	Tables
Summary	0.5		
Introduction	0.5	1 plan of Mitigation Area locations	Table of mitigation area locations
Geology and Topography	0.5	Plan of geology and Francis Wenban-Smith's notes	Table of geology for each area
Archaeological background	1		
Fieldwork Methodology	0.5		
Results			
Introduction	0.5		

Overview – all Mitigation Areas	1	1 plan of single human burial from watching brief	C14 for single human burial from watching brief
Mitigation Area 1 – Late Prehist/Iron Age/Romano British	3	1 plan of area and plates	Specialist CBM, fired clay, environmental
Mitigation Area 2 – Anglo Saxon cemetery	30	1 plan of cemetery and all grave plans, artefact illustrations	Specialist – human remains, finds and environmental remains, C14/oxygen isotope analysis
Pipe Dump Plot 12/08 – Iron Age enclosure, Late Bronze Age pit	3	1 plan of area, 2 ditch & 2 pit sections. Pottery vessel illustrations	Specialist, finds and environmental remains.
Romano-British villa Plot 16/01 – Romano – British structure and associated remains	4	1 plan of area, 1 plan of villa	Specialist finds and environmental remains
Finds illustration	3	Ceramics (30 vessels), all Anglo Saxon grave, flint tools (13)	
Discussion – Research themes for late prehistoric, Romano-British & Anglo-Saxon chronology, landscape, economy, ritual and funerary practices	4		
Acknowledgements & Archive	0.5		
Bibliography	7		
Appendices (optional)	5		
Totals	64		
Total Report Length c. 40 pages			

16 RESOURCES AND PROGRAMME

16.1 Designated Project team

16.1.1 The team consists primarily of internal Wessex Archaeology staff. The post-excavation project will be managed by Richard Greatorex. The following staff (**Table 21**) will be scheduled to undertake the work as outlined in the task list (**Table 22**) and the programme.

Table 21: The project team

Name	Position
Richard Greatorex	Senior Project manager
Rachel Seager-Smith	Pottery specialist
Rob De'Athe	Project Officer
Stuart Wilkinson	Archive Officer
Cathie Barnett	Environmental specialist
Julie Gardiner	Reports Manager

Jacqueline McKinley	Human bone specialist
Jessica Grimm	Animal bone specialist
Linda Coleman	Illustrator
Chris Stevens	Archaeobotanist
Karen Walker	Head of Specialist Services
Sarah Wyles	Environmental Officer
N. Stoodley	External – Anglo-Saxon specialist
J. Watson	External - Mineralised remains
F. Wenban-Smith	External – Palaeolithic Specialist

16.2 Management structure

16.2.1 Wessex Archaeology operates a project management system. The team will be headed by a Post-Excavation Manager who will assume ultimate responsibility for the implementation and execution of the project specification as outlined in the Updated Project Design, and the achievement of performance targets, be they academic, budgetary, or scheduled.

16.2.2 The Post-Excavation Manager may delegate specific aspects of the project to other key staff, who both supervise others and have a direct input into the compilation of the report. They may also undertake direct liaison with external consultants and specialists who are contributing to the publication report, and the museum named as the recipient of the project archive. The Post-Excavation Manager will have a major input into how the publication report is written. They will define and control the scope and form of the post-excavation programme.

16.3 Performance Monitoring and Quality Standards

16.3.1 The Post-Excavation Manager will be assisted by the Reports Manager (Julie Gardiner), who will help to ensure that the report meets internal quality standards as defined in Wessex Archaeology's guidelines. The overall progress will be monitored internally by the Head of Specialist Services (Karen Walker).

16.4 Tasklist for analysis and publication

16.4.1 **Table 22** below lists the stages and tasks, the personnel and scheduled work duration required to achieve the project objectives.

Table 22: Tasklist for analysis and publication

Task No	Task	Grade	Name	Days
Management				
1	General management	SPM	R Greatorex	5
2	Finds management	FM	L Mephram	2
3	Environ management	EM	C Stevens	1
Stratigraphic				
4	Analysis	PO	R De'Athe	5
5	Site narrative	PO	R De'Athe	10
6	Figures for publication	DO	Illustrator	10
Finds				

7	Pottery analysis and report	SPO	R Seager-Smith	12
8	Anglo-Saxon cemetery metalwork	External	N.Stoodley	20
9	Metalwork Non grave goods	SPO	TBA	3
10	Misc. finds, CBM & fired clay	PO	Various	3
12	Slag	SPO	TBA	3
13	Worked & Burnt Flint	SPO	M Leivers	5
14	Human bone analysis and Report	SPO	J McKinley	12
15	Radio carbon – commissioning and report	SPO	C Stevens	0.5
16	Radiocarbon dating	External		£2,000
19	Finds illustration (up to 30 pottery vessels, CBM to be illustrated/photographed, 13 pieces worked flint, all Saxon grave plans & goods	DO	Illustrator	84
20	Edit specialist reports	FM	L Mephram	2
Conservation				
21	Conservation treatment <i>Selected non-ferrous objects</i> <i>All other objects</i> <i>Mineralised organics</i>	(Lynn) WCC Ext	28 35 5	£4564 £9660 £2500
Environ				
22	Extraction of samples	EO	S Wyles	5
23	Analysis CPR and report	SPO	C Stevens	5
24	Analysis charcoal and report	SPO	C Barnett	5
26	Edit specialist reports and write text for discussion	SPO	C Stevens	2
Report				
27	Assemble report, intro, background, captions, bibliography	PO	R De'Athe	2
28	Write discussion	PO	R De'Athe	5
29	Edit Report	PM	J Gardiner	3
30	Journal costs	EXT		£3000
Archive				
31	Archive preparation	PO	S Wilkinson	0.5
32	Microfilm job sheets and checking	PO	S Wilkinson	0.5

33	Microfilm paper records*	Ext	Fee	@£30/file
34	Archive deposition	PO + vehicle hire & fuel		1
35	Box storage grant	-	-	£1000

17 STORAGE AND CURATION

17.1 Museum

17.1.1 No repository has at this stage been identified for the deposition of the project archive. Deposition of the finds, when a suitable repository is identified, will only be carried out with the full agreement of the landowner.

17.2 Preparation of Archive

17.2.1 The complete site archive, which will include paper records, photographic records, graphics, artefacts and ecofacts, will be prepared following nationally recommended guidelines (Walker 1990; SMA 1995; Richards and Robinson 2000; Brown 2007).

17.2.2 All archive elements are marked with the WA site code (70301), and a full index will be prepared. The archive comprises the following:

- 60 cardboard or airtight plastic boxes of artefacts & ecofacts, ordered by material type
- 13 files/document cases of paper records & A3/4 graphics
- 14 A1 graphics
- c.50 hanging files of photographic slides

17.3 Conservation

17.3.1 A significant number of objects were identified as being of vulnerable status on excavation – these comprised the grave goods from the Saxon cemetery at MT02. Further objects were subsequently identified as vulnerable and potentially requiring conservation treatment; these comprise metalwork from other parts of the pipeline route.

17.3.2 Preliminary stabilisation and packaging measures have already been undertaken for these objects by a trained in-house conservator, and monitoring has been maintained in the interim period. All metal objects have been X-radiographed as part of the assessment phase, as a basic record and also to aid identification.

17.3.3 A full assessment of the further conservation requirements for the pipeline assemblage has been compiled; this will involve investigative or full cleaning of objects, and modification of their packaging for long-term storage (see **Appendix 4**). The number of objects selected for further treatment is 70 (36 iron; 26 copper alloy; 3 silver; 1 lead; 1 glass; 2 bone and 1 wood).

17.3.4 Mineral-preserved organic remains (wood, textiles) have been observed on certain objects (e.g. sword scabbards), and these will require specialist investigation and identification.

17.4 Discard Policy

- 17.4.1 Wessex Archaeology follows the guidelines set out in Selection, Retention and Dispersal (Society of Museum Archaeologists 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. In this instance, burnt (unworked) flint has already been discarded. Further targeted discard is recommended for the unworked stone, following geological identifications; and for the undiagnostic fired clay, retaining a sample from the large deposit from kiln/oven [6064]. The discard policy will be fully documented in the project archive.
- 17.4.2 The discard of environmental remains and samples follows the guidelines laid out in Wessex Archaeology's 'Archive and Dispersal Policy for Environmental Remains and Samples'. The archive policy conforms with nationally recommended guidelines (SMA 1993; 1995; English Heritage 2002) and is available upon request.

17.5 Copyright

- 17.5.1 The full copyright of the written/illustrative archive relating to the site will be retained by Wessex Archaeology Ltd under the Copyright, Designs and Patents Act 1988 with all rights reserved. The recipient museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms to the Copyright and Related Rights regulations 2003.

17.6 Security Copy

- 17.6.1 In line with current best practice, on completion of the project a security copy of the paper records will be prepared, in the form of microfilm. The master jackets and one diazo copy of the microfilm will be submitted to the National Archaeological Record (English Heritage), a second diazo copy will be deposited with the paper records, and a third diazo copy will be retained by Wessex Archaeology.

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APPENDIX 1. COIN LIST

SITE CODE: 70301	SITE NAME: Farnington to Hadlow pipeline
Context 6001	Object 11
Metal Cu Alloy	Denomination As
Diameter 25	Weight 8.3 Reverse axis 12
Issuer Faustina II	Issue date AD 175 - 180
Obverse condition Very worn	Reverse condition Very worn
Obverse Bust r, bun head. -INA AVGV-	Reverse Figure standing l. -N- (?Juno)
Mint Rome	Officina:
Notes	References As RIC III, Antoninus Pius, 1647
Reece Periods: 8 - AD 161 - 180	Casey Period: 8 - AD 161 - 180
Context 6001	Object 13
Metal Cu Alloy	Denomination Token
Diameter 27	Weight 6.4 Reverse axis 12
Issuer Vinson-Ruxley	Issue date C19 - early C20
Obverse condition Unworn	Reverse condition Unworn
Obverse VINSON 1 1/2 D RUXLEY	Reverse VINSON 1 1/2 D RUXLEY
Mint Unknown	Officina:
Notes	References
Reece Periods:	Casey Period:
Context 6001	Object 14
Metal Cu Alloy	Denomination As/Dupondius
Diameter 25	Weight 7.2 Reverse axis 6
Issuer Unknown Roman Emperor	Issue date C1 - C3
Obverse condition Corroded	Reverse condition Corroded
Obverse Bust r	Reverse Standing fig
Mint Unknown	Officina:
Notes Too badly corroded to be identified	References
Reece Periods:	Casey Period:
Context 6001	Object 16
Metal Cu Alloy	Denomination As
Diameter 25	Weight 9.1 Reverse axis 6
Issuer Faustina II	Issue date AD 161 - 180
Obverse condition Corroded	Reverse condition Corroded
Obverse Female bust r, bun head. Probably Faustina II	Reverse Female figure standing l. S C on either side.
Mint Unknown	Officina:
Notes Badly corroded As of Faustina II	References
Reece Periods: 8 - AD 161 - 180	Casey Period: 8 - AD 161 - 180
Context 6001	Object 17
Metal Cu Alloy	Denomination Nummus
Diameter 23	Weight 2.9 Reverse axis 7
Issuer Constantine I	Issue date AD
Obverse condition Slightly worn	Reverse condition Slightly worn
Obverse Bust r, laureate, cuirassed. CONSTANTINVSPFAVG	Reverse Sol standing r, holding globe, r arm raised with whip, chlamys over shoulder. SOLIINVI C TOCOMITI. Mint Mark: * / PLN
Mint London	Officina: First
Notes	References As RIC VI, London, 279
Reece Periods: 15 - AD 296 - 317	Casey Period: 21 - AD 296 - 317
Context 6101	Object 18
Metal Cu Alloy	Denomination As/Dupondius
Diameter 27	Weight 9.3 Reverse axis 0
Issuer Unknown	Issue date C1 - C3
Obverse condition Corroded	Reverse condition Corroded
Obverse Bust r	Reverse Illegible
Mint Unknown	Officina:
Notes Badly corroded. Dated by size alone	References
Reece Periods:	Casey Period:

Context 6046
Metal Cu Alloy
Diameter 19
Issuer Constantius II
Obverse condition Corroded
Obverse Bust r, draped, pearl diadem. DNCONST-

Mint Unknown

Notes

Reece Periods: 18 - AD 348 - 364

Context 6046
Metal Cu Alloy
Diameter 17
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Struck on an irregular flan. Probably a Barbarous Radiate
Reece Periods: 14 - AD 275 - 296

Context 6046
Metal Cu Alloy
Diameter 15
Issuer Tetricus I
Obverse condition Corroded
Obverse Bust r, radiate, bearded -PCTE-
Mint Unknown
Notes Barbarous Copy of Antoninianus of Tetricus I. Struck off centre on an irregular flan.
Reece Periods: 13 - AD 260 - 275

Context 6046
Metal Silver
Diameter 16
Issuer Unknown Roman Emperor
Obverse condition Corroded
Obverse Bust r
Mint Unknown
Notes Silver denarius, covered in copper corrosion
Reece Periods:

Context 6046
Metal Cu Alloy
Diameter 18
Issuer Tetricus I
Obverse condition Very worn
Obverse Bust r, radiate, bearded. IMPCTETRIC
Mint Unknown
Notes Damaged oval flan
Reece Periods: 13 - AD 260 - 275

Context 6046
Metal Cu Alloy
Diameter 18
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Barbarous Radiate struck on v irregular flan
Reece Periods: 14 - AD 275 - 296

Context 6046

Object 19
Denomination Nummus
Weight 2.6 **Reverse axis** 12
Issue date AD 353 - 360
Reverse condition Corroded
Reverse Soldier spearing a fallen horseman. Fel Temp Reparatio type.

Officina:

References As LRBC II, 25

Casey Period: 24 - AD 348 - 364

Object 20
Denomination Antoninianus
Weight 1.4 **Reverse axis** 6
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Figure standing I
Officina:
References

Casey Period: 19 - AD 273 - 286

Object 21
Denomination Antoninianus
Weight 2.4 **Reverse axis** 6
Issue date AD 270 - 273
Reverse condition Corroded
Reverse Laetitia standing I with wreath and anchor. -ETIT-

Officina:

References

Casey Period: 18 - AD 260 - 273

Object 24
Denomination Denarius
Weight 2 **Reverse axis** 11
Issue date C1 - C3
Reverse condition Corroded
Reverse Fig standing I
Officina:
References
Casey Period:

Object 25
Denomination Antoninianus
Weight 1 **Reverse axis** 12
Issue date AD 270 - 273
Reverse condition Very worn
Reverse Pax I, holding sceptre and branch. (PA) XAVG

Officina:

References As RIC V, Part I, Tetricus I, 100

Casey Period: 18 - AD 260 - 273

Object 26
Denomination Antoninianus
Weight 1.3 **Reverse axis** 7
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Standing fig I.
Officina:
References
Casey Period: 19 - AD 273 - 286

Object 36

<p>Metal Cu Alloy Diameter 16 Issuer Constantius II Obverse condition Corroded Obverse Bust r, pearl diadem and rosettes, cuirassed in palud. - GLOR (IAEXERC ITVS) ANTI VSPFAVG Mint Arles Notes Some damage to edge Reece Periods: 17 - AD 330 - 348</p>	<p>Denomination Nummus Weight 1.2 Reverse axis 12 Issue date AD 337 - 341 Reverse condition Corroded Reverse 2 soldiers, 1 standard. Mint Mark: I / PARL Officina: First References LRBC I, 439 Casey Period: 23 - AD 330 - 348</p>
<p>Context 6372 Metal Cu Alloy Diameter 19 Issuer Radiate copy Obverse condition Corroded Obverse Bust r, radiate, bearded Mint Unknown Notes Struck on an irregular flan. Probably a Barbarous Radiate Reece Periods: 14 - AD 275 - 296</p>	<p>Object 195 Denomination Antoninianus Weight 2.3 Reverse axis 6 Issue date AD 270 - 296 Reverse condition Corroded Reverse Standing fig I (? Pax) Officina: References Casey Period: 19 - AD 273 - 286</p>
<p>Context 6372 Metal Cu Alloy Diameter 17 Issuer Constantine II Obverse condition Slightly worn Obverse Bust r, laureate. CONSTANTINVSIVNNOBC Mint Unknown Notes Mint Mark illegible Reece Periods: 17 - AD 330 - 348</p>	<p>Object 196 Denomination Nummus Weight 1.4 Reverse axis 6 Issue date AD 330 - 335 Reverse condition Corroded Reverse GL (OR I) AEX (ERC) ITVS. Officina: References As LRBC I, 49 Casey Period: 23 - AD 330 - 348</p>
<p>Context 6372 Metal Cu Alloy Diameter 22 Issuer Radiate Copy Obverse condition Corroded Obverse Bust r, radiate. Mint Unknown Notes Barbarous Radiate Reece Periods: 14 - AD 275 - 296</p>	<p>Object 197 Denomination Antoninianus Weight 3.3 Reverse axis 12 Issue date AD 270-296 Reverse condition Corroded Reverse Pax I with sceptre and branch. -VGG Officina: References Casey Period: 19 - AD 273 - 286</p>
<p>Context 6372 Metal Cu Alloy Diameter 19 Issuer Constantius Gallus Obverse condition Corroded Obverse Bust r, bare-headed -IVSNOBCAES Mint Rome Notes Reece Periods: 18 - AD 348 - 364</p>	<p>Object 198 Denomination Nummus Weight 2 Reverse axis 8 Issue date AD 352 Reverse condition Corroded Reverse 2 facing victories holding shield. Inscription bungled. Mint Mark: R*P Officina: References Copy of LRBC II, 659 Casey Period: 24 - AD 348 - 364</p>
<p>Context 6415 Metal Cu Alloy Diameter 33 Issuer Trajan Obverse condition Very worn Obverse Bust r. -ERVATRAIANAVG- Mint Rome Notes Extremely worn sestertius of Trajan Reece Periods: 5 - AD 96 - 117</p>	<p>Object 199 Denomination Sestertius Weight 18.2 Reverse axis 0 Issue date AD 98 - 117 Reverse condition Extremely worn Reverse Illegible Officina: References Casey Period: 5 - AD 96 - 117</p>
<p>Context 6415 Metal Cu Alloy Diameter 17 Issuer Radiate Copy Obverse condition Slightly worn Obverse Bust r, radiate, bearded. -NVSAVG</p>	<p>Object 200 Denomination Antoninianus Weight 1.2 Reverse axis 12 Issue date AD 260 - 296 Reverse condition Slightly worn Reverse Female fig standing I with</p>

Mint Unknown
Notes Barbarous Radiate - copy of a coin of Gallienus
Reece Periods: 14 - AD 275 - 296

Context 8030
Metal Cu Alloy
Diameter 13
Issuer Unknown Roman Emperor
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Completely illegible. Dated by size alone
Reece Periods:

Context 8030
Metal Cu Alloy
Diameter 18
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Irregular flan. Probably a Barbarous Radiate
Reece Periods: 14 - AD 275 - 296

Context 8031
Metal Silvered Cu Alloy
Diameter 20
Issuer Postumus
Obverse condition Worn
Obverse Bust r, radiate, bearded.

Mint Unknown
Notes
Reece Periods: 13 - AD 260 - 275

Context 8030
Metal Cu Alloy
Diameter 17
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate. (?Claudius II)
Mint Unknown
Notes Barbarous Radiate, possibly a copy of a Pax issue of Claudius II
Reece Periods: 14 - AD 275 - 296

Context 8030
Metal Cu Alloy
Diameter 22
Issuer Allectus
Obverse condition Corroded
Obverse Bust r, radiate. IMPCALLECTVS-
Mint Unknown
Notes Badly corroded antoninianus of Allectus
Reece Periods: 14 - AD 275 - 296

Context 8035
Metal Cu Alloy
Diameter 27
Issuer Maximian I
Obverse condition Corroded
Obverse Bust r, laureate. IMPCMAXIMIANV-
Mint Rome
Notes
Reece Periods: 15 - AD 296 - 317

cornucopiae. -BERT-

Officina:
References
Casey Period: 19 - AD 273 - 286

Object 256
Denomination Antoninianus/Nummus
Weight 0.4 **Reverse axis** 0
Issue date C3 - C4
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object 258
Denomination Antoninianus
Weight 2.5 **Reverse axis** 3
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Standing fig I
Officina:
References
Casey Period: 19 - AD 273 - 286

Object 268
Denomination Antoninianus
Weight 2.4 **Reverse axis** 6
Issue date AD 259 - 268
Reverse condition Worn
Reverse Moneta I, holding cornucopiae and scales. MO-
Officina:
References As RIC V, Part I, Postumus, 315
Casey Period: 18 - AD 260 - 273

Object 269
Denomination Antoninianus
Weight 2.2 **Reverse axis** 12
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Pax standing I, with sceptre and branch -X AVG
Officina:
References
Casey Period: 19 - AD 273 - 286

Object 270
Denomination Antoninianus
Weight 5.3 **Reverse axis** 0
Issue date AD 293 - 296
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period: 20 - AD 286 - 296

Object 271
Denomination Follis
Weight 8.9 **Reverse axis** 6
Issue date AD 302 - 303
Reverse condition Corroded
Reverse Moneta I with cornucopia and scales. (SACRA) MONVRBAVGGET CAESS NN. Mint Mark: | * / RS
Officina: Second
References RIC VI, Rome, 103b
Casey Period: 21 - AD 296 - 317

Context 8035
Metal Cu Alloy
Diameter 29
Issuer Antoninus Pius
Obverse condition Very worn
Obverse Bust r, laureate
Mint Unknown
Notes Heavily worn sestertius of Antoninus Pius
Reece Periods: 7 - AD 138 - 161

Context 8029
Metal Cu Alloy
Diameter 18
Issuer Constantine I
Obverse condition Worn
Obverse Helmeted bust r, CONSTANTINVS MAX AVG

Mint Trier
Notes
Reece Periods: 16 - AD 317 - 330

Context 8029
Metal Cu Alloy
Diameter 18
Issuer Constantine I
Obverse condition Worn
Obverse Bust r, helmeted, cuirassed. CONST- -NVSAVG

Mint Unknown
Notes Virtus Exercit issue of Constantine I, mint mark illegible
Reece Periods: 16 - AD 317 - 330

Context 8039
Metal Cu Alloy
Diameter 20
Issuer Carausius
Obverse condition Worn
Obverse Bust r, radiate, bearded. IMPCARAVSIVSAVG

Mint Unknown
Notes
Reece Periods: 14 - AD 275 - 296

Context 8030
Metal Cu Alloy
Diameter 16
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Struck on a smallish flan - probably a Barbarous Radiate
Reece Periods: 14 - AD 275 - 296

Context 8031
Metal Cu Alloy
Diameter 6
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Barbarous Radiate, sl irregular flan
Reece Periods: 14 - AD 275 - 296

Object 272
Denomination Sestertius
Weight 18 **Reverse axis** 6
Issue date AD 138 - 161
Reverse condition Very worn
Reverse Female fig standing l
Officina:
References
Casey Period: 7 - AD 138 - 161

Object 273
Denomination Nummus
Weight 2.2 **Reverse axis** 6
Issue date AD 319
Reverse condition Worn
Reverse 2 facing victories holding wreath over altar VOT PR. VICTORIA LAETAE PRINC PERP Mint Mark:.PTR
Officina: First
References RIC VII, Trier, 222
Casey Period: 22 - AD 317 - 330

Object 274
Denomination Nummus
Weight 2.4 **Reverse axis** 6
Issue date AD 318 - 324
Reverse condition Worn
Reverse 2 captives with central standard inscribed VOT XX. VIRTVS EXERC (IT)
Officina:
References
Casey Period: 22 - AD 317 - 330

Object 275
Denomination Antoninianus
Weight 3.1 **Reverse axis** 1
Issue date AD 286 - 293
Reverse condition Worn
Reverse Pax I, sceptre and wreath. PAX A (VG)
Officina:
References As RIC v, Part II, Carausius 101
Casey Period: 20 - AD 286 - 296

Object 276
Denomination Antoninianus
Weight 2 **Reverse axis** 12
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Fig standing l, l arm raised -IT-
Officina:
References
Casey Period: 19 - AD 273 - 286

Object 277
Denomination Antoninianus
Weight 1.5 **Reverse axis** 6
Issue date AD 279 - 296
Reverse condition Corroded
Reverse Standing fig r (?Salus)
Officina:
References
Casey Period: 19 - AD 273 - 286

Context 8031
Metal Cu Alloy
Diameter 22
Issuer Radiate copy
Obverse condition Worn
Obverse Bust r, radiate IMPC- -DIVS

Mint Unknown
Notes Barbarous Radiate, struck on very irregular flan.
Copy of ?Pax issue of Claudius II
Reece Periods: 13 - AD 260 - 275

Context 8033
Metal Cu Alloy
Diameter 20
Issuer Claudius II
Obverse condition Corroded
Obverse Bust r, radiate. IMPCCLAVIDIVS-
Mint Unknown
Notes Antoninianus of Claudius II, uncertain reverse
Reece Periods: 13 - AD 260 - 275

Context 8036
Metal Cu Alloy
Diameter 19
Issuer Claudius II
Obverse condition Worn
Obverse Bust r, radiate. IMPCCLAVIDIVSAV-
Mint Rome
Notes
Reece Periods: 13 - AD 260 - 275

Context 8099
Metal Cu Alloy
Diameter 9
Issuer Unknown Roman Emperor
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Probably a copy of C3 - C4 date
Reece Periods:

Context 8099
Metal Cu Alloy
Diameter 13
Issuer Emperor of the House of Constantine
Obverse condition Corroded
Obverse Bust I, helmeted. Urbs Roma type
Mint Unknown
Notes
Reece Periods: 17 - AD 330 - 348

Context 8036
Metal Silvered Cu Alloy
Diameter 18
Issuer Gallienus
Obverse condition Corroded
Obverse Bust r, radiate, bearded. GALLIENVS-
Mint Rome
Notes
Reece Periods: 13 - AD 260 - 275

Context 6046

Object 278
Denomination Antoninianus
Weight 2.3 **Reverse axis** 12
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Standing fig I with upturned branch (?Pax)

Officina:
References

Casey Period: 18 - AD 260 - 273

Object 279
Denomination Antoninianus
Weight 2.5 **Reverse axis** 6
Issue date AD 268 - 270
Reverse condition Corroded
Reverse Fig standing I
Officina:
References
Casey Period: 18 - AD 260 - 273

Object 280
Denomination Antoninianus
Weight 1.8 **Reverse axis** 6
Issue date AD 268 - 270
Reverse condition Worn
Reverse Emperor I with branch and sceptre. PMT (RPII) COSPP
Officina:
References RIC V, Part II, 10
Casey Period: 18 - AD 260 - 273

Object 283
Denomination Antoninianus/Nummus
Weight 0.2 **Reverse axis** 0
Issue date C3 - C4
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object 285
Denomination Nummus
Weight 0.7 **Reverse axis** 6
Issue date AD 330 - 345
Reverse condition Corroded
Reverse Wolf and Twins
Officina:
References ?Copy as LRBC I, 51
Casey Period: 23 - AD 330 - 348

Object 290
Denomination Antoninianus
Weight 1.6 **Reverse axis** 5
Issue date AD 260 - 268
Reverse condition Corroded
Reverse Uberitas standing I with cornucopia and purse VBERITAS AVG. Epsilon in r field
Officina: Fifth?
References RIC V, Part I, Gallienus 287 var
Casey Period: 17 - AD 253 - 260

Object 302

Metal Cu Alloy
Diameter 15
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate.
Mint Unknown
Notes Barbarous Radiate. Both obverse and reverse struck off centre on a small thick flan
Reece Periods: 14 - AD 275 - 296

Context 6001
Metal Cu Alloy
Diameter 21
Issuer Unknown
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Dated on the basis of the flan shape. V thin flan. Some traces of edging on one side. Badly bent
Reece Periods:

Context 9004
Metal Cu Alloy
Diameter 27
Issuer George II
Obverse condition Corroded
Obverse Bust I, laureate. IVS II REX
Mint
Notes Badly corroded
Reece Periods:

Context 9004
Metal Cu Alloy
Diameter 24
Issuer Unknown
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Damaged and illegible
Reece Periods:

Context 9004
Metal Cu Alloy
Diameter 26
Issuer Unknown
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Badly corroded
Reece Periods:

Context 9004
Metal Cu Alloy
Diameter 24
Issuer Unknown
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Some damage to flan
Reece Periods:

Context 8036
Metal Cu Alloy
Diameter 18
Issuer Crispus
Obverse condition Worn
Obverse Bust r, helmeted, cuirassed. CRISPVS NOBILC

Denomination Antoninianus
Weight 1.9 **Reverse axis** 6
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Pax I with branch. -AX-
Officina:
References
Casey Period: 19 - AD 273 - 286

Object 309
Denomination Token
Weight 2 **Reverse axis** 0
Issue date Post-medieval
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object 345
Denomination Half Penny
Weight 6.4 **Reverse axis** 0
Issue date AD 1729 - 1739
Reverse condition Corroded
Reverse Illegible
Officina:
References As Seaby 1989, 3717
Casey Period:

Object
Denomination Token
Weight 2.3 **Reverse axis** 0
Issue date Post-medieval
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object
Denomination Token
Weight 5.8 **Reverse axis** 0
Issue date Post-medieval
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object
Denomination Token
Weight 2.1 **Reverse axis** 0
Issue date Post-medieval
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Object 289
Denomination Nummus
Weight 2.1 **Reverse axis** 7
Issue date AD 321
Reverse condition Worn
Reverse Globe on altar inscribed VOT/IS/XX. BEATATRAN****QVILLITAS. Mint Mark: PLON

Mint London
Notes
Reece Periods: 16 - AD 317 - 330

Officina: First
References RIC VII, London, 210
Casey Period: 22 - AD 317 - 330

Context 8003
Metal Cu Alloy
Diameter 13
Issuer Radiate Copy
Obverse condition Worn
Obverse Bust r, radiate. V stylised lettering
Mint Unknown
Notes Barbarous Radiate. V small flan and stylised engraving
Reece Periods: 14 - AD 275 - 296

Object 350
Denomination Antoninianus
Weight 0.6 **Reverse axis** 5
Issue date AD 270 - 296
Reverse condition Worn
Reverse Standing figure I. V-
Officina:
References
Casey Period: 19 - AD 273 - 286

Context 8003
Metal Cu Alloy
Diameter 13
Issuer Unknown Roman Emperor
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Very badly corroded. Dated by size alone
Reece Periods:

Object 367
Denomination Antoninianus/Nummus
Weight 0.7 us **Reverse axis** 0
Issue date C3 - C4
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Context 8003
Metal Cu Alloy
Diameter 21
Issuer Radiate Copy
Obverse condition Corroded
Obverse Bust r, radiate
Mint Unknown
Notes Badly corroded. Centrally pierced. Struck on an oval flan
Reece Periods: 14 - AD 275 - 296

Object 368
Denomination Antoninianus
Weight 4 **Reverse axis** 0
Issue date AD 270 - 296
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period: 19 - AD 273 - 286

Context 8003
Metal Cu Alloy
Diameter 23
Issuer Gallienus
Obverse condition Corroded
Obverse Bust r, radiate, bearded. -NVS AVG
Mint Unknown
Notes Antoninianus of Gallienus, uncertain reverse
Reece Periods: 13 - AD 260 - 275

Object 369
Denomination Antoninianus
Weight 1.7 **Reverse axis** 11
Issue date AD 260 - 268
Reverse condition Corroded
Reverse Female fig I. P-
Officina:
References As RIC V, II
Casey Period: 18 - AD 260 - 273

Context 8003
Metal Cu Alloy
Diameter 17
Issuer Radiate Copy
Obverse condition Worn
Obverse Bust r, radiate, bearded. Recognisably Claudius II
Mint Unknown
Notes V stylised, struck on irregular flan. Copy of commemorative issue of Claudius II
Reece Periods: 13 - AD 260 - 275

Object 370
Denomination Antoninianus
Weight 2.2 **Reverse axis** 4
Issue date AD 270 - 296
Reverse condition Worn
Reverse Altar. -NSEC- Consecratio issue
Officina:
References
Casey Period: 18 - AD 260 - 273

Context 8003
Metal Cu Alloy
Diameter 19
Issuer Constantine I
Obverse condition Slightly worn
Obverse Bust r, laureate, cuirassed. CONSTANTINVS PFAVG
Mint Trier
Notes
Reece Periods: 15 - AD 296 - 317

Object 371
Denomination Nummus
Weight 1.5 **Reverse axis** 6
Issue date AD 310
Reverse condition Slightly worn
Reverse Sol standing I with globe and whip. SOLI INVIC TOCOMITI. Mint Mark: T | F / STR
Officina: Second
References As RIC VI, Trier, 866a
Casey Period: 21 - AD 296 - 317

Context 8003

Object 372

Metal Cu Alloy
Diameter 17
Issuer Unknown Roman Emperor
Obverse condition Corroded
Obverse Illegible
Mint Unknown
Notes Dated by size alone. Very irregular flan.
Reece Periods:

Denomination Antoninianus/Nummus
Weight 0.9 **Reverse axis** 0
Issue date C3 - C4
Reverse condition Corroded
Reverse Illegible
Officina:
References
Casey Period:

Appendix 2: Assessment of charred plant remains and charcoal

Feature Number	Context	Sample	Size Litres	Flot Size ml	Roots %	Grain	Chaff	Cereal Notes	Charred Other	Notes for Table	Charcoal 4/2 mm	Other	Analysis
MT01													
Late Iron Age													
Enclosure ditch													
gp 6435, 6033	6037	6003	10	15	30	A	-	Hulled wheat+ barley grain frags	B	<i>Avena/Bromus, Vicia/Lathyrus, Polygonaceae</i>	1/2 ml	-	P
gp 6435, 6097	6101	6034	10	50	80	C	-	Indet. grain frags	C	<i>Vicia/Lathyrus</i>	2/1 ml	-	
Pit													
6011	6012	6002	10	30	10	A*	-	Hulled wheat + barley grain frags	A	<i>Vicia/Lathyrus, Avena/Bromus, Malva, Polygonaceae, Brassicaceae, Trifolium/Medicago, Tripleurospermum inodorum, Chenopodium, Poaceae</i>	1/2 ml	-	P
Romano-British													
Ditch													
gp 6436, 6007	6009	6000	9	40	5	A*	B	Hulled wheat + barley grain frags, glume frags	B	<i>Polygonaceae, Ranunculus, Trifolium/Medicago, Plantago lanceolata</i>	15/5 ml	Smb (C)	P
	6010	6001	9	10	40	B	C	Hulled wheat + barley grain frags, glume frags	C	<i>Avena/Bromus</i>	1/2 ml	-	
gp 6438, 6266	6271	6040	9	30	70	C	C	Indet. grain frags, glume frags	C	<i>Corylus avellana</i> shell frags	1/2 ml	-	
gp 6440, 6188	6189	6042	10	40	35	B	B	Hulled wheat + ?barley grain frags, glume frags	B	<i>Avena/Bromus, Corylus avellana</i> shell frags, <i>Polygonaceae</i>	8/5 ml	-	
Kiln group 6110													
6064	6059	6004	10	15	30	A	-	Hulled wheat + barley grain frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags, <i>Polygonaceae, Poaceae</i>	2/2 ml	-	

	6060	6005	30	20	20	A*	-	Hulled wheat + barley grain frags	A*	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags, Brassicaceae, Poaceae	<1/1 ml	-	P
	6061	6006	8	10	10	A	-	Hulled wheat +	A	<i>Avena/Bromus, Vicia/Lathyrus,</i>	<1/1 ml	-	
								barley grain frags		<i>Corylus avellana</i> shell frags, Polygonaceae, Poaceae			
	6062	6007	5	200	3	A*	-	Hulled wheat + barley grain frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Brassicaceae, Polygonaceae, Poaceae, Lapsana communis</i>	90/50 ml	-	P C
	6063	6008	20	10	20	A	-	Hulled wheat + barley grain frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Poaceae, Chenopodium</i>	0/1 ml	-	
6078	6073	6009	4	5	40	A	-	Hulled wheat + barley grain frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags,	<1/<1 ml	-	
	6074	6010	10	10	50	B	-	Hulled wheat + barley grain frags	C	<i>Avena/Bromus, Polygonaceae, Poaceae</i>	0/1 ml	-	
	6075	6011	10	10	30	A	-	Hulled wheat + barley grain frags	A*	<i>Avena/Bromus, Vicia/Lathyrus, Poaceae, Brassicaceae, Polygonaceae, Ranunculus, Trifolium/Medicago, Chenopodium</i>	<1/1 ml	-	
	6075	6012	5	25	15	A	-	Hulled wheat + barley grain frags	A*	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags, Brassicaceae, Polygonaceae, <i>Trifolium/Medicago, Chenopodium</i>	8/2 ml	-	P
	6077	6013	7	60	8	A*	C	Hulled wheat + barley grain frags, <i>Avena</i> awns	A**	<i>Avena/Bromus, Vicia/Lathyrus, Ranunculus, Brassicaceae, Polygonaceae, Poaceae, Trifolium/Medicago, Chenopodium, Galium, Lolium/Festuca, Tripleurospermum inodorum, Anthemis cotula</i>	8/150 ml	-	P C
	6093	6094	6014	1	20	5	B	-	Indet. grain frags	B	<i>Avena/Bromus, Vicia/Lathyrus</i>	5/5 ml	-
Layer													
	6174	6026	20	20	20	C	-	Hulled wheat grain frags	B	<i>Corylus avellana</i> shell frags, <i>Vicia/Lathyrus, Chenopodium</i>	1/2 ml	-	
Pits													
6080	6070	6015	7	15	10	C	-	Indet. grain frags	C	<i>Avena/Bromus, Corylus avellana</i> shell frags	2/3 ml	Smb (C)	

6084	6047	6016	10	30	7	B	-	Hulled wheat + barley grain frags	C	<i>Avena/Bromus</i>	5/3 ml	-	
6118	6047	6017	13	50	5	B	-	?Hulled wheat	C	<i>Avena/Bromus</i>	15/8 ml	-	
	6090	6018	5	40	5	C	-	Indet. grain frags	C	<i>Polygonaceae, Trifolium/Medicago</i>	20/10 ml	-	
	6119	6019	9	15	10	C	-	Indet. grain frags	C	<i>Corylus avellana</i> shell frags, <i>Veronica</i>	3/2 ml	-	
6122	6123	6024	10	375	2	A	B	Hulled +?F-t wheat + barley grain frags, glume bases, rachis frags	A*	<i>Avena/Bromus, Vicia faba, Vicia/Lathyrus, Linum usitatissimum, Chenopodium, Trifolium/Medicago, Prunus spinosa</i> stone frags, Buds	100/75 ml	Smb (C)	P C
	6126	6025	10	110	2	B	C	Hulled wheat + ?barley grain frags, glume frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags	35/40 ml	Smb (A), min. nodules	
6135	6136	6020	19	40	20	B	-	Hulled wheat + barley grain frags	C	<i>Carex, Polygonaceae, Vicia/Lathyrus</i>	8/10 ml	-	
6147	6148	6022	18	40	15	A*	C	Hulled + ?F-t wheat + barley grain frags, <i>Avena</i> awn frags	A*	<i>Avena/Bromus, Vicia faba, Vicia/Lathyrus, Lolium/Festuca, Chenopodium, Trifolium/Medicago, Polygonaceae, Carex, Stellaria, Poaceae, Brassicaceae</i>	10/2 ml	-	P
	6149	6023	9	5	30	B	-	Hulled wheat grain frags	B	<i>Avena/Bromus, Polygonaceae, Vicia/Lathyrus</i>	<1/<1 ml	-	
6153	6160	6021	10	40	20	B	C	?Barley + ?wheat grain frags, rachis frags	C	<i>Vicia/Lathyrus, Polygonaceae</i>	1/3 ml	-	
6175	6177	6032	10	50	15	B	-	Hulled wheat grain frags	B	<i>Avena/Bromus, Vicia/Lathyrus, Corylus avellana</i> shell frags, <i>Chenopodium, Polygonaceae,</i>	10/12 ml	-	
6349	6350	6027	20	45	30	A*	C	Hulled wheat + barley grain frags, glume frags	A	<i>Avena/Bromus, Vicia/Lathyrus, Poaceae, Chenopodium, Polygonaceae, Brassicaceae</i>	10/12 ml	Smb (C)	
6366	6367	6028	8	100	3	-	C	glume frag	C	<i>Polygonaceae</i>	35/25 ml	-	
	6368	6029	9	10	10	-	-	-	B	<i>Stellaria, Vicia/Lathyrus, Chenopodium, Polygonaceae</i>	2/2 ml	-	
gp 6451, 6371	6372	6035	8	35	35	B	-	Hulled wheat grain frags	B	<i>Avena/Bromus, Vicia/Lathyrus, Chenopodium,</i>	5/4 ml	-	
	6388	6036	8	30	5	A	-	Hulled wheat + barley grain frags	C	<i>Avena/Bromus, Corylus avellana</i> shell frags	3/3 ml	Moll-t (C),	

												Smb (C)	
	6390	6037	8	30	5	A	A	Hulled wheat + barley grain frags, ?spelt glume frags	B	<i>Avena/Bromus</i> , Polygonaceae, Poaceae	4/3 ml	Smb (C), min. nodules	P
gp 6451, 6424	6427	6041	8	15	20	C	-	Indet. grain frags	-	-	0/1 ml	-	
gp 6452, 6414	6419	6033	10	450	2	C	-	Indet. grain frags	C	<i>Chenopodium</i>	150/180 ml	-	
	6421	6038	20	15	5	B	C	Hulled wheat + ?barley grain frags, glume frags	B	<i>Avena/Bromus</i> , <i>Corylus avellana</i> shell frags, <i>Galium</i>	1/3 ml	Smb (C), min. nodules	
	6423	6039	10	90	5	A	C	Hulled wheat + barley grain frags, glume frags	B	<i>Avena/Bromus</i> , <i>Corylus avellana</i> shell frags, <i>Chenopodium</i>	25/30 ml	Smb (B), min. seeds + nodules	
Posthole													
6380	6382	6030	10	35	7	A	C	Hulled wheat + barley grain frags, glume frags	A	<i>Avena/Bromus</i> , <i>Vicia/Lathyrus</i> , <i>Chenopodium</i> , Polygonaceae, Poaceae	5/10 ml	-	
	6383	6031	10	40	10	A	C	Hulled wheat + barley grain frags, glume frags	A	<i>Avena/Bromus</i> , <i>Vicia/Lathyrus</i> , <i>Chenopodium</i> , Polygonaceae, Poaceae, <i>Corylus avellana</i> shell frags, <i>Prunus spinosa</i> stone frags	12/15 ml	-	

MT02													
Saxon													
Mortuary Enclosure group 7034, Ditches, Grave and Postholes													
7072	7074	7085	9	160	10	-	-	-	-	-	-	0/1 ml	Moll-t (A**)
7117	7119	7084	9	200	10	-	-	-	-	-	-	0/2 ml	Moll-t (A**)
7131	7133	7080	8	30	50	C	-	Indet. grain frags	-	-	-	-	Moll-t (A*)
7138	7139	7081	9	30	50	-	-	-	-	-	-	-	Moll-t (A*)
7067	7068	7055	0.5	5	15	-	-	-	-	-	-	-	Moll-t (C)
	7068	7063	0.75	30	1	-	-	-	-	-	-	-	Min. wood, Moll-t (A)
	7068	7064	0.75	10	60	-	-	-	-	-	-	-	Moll-t (B)
	7068	7065	1	15	10	-	-	-	-	-	-	-	Moll-t (B)
	7164	7082	0.5	5	10	-	-	-	-	-	-	-	Moll-t (B)
	7163	7083	4	5	15	-	-	-	-	-	-	-	Moll-t (A)
7035	7036	7078	10	60	10	-	-	-	-	-	-	-	Moll-t (A**)
7037	7038	7077	10	10	50	-	-	-	-	-	-	-	Moll-t (A*)
7056	7058	7076	10	40	50	-	-	-	-	-	-	-	Moll-t (A**)
7075	7076	7079	10	80	40	-	-	-	-	-	-	-	Moll-t (A**)
7105	7103	7075	10	25	20	-	-	-	-	-	-	-	Moll-t (A**)
Graves													
7009	7013	7017	1	10	25	-	-	-	-	-	-	-	Moll-t (C)
7095	7096	7096	0.25	5	10	-	-	-	-	-	-	-	Moll-t (A)

Barrow Gullies													
gp 7065, 7018	7019	7069	10	25	30	C	-	Indet. grain frags	-	-	-	Moll-t (A**)	
gp 7175, 7026	7027	7068	10	40	60	-	-	-	-	-	-	Moll-t (A*)	

MT05													
Undated													
Hearth													
9006	9007	9000	9	1240	2	-	-	-	-	-	650/300 ml	-	
Plot 3/08													
Late Prehistoric													
Cremation Related Deposit													
20009	20011	20052	6	80	70	-	-	-	C	Vicia/Lathyrus	5/7 ml	-	C

Plot 10/01													
?Late Prehistoric													
Cremation Related Deposits													
20014	20015	20001	3	20	10	-	-	-	C	<i>Crataegus monogyna</i> , <i>Chenopodium</i> (prob. modern)	0/4 ml	Moll-t (B)	
	20015	20002	3	10	20	-	-	-	-	<i>Chenopodium</i> (Prob. modern)	0/1 ml	Moll-t (B)	
	20015	20003	4	30	10	-	-	-	C	<i>Vicia/Lathyrus</i> , <i>Chenopodium</i>	2/7 ml	Moll-t (A)	
	20015	20004	4	30	15	-	-	-	-	<i>Chenopodium</i> (Prob. modern)	1/5 ml	Moll-t (A)	C
	20015	20005	1.5	5	15	-	-	-	-	<i>Chenopodium</i> (Prob. modern)	0/1 ml	Moll-t (C)	
20080	20079	20046	2	10	50	-	-	-	-	-	0/1 ml	moll-t (C)	
	20079	20047	2	10	60	-	-	-	-	-	0/1 ml	-	
	20079	20048	1	5	30	-	-	-	C	-	<1/<1ml	-	
	20079	20049	2	5	50	-	-	-	-	-	0/<1 ml	moll-t (C)	
Late Prehistoric													
Pits													
7127	7129	7067	10	40	55	C	-	Hulled wheat + barley grain frags	C	<i>Corylus avellana</i> shell frags	3/2 ml	Moll-t (A)	
20018	20019	20006	8	20	40	B	C	Hulled wheat + barley grain frags, glume bases + spikelet fork frag	C	<i>Crataegus monogyna</i> , <i>Corylus avellana</i> shell frag	<1/1 ml	Moll-t (B)	

Plot 11/01													
?Late Prehistoric													
Cremation Related Deposits													
20027	20028	20007	2	8	10	-	-	-	-	-	<1/1 ml	Moll-t (C)	
	20028	20008	1.5	10	10	-	-	-	-	-	0/2 ml	moll-t (C)	
20029	20030	20011A	1.5	60	7	-	-	-	-	-	5/15 ml	-	
	20030	20011B	1	30	20	-	-	-	-	-	1/4 ml	-	
	20030	20013	1.5	60	7	-	-	-	-	-	5/15 ml	-	
	20030	20014	1.5	40	20	-	-	-	-	-	3/10 ml	-	
	20030	20051	2	100	3	-	-	-	C	<i>Vicia/Lathyrus</i>	3/40 ml	moll-t (C)	C
20031	20032	20015	6	60	20	C	-	Indet. grain frags	-	-	1/7 ml	-	
	20032	20016	1.5	30	15	-	-	-	-	-	5/5 ml	-	
	20032	20017	5	40	15	-	-	-	C	<i>Arrhenatherum elatius</i> , Poaceae	5/5 ml	-	
	20032	20018	2	25	15	-	-	-	-	-	1/4 ml	-	
	20032	20019	0.25	5	10	-	-	-	-	-	1/1 ml	-	
20033	20034	20020	0.5	30	5	-	-	-	-	-	2/3 ml	-	
	20034	20021	0.5	15	10	-	-	-	-	-	2/2 ml	-	
	20034	20022	2	40	30	-	-	-	C	<i>Arrhenatherum elatius</i>	3/3 ml	-	
	20034	20023	0.5	15	10	-	-	-	-	-	1/2 ml	-	
	20034	20024	1	25	30	-	-	-	-	-	0/2 ml	-	
20035	20036	20009	2	10	10	-	-	-	C	<i>Corylus avellana</i> shell frags	0/3 ml	moll-t (C)	
	20036	20010	1.5	5	15	-	-	-	-	-	<1/1 ml	moll-t (C)	
	20036	20025	1.5	80	20	-	-	-	-	-	2/15 ml	-	
	20036	20027	5	250	10	-	-	-	-	-	2/30 ml	-	
	20036	20028	0.75	30	10	-	-	-	-	-	0/3 ml	-	
	20036	20029	3	125	7	-	-	-	-	-	3/20 ml	-	C

20037	20036	20030	1.5	40	5	-	-	-	C	<i>Avena/Bromus</i>	2/10 ml	moll-t (C)	
	20038	20026	3	10	15	-	-	-	-	-	<1/1 ml	-	

Plot 12/07													
?Late Prehistoric													
Cremation Related Deposits													
20072	20073	20038	2	35	60	-	-		C	<i>Crataegus monogyna</i> , <i>Plantago lanceolata</i>	5/5 ml	-	
	20073	20039	3	60	25	C	-	Indet. grain frags	C	<i>Crataegus monogyna</i>	7/15 ml	-	
	20073	20040	1.5	60	10	-	-	-	C	<i>Crataegus monogyna</i> , <i>Chenopodium</i> (prob. modern)	5/10 ml	-	
	20073	20041	2	45	15	-	-	-	-	<i>Crataegus monogyna</i> , <i>Chenopodium</i> (prob. modern)	4/15 ml	-	
	20074	20042	2	120	15	-	-	-	A	<i>Crataegus monogyna</i> , <i>Prunus spinosa</i> stone frags	15/40 ml	-	P C
	20074	20043	2	100	15	-	-	-	B	<i>Crataegus monogyna</i> , <i>Arrhenatherum elatius</i> , <i>Corylus avellana</i> shell frags	5/30 ml	-	
	20074	20044	1	60	15	-	-	-	C	<i>Crataegus monogyna</i> , <i>Chenopodium</i> (prob. modern)	10/7ml	-	
	20074	20045	1	40	25	C	-	Hulled wheat grain frags	C	<i>Prunus spinosa</i> stone frags, <i>Vicia/Lathyrus</i>	2/5 ml	-	

Plot 12/08													
Late Bronze Age													
Pit													
5387	5388	520	17	60	75	C	-	Indet. grain frags	C	<i>Corylus avellana</i> shell frags, Brassicaceae, <i>Chenopodium</i> (prob. modern)	3/2 ml	-	
Late Iron Age/Early Romano-British													
Ditch													
5010	5012	500	8	70	30	C	-	Hulled wheat grain frags	B	<i>Corylus avellana</i> shell frags, <i>Avena/Bromus</i> , Polygonaceae, <i>Veronica</i> , <i>Chenopodium</i> (prob. modern)	15/25 ml	-	
	5013	501	18	15	30	C	C	Indet. grain frags, glume base frags	-	<i>Veronica</i> , <i>Chenopodium</i> (prob. modern)	1/3 ml	-	
Enclosure Ditch group 5410													
5122	5128	507	18	2	30	C	-	Hulled wheat + barley grain frags	-	-	0/<1 ml	-	
5139	5125	508	19	30	40	C	A	Hulled wheat grain frags, ?emmer + spelt glume frags	C	<i>Avena/Bromus</i> , <i>Chenopodium</i> (prob. modern)	5/5 ml	-	
5160	5103	509	9	5	10	-	-	-	-	-	0/<1 ml	-	
	5098	510	18	10	55	C	-	Indet. grain frags	C	<i>Avena/Bromus</i> , <i>Chenopodium</i> (prob. modern)	0/2 ml	-	
5162	5205	511	18	4	10	C	-	Indet. grain frags	-	-	1/1 ml	-	
5197	5208	512	19	20	60	-	B	Glume frags	B	<i>Vicia/Lathyrus</i> , <i>Tripleurospermum inodorum</i> , <i>Chenopodium</i> (prob. modern)	2/2 ml	-	
5323	5326	514	18	10	25	C	-	Hulled wheat grain frags	B	<i>Galium</i> , <i>Chenopodium</i> (prob. modern)	2/2 ml	-	
	5325	515	9	5	10	C	-	Indet. grain frags	C	<i>Galium</i> , <i>Vicia/Lathyrus</i> , <i>Chenopodium</i> (prob. modern)	1/1 ml	-	
	5324	516	18	1	30	-	-	-	-	-	0/<1 ml	-	
5371	5382	519	9	20	50	-	-	-	B	<i>Vicia/Lathyrus</i> , Polygonaceae, <i>Veronica</i> , <i>Chenopodium</i> (prob. modern)	2/1 ml	-	

5173	5177	522	9	75	40	C	A	Hulled wheat grain frags, glume frags	A	<i>Prunus spinosa</i> stone frags, <i>Vicia/Lathyrus</i> , <i>Avena/Bromus</i> , <i>Veronica</i> , <i>Chenopodium</i>	10/35 ml	-	
Pits													
5053	5084	502	9	40	20	C	-	Indet. grain frags	C	Brassicaceae, <i>Chenopodium</i> (prob. modern)	3/10 ml	-	
5137	5138	503	8	25	50	-	-	-	C	<i>Veronica</i> , <i>Chenopodium</i> (prob. modern)	4/2 ml	-	
5215	5217	504	16	250	35	A*	B	Hulled wheat + barley grains, glume frags + <i>avena</i> awn frags	A	<i>Corylus avellana</i> shell frags, <i>Avena/Bromus</i> , <i>Vicia/Lathyrus</i> , <i>Tripleurospermum inodorum</i> , <i>Chenopodium</i>	30/80 ml	-	P C
	5235	505	3	15	80	C	-	Indet. grain frags	C	<i>Tripleurospermum inodorum</i> , <i>Chenopodium</i> (prob. modern)	-	-	
5238	5240	506	10	20	70	C	-	Hulled wheat grain frags	B	<i>Vicia/Lathyrus</i> , <i>Avena/Bromus</i> , Polygonaceae, <i>Stellaria</i> , <i>Veronica</i> , <i>Chenopodium</i> (prob. modern)	1/1 ml	-	
5242	5365	513	9	20	20	C	A	Indet. grain frags, glume frags inc ? Emmer glumes	C	Brassicaceae	5/3 ml	-	
	5364	521	9	60	10	A	C	Hulled wheat+ barley grain frags, glume frags + <i>avena</i> awn frags	A	<i>Corylus avellana</i> shell frags, <i>Prunus spinosa</i> stone frags, <i>Vicia/Lathyrus</i> , <i>Trifolium/Medicago</i> , <i>Avena/Bromus</i> , Polygonaceae, <i>Chenopodium</i>	5/8 ml	-	
5340	5341	517	19	10	10	-	C	Glume frags	C	Brassicaceae	3/2 ml	-	
	5351	518	19	40	30	A	A	Hulled wheat + barley grain frags, glume frags inc spiklet fork + inc ?Emmer glume frags	A	<i>Vicia/Lathyrus</i> , <i>Avena/Bromus</i> , <i>Veronica</i> , Polygonaceae, <i>Chenopodium</i> (prob. modern)	5/7 ml	-	P

Plot 16/01													
Romano-British													
Ditches													
gp 8194, 8142	8139	8018	18	120	65	C	-	Indet. grain frags	B	<i>Vicia/Lathyrus, Corylus avellana</i> shell frags, <i>Trifolium/Medicago,</i> <i>Galium</i>	7/13 ml		
	8140	8019	5	35	40	C	C	Indet. grain frags, glume frag	-	-	2/2 ml	-	
	8141	8020	4	20	30	-	-	-	-	-	0/1 ml	-	
gp 8195, 8015	8017	8000	10	40	65	C	-	Indet. grain frags	-	-	0/2 ml	-	
	8016	8001	10	250	80	B	C	Hulled wheat grain frags, glume frags	C	<i>Vicia/Lathyrus, Avena/Bromus,</i> <i>Polygonaceae</i>	2/4 ml	-	
Kiln/Ovens													
8109	8110	8003	8	50	70	A*	C	Hulled wheat grain frags, glume frags	C	<i>Avena/Bromus, Veronica</i>	3/3 ml	-	P
	8112	8004	10	250	20	A***	A	Hulled wheat (lots) + barley grain frags, glume frags	C	<i>Avena/Bromus</i>	2/10 ml	-	P C
8160	8163	8007	8	60	60	A	C	Hulled wheat + barley grain frags, glume frags	A	<i>Vicia/Lathyrus, Avena/Bromus,</i> <i>Corylus avellana</i> shell frags	5/4 ml	-	
Pits													
8115	8124	8005	10	250	60	C	-	Indet. grain frags	C	<i>Veronica</i>	35/45 ml	-	
gp 8200, 8119	8122	8006	10	1200	10	-	-	-	-	-	650/300 ml	-	C
Well													
8092	8098	8002	10	350	2	-	-	-	-	-	20/100 ml	-	
	8099	8008	20	50	5	C	-	Indet. grain frags	C	<i>Vicia/Lathyrus</i>	10/20 ml	-	
	8100	8009	20	25	5	C	C	Indet. grain frags, glume frag	C	<i>Avena/Bromus, Corylus avellana</i> shell frags	2/3 ml	-	

Plot 18/01														
?Modern														
Pits														
20054	20055	20032	12	1250	2	-	-	-	-	-	-	600/400 ml	-	
20057	20058	20031	8	1500	2	-	-	-	-	-	-	750/400 ml	-	
20059	20060	20034	8	1250	2	C	-	Barley grain frags	-	Chenopodium (Prob. modern)	-	500/400 ml	-	
20061	20062	20033	10	275	7	-	-	-	-	-	-	80/50 ml	-	
20063	20064	20035	10	800	3	-	-	-	-	-	-	250/300 ml	-	
Plot 19/13														
?Modern														
Hearths														
20065	20067	20036	3	250	8	-	-	-	-	-	-	30/110 ml	-	
20068	20069	20037	2	220	10	-	-	-	-	-	-	80/80 ml	-	

Appendix 3. Land snail assessment from mortuary enclosure group 7034 at MT02

Area	MT02			
Site Phase	Saxon			
Group	7034			
Feature type	Ditch			
Feature no.	7131	7138	7117	7072
Context no.	7133	7139	7119	70074
Sample no.	7080	7081	7084	7085
Depth (m)	spot	spot	spot	spot
Weight (g)	1500	1500	1500	1500
Open country species				
<i>Pupilla muscorum</i>	B	A	C	B
<i>Vertigo</i> spp.	B	B	C	C
<i>Helicella itala</i>	A	B	B	B
<i>Vallonia</i> spp.	A	A	B	A
Intro. Helicellids	C	-	-	-
Catholic species				
<i>Trichia hispida</i>	A	B	A	A
<i>Pomatias elegans</i>	+	-	A	A
<i>Cochlicopa</i> spp.	C	C	C	B
<i>Cepaea</i> spp	-	C	C	C
<i>Punctum pygmaeum</i>	-	-	C	B
<i>Helix aspersa</i>	-	-	C	C
Limax	C	-	-	A
Shade-loving species				
<i>Carychium</i>	-	C	B	A
<i>Discus rotundatus</i>	C	B	A	A
<i>Oxychilus</i>	-	C	C	A
<i>Aegopinella</i>	C	C	A	A

Clausiliidae	-	C	C	C
<i>Ena</i>	-	+	C	C
<i>Helicigona lapicida</i>	-	-	+	+
<i>Acanthinula aculeata</i>	-	-	C	C
<i>Vitrea</i>	C	C	C	B
Burrowing species				
<i>Cecilioides acicula</i>	A	A	A	A
Approx totals	85	75	100	100

Key: A = >10, B = 9-5, C = <5, + = present

Appendix 4. Conservation assessment

SF	context	material	object	comments	treatment proposal
35	6046	Copper alloy	Cup	- incomplete, distorted	- remove soil
37	6046	Iron	Knife		- airbrade to reveal profiles
38	6046	Iron	Belt hook		- airbrade to reveal shape
39	6046	Lead	Curse?	- may be possible to x-ray through middle section - may be possible to clean middle section to see if writing present	- clean middle section if x-ray suggests writing is present
42	7004	Iron	Sword	- mineralised scabbard remains	- airbrade to reveal mineralised remains
43	7004	Copper alloy	Fitting		- remove soil and some corrosion
46	7004	Copper alloy	Fitting	- may be silvered	- remove soil
47	7004	Copper alloy	Buckle		- remove soil and some corrosion
50	7007	Iron	Spearhead	- mineralised wood in socket	- airbrade to reveal mineralised wood and textile or assist illustration
51	6126	Bone	Comb	- ring and dot decoration - in 37 pieces - damp - some spots of mould	- remove soil and mould spots - control dry - reassemble as far as possible if required

55	7007	Iron	Knife and pommel?	<ul style="list-style-type: none"> - knife in two pieces - mineralised leather scabbard remains and possibly horn handle - 'pommel' is not from knife - x-ray may id 'pommel' - 'pommel' fragments include bone, and copper alloy 	<ul style="list-style-type: none"> - airbrade knife to reveal mineralised remains - airbrade cross sections to clarify join between blade and tang, and profile of blade - repair blade if required (not needed for stability of object) - airbrade to reveal pommel (depending on results of x-ray)
58	7011	Iron	Spearhead	<ul style="list-style-type: none"> - mineralised organics on surface and in socket 	<ul style="list-style-type: none"> - airbrade to reveal organics or assist illustration
59	7011	Iron	Shield boss and grip	<ul style="list-style-type: none"> - grip in 2 pieces - mineralised organics, mainly wood on grip 	<ul style="list-style-type: none"> - airbrade to reveal organics, assist illustration or for display
60	7011	Copper alloy	Fitting	<ul style="list-style-type: none"> - garnet setting - silvered 	<ul style="list-style-type: none"> - repair grip
64	7011	Copper alloy	Fitting	<ul style="list-style-type: none"> - garnet setting - silvered 	<ul style="list-style-type: none"> - remove soil and some corrosion to reveal decoration
65	7011	Copper alloy	Fitting	<ul style="list-style-type: none"> - garnet setting - silvered 	<ul style="list-style-type: none"> - remove soil and some corrosion to reveal decoration
66	7011	Copper alloy	Buckle	<ul style="list-style-type: none"> - in 5 pieces - fragile 	<ul style="list-style-type: none"> - remove soil and some corrosion
67	7011	Copper alloy	Buckle	<ul style="list-style-type: none"> - may be mineralised organic remains beneath soil 	<ul style="list-style-type: none"> - remove soil to see if organics are present
68	7011	Iron	Knife	<ul style="list-style-type: none"> - mineralised textile on blade 	<ul style="list-style-type: none"> - airbrade to reveal mineralised textile and confirm profiles
70	7011	Iron	Stud x 2	<ul style="list-style-type: none"> - possibly from shield boss - one may have surface coating 	<ul style="list-style-type: none"> - airbrade to confirm if stud has white metal coating
71	7011	Iron	Stud x 2	<ul style="list-style-type: none"> - possibly from shield boss - copper corrosion present 	<ul style="list-style-type: none"> - airbrade to confirm composition

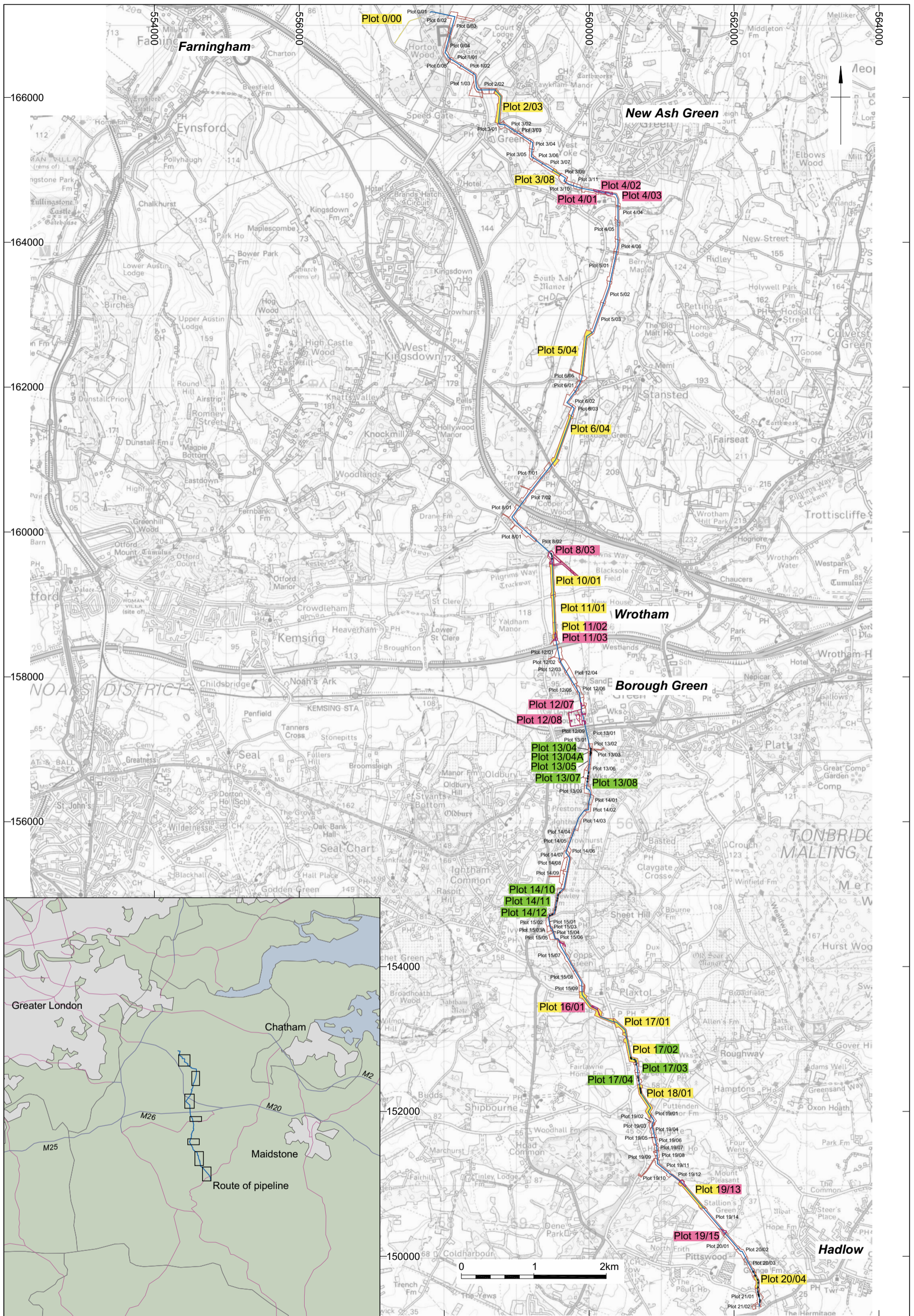
72	7011	Iron	Spearhead counterweight	- mineralised wood in socket	- airbrade to reveal shape
73	7050	Iron	Spearhead	- mineralised wood in socket	- airbrade to assist illustration
74	7050	Iron	Spearhead counterweight		- airbrade to reveal shape
75	7050	Iron	Shield boss	- in 14 pieces, some reassembly possible - incomplete but may be able to get profile - x-ray may show studs, but unlikely	- airbrade selectively to reveal surface features limited reconstruction to assist drawing
76	7050	Iron	Knife	- tip broken off - corrosion suggestive of mineralised organic remains but no structure present	- airbrade cross sections to clarify join between blade and tang, and profile of blade - repair blade if required (not needed for stability of object)
77	7050	Iron	Fitting	- in 2 pieces - extensive mineralised remains (textile?) attached	- airbrade to reveal organic remains and assist id
78	7055	Copper alloy	Buckle	- mineralised textile	- remove soil and some corrosion to reveal mineralised material
79	7068	Silver	Drinking horn fitting	- gilded - mineralised horn still attached - horn very fragile	- remove soil and chalk - consolidate horn
80	7078	Iron	Knife	- remains of mineralised leather scabbard and horn handle	- airbrade to reveal mineralised remains - airbrade cross sections to clarify join between blade and tang, and profile of blade
81	7078	Copper alloy	Buckle		- remove soil and some corrosion
82	7068	Silver	Drinking horn fitting	- gilded - mineralised horn still attached - horn very fragile	- remove soil, chalk and some corrosion - consolidate horn

84	7068	Copper alloy	Fitting		- remove soil
86	6224	Copper alloy	Pin	- point missing and damage to shaft	-remove soil and some corrosion
211	6372	Iron	Object		- airbrade selectively to assist id
213	6372	Iron	Object		- airbrade selectively to assist id
216	7068	Wood	Fragments	- includes a frag of copper alloy and 2 frags of possible mineralised leather	- remove soil to assist id
219	7096	Copper alloy	Pin	- part of head missing	- remove soil and some corrosion
220	7096	Iron	Knife	- mineralised leather on blade	- airbrade to reveal mineralised scabbard remains - airbrade cross sections to clarify join between blade and tang, and profile of blade
222	7068	Silver	Fitting	- mineralised organic remains	- remove soil and some corrosion products
224	7068	Iron	Spearhead	- mineralised wood in socket	- airbrade to reveal surface
225	7068	Iron	Shield boss	- in 17 pieces - part of grip present - mineralised wood attached - partial reconstruction may be possible, but will need to be airbraded for this	- airbrade to reveal detail - partial reconstruction if required
226	7068	Iron	Knife	- in 7 pieces - extensive mineralised horn on tang	- airbrade to reveal mineralised material - airbrade cross sections to clarify join between blade and tang, and profile of blade
227	7068	Copper alloy	Fitting	- substantial mineralised organic material attached - mineralised material is very fragile and in 3 pieces	- remove chalk from mineralised material and consolidate - remove soil and some corrosion from fitting

228	7068	Copper alloy	Fitting	<ul style="list-style-type: none"> - fragments of fitting in 2 pieces - substantial mineralised organic remains attached - mineralised material is very fragile - impressions of mineralised material in corrosion products 	<ul style="list-style-type: none"> - remove soil and chalk from mineralised material and consolidate - remove soil from fitting fragments
229	7068	Glass	Claw beaker	<ul style="list-style-type: none"> - in 128 fragments - surface starting to decay - some cracking, soil in cracks - may have sprung - may need to buy in adhesive for reconstruction, approximately £35.00 	<ul style="list-style-type: none"> - remove soil where feasible
230	7068	Iron	Object	<ul style="list-style-type: none"> - in 8 pieces - mineralised wood in socket 	<ul style="list-style-type: none"> - airbrade to reveal mineralised wood and help id
231	7068	Iron	Fitting	<ul style="list-style-type: none"> - in 2 pieces - extensive mineralised organics (wood?) 	<ul style="list-style-type: none"> - airbrade to reveal mineralised organics and assist id
232	7068	Iron	Fitting	<ul style="list-style-type: none"> - mineralised leather attached 	<ul style="list-style-type: none"> - airbrade to reveal mineralised organics and assist id
233	7068	Iron	Fitting	<ul style="list-style-type: none"> - extensive mineralised organics (bone?) 	<ul style="list-style-type: none"> airbrade to reveal mineralised organics and assist id
234	7068	Iron	Fitting	<ul style="list-style-type: none"> - possibly a knife - mineralised organics attached 	<ul style="list-style-type: none"> - airbrade to expose organics and confirm id
235	7068	Iron	Fitting	<ul style="list-style-type: none"> - in 8 pieces - large quantities of mineralised organic remains, including bone/wood, leather?, thin cord 	<ul style="list-style-type: none"> - airbrade to reveal organic material - consolidate organics if needed
236	7068	Copper alloy	Fitting	<ul style="list-style-type: none"> - substantial mineralised remains present - mineralised material is very fragile - impressions of mineralised material in corrosion products 	<ul style="list-style-type: none"> - remove chalk from mineralised material and consolidate - possibly remove soil and some corrosion from fitting

237	7068	Copper alloy	Fitting	- frags x 2 - extensive mineralised organics present	- remove chalk from mineralised material and consolidate - possibly remove soil and some corrosion from fitting
238	7068	Iron	Fitting		- airbrade to assist id
239	7068	Bone	Comb	- in 22 pieces, reassembly unlikely - friable - dried soil and chalk on surface	- remove soil and chalk - consolidate if needed
245	7068	Iron	Fragment		- airbrade to assist id
265	8063	Copper alloy	Pin	- much surface loss - very friable	- remove soil and some corrosion - consolidate surface
240	7068	Copper alloy	Fittings	- silvered surfaces or may be silver - mineralised organic remains	- remove soil and chalk to confirm composition
261	8029	Copper alloy	Fitting		- remove soil
294	7021	Iron	Spearhead	- mineralised wood in socket and possible mineralised leather attached	airbrade to reveal organics airbrade to assist illustration or for display
295	7021	Iron	Knife	- in 2 pieces - mineralised leather on blade and mineralised horn? On tang	- airbrade to reveal mineralised remains - airbrade cross sections to clarify join between blade and tang, and profile of blade
296	7021	Iron	Shield boss and grip	- mineralised wood on boss - mineralised leather? on grip	- airbrade to reveal organics, assist illustration or for display
297	7021	Iron	Stud x 2	- no obvious sign of plating, may show on x-ray	- airbrade to reveal surface if plating present
298	7021	Copper alloy	Buckle plate	- iron associated with this	- remove soil and some corrosion (airbrade?) to assist id

299	7021	Iron	Handle	<ul style="list-style-type: none"> - in 20 pieces - may be a shield fitting - possible mineralised remains attached 	<ul style="list-style-type: none"> - airbrade selectively to assist id and expose possible mineralised remains - partially reconstruct to help illustration
300	7021	Copper alloy	Object	<ul style="list-style-type: none"> - possibly part of a buckle 	<ul style="list-style-type: none"> - remove soil and some corrosion
311	6000	Copper alloy	Strapend	<ul style="list-style-type: none"> - 1 strap end with enamel decoration 	<ul style="list-style-type: none"> - remove soil and some corrosion
312	7144	Copper alloy	Fragment	<ul style="list-style-type: none"> - x-ray may help id 	<ul style="list-style-type: none"> - remove soil to help id
346	20026	Copper alloy	Strapend	<ul style="list-style-type: none"> - strap end may have remains of enamel - mineralised textile on blade 	<ul style="list-style-type: none"> - remove soil and some corrosion to help illustration



- Route of pipeline
- Plots
- Watching brief with archaeological features within plot
- Excavation area within plot
- Palaeolithic test pit within plot

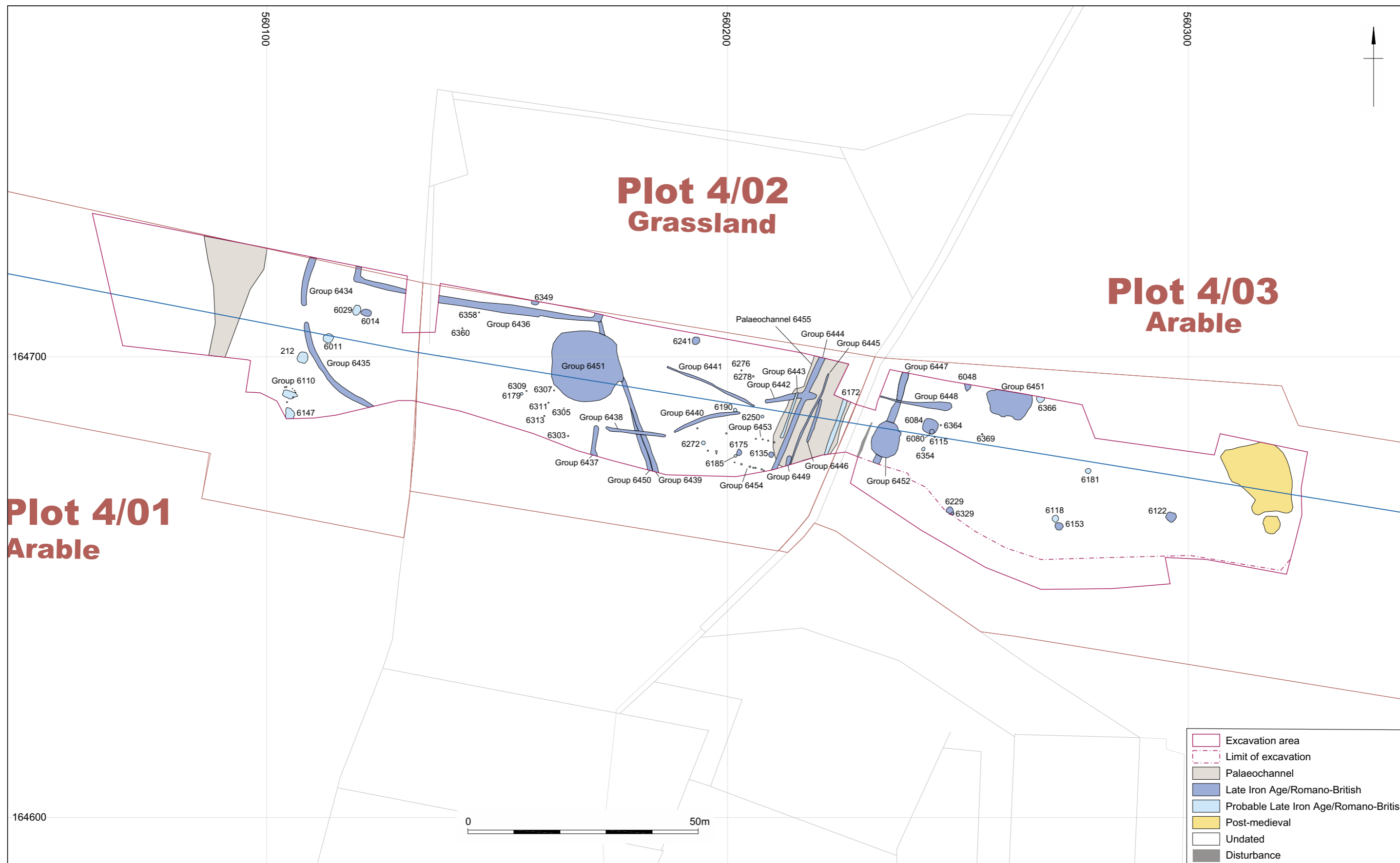



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Pipeline route location and plot positions

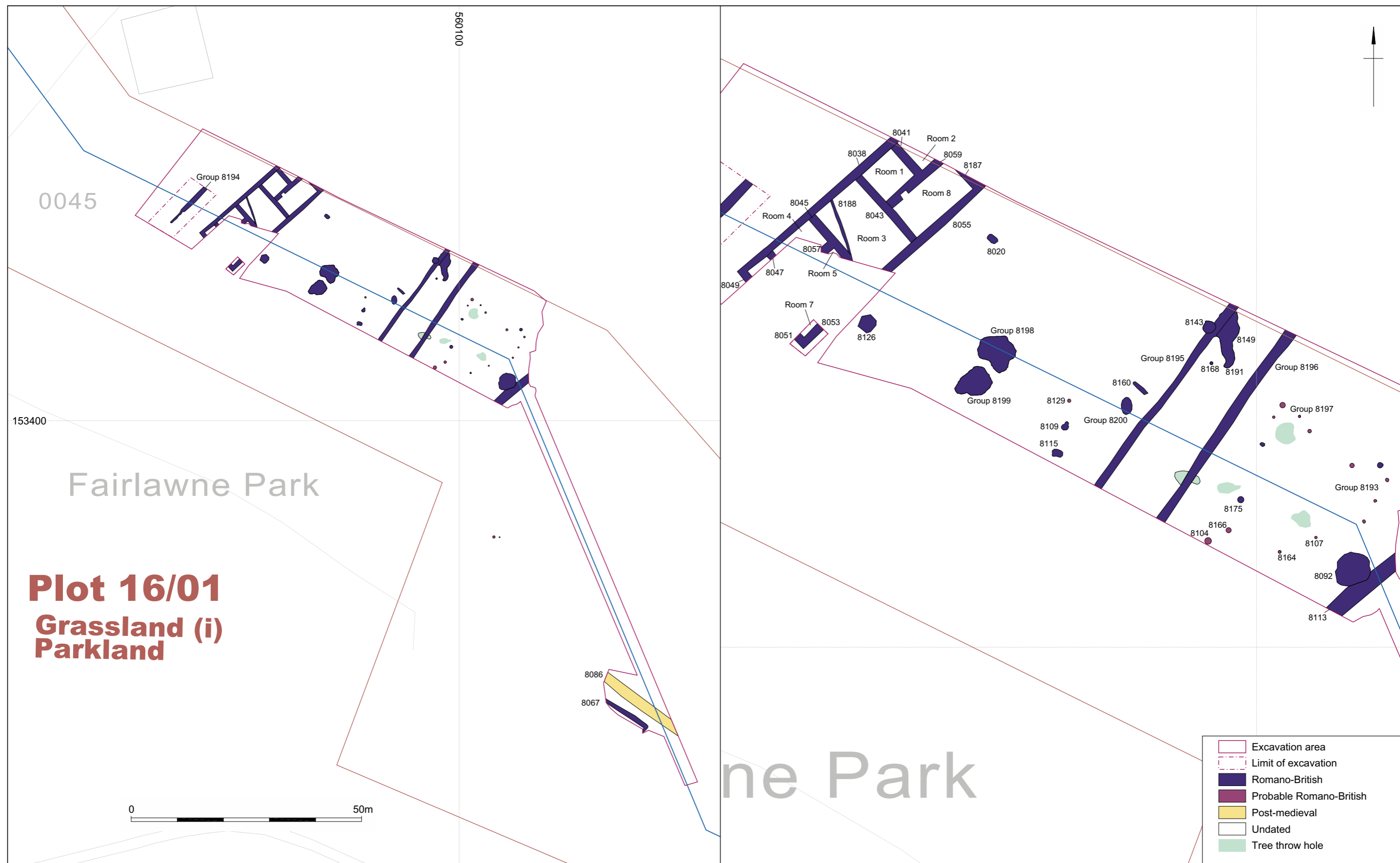
Figure 1




Route of pipeline
Plots

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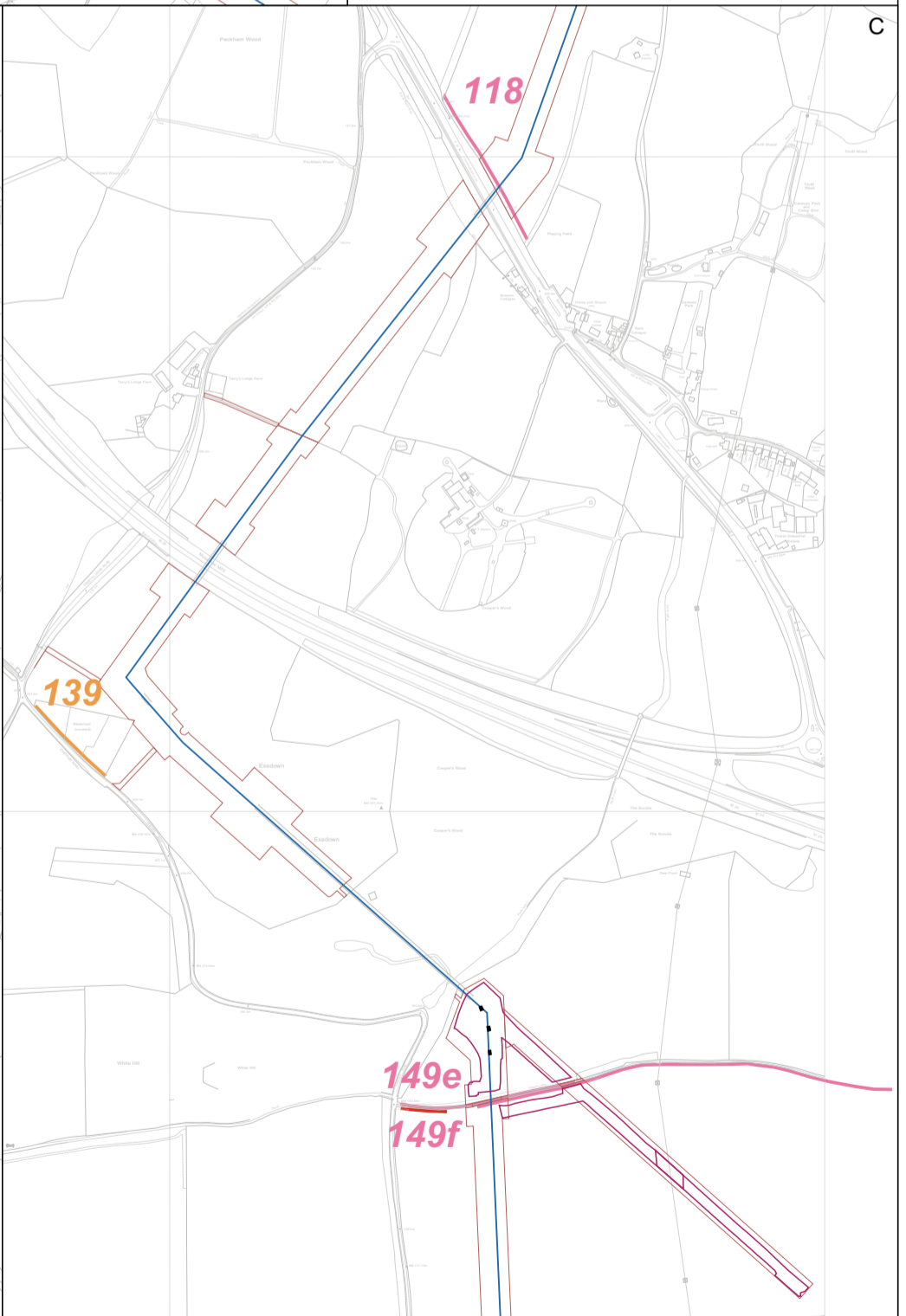
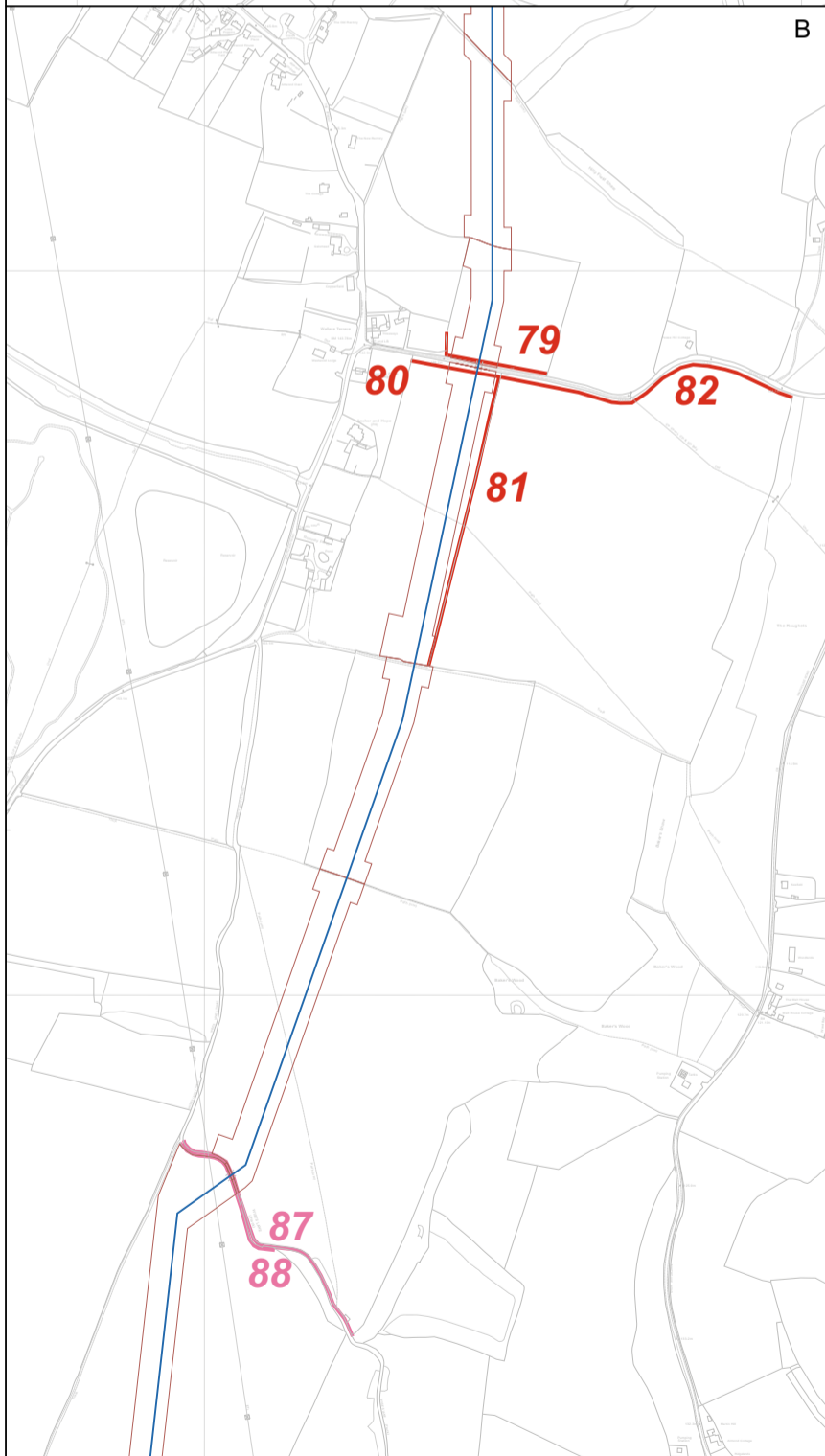
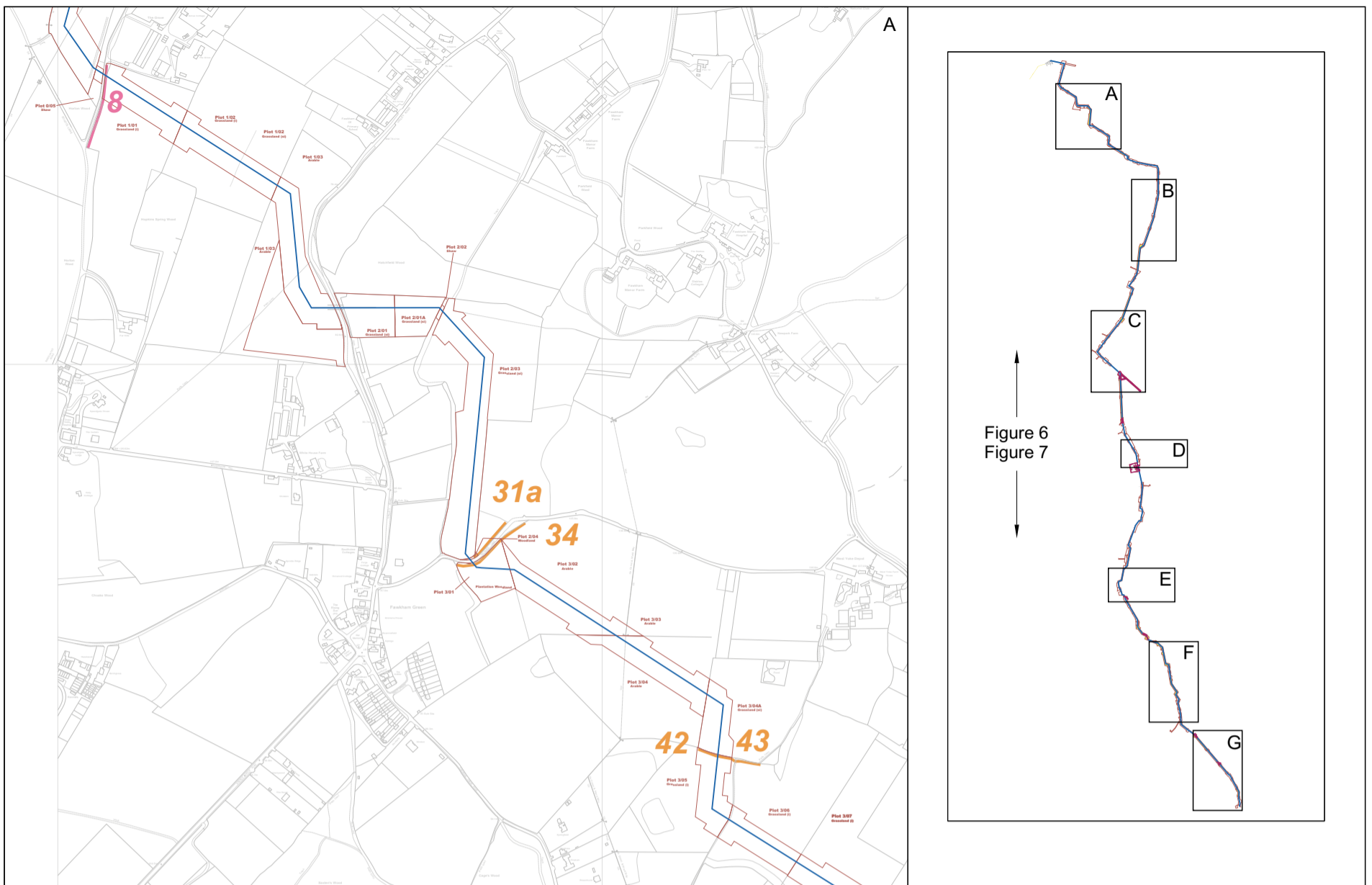
Plot 16/01
Grassland (i)
Parkland



Route of pipeline
 Plots

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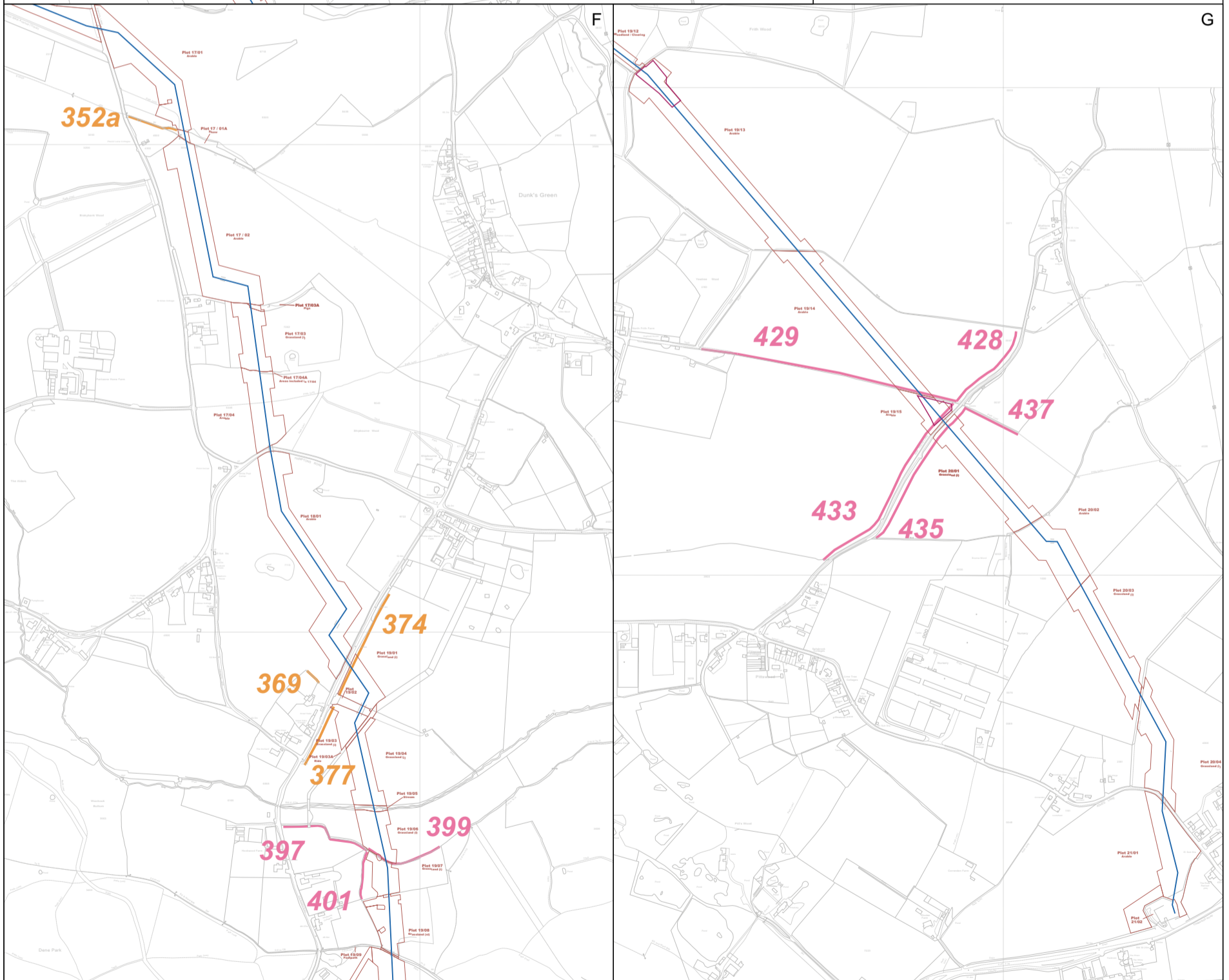
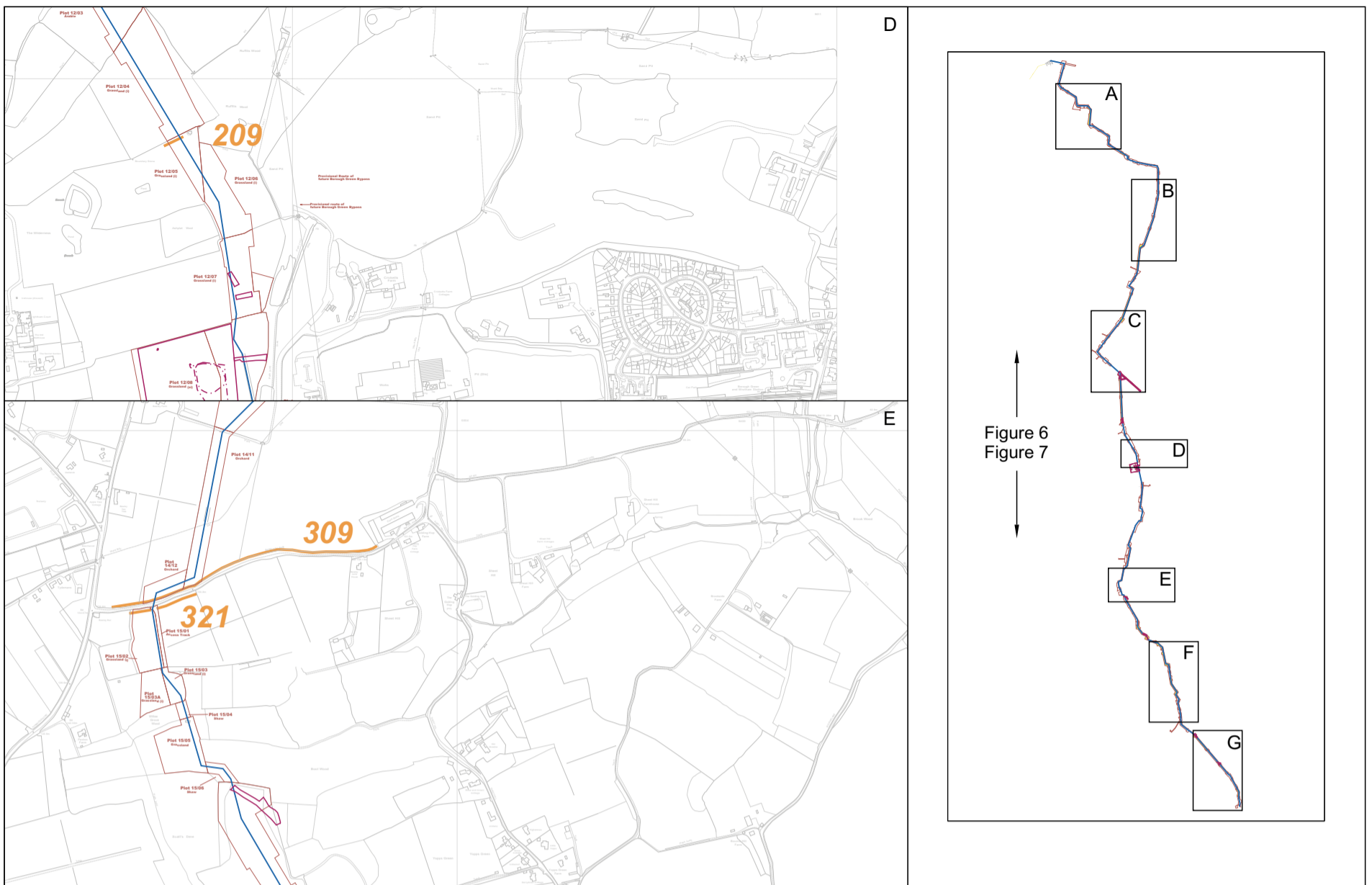
- Route of pipeline
- Hedgerows with very high significance
- Plots
- Hedgerows with high significance
- Hedgerows with moderate significance

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Location of historic hedgerows along the pipeline route corridor

Figure 6



- Route of pipeline
- Hedgerows with very high significance
- Plots
- Hedgerows with high significance
- Hedgerows with moderate significance

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Location of historic hedgerows along the pipeline route corridor

Figure 7





Plate 1: Aerial shot of enclosure entrance



Plate 2: Aerial shot of palaeochannel

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Plate 3: Palaeochannel [6455] following pipe trenching



Plate 4: Enclosure ditch group 6434 view from south

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Plate 5: Kiln/oven [6064], group 6110, view from east



Plate 6: Kiln/oven [6064], group 6110, under excavation view from west

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Plate 7: Pit/pond Group 6451 view from south



Plate 8: Pit [6084] view from west

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Plate 9: Working shot of pit/pond group 6451 under excavation

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Plate 10: Aerial view of MT02 looking west

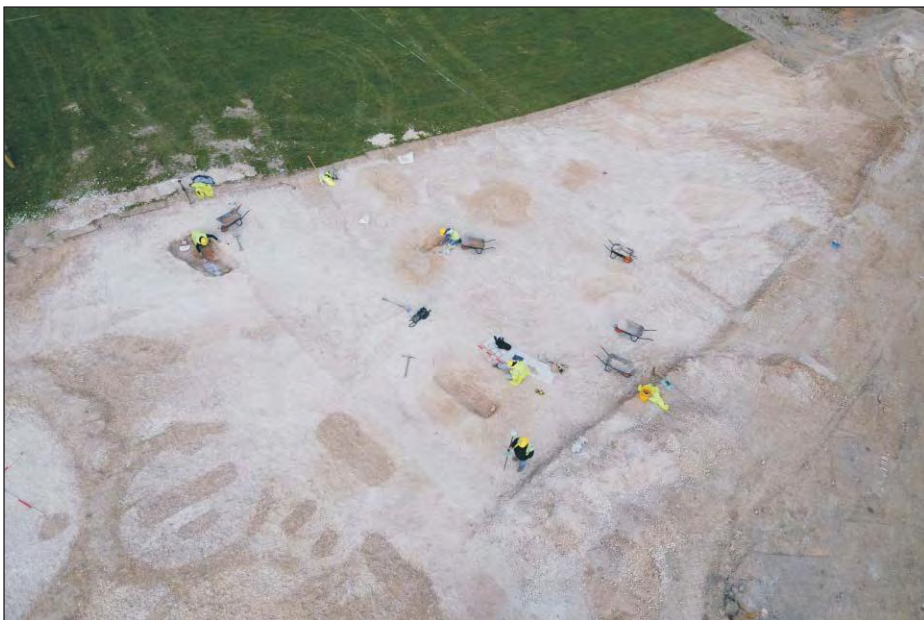


Plate 11: Aerial view of MT02 looking east

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Plate 12: Plan view of skeleton (7004) with sword



Plate 13: Working shot of grave [7010]

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Plate 14: Aerial close up of penannular barrows groups 7065 & 7175

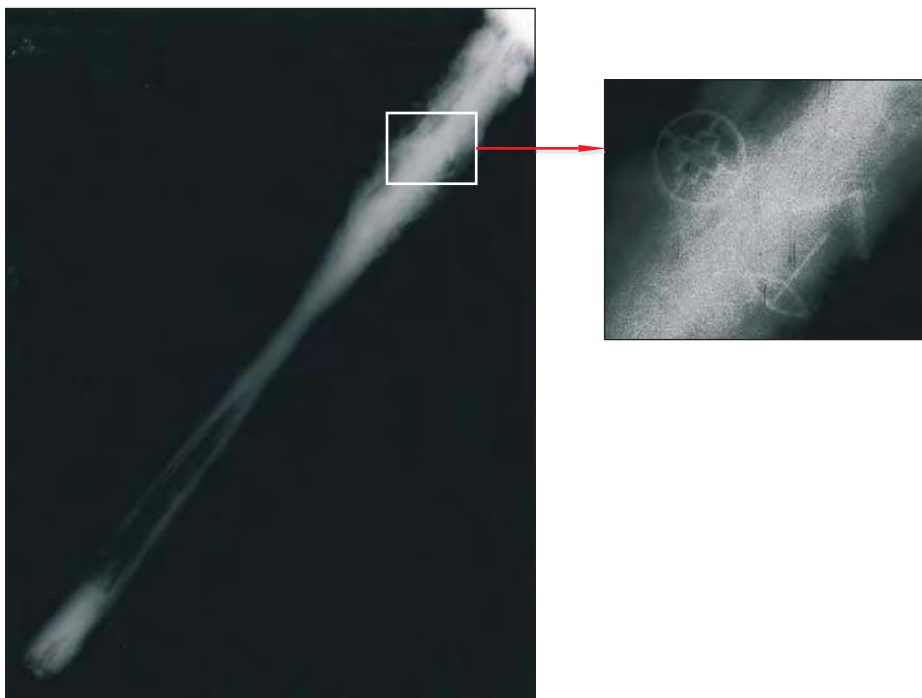


Plate 15: X-Ray of spear head object 73 from grave [7049]

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Plate 16: Plan view of grave [7040]



Plate 17: Aerial close up of main barrow group 7034

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Plate 18: Working shot of grave [7067]
view from north showing coffin stain



Plate 19: Working shot of skeleton (7068)



Plate 20: Working shot of skeleton (7068)
showing position in grave cut

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Plate 21: Close up of object 79 from grave [7067]

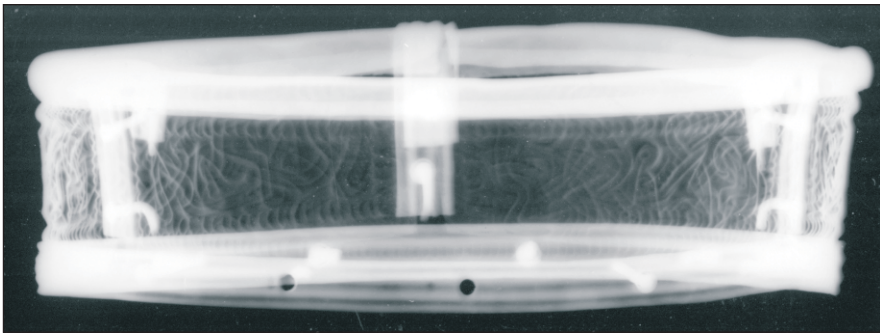


Plate 22: X-Ray of object 79



Plate 23: Close up of claw beaker object 229 from grave [7067]

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Plate 24: Over view of enclosure view from south



Plate 25: Enclosure entrance ditch group 5409 view from south/east

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Plate 26: Enclosure ditch group 5409 with re-cut group 5410 view from south/west



Plate 27: Pit [5340] view from south/east



Plate 28: Pit [5242] view from south

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Plate 29: Aerial shot of Roman-British villa



Plate 30: Close up of wall (8038) view from north/west

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Plate 31: Room 1 view from south/west



Plate 32: Room 4 view from north/west

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Plate 33: Plan view of oven [8109]



Plate 34: Working shot of pottery in ditch group 8196 view from south/east

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Plate 35: Section of well [8092] view from north/east

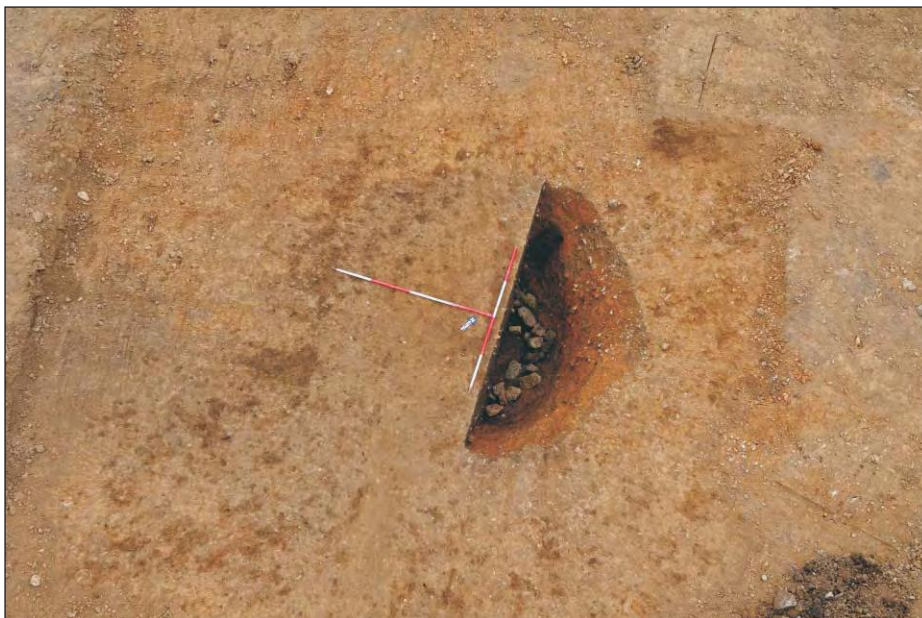


Plate 36: Aerial view of well [8092]

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WESSEX ARCHAEOLOGY LIMITED.

Registered Head Office: Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB.

Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk

Maidstone Office: The Malthouse, The Oast, Weaving Street, Maidstone, Kent ME14 5JN.

Tel: 01622 739381 info@wessexarch.co.uk www.wessexarch.co.uk

