

# Braintree PZ Supply Demand Balance: Bocking to Braintree, Essex



## Archaeological Strip, Map and Monitoring



July 2016

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**Braintree PZ Supply Demand Balance: Bocking to Braintree, Essex.**

*Archaeological Strip, Map and Monitoring*

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## Summary

*Oxford Archaeology East undertook monitoring, strip and map recording, and excavation along the route of the Braintree PZ Supply\Demand Balance pipeline for Anglian Water. This report deals with those sites and findings uncovered on the route from Bocking (TL7590 2538), in the north, to Panfield Lane, Braintree (TL7501 2368), in the south, between the 25th August 2014 to 3rd March 2015.*

*Archaeological monitoring was required along virtually the entire length of the pipeline which ran for 2.2km. Three fields in the northern segment (Bocking to Braintree) were selected for strip and map excavation due to the presence of cropmarks, indicative of archaeological sites, recorded in the Historic Environment Record.*

*Two archaeological sites were uncovered along the route to the north of Braintree. Site 1 consisted of a cobbled surface or track which may have dated to the medieval period, while enclosures and other medieval features with evidence for metalworking (iron smithing) was uncovered at Site 2.*

*Monitoring of topsoil removal along the remainder of the route uncovered no significant archaeological features. A metal detector survey, conducted along the entire route, recovered Roman and medieval coins that probably represent casual loss, although their presence does indicate some activity in the vicinity during these periods.*



## 1 INTRODUCTION

### 1.1 Location and scope of work

- 1.1.1 Archaeological monitoring, strip and map recording, and targeted excavation were conducted by Oxford Archaeology East (OA East) along the route of the Braintree PZ Supply/Demand balance pipeline extending from Bocking near Braintree to Ardleigh Reservoir near Colchester, Essex. This report covers those sections of the route running from north of the Deanery, Bocking (Figure 1; TL7590 2538) southwards for 2.2km to Panfield Road, Braintree. Other sections of the route are detailed in OA East reports 1685 and 1788 (Rees 2016a and b).
- 1.1.2 This archaeological monitoring and excavation along the route was undertaken in accordance with a Brief issued by Teresa O'Connor of Essex County Council (ECC) supplemented by Specifications prepared by OA East (Drummond-Murray 2014).
- 1.1.3 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed development area, in accordance with the guidelines set out in *National Planning Policy Framework* (Department for Communities and Local Government March 2012).
- 1.1.4 The site archive is currently held by OA East and will be deposited with the appropriate county stores in due course.

### 1.2 Geology and topography

- 1.2.1 The majority of the pipeline routes lie on Lowestoft Formation Sand and Gravels overlying London Clay (<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>). The pipeline crossed through predominantly arable farmland and pasture with segments also falling within more urban and residential areas around Braintree. The route lay at a height of 45m OD at its northernmost point and climbed steadily to 72m OD at Panfield Lane. From Braintree to Crossing the elevation of the route fell from 69m to 65m OD in a shallow valley before rising again to 69m OD at its southern end.
- 1.2.2 The route of the pipeline extended west from Bocking Deanery, crossing the River Blackwell, then turned south-west, roughly following the line of Deanery Hill. The route then went south through farmland for c.1km before turning and running adjacent to Panfield Lane: this section ended at the roundabout junction with Porter's Field.

### 1.3 Archaeological and historical background

- 1.3.1 A search of the Essex Historic Environment Record (EHER) was carried out for all sites within 500m of the route of the pipeline (Figure 2). This information has been supplemented by reference to published works in the vicinity of the sites identified. The northern end of the pipeline in Bocking crosses the designated Historic Conservation Area of Church Street, which contains numerous buildings and remains dating to the medieval and post-medieval periods.

#### ***Prehistoric***

- 1.3.2 There is evidence for continuous human occupation in Essex from the Palaeolithic period onwards with flint scatters including tools having been recovered from across the county; associated particularly with ecotonal and estuarine environments (Wymer 1996, 2; Jacobi 1996, 10). The only evidence of early prehistoric activity from the Study Area



comes from a single flint blade dated to the to Mesolithic period found during field walking at Doreward's Hall (EHER47071).

- 1.3.3 Across the county it is common to find Neolithic sites associated with earlier, Mesolithic, activity. There was an increasing emphasis towards estuarine locations and river terrace deposits. There are no sites of this period within the Study Area, however Neolithic Carinated Bowl pottery was recovered from Great Waltham, 10km to the south, indicating a Neolithic presence in this landscape (Healy 2012, 3).
- 1.3.4 River valleys, such as that of the Blackwater, continued in importance into the Bronze Age, with these corridors often being the focus of settlement and communication in the Middle and Later Bronze Age (Yates 2012, 31). Pottery dating to this period was recorded as being recovered from a gravel pit to the south-west of Doreward's Hall, Bocking in 1928 (EHER6264; EHER6275). This may indicate that a cremation cemetery was located in this area on the terrace gravels adjacent to the river.
- 1.3.5 There are no Iron Age sites within the Study Area, the nearest major sites are the settlement of Little Waltham 10km to the south and the cemetery at Boreham, 14km to the south (Sealey 2012, 40; 46).

#### ***Roman (AD43-c.410)***

- 1.3.6 Two important Roman roads intersect to the south of the Study Area. The Chelmsford to Long Melford road runs north-east to south-west and passes 850m to the east of the pipeline route at Bocking (EHER6057). This road intersects with the course of Stane Street, which runs east to west through the centre of Braintree, 600m to the south of the pipeline route at Panfield Lane (EHER1226).
- 1.3.7 Although no major settlement appears to have been located in this area during the Roman period, evidence of occupation has been found. Cremations possibly dating to the Early Roman period (EHER6471) have been uncovered on Rosemary Avenue, 500m to the east of Panfield Lane, whilst a coin also dating to the Early Roman period was found at Bocking (EHER6344), close to the route of the pipeline. Another coin of Roman date has been found at Bovingdon Road, Bocking (EHER6263).

#### ***Saxon and Medieval***

- 1.3.8 There is no known archaeological evidence for Saxon occupation in the area, however historical sources record that Bocking belonged to the Saxon thegn *Aetheric* in the late 10th century before he bequeathed it to the monks of Christchurch, Canterbury in c.995AD (Medlycott 1998). Part of his bequest may have included the Old Deanery, which is located 80m south of the route on the western side of the river.
- 1.3.9 Excavations at the Old Deanery uncovered ditches dating from the 12th to 14th century, however the majority of the standing remains, including a timber framed dovecote (EHER18014), date to the late medieval and post-medieval period (EHER28018; EHER18013).
- 1.3.10 Two manor houses that also date to this period are located in the Study Area. Bocking Hall, 225m to the north of the route, may have been the manor for the monks of Christchurch (EHER27991; EHER27990). Excavations here recovered medieval pottery (Newman 2012) pre-dating the rebuilding of the house in the 16th century (EHER48216).
- 1.3.11 The church of St Mary the Virgin in Bocking has a medieval origin, with the earliest component being some 13th-century scroll iron-work ornamentation on a 14th century doorway.

- 1.3.12 At the northern end of the route the pipeline began close to the track leading to the site of the medieval Doreward's Hall (EHER16311). The current timber framed house dates to the 16th century whilst a timber framed barn in the grounds dates from the 15th century (EHER16312). There are several other standing buildings which date from the medieval period in Bocking. These include the King William public house (EHER46895), where an evaluation uncovered medieval features (Ennis 2009; EHER47111), three timber framed buildings on Church Lane (EHER16310), an Alms House (EHER18420) and the Guildhall (EHER18426).

#### ***Post-medieval***

- 1.3.13 There are numerous remains from the post-medieval period in the area, however none of these lie directly on the route of the pipeline. The northern part of the pipeline in Bocking crossed the designated Historic Conservation Area of Church Street where numerous buildings dating to this period stand. The closest of these are two timber framed houses 25m to the south-east of the route (EHER16313, EHER27987). Other buildings include an Alms House (EHER27988), the 17th century timber framed King William Inn (EHER27999) and the 18th-19th century Rose and Crown public house (EHER28002) as well as a further seven timber framed houses (EHER27994; EHER27995; EHER27996; EHER27997; EHER28000; EHER28001; EHER28003) and two 19th century brick buildings (EHER28004; EHER15858). A 19th century cloth mill stands 175m to the north-west of the route.

#### ***Cropmarks***

- 1.3.14 There are 10 entries in the EHER for cropmarks, primarily plotted as part of the National Mapping Programme, which may represent archaeological features in or adjacent to the Study Area (Figure 2; Figure 3). The Brief for archaeological works highlighted two fields along the course of the route, west of Panfield Lane, where the pipeline crossed cropmarks likely to be of an archaeological nature. These cropmarks (EHER14177) consist of linear features possibly representing former field boundaries.
- 1.3.15 Cropmarks in the vicinity of north-west Braintree and Bocking consist primarily of linear features denoting the possible locations of former field boundaries (EHER14228; EHER14230; EHER14221; EHER14236; EHER14237), trackways and ring ditches (EHER8909; EHER14164).
- 1.3.16 A site identified to the south of Panfield, 200m to the west of the route, consists of linear cropmarks representing possible trackways and ring ditches (EHER6508). These features may be associated with a Roman villa thought to exist in the vicinity.

## **1.4 Acknowledgements**

- 1.4.1 The authors would like to thank Jo Everitt of Anglian Water who commissioned and funded the works. The sites were monitored by Teresa O'Connor whilst the archaeological works were managed by James Drummond-Murray. Mark LePort of @One Alliance managed the overall work on this segment of the pipeline and facilitated the archaeological works through provision of machines and drivers. The work was directed by Michael Green with assistance in the field from Graeme Clarke, James Fairbairn (who also carried out the site survey), Diogo Silva and Lucas Barnes. The author is grateful for specialist analysis from Rachel Fosberry, Sarah Percival, Alice Lyons, Chris Faine and Sue Anderson.

## 2 AIMS AND METHODOLOGY

### 2.1 Aims

- 2.1.1 The original aims of the pipeline project were set out in the Brief and Written Scheme of Investigation (O'Connor 2014; Drummond-Murray 2014) prior to the commencement of works. The objective of the monitoring was to mitigate against the effects of the groundworks in the development area and to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any archaeological deposits. In the areas where strip and map recording took place the objective was to document and characterise all features in the designated area.
- 2.1.2 The works also aimed to add to the current knowledge of conditions for the preservation of archaeological remains. Linear works such as these provide a valuable insight in to the depth and preservation of archaeological deposits and sites over a wide area, and it was recognised that the monitoring of this pipeline would provide an opportunity to characterise and map archaeological deposits on a large scale.
- 2.1.3 The aims and objectives of the excavation were developed with reference to the Regional Research Agendas (Medlycott 2011; Brown and Glazebrook 2000). The following research questions are of particular note for the sites encountered along the route of the pipeline in this area:
- To establish or confirm the date and character of a representative sample of sites mapped by aerial photography
  - Site densities, land-use and locational preferences during the Roman period
  - Characterisation of medieval settlement forms and functions.

### 2.2 Methodology

- 2.2.1 The methodology used followed that outlined in the Brief and detailed in the Written Scheme of Investigation. Three segments of the route were highlighted prior to the commencement of works as requiring strip and map recording. These were at the following chainages:
- 500m – 800m on land north and west of the Deanery
  - 1000m – 1250m on land south-west of the car park at Towerlands
  - 2000m to Panfield Lane
- 2.2.2 Machine excavation was carried out on all parts of the route by a 360-type tracked excavator using a 1.8m wide flat bladed ditching bucket. Where archaeological deposits were identified, and in the three areas where strip and map recording was required, the machining took place under constant supervision by a suitably qualified and experienced archaeologist. Monitoring of the topsoil removal was carried out under archaeological supervision. Where potential archaeological features were identified prior to or during monitoring, and with the agreement of the site manager and local authority representative, the methodology reverted to that of strip and map. Trenches generally measured between 10m and 15m wide. Where overlying deposits were found to continue to a depth greater than that of the topsoil, further monitoring was conducted during the cutting of the pipe trench. Monitoring also took place of the pits at locations where the pipeline had to be drilled under roads and water courses.
- 2.2.3 Topsoil was scanned with a metal detector prior to stripping and all spoil, exposed surfaces and features exposed by the strip were scanned. All metal-detected and

hand-collected finds were retained for inspection, other than those which were obviously modern.

- 2.2.4 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and photographs were taken of all relevant features and deposits.
- 2.2.5 The site survey was carried out using a survey grade Leica 1200 dGPS.
- 2.2.6 Environmental samples were taken from archaeologically secure contexts for flotation and residue analysis. Two samples were taken from features located along this part of the pipeline, both from Site 2.
- 2.2.7 The site conditions were generally good (Plate 1), mostly located in ploughed arable fields or pasture with access pre-arranged by Anglian Water.

## 3 RESULTS

### 3.1 Introduction

3.1.1 The results of the archaeological works are discussed below from north to south, along the route of the pipeline, beginning at Bocking. The route has been separated into chainages (measured in metres from the start of the route in Bocking going south) in order to aid description and location of the findings. Only chainages where archaeological features were uncovered are mentioned below. Topsoil varied in thickness from 0.10m to 0.40m whilst subsoil, where present, measured up to 0.4m thick. As expected, the greatest depths of subsoil were encountered in those fields which lay under pasture and had not recently been subject to ploughing. A comprehensive listing of topsoil depths and contexts excavated is recorded in Appendix A, supplemented by finds and environmental reports included as Appendices B and C.

### 3.2 Bocking to Panfield Lane (BOCAW14)

#### *Site 1: Chainage 1000-1250m (Figure 4)*

- 3.2.1 This part of the pipeline route passed adjacent to a golf course south of Panfield Road and 140m to the west of Panfield Lane. The trench in this area measured 10.20m wide, increasing to 16.4m wide at the south-western end where archaeological deposits were uncovered. Post-medieval pottery and ceramic building material (CBM) were recovered from the topsoil and subsoil. Three features were uncovered in this field: two linear features and one posthole.
- 3.2.2 Ditch **50** was orientated east to west and terminated 3.6m from the south-western baulk. It measured 0.70m wide and 0.14m deep and contained a single, firm dark grey clayey-silt fill (51) with charcoal and flint inclusions. Pottery dating to the early and high medieval periods, along with a pig mandible, was recovered from this feature (Appendix B3).
- 3.2.3 A large, shallow feature was located adjacent to the terminus of the ditch, running on a north-west to south-east alignment in the southern corner of the trench. This feature (**45**), measuring 15.9m long, 4.20m wide and 0.30m deep, had an irregular base and sides and contained two fills (Figure 6, Section 14). The lower fill (46) consisted of a light yellow-brown soft silty clay with frequent cobble inclusions measuring up to 0.1m in diameter (Plate 2). Medieval pottery dating to the late 12th to early 13th century and a copper alloy buckle plate (SF2) were recovered from this possible surface (Appendix B1; B3). The cobbles were overlain by a mid grey-brown soft silt (47) from which medieval pottery and abraded Roman CBM were recovered (Appendix B3; B4).
- 3.2.4 The upper fill of ditch **45** was truncated by a posthole (**48**), measuring 0.30m in diameter and 0.14m deep, which had a 'U' shaped profile (Figure 6, Section 15). A single piece of pottery dating to the medieval period was recovered from the only fill (49) of this feature. No other structural evidence was uncovered in this trench.

#### *Site 2: Chainage 1550-1650m (Figure 5)*

- 3.2.5 Two fields had been selected for strip and map excavation to the west of Panfield Lane before it crossed into the road. Archaeological deposits were encountered only at the northern end of these fields. Site 2 was uncovered in a trench measuring 50m from north to south and 11.50m wide. Removal of 0.2m to 0.3m of topsoil revealed eight linear features, two discrete features and one layer representing at least two phases of



medieval activity possibly associated with iron working. Post-medieval pottery and CBM were recovered from the topsoil and subsoil.

#### *Earliest features*

- 3.2.6 The earliest features were two ditches, a pit and a layer located in the centre of the excavated area. The layer (24), measuring, 7.90m north to south and 7.40m east to west, consisted of a mid brown-grey firm silty-sand with frequent small flint inclusions and charcoal flecks which may have accumulated in a natural sub-oval hollow measuring 0.1m deep. Late 12th/early 13th century pottery as well as slag were recovered from this deposit.
- 3.2.7 This layer was truncated by an 'L' shaped ditch (**16**, **22** and **18**), located 19m from the northern baulk, which ran east-north-east to west-south-west for 6.16m before turning south-south-east for a further 10.90m where it terminated (Plate 3). This ditch measured up to 1.26m wide and 0.2m deep and contained a mid-dark grey-brown clay-silt fill (17, 19 and 23) that produced pottery dating to the 12th to 15th century along with a lead fragment and metalworking debris (Appendix B1; Appendix B3).
- 3.2.8 The terminus of a second ditch (**38**) was located 0.5m to the east and may have been closely associated with the 'L' shaped ditch. This ditch, orientated east to west, measured 0.51m wide and 0.12m deep and contained a mid-grey soft silty-clay fill (39) from which no artefacts were recovered.
- 3.2.9 Ditch **38** was truncated at its western end by a sub-square pit (**40**), measuring 0.74m wide and 0.54m deep. The pit, which had steep sides and a flat base, contained a single dark-grey soft clayey-silt fill (41) from which a single sherd of early medieval pottery and a small amount of slag were recovered.

#### *Later features*

- 3.2.10 The earlier features were truncated by a curvilinear ditch that measured 17m from north-west to south-east (**12**) before kinking to the south-west (**36**) for a further 5.40m where it terminated. Measuring up to 0.7m wide and 0.16m deep this ditch had a 'U' shaped profile and concave base that became narrower towards the south. A homogeneous soft dark grey-brown clay-silt fill (13 and 37) filled the ditch and contained pottery dating to the 12th to 13th century along with a later medieval copper alloy loop buckle (Appendix B1; B3). An environmental sample from this feature produced charred cereals along with a large amount of hammerscale and charcoal (Appendix C2).
- 3.2.11 This curvilinear ditch was truncated at its northern end by a boundary ditch (**14**). This ditch, exposed for a distance of 14m long from east-north-east to west-south-west, was in excess of 1.5m wide and 0.27m deep with a shallow 'U' shaped profile and a concave base. A single friable olive brown clayey silt fill (15) was contained in this ditch, from which early medieval pottery was recovered.
- 3.2.12 Another ditch (**34**) was revealed to the south of the boundary ditch that ran from north-west to south-east from a terminus in the centre of the trench to the eastern baulk. Measuring 0.78m wide and 0.09m deep, this ditch contained a mid grey soft clayey-silt fill (35) from which slag and pottery dating to the early and high medieval period were recovered. This ditch was perpendicular to ditch **14** and roughly parallel with ditch **36**.
- 3.2.13 At the southern end of this feature a short length of another ditch (**30**), terminating 2.75m to the west of the eastern baulk, was uncovered. This ditch, measuring 0.7m wide and 0.39m deep, had a steep 'V' shaped profile and contained a single dark grey soft clayey-silt fill (31) from which 13th century pottery and slag were recovered (Figure

6, Section 9). An environmental sample from this feature produced charred cereals and legumes along with a large amount of hammerscale and charcoal (Appendix C2).

- 3.2.14 Two discrete features were bounded by ditch **22** to the west, **18** to the north and **36** to the east and south. One of these, a sub-rectangular pit (**20**), measuring 1.90m long, 1.34m wide and 0.42m deep, had steep sides and a flat base and contained a single mid grey soft clayey-silt fill (21) from which early and high medieval pottery was recovered (Plate 4).
- 3.2.15 Located 1.9m to the south of this pit was a small patch of burnt clay (29), measuring 0.35m in diameter, that may have been the result of localised *in-situ* burning (heat-affected natural) rather than a being distinct deposit.
- 3.2.16 An 'L' shaped ditch (**33**) was located to the east of layer 24 and ran for 6.10m north-east to south-west and 2.10 from north-west to south-east from where it presumably continued under the eastern baulk. This ditch, measuring 0.85m wide and 0.22m deep, contained a single mid grey soft clayey silt fill (32) from which a single sherd of pottery dating to the early medieval period was recovered.
- 3.2.17 Orientated north-west to south-east, a short length of ditch (**25**) was located to the south of layer (24). This ditch, measuring 4m long, 0.84m wide and 0.14m deep, had gently sloping concave sides and contained a mid greyish-brown soft clayey-silt fill (26) from which slag was recovered.
- 3.2.18 Located at the southern end of the trench was a slightly more substantial ditch (**27**) that was orientated roughly east to west (Plate 5). This ditch measured 1.40m wide and 0.52m deep, and had a 'V' shaped profile with a concave base. It contained a mid brown soft clayey-silt fill (28) from which eight sherds of early medieval pottery and a single sherd of medieval pottery were recovered, along with an iron nail, metalworking slag and the point of red-deer antler (Figure 6, Section 7; Appendix B1; B3; C1).

#### **Chainage 1750-2200m**

- 3.2.19 Strip and map monitoring within the remainder of the fields located to the west of Panfield Road uncovered one other possible archaeological deposit. This layer (55; not illustrated), consisting of a light yellow soft silty-sand and measuring 3m wide and 0.1m deep, contained two Roman coins dating to the 2nd and 4th centuries (Appendix B1). This layer may have been remnant subsoil filling a natural hollow.
- 3.2.20 Post-medieval pottery and CBM were recovered from the topsoil and subsoil in this area, along with Roman and post-medieval coins from metal-detecting to the south of the area.

### **3.3 Finds Summary**

- 3.3.1 *Metalwork*: Metalwork was recovered from seven different contexts; four of these contexts were related to features, one at Site 1 and three at Site 2; whilst the remaining three were unstratified finds from metal-detecting of the topsoil and subsoil. Artefacts dating to the Roman, medieval and post-medieval periods were recovered.
- 3.3.2 *Metalworking Debris*: A total of 21 pieces of metal-working debris weighing 1,815g was collected from nine excavated contexts. The assemblage comprises a mix of undiagnostic iron-rich debris and iron smithing slag including a hearth base.
- 3.3.3 *Post-Roman Pottery*: Pottery was collected from five contexts at Site 1 (86 sherds; 991g) and 13 contexts (75 sherds; 263g) at Site 2. It includes a variety of coarse and finer wares. Dating from both sites tends to indicate a peak of activity in the mid to late 12th to 13th century.

3.3.4 *Ceramic Building Material*: Seven fragments of CBM were recovered from one context at Site 1. These included floor/wall tiles that may date to the Roman period as well as a possible post-medieval quarry tile.

### **3.4 Environmental Summary**

3.4.1 *Animal Bone*: A total of 35g of animal bone was recovered from both sites, including the point from a red-deer antler and a pig mandible.

3.4.2 *Environmental Samples*: Bulk samples were taken from ditch fills within the excavated area of Site 1. Both ditches sampled contained fills that contained large amounts of charcoal and slag and are thought to date to the early medieval period.



## 4 DISCUSSION AND CONCLUSIONS

### 4.1 Site 1 (Chainage 1000-1250m)

4.1.1 Archaeological features were uncovered in a small area adjacent to the golf course south of Panfield Road. These remains consisted of a single posthole (**48**), a ditch (**50**), a layer (**52**) and a cobbled surface possibly within a shallow ditch or hollow (**45**). The features all contained medieval pottery dating from the 12th to 13th century. The presence of the cobbled surface may indicate that this location lies on an historic routeway, whilst the association with a quantity of pottery in this area indicates that there is potential for medieval domestic activity to be located nearby.

### 4.2 Site 2 (Chainage 1550-1650m)

4.2.1 A total of 13 features were uncovered just below the topsoil strip at this site. A series of roughly contemporary small enclosures and associated features were uncovered that appear to date to the earlier medieval period and were apparently associated with metalworking (iron smithing). As well as pottery, slag, a possible hearth bottom and hammerscale were found in many of the features, suggesting that this may have been part of a small industrial area used for metalworking. At least two phases of medieval activity were identified, indicating some longevity of use and remodelling/maintenance of the enclosures. No structures could be seen that may have been associated with the industrial activities, but an area of *in situ* burning (**29**) may have been directly related to metalworking within the enclosures.

4.2.2 The ditches located at this site may relate to those recorded on aerial photographs of the area (EHER14177). It is likely that an industrial area such as this would lie on the outskirts of settlement, and as such it is possible that a previously unknown early medieval settlement lies nearby.

### 4.3 Metal-detecting finds

4.3.1 Although no features dating to the Roman period were uncovered along the route of the pipeline, it is notable that Roman coins were recovered along with other metalwork in the fields to the south of the pipeline, adjacent to Panfield Lane. It is possible that features in this area were ploughed out due to shallow topsoil depth.

4.3.2 These finds add to the picture of small scale Roman activity in this part of Braintree in this period, already recorded in the EHER.

### 4.4 Significance

4.4.1 Those findings at Sites 1 and 2 are of significance to the study of the early medieval development of Braintree and its surroundings. Metalworking sites from this period are not common and this adds to the significance of Site 2.

APPENDIX A. TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

**Trench Depths: Bocking to Braintree**

<b>BOCAW14</b>			
<b>Chainage (m)</b>	<b>Topsoil Depth (m)</b>	<b>Subsoil Depth (m)</b>	<b>Features and Finds</b>
0-500	0.20	-	No features.
500-700	0.3	0.1-0.3	No features. Pottery and CBM (post-med)
750-800	0.3	0.2-0.3	No features. Pottery and CBM (post-med)
1000-1250	0.1-0.4	0.1-0.2	Site 1. Medieval\Post-medieval
1300-1550	0.3	0.05-0.4	No features.
1550-1650	0.2-0.3	-	Site 2. Medieval
1750-1850	0.3	0.1	1 feature. 2 Roman Coins
2000-2200	0.2	0.1	No features. 2 Roman Coins. Post-med coins, pottery and CBM.



### Context Inventory

Site code:	Site	Context	Cut	Chain	Cat.	Type	L	B	D	Colour	Fine comp	Compacti on	Shape in Plan	Side	B.o.S	Base	Orie ntati on	Profile
BOCAW14		1		500-700	layer	topsoil			0.2	Mid brown	clayey silt	soft						
BOCAW14		2		500-700	layer	subsoil			0.3	Light yellowish brown	silty clay	soft						
BOCAW14		3		750-800	layer	topsoil	0		0.2									
BOCAW14		4		750-800	layer	subsoil	0		0.3									
BOCAW14		5		1250-1550	layer	topsoil	0		0.4	Mid brown	clayey silt	soft						
BOCAW14		6		1250-1550	layer	subsoil	0		0.4	Light yellowish brown	silty clay	soft						
BOCAW14	2	7		1550-1650	layer	topsoil	0		0.2	Mid brown	clayey silt	plastic						
BOCAW14	2	8		1550-1650	layer	subsoil	0			Mid yellowish brown	silty clay	soft						
BOCAW14		9		2000-2250	layer	topsoil	0			Mid brown	clayey silt	soft						
BOCAW14		10		2000-2250	layer	subsoil	0		0.1									
BOCAW14	2	11		1550-1650	layer	natural	0			Mid orangey yellow	clay	firm						
BOCAW14	2	12	<b>12</b>	1550-	cut	ditch	0	0.7	0.16				linear	gradu	imperc	concave	N-S	U



Site code:	Site	Context	Cut	Chain	Cat.	Type	L	B	D	Colour	Fine comp	Compacti on	Shape in Plan	Side	B.o.S	Base	Orie ntati on	Profile
				1650										al	eptible			shaped
BOCAW14	2	13	<b>12</b>	1550-1650	fill	ditch	0			Dark grey and orange brown	clayey sandy silt	un-compact						
BOCAW14	2	14	<b>14</b>	1550-1650	cut	ditch	0	1.5	0.27				linear	gentle	imperceptible	concave	E-W	wide shallow U shape
BOCAW14	2	15	<b>14</b>	1550-1650	fill	ditch	0			Olive brown	clayey sandy silt	un-compact						
BOCAW14	2	16	<b>16</b>	1550-1650	cut	ditch	0	1	0.1				linear	gentle slope	imperceptible	concave	N-S	U shaped
BOCAW14	2	17	<b>16</b>	1550-1650	fill	ditch	0	1	0.1	Mid greyish brown	silty sandy clay	firm						
BOCAW14	2	18	<b>18</b>	1550-1650	cut	ditch	0	0.47	0.16				linear	steep	sharp	flat	E-W	bowl shaped
BOCAW14	2	19	<b>18</b>	1550-1650	fill	ditch	0	0.47	0.16	Mid greyish brown	silty clay	plastic						
BOCAW14	2	20	<b>20</b>	1550-1650	cut	pit	1.34	1.9	0.42				sub-circular	steep	sharp	flat		bowl shaped
BOCAW14	2	21	<b>20</b>	1550-1650	fill	pit	1.34	1.9	0.42	Mid grey	clayey silt	soft						
BOCAW14	2	22	<b>22</b>	1550-1650	cut	ditch	0	1.26	0.2				linear	gentle slope	gradual	concave	NW-SE	dish
BOCAW14	2	23	<b>22</b>	1550-	fill	ditch	0	1.26	0.2	Dark grey	clayey	soft						



Site code:	Site	Context	Cut	Chain	Cat.	Type	L	B	D	Colour	Fine comp	Compacti on	Shape in Plan	Side	B.o.S	Base	Orie ntati on	Profile
				1650							silt							
BOCAW14	2	24		1550-1650	layer	spread	9	9	0.1	Mid brownish grey	silty clay	firm						
BOCAW14	2	25	<b>25</b>	1550-1650	cut	furrow	0	0.84	0.14				linear	gentle slope	gradual	concave	NW-SE	dish shaped
BOCAW14	2	26	<b>25</b>	1550-1650	fill	furrow	0	0.84	0.14	Mid greyish brown	clayey silt	soft						
BOCAW14	2	27	<b>27</b>	1550-1650	cut	ditch	0	1.4	0.52				linear	steep	sharp	V-shaped	E-W	V-shaped
BOCAW14	2	28	<b>27</b>	1550-1650	fill	ditch	0	1.4	0.52	Mid brown	clayey silt	soft						
BOCAW14	2	29		1550-1650	layer	burnt natural	0.4	0.3	0.03	Mid red	clay	firm						
BOCAW14	2	30	<b>30</b>	1550-1650	cut	ditch	0	0.7	0.39				linear	steep	sharp	V-shaped	E-W	V-shaped
BOCAW14	2	31	<b>30</b>	1550-1650	fill	ditch	0	0.7	0.39	Dark grey	clayey silt	soft						
BOCAW14	2	32	<b>33</b>	1550-1650	fill	ditch	0	0.85	0.22	Mid grey	clayey silt	soft						
BOCAW14	2	33	<b>33</b>	1550-1650	cut	ditch	0	0.85	0.22				linear	gentle slope	gradual	concave	NE-SW	bowl
BOCAW14	2	34	<b>34</b>	1550-1650	cut	furrow	0	0.78	0.09				linear	gentle slope	gradual	concave	NW-SE	dish
BOCAW14	2	35	<b>34</b>	1550-1650	fill	furrow	0	0.78	0.09	Mid grey	clayey silt	soft						
BOCAW14	2	36	<b>36</b>	1550-	cut	ditch	0	0.57	0.12				linear	gentle	gradual	concave	NW-	bowl



Site code:	Site	Context	Cut	Chain	Cat.	Type	L	B	D	Colour	Fine comp	Compacti on	Shape in Plan	Side	B.o.S	Base	Orie ntati on	Profile
				1650										slope			SE	
BOCAW14	2	37	<b>36</b>	1550-1650	fill	ditch	0	0.57	0.12	Dark grey	silt	soft						
BOCAW14	2	38	<b>38</b>	1550-1650	cut	gully	0	0.51	0.12				linear	gentle slope	gradual	concave	E-W	dish
BOCAW14	2	39	<b>38</b>	1550-1650	fill	gully	0	0.51	0.12	Mid grey	silty clay	soft						
BOCAW14	2	40	<b>40</b>	1550-1650	cut	pit	0	0.75	0.54				sub-circular	steep	sharp	flat		wide U shape
BOCAW14	2	41	<b>40</b>	1550-1650	fill	pit	0	0.75	0.54	Dark grey	clayey silt	soft						
BOCAW14	1	42		1000-1250	layer	topsoil	0		0.3	Mid brown	silt	soft						
BOCAW14	1	43		1000-1250	layer	subsoil	0		0.2	Light yellowish brown	clayey silt	soft						
BOCAW14	1	44		1000-1250	layer	natural				Light yellow	clay	plastic						
BOCAW14	1	45	<b>45</b>	1000-1250	cut	trackway	15.9		0.3				irregular	gentle slope	gradual	irregular	E-W	
BOCAW14	1	46	<b>45</b>	1000-1250	fill	trackway	15.9	1	0.1	Light yellowish brown	silty clay	soft						
BOCAW14	1	47	<b>45</b>	1000-1250	fill	trackway	15.9		0.2	Mid greyish brown	silt	soft						
BOCAW14	1	48	<b>48</b>	1000-1250	cut	posthole	0	0.3	0.14				circular	steep	sharp	concave		U shape



Site code:	Site	Context	Cut	Chain	Cat.	Type	L	B	D	Colour	Fine comp	Compacti on	Shape in Plan	Side	B.o.S	Base	Orie ntati on	Profile
BOCAW14	1	49	<b>48</b>	1000-1250	fill	posthole	0	0.3	0.14	Dark grey	clay	firm						
BOCAW14	1	50	<b>50</b>	1000-1250	cut	ditch	0	0.7	0.14				linear	gentle slope	gradual	concave	NE-SW	bowl
BOCAW14	1	51	<b>50</b>	1000-1250	fill	ditch	0	0.7	0.14	Dark grey	clayey silt	firm						
BOCAW14	1	52		1000-1250	layer		0			Mid yellowish grey	silt	soft						
BOCAW14	2	53		1750-1850	layer	topsoil	0		0.3	Mid brown	clayey silt	soft						
BOCAW14	2	54		1750-1850	layer	subsoil	0		0.1	Light yellow	silty clay	soft						
BOCAW14	2	55		1750-1850	layer		0			Light greyish yellow	sandy silt	loose						

## APPENDIX B. FINDS REPORTS AND CATALOGUES

### B.1 Metalwork

*By Chris Faine*

#### **Introduction**

B.1.1 Metalwork was recovered from seven different contexts along the route of the pipeline between Bocking and Braintree. Four of these contexts were related to features, one at Site 1 and three at Site 2; whilst the remaining three were unstratified finds from metal-detecting of the topsoil and subsoil. Four artefacts, dating to the Roman, medieval and post-medieval periods were recovered from context 9, the number assigned to topsoil at Chainage 2000-2200. Along with the other finds catalogued, they are likely to be the result of casual loss rather than deliberate deposition.

#### **Site 1**

B.1.2 SF 2 (context 46, ditch **45**) Copper alloy single loop buckle with plate. Rectangular frame with pin attached but broken. Outside edge displays three filed grooves on back. Mid 14th-15th century.

#### **Site 2**

B.1.3 SF 3 (context 37, ditch **36**) Copper alloy single loop buckle. Rectangular frame with two knobs at each corner. Mid 14th-15th century.

B.1.4 SF 10 (context 23, ditch **22**) Unidentifiable formless lead fragment. Date uncertain.

B.1.5 SF 11 (context 28, ditch **27**). Square section iron nail with round head. Length: 36mm Head width: 14.5mm. Date: Uncertain.

#### **Unstratified**

B.1.6 SF 1 (context 2, subsoil 500m to 700m) Silver half groat of Edward III (1327-1377). "Pre-Treaty" type. Series E (1354-55 AD). Mint mark: Cross 2 (North 2000). Obverse: +EDW[ARDVS] REX ANGLI Z FRANC. Crowned bust facing within a tressure of nine arches Reverse: Outer: +POS/VI DEV/ADIVT/OREM. Inner: CIVI/TAS/LON/DON; Long cross dividing the inscriptions with three pellets in each quadrant.

B.1.7 SF 4 (context 9 topsoil 2000m-2200m) Copper alloy radiate (270-285 AD). Reverse: PIETAS AVG. Indistinct but may be sacrificial implements. Tetricus (271-274 AD). Diameter: 17.9mm

B.1.8 SF 5 (context 9 topsoil 2000m-2200m) Copper alloy radiate of Tetricus (271-274 AD). Reverse: Illegible. Diameter: 26mm

B.1.9 SF 6 (context 9 topsoil 2000m-2200m) Silver 1817 Half-crown of George III (1760-1820 AD). Obverse: Large bust with Laurel. Reverse: Crowned garter and shield. Diameter: 19.3mm

B.1.10 SF 7 (context 9 topsoil 2000m-2200m) Lead alloy uniface token. Diameter: 24mm. Features a design of a linear cross with angles sub-divided by two half crosses, with two pellets in the gaps. Post-medieval.

B.1.11 SF 8 (context 55, subsoil 1750m-1850m) Copper alloy sesterstius of Faustina (c.176-180 AD). Obverse: Inscription illegible. Reverse: DIANA LVCIFERA Diana standing holding a lighted torch. RIC III, p.350 no.170. Diameter: 28mm



B.1.12 SF 9 (context 55, subsoil 1750m-1850m) Copper alloy nummus of Constantine (330-335 AD.) Obverse: Helmeted bust facing right. Inscription Illegible. Reverse: Two standing figures facing centre. Possibly GLORIA EXERCITVS. Diameter: 16.6mm.

## B.2 Metalworking Debris

*By Sarah Percival*

### **Introduction and methodology**

B.2.1 A total of 21 pieces of metalworking debris (MWD) weighing 1,815g was collected from nine excavated contexts. The assemblage comprises a mix of undiagnostic iron-rich debris and iron smithing slag, including a hearth base.

B.2.2 The complete assemblage was recorded by type by context. The MWD was scanned with a magnet to establish the presence of iron and was counted and weighed to the nearest whole gramme.

Context	Quantity	Weight	Type	Description	Site	Cut	Feature Type
17	1	145	Miscellaneous	Curved vitrified dense possible hearth base	2	16	Ditch
19	1	121	Iron smithing slag	Rusty, vacuoles, one surface vitrified	2	18	Ditch
21	5	286	Iron smithing slag	Rusty, vacuoles, one surface vitrified	2	20	Pit
24	6	142	Iron smithing slag	Rusty, vacuoles, one surface vitrified	2	0	Spread
28	1	89	Iron smithing slag	Rusty, vacuoles	2	27	Ditch
31	1	17	Iron smithing slag	Rusty, vacuoles, one surface vitrified	2	30	Ditch
35	1	827	Iron smithing slag	Plano-convex smithing hearth base rusty with numerous vacuoles and sand adhering to base	2	34	Furrow
37	3	65	Miscellaneous	Vitrified lumps probably smithing slag	2	36	Ditch
41	2	123	Iron smithing slag	Rusty, vacuoles	2	40	Pit
Total	21	1815					

*Table B2.1: Quantity and weight of metal-working debris by context*

### **Description**

B.2.3 Undiagnostic, miscellaneous iron rich metalworking debris was found in two contexts. A curved lump of dense vitrified material found in fill 17 of ditch **16** may be a hearth base while two pieces of rusty iron rich debris with numerous voids were found in fill 37 of ditch **36**.

B.2.4 The smithing slag is composed of a fused mass of iron rich material, again with numerous vacuoles and voids. Smithing slag was found in seven contexts including the fills of pits **20** and **40** and ditches **18**, **27** and **30** and spread **24**. The hearth base was recovered from ditch **34**. The base is dense and heavy with a flat or slightly concave top

and curved base. The underside has sand and debris adhering from contact with the hearth structure in which it formed.

***Discussion***

- B.2.5 None of the material is intrinsically datable but it is probably medieval in keeping with the pottery finds from the features.

## B.3 Post-Roman Pottery

*By Sue Anderson*

### **Introduction**

B.3.1 Pottery was collected from five contexts at Site 1, and thirteen contexts at Site 2.

### **Methodology**

B.3.2 Quantification was carried out using sherd count, weight and estimated vessel equivalent (eve). The minimum number of vessels (MNV) within each context was also recorded, but cross-fitting was not attempted unless particularly distinctive vessels were observed in more than one context. A full quantification by fabric, context and feature is available in the archive. All fabric codes were assigned from the Suffolk post-Roman fabric series, which includes East Anglian and Midlands fabrics, as well as imported wares (equivalent Essex fabrics were noted). Form terminology follows MPRG (1998) and rim forms follow the Essex type series (e.g. Drury 1993; Cunningham 1985). Local wares were identified based on Cotter (2000), and Hedingham wares (Walker 2012) from kiln samples supplied by Helen Walker. Recording uses a system of letters for fabric codes. The results were input directly onto an Access database.

### **Site 1: Chainage 1000–1250**

B.3.3 Eighty-six sherds of pottery (991g) were recovered from five contexts at Site 1. A full catalogue by context is available in the archive. Table B.3.1 shows the quantification by fabric.

Description	Fabric date range	Fabric	No	Wt (g)	eve	MNV
Early medieval sandy ware	11th-M.13th c.	13	7	155	0.18	7
Early medieval ware gritty	11th-M.13th c.	13	5	62		4
Early medieval ware transitional	L.11th-13th c.	13T	15	166		13
Medieval coarseware	12th-14th c.	20	31	254	0.05	30
Medieval coarseware gritty	L.11th-13th c?	20	12	149		12
Medieval coarseware micaceous	12th-14th c.	20	6	88	0.06	6
Hedingham coarseware	L.12th-13th c.	20D	1	28	0.10	1
Colchester-type ware	L.13th-M.16th c.	21A	5	52	0.10	4
Hedingham fine ware	M.12th-13th c.	22	2	28		2
Sandy orange wares	13th-16th c.	21	1	7		1
Post-medieval slipwares	17th-19th c.	40	1	2		1
<i>Totals</i>			<i>86</i>	<i>991</i>	<i>0.49</i>	<i>81</i>

*Table B.3.1: Pottery distribution by fabric at Site 1*

B.3.4 Sixty-two sherds were recovered from the two fills of feature **45**. This group includes examples of all the early and high medieval fabrics shown in Table B.3.1. Six jar rims are present, the range of types (B4, H1 and E2) suggesting that the contexts were of broadly 13th-century date.

B.3.5 Posthole **48** (fill 49) contained one body sherd of medieval micaceous greyware.

B.3.6 Ditch **50** (fill 51) contained 19 body and base sherds of early and high medieval coarsewares. A small sherd of post-medieval blackware with white slip decoration externally was probably intrusive.

- B.3.7 Two sherds of medieval coarseware and a jug rim fragment (type B4, L.12th-E.13th c.) of Colchester-type ware came from layer 52.

**Site 2: Chainage 1550–1650**

- B.3.8 Seventy-five sherds (263g) of pottery were recovered from 13 contexts at Site 2. A full catalogue is available in the archive. Table B.3.2 shows the quantification by fabric.

Description	Fabric date range	Fabric	No	Wt (g)	Eve	MNV
Early medieval sandy wares	11th-M.13th c.	13	21	139		13
Early medieval ware gritty	11th-M.13th c.	13	3	62		3
Early medieval ware transitional	L.11th-13th c.	13T	6	33		5
Medieval coarseware	12th-14th c.	20	20	213	0.40	9
Medieval coarseware gritty	L.11th-13th c?	20	17	270	0.17	14
Medieval coarseware micaceous	12th-14th c.	20	1	5		1
Hedingham fine ware	M.12th-13th c.	22	6	6		1
Sandy orange wares	13th-16th c.	21	1	9		1
<i>Totals</i>			75	737	0.57	47

*Table B.3.2: Pottery distribution by fabric and context in Field A2*

- B.3.9 Layer 24 contained 12 sherds of early and high medieval pottery, including a gritty ware jug handle with thumbing along the edges, and two jars with type B4 rims, suggesting a late 12th to early 13th-century date.
- B.3.10 Fills 17, 19 and 23 of L-shaped ditch **16**, **18**, **22** produced 21 sherds of eight early and high medieval vessels, including a jar rim (type H1, M–L. 13th c.) in a gritty fabric similar to Colchester-type ware.
- B.3.11 Pit **40** (fill 41) contained a single body sherd of early medieval ware (Fabric 13T).
- B.3.12 Curvilinear ditch **12** and **36** (fills 13 and 37) produced six body and base sherds of early and high medieval coarsewares, suggesting a 12th/13th-century or later date.
- B.3.13 Boundary ditch **14** contained only a single sherd of gritty early medieval ware.
- B.3.14 Six body and base sherds of early and high medieval coarsewares were recovered from ditch **34** (fill 35). The early medieval wares are abraded and the medieval coarseware is similar to Colchester-type ware, perhaps indicating a 13th-century or later date.
- B.3.15 Ditch **30** (fill 31) contained four sherds of medieval coarseware, of which one is a jar rim (type C1) similar to an example from the Middleborough kiln assemblage (Cotter 2000, fig. 35, 6th row, 3rd rim) and probably of 13th-century date.
- B.3.16 Pit **20** (fill 21) contained six sherds of early and high medieval coarsewares, including a possible jug handle, and a base fragment of a vessel in a fabric similar to Colchester-type ware.
- B.3.17 One body sherd of gritty early medieval ware came from ditch **33**.
- B.3.18 Ditch **27** (fill 28) contained eight sherds of early medieval wares, seven sherds of a single medieval coarseware jar with a type B4 rim (*cf.* Drury 1993, no. 52) and a body sherd of sandy orange ware.

***Discussion***

- B.3.19 Pottery recovered from both sites includes a variety of coarse and finer sandy fabrics of handmade early and wheelmade high medieval types, recorded under the generic Essex fabric groups 13 and 20. The evidence from the few datable and diagnostic sherds suggests that activity flourished in the mid to late 12th and 13th centuries, with few sherds of later date evident in the assemblage.
- B.3.20 The fabrics and forms are comparable with local assemblages such as the larger groups from Rivenhall (Drury 1993), Ardleigh (Walker 2009) and Colchester (Cunningham 1982; Cotter 2000).

## B.4 Ceramic Building Material

*By Sue Anderson*

### **Introduction**

B.4.1 CBM was collected from one context at Site 1.

### **Methodology**

B.4.2 The assemblage was quantified (count and weight) by fabric and form. Fabrics were identified on the basis of macroscopic appearance and main inclusions. The width, length and thickness of bricks and tiles were measured where possible, but roof tile thicknesses were only measured when another dimension was available. Features such as peg hole shapes, glaze, mortar and firing were recorded as appropriate.

### **Site 1 assemblage**

B.4.3 Seven fragments of CBM (577g) were recovered from ditch **45** (fill 47). A full catalogue is available in the archive. Table B.4.1 provides a summary of the types and fabrics.

Fabric	code	RBT	FT?	RTM	RT	UN
fine sandy	fs	1				1
fs with flint	fsf	1	1			
coarse sandy	cs			1		
medium sandy with flint	msf				2	
<i>Totals</i>		2	1	1	2	1
<i>Total weights (g)</i>		434	46	62	33	2

*Table B.4.1: Ceramic building materials by fabric and form (fragment count) at Site 1*

B.4.4 Two fragments of abraded Roman tile (RBT) in dense fine fabrics were identified, measuring 30mm and 35mm thick. This is the typical range of thicknesses for Roman flanged *tegulae* and wall/floor tiles.

B.4.5 A fragment of tile in a fine sandy flint-tempered fabric had a chamfered edge and is likely to be a floor tile (FT). It is 43mm thick and has a reduced upper surface but shows no signs of glazing. It may be a post-medieval quarry tile, or possibly a Roman tile.

B.4.6 One small abraded fragment with no original surfaces remains unidentified (UN).

## B.5 Miscellaneous finds

*By Sue Anderson*

### **Clay tobacco pipe**

B.5.1 Subsoil (2) contained an abraded stem fragment of a clay pipe with a bore diameter of 2.4mm, suggesting a 17th/18th-century date.

## APPENDIX C. ENVIRONMENTAL REPORTS

### C.1 Faunal Remains

*By Chris Faine*

- C.1.1 Thirty-five grammes of bone were recovered from Sites 1 and 2, with three fragments identifiable to species. Context 28 (ditch **27**) contained a point from a red deer antler tine, while fill 51 (ditch **50**) contained a pig mandible from an adult male animal.

### C.2 Environmental samples

*By Rachel Fosberry*

#### **Introduction**

- C.2.1 Two bulk samples were taken from Site 2 ditch fills (fill 31 of ditch **30**, and fill 37 of ditch **36**) in order to assess the quality of preservation of plant remains and their potential to provide useful data on the palaeoenvironment and economy. Both ditches contained fills that contained large amounts of charcoal and slag date to the medieval period.

#### **Methodology**

- C.2.1 The total volume (up to 20 litres) of each bulk sample was processed by water flotation (using a modified Siraff three-tank system) for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. The floating component (flot) of the samples was collected in a 0.3mm nylon mesh and the residue was washed through 10mm, 5mm, 2mm and a 0.5mm sieve. Both flot and residues were allowed to air dry. A magnet was dragged through each residue fraction prior to sorting for artefacts. Any artefacts present were noted and reintegrated with the hand-excavated finds. The dried flots were subsequently sorted using a binocular microscope at magnifications up to x 60 and a complete list of the recorded remains are presented in Table C2.1. Identification of plant remains is with reference to the *Digital Seed Atlas of the Netherlands* and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. Carbonized seeds and grains, by the process of burning and burial, become blackened and often distort and fragment leading to difficulty in identification. Plant remains have been identified to species where possible. The identification of cereals has been based on the characteristic morphology of the grains and chaff as described by Jacomet (2006).

#### **Quantification**

- C.2.1 For the purpose of this initial assessment, items such as cereal grains and legumes have been scanned and recorded qualitatively according to the following categories

# = 1-10, ## = 11-50, ### = 51+ specimens ##### = 100+ specimens

Items that cannot be easily quantified such as charcoal and magnetic residues have been scored for abundance

+ = rare, ++ = moderate, +++ = abundant

## Results

C.2.2 Preservation of plant remains in both samples is by carbonisation and is generally poor. Charred cereal grains are abraded but can be identified as wheat (*Triticum* sp.) by their morphology. A single fragment of a legume, possibly a pea (*Pisum* sp.) is also present in Sample 1. Hammerscale in the form of flakes and spheroids of iron oxide are common in both samples.

Sample No.	Context No.	Cut No.	Cereals	Legumes	Hammerscale	Charcoal	Pottery
1	31	30	#	#	+++	++	#
2	37	36	#		+++	++	#

Table C2.1: Environmental samples from BOCAW14

## Discussion

- C.2.1 The charred plant remains consist mainly of cereal grains that are all poorly preserved, either because of taphonomic factors or because they had been charred at a high temperature. The abundance of hammerscale indicates that blacksmithing activities were taking place in the near vicinity of the ditches.
- C.2.2 It would appear that the ditches had been used for the disposal of both domestic and industrial waste indicative of nearby settlement.



## APPENDIX D. BIBLIOGRAPHY

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APPENDIX E. ESSEX HISTORIC ENVIRONMENT RECORD SUMMARY SHEETS

Site name/Address: Braintree PZ Anglian Water Pipeline <b>Site 1: Bocking, west of Panfield Lane (Chainage 1000-1250)</b>	
Parish: Bocking	District: Braintree
NGR: TL7503 2495	Site Code: BOCAW14
Type of Work: Archaeological monitoring and strip and map excavation	Site Director/Group: Gareth Rees OA East
Date of Work: 25/08/2014 to 03/03/2015	Size of Area Investigated: 269 sq m
Location of Finds/Curating Museum: Braintree Museum	Funding source: Anglian Water
Further Seasons Anticipated? No	Related EHCR No.s:
Final Report: OA East report no.1686	OASIS number: OA3-206602
Periods Represented: Medieval	
<p>SUMMARY OF FIELDWORK RESULTS:</p> <p><i>Oxford Archaeology East undertook monitoring, strip and map recording, and excavation along the route of the Braintree PZ Supply\Demand Balance pipeline for Anglian Water.</i></p> <p><i>Three fields in the northern segment (Bocking to Braintree) were selected for Strip and Map excavation due to cropmarks, indicating archaeological sites, recorded in the Historic Environment Records.</i></p> <p><i>Two archaeological sites were uncovered along the route to the north of Braintree. Site 1 consisted of a cobbled surface or track which may have dated to the medieval period. The location of a medieval settlement with evidence for metalworking was uncovered at Site 2.</i></p> <p><i>Monitoring of topsoil removal on the remainder of the route uncovered no significant archaeological features. A metal detector survey, conducted along the entire route, recovered Roman and medieval coins demonstrating that there was Roman activity in the vicinity.</i></p>	
Previous Summaries/Reports: None.	
Author of Summary: Gareth Rees	Date of Summary: 23\04\2015

Site name/Address: Braintree PZ Anglian Water Pipeline <b>Site 2: Bocking, west of Panfield Lane (Chainage 1550-1650)</b>	
Parish: Bocking	District: Braintree
NGR: TL7499 2456	Site Code: BOCAW14
Type of Work: Archaeological monitoring and strip and map excavation	Site Director/Group: Gareth Rees OA East
Date of Work: 25/08/2014 to 03/03/2015	Size of Area Investigated: 571 sq m
Location of Finds/Curating Museum: Braintree Museum	Funding source: Anglian Water
Further Seasons Anticipated? No	Related EHCR No.s:
Final Report: OA East report no.1686	OASIS number: OA3-206602
Periods Represented: Medieval	
<p><b>SUMMARY OF FIELDWORK RESULTS:</b></p> <p><i>Oxford Archaeology East undertook monitoring, strip and map recording, and excavation along the route of the Braintree PZ Supply\Demand Balance pipeline for Anglian Water.</i></p> <p><i>Three fields in the northern segment (Bocking to Braintree) were selected for strip and map excavation due to cropmarks, indicating archaeological sites, recorded in the Historic Environment Records.</i></p> <p><i>Two archaeological sites were uncovered along the route to the north of Braintree. Site 1 consisted of a cobbled surface or track which may have dated to the medieval period. The location of a medieval settlement with evidence for metalworking was uncovered at Site 2.</i></p> <p><i>Monitoring of topsoil removal on the remainder of the route uncovered no significant archaeological features. A metal detector survey, conducted along the entire route, recovered Roman and medieval coins demonstrating that there was Roman activity in the vicinity.</i></p>	
Previous Summaries/Reports: None.	
Author of Summary: Gareth Rees	Date of Summary: 23\04\2015

## APPENDIX F. OASIS REPORT FORM

All fields are required unless they are not applicable.

### Project Details

OASIS Number	OA3-206602			
Project Name	Braintree PZ, Bocking to Braintree Pipeline			
Project Dates (fieldwork)	Start	25-08-2014	Finish	03-03-2015
Previous Work (by OA East)	No		Future Work	No

### Project Reference Codes

Site Code	BOCAW14	Planning App. No.	14681
HER No.	BOCAW14	Related HER/OASIS No.	CRSAW14

### Type of Project/Techniques Used

Prompt: Direction from Local Planning Authority - PPS 5

### Please select all techniques used:

<input type="checkbox"/> Field Observation (periodic visits)	<input checked="" type="checkbox"/> Part Excavation	<input type="checkbox"/> Salvage Record
<input type="checkbox"/> Full Excavation (100%)	<input type="checkbox"/> Part Survey	<input type="checkbox"/> Systematic Field Walking
<input type="checkbox"/> Full Survey	<input checked="" type="checkbox"/> Recorded Observation	<input checked="" type="checkbox"/> Systematic Metal Detector Survey
<input type="checkbox"/> Geophysical Survey	<input type="checkbox"/> Remote Operated Vehicle Survey	<input type="checkbox"/> Test Pit Survey
<input checked="" type="checkbox"/> Open-Area Excavation	<input type="checkbox"/> Salvage Excavation	<input checked="" type="checkbox"/> Watching Brief

### Monument Types/Significant Finds & Their Periods

List feature types using the [NMR Monument Type Thesaurus](#) and significant finds using the [MDA Object type Thesaurus](#) together with their respective periods. If no features/finds were found, please state "none".

Monument	Period	Object	Period
Settlement	Medieval 1066 to 1540	Metalworking debris	Medieval 1066 to 1540
	Select period...	Coins	Medieval 1066 to 1540
	Select period...	Coins	Roman 43 to 410

### Project Location

County	Essex	Site Address (including postcode if possible)	
District	Braintree	Deanery Hill, Bocking, Braintree, Essex CM7 5SR	
Parish	Bocking, Braintree, Cress		
HER	Essex; Braintree Museum		
Study Area	2.2km x c.15m	National Grid Reference	TL7590 2538

## Project Originators

Organisation	OA EAST
Project Brief Originator	Teresa OConnor
Project Design Originator	James Drummond-Murray
Project Manager	James Drummond-Murray
Supervisor	Gareth Rees, Michael Green

## Project Archives

Physical Archive	Digital Archive	Paper Archive
Braintree museum	OA East	Braintree museum
BOCAW14	BOCAW14	BOCAW14

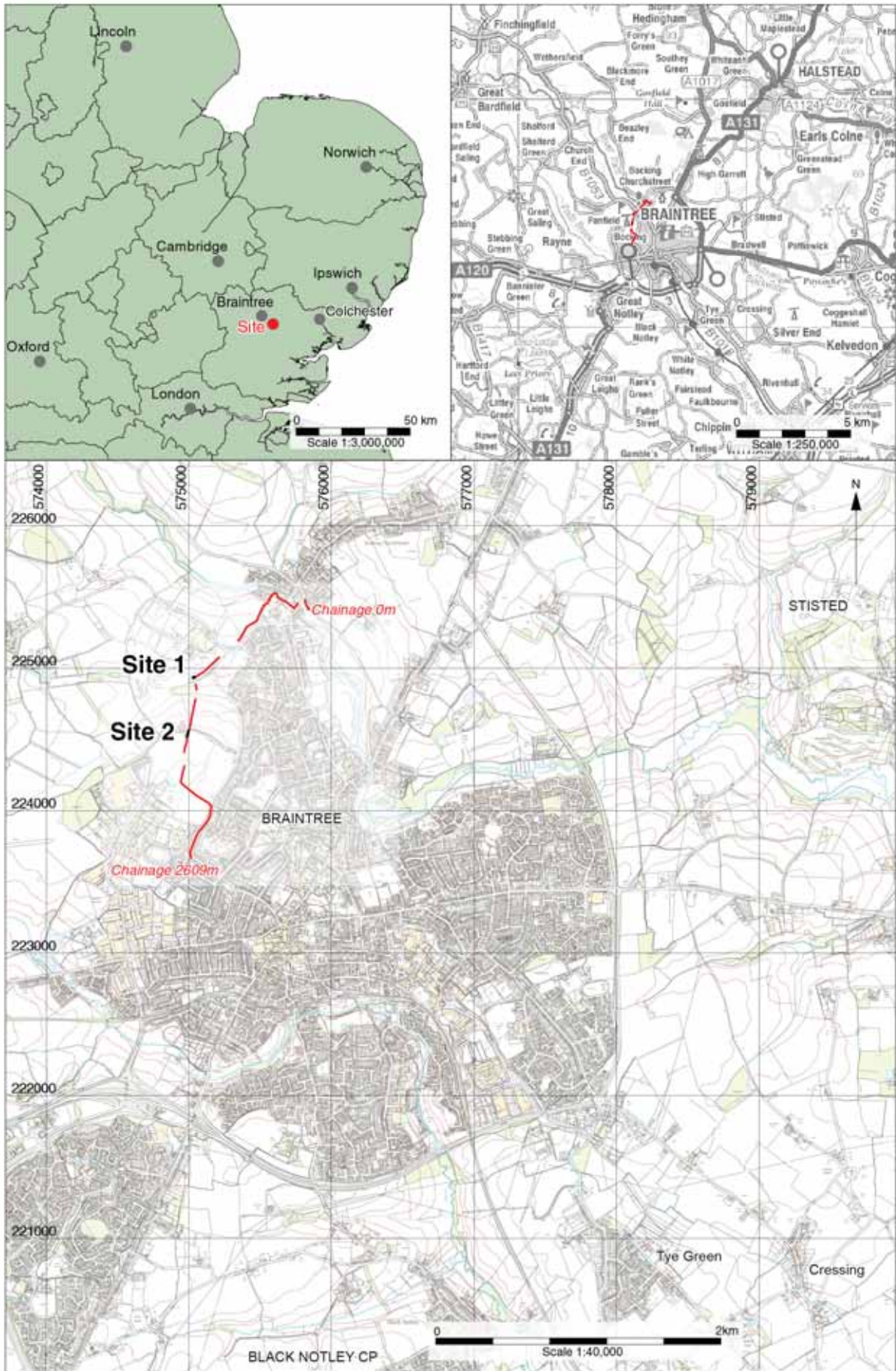
## Archive Contents/Media

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Ceramics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Digital Media	Paper Media
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<input type="checkbox"/> Geophysics	<input checked="" type="checkbox"/> Correspondence
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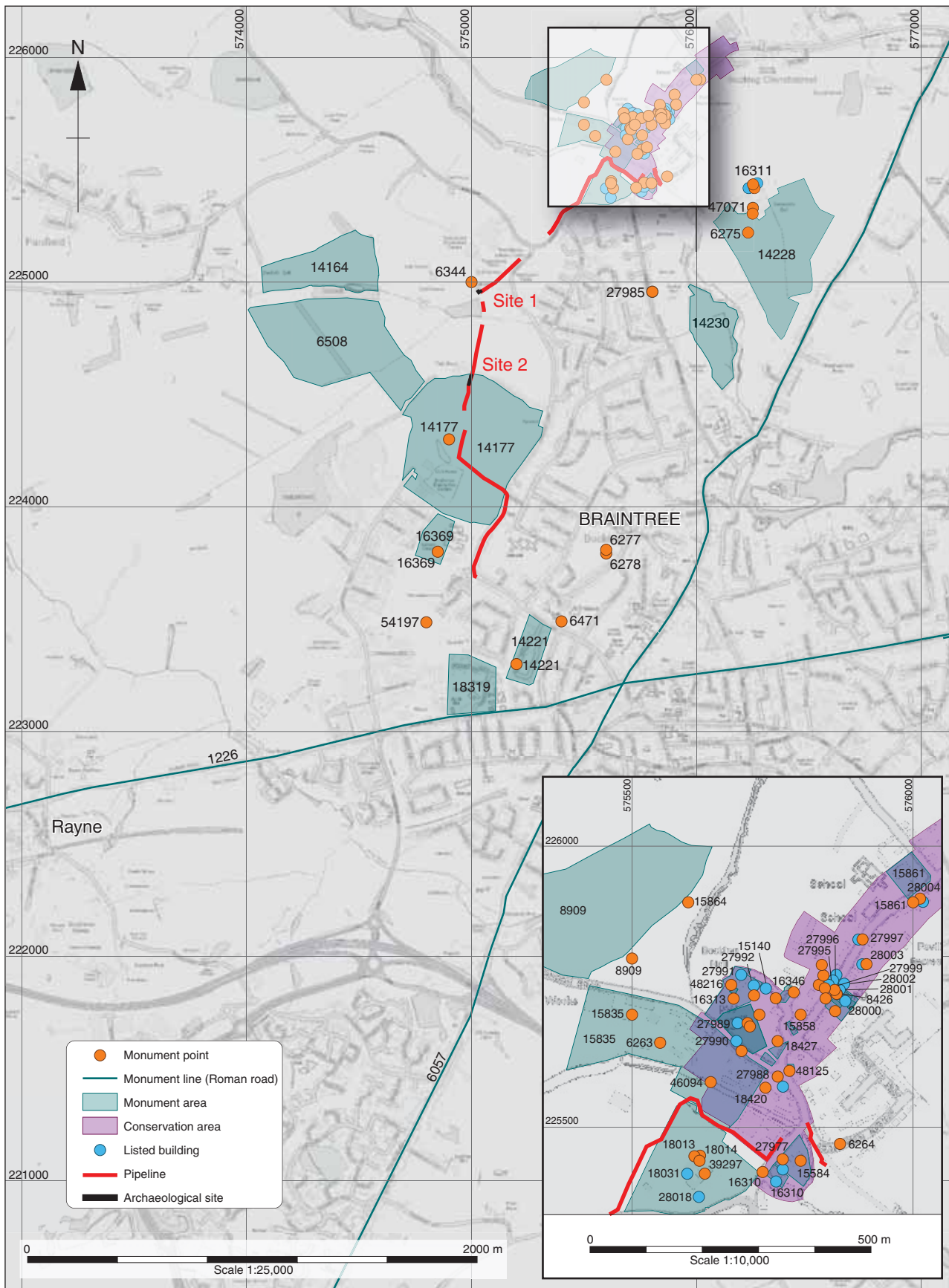
### Notes:





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Figure 1: Site locations showing archaeological Sites 1 and 2 (black) and pipeline route (red)



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Figure 2: Essex HER entries within 500m of the pipeline easement



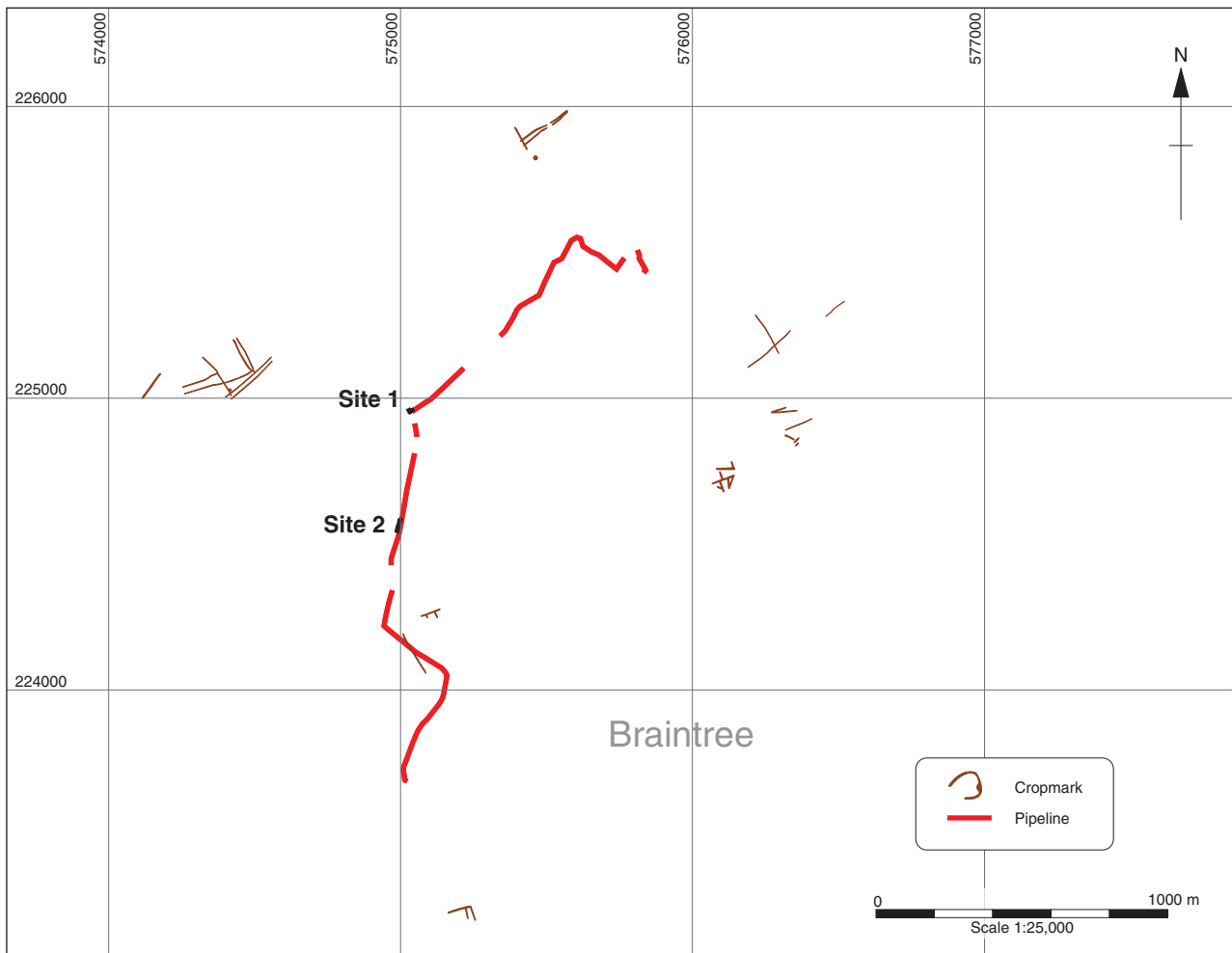


Figure 3: Cropmark sites in the vicinity of the pipeline route

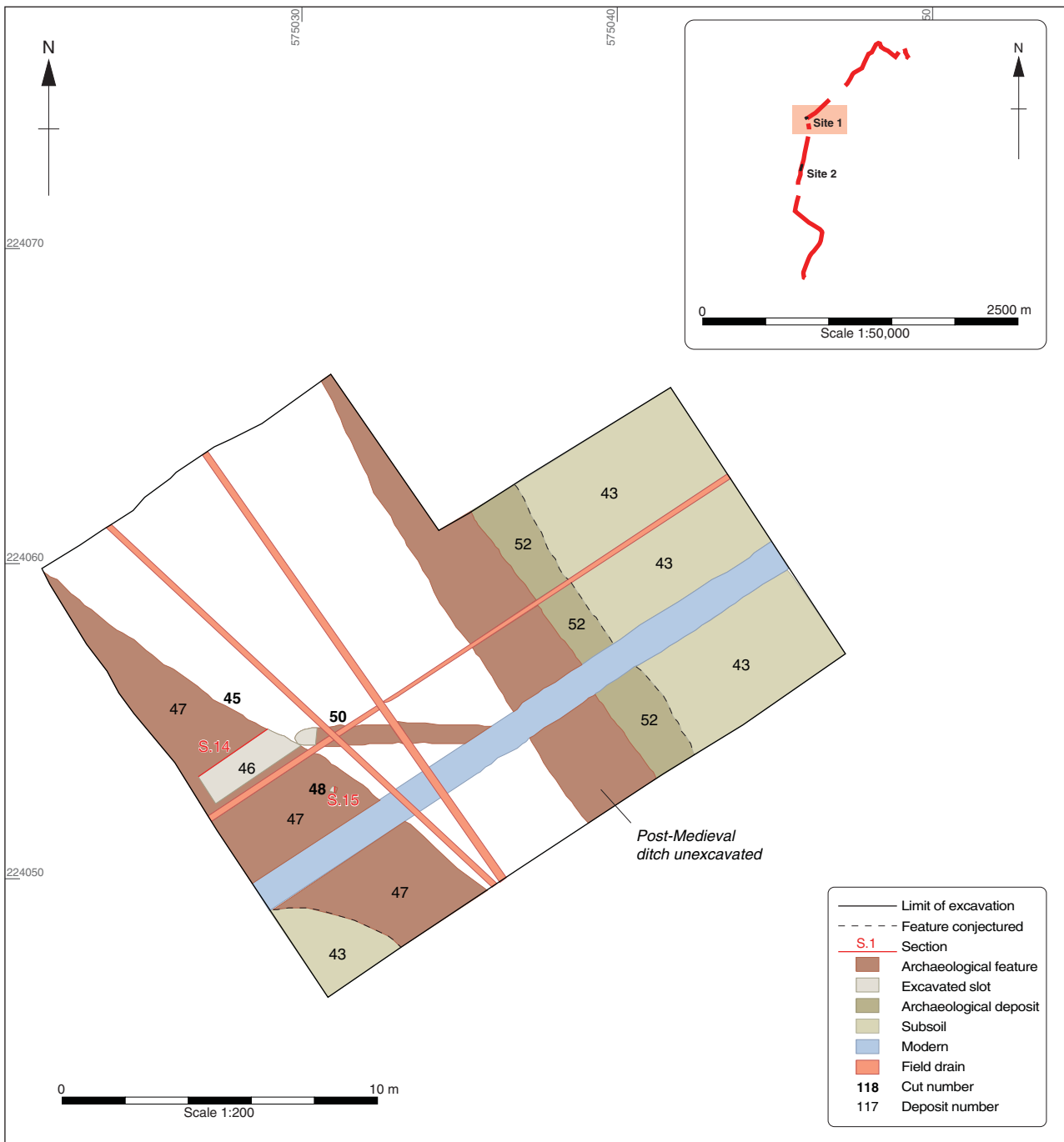


Figure 4: Plan of Site 1, 1000m-1250m chainage



Figure 5: Plan of Site 2, 1550m-1650m chainage

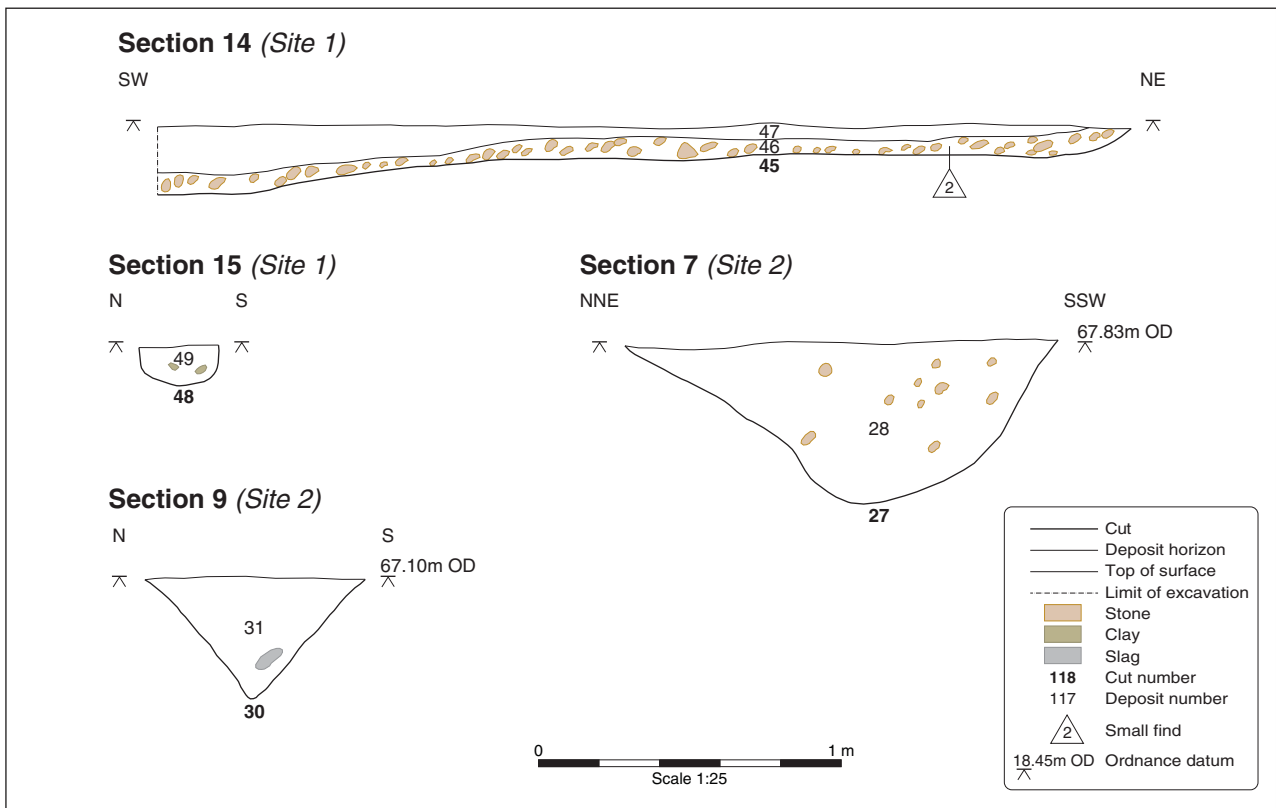


Figure 6: Selected sections



Plate 1: Site conditions between chainage 500m and 750m, facing north-east



Plate 2: Site 1: Cobbled surface 46, facing north





Plate 3: Site 2: Ditch 22, facing south



Plate 4: Site 2: Pit 20, facing north-east



Plate 5: Site 2: Ditch 27, facing east



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