

LEMI18/001

Archaeological Trial Trenching Evaluation On Land East of M11, Howe Green, Howe Green Road, Great Hallingbury

Prepared for Simon Patnick, Great Hallingbury Cemetery Limited

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ARCHAEOLOGICAL TRIAL TRENCHING EVALUATION ON LAND EAST OF M11, HOWE GREEN, HOWE GREEN ROAD, GREAT HALLINGBURY

Summary

Headland Archaeology (UK) Ltd undertook an archaeological evaluation of the Land East of M11, Howe Green, Howe Green Road, Great Hallingbury, Essex, between 4th and 10th of April 2018. The work was commissioned by Simon Patnick, Great Hallingbury Cemetery Limited in advance of a planning application for a burial ground including the erection of service building, access road, car parking and associated landscaping within the DA (UTT/16/2404/FUL). Heritage Assets were identified comprising possible prehistoric, Roman, and post-medieval ditches (drain and/or land boundaries).

1. INTRODUCTION

1.1 Planning Background

Headland Archaeology Ltd was commissioned by Simon Patnick, Great Hallingbury Cemetery Limited, to undertake a programme of archaeological works in support of the planning application for a burial ground including the erection of service building, access road, car parking and associated landscaping within the Development Area (DA) (UTT/16/2404/FUL).

Headland Archaeology prepared a Written Scheme of Investigation (WSI) setting out the proposed strategy for archaeological mitigation (Headland Archaeology 2018).

The WSI was submitted for approval to Richard Havis, Principal Historic Environment Consultant, Essex County Council. This report details the results of the work.

Planning permission for the development was granted by Uttlesford District Council (UTT/16/2404/FUL) subject to a number of conditions, including one relating to archaeological works

"No development or preliminary groundwork's of any kind shall take place until the applicant has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant, and approved by the planning authority."

A brief was prepared by Richard Havis outlining the archaeological works need to fulfil this condition (Havis 2018). Headland Archaeology then prepared a Written Scheme of Investigation (WSI) – (Headland Archaeology 2018); setting out the proposed strategy for archaeological mitigation. The WSI was submitted to and agreed with the Principal Historic Environment Consultant who advises the Local Planning Authority on archaeological matters. This report details the results of the work.

1.2 Site Description

The DA is located within the hamlet of Howe Green, Great Hallingbury, Essex. The site is bounded to the west by the M11, to the north and east by Howe Green road and to the south by open fields. The site is centered on NGR TL50712 18831.

The DA currently comprises of unimproved grassland and woodland. It lies on land sloping gently down from south to north from an elevation of approximately 83mAOD to 81mAOD. The DA covers an area of approximately 2 hectares though over half of this is under woodland. The land available for trial trenching covers an area of 0.9 hectares.

The solid geology of the DA comprises London Clay Formation clay, silt and sand. Sedimentary bedrock formed approximately 48 to 56 million years ago in the Palaeogene Period and superficial deposits overlying this are Lowestoft Formation Diamicton. Superficial deposits formed up to 2 million years ago in the Quaternary Period (British Geological Survey)

1.3 Archaeological Background

The following section is drawn from the relevant Headland Archaeology WSI (Headland Archaeology 2018).

There was evidence for possible prehistoric settlement to the west of the site on the opposite side of the M11 (EHER 9090). Excavations at that site revealed a ditch containing a disturbed cremation. The cremation included the remains of a pottery vessel and cremated bone.

A moated homestead to the south east of the site at Howe Green is most likely of medieval origin (EHER 4430). The site comprises a medieval moat and listed 16th century farm house with later Victorian farm buildings to the south. The site is mentioned in documents from as early as the 15th century and remains of the moat are still visible around the current farm house. The Victorian farm buildings comprise a barn that may date to the eighteenth century, and a brick-built farm house dating to the mid-1800s, the only survivors after most of the original buildings were demolished and redesigned sometime between 1840 and 1882.

To the east of the site lies Hallingbury Park. Originally known as Morley Hall, the site is known to have been associated with that family from the 14th to 17th centuries. The eighteenth-century park was designed by Capability Brown and some 18th century earthworks and plantings are still existent. Extensive landscaping works mean that much of the current park land is not original. A cropmark of a possible enclosure in the south-east of the park was mapped in 2008. This feature is 59m by 57m with a central circular enclosure 18m in diameter. While this feature may represent a possible prehistoric settlement enclosure, it may also represent a former parkland feature. The woodland around the northern part of the DA may have formed a boundary to the estate.

2. OBJECTIVES

2.1 General

The methodology followed was outlined in the WSI (Headland Archaeology 2018) and designed to meet the requirements of the project brief (Havis 2018).

Generally, the archaeological investigations were undertaken in order to:

- Assess the extent, structure and date of any archaeological features and deposits of archaeological interest;
- Place, where possible, the archaeological features within their local and regional context;
- Establish any constraints to further fieldwork (e.g. services) and factors concerning the survival of archaeological remains (e.g. natural and human disturbance);
- Place the findings of the investigation within the context of previous work undertaken within the vicinity of the site.

2.2 Specific

Specific aims of the field work identified in the project brief (Havis 2018) included:

- Identifying any evidence of further prehistoric occupation related to that on the west of the M11
- Identify any link with the Great Hallingbury estate boundary
- Assess any woodland earthworks
- Identify the original nature of the woodland part of the site

The resulting archive will be organised and deposited in the in the appropriate registered museum (Saffron Waldon) to facilitate access for future research and interpretation for public benefit (ClfA

2014a). An online OASIS form has been completed and will be ultimately submitted with the approved version of the report (OASIS ID: headland4-311470).

3. METHODOLOGY

Trial trenching was carried out between the 4th and 10th of April 2018. In total, 9 trenches were excavated within the DA. Trenches 02, 03, 04, 05, 06, 07, 08, and 09 were 30m in length, Trench 10 was 10m in length. All trenches were 1.8m in width (Illus. 1, 2).

The eastern and north-eastern parts of the site were densely vegetated, and the central part was occupied by different types of waste and construction debris (Illus 3, 4). Therefore, trench 01 could not be excavated, whereas trenches 07 and 10 had to be moved with the agreement of the Principal Historic Environment Advisor. Trench 07 was rotated 20° clockwise and relocated 20m to the south. Trench 10 was rotated 45° clockwise and relocated 10m to the northeast (Illus 1, 2). Trench 02 was rotated 45° clockwise to facilitate machine access/egress (Illus 1, 2). Trenches 03, 04, 05, 08, 09 were set out in accordance with the agreed upon trench layout plan in the WSI using a Trimble GNSS device (Illus 1, 2).

A mechanical excavator equipped with a toothless ditching bucket was used to remove the overburden under direct archaeological supervision. Potential archaeological features were excavated by hand.

Investigation of archaeological remains was undertaken through hand excavation. A representative sample, sufficient to meet the objectives of the evaluation, of identified archaeological or potentially archaeological remains were investigated and recorded. The stratigraphy of each trench was recorded in full. Archaeology was found in six trenches (TR03, TR06, TR07, TR09, TR10, (Illus 2 to 14)). These were generally focused in the central and southern parts of the site. The majority of the features were dated to the Roman period and represent the remains of agricultural activity (ditches functioning as drain and/or land boundaries).

A metal detector was used on archaeological features at the pre-excavation stage, on spoil arising from sectioning of archaeological features, and on spoil arising from the trenches.

Deposits identified as archaeologically significant were sampled for environmental material and other finds (e.g. bone, pottery etc.).

The Principal Historic Environment Advisor carried out a monitoring visit on April 5th and requested for the central part of TR07 to be widened.

3.1 Recording

All recording followed the guidance laid down by the Chartered Institute for Archaeologists (CIfA 2014b) and was in line with the approved WSI (Headland Archaeology 2018). All trenches and contexts were given a unique number. All recording was undertaken on pro forma recording sheets which conform to archaeological standards. All stratigraphic relationships were recorded.

A plan of the trenches and features across the entire site was recorded digitally using a GNSS device. A full photographic record was taken using digital photography and incorporating black and white print photographs where appropriate. A metric scale was clearly visible in record photographs.

4. RESULTS

4.1 Introduction

Full context descriptions and trench descriptions, including dimensions, depths and orientations, are presented in the Appendix I. Contexts are identified numerically by trench (i.e. Trench 01: (010001), Trench 02: (020001)) with cuts indicated by square brackets and deposits by rounded brackets. Selected technical detail is utilised below in order to describe the remains found and to inform the interpretation and dating we have completed and presented in this report. Descriptive material is clearly separated from interpretative statements (CIfA 2014b, 14, 5).

4.2 Trench Results

Late Prehistory

Ditch [030004] ran north-east/south-west through the southern half of TR03 (Illus 2, 5). It had gently sloping sides with gradual breaks of slope, and a flat base. It was 1.5m wide and at least 0.15m deep. It contained a firm mid bluish brown silty clay fill (030003), which contained eight late prehistoric potsherds, and very small crumbs of undated CBM. Also, this fill contained occasional oak charcoal bits.

The morphology of the feature suggests it may have served as a field boundary. All the pottery from this feature was of late prehistoric type— please, see finds assessment section, p. 9). This ditch probably dates to the late prehistoric period.

Ditch [100007] ran north-east/south-west through the eastern half of TR10 (Illus 2, 7). It had moderately steep sides, gradual breaks of slope and, and rounded base. It was 1.45m wide and 0.58m deep. It contained a firm dark greyish black silty clay fill (100004), a loose light greyish brown silty sand fill (100005), and a firm light greyish orange silty clay fill (100006). Fill (100006) contained a small amount of undated CBM crumbs and lumps (some of which were vitrified), and two very small fragments of possible prehistoric pottery. Also included in Fill (100006) were occasional grain, sparse weed seeds, and other sporadic botanical remains. Other ecofacts comprised a fair amount of charcoal (mostly oak), sporadic and occasional burnt and unburnt mammal bone, insect remains, and molluscs. These ecofacts indicate that Ditch [100007] was affected by fluctuation in the level of the water table.

Ditch [100007] could be interpreted as a possible field boundary. The pottery from Fill (100006) was too small to identify and it was tentatively dated to the prehistoric period.

Late Prehistory/Roman

Ditch [070009] ran north-west/south-east through the eastern half of TR 07 (Illus 2, 13). It had a V-shaped profile, with moderately steep edges, gradual breaks of slope and a narrow, rounded base. It was 1.28m wide and at least 0.66m deep. It contained a firm light bluish grey silty clay fill (070008), and a firm light yellowish clay fill (070007). Fill (070007) contained a fair amount of very small crumbs of undated CBM, one possible late Iron Age potsherd, and one Roman shelly ware potsherd. This fill also contained sparse and occasional grain, legumes seeds, scarce remains of hazel nutshell and monocot stems. Other plant remains included a fair amount of weed seeds, root material and plant epidermis. Abundant charcoal (mostly oak) was also present in this fill, along with scarce remains of unburnt mammal bone, insects and molluscs. The plant remains from Fill (070007) indicate that the feature was affected by fluctuations in the level of the water table.

As the other linear features on site, Ditch [070009] probably served as a field boundary.

Ditch [090007] ran north/south through the centre of TR09 (Illus 2, 8, 9). It had gently sloping sides, not perceptible breaks of slope and an uneven base. It was 3.55m wide and 0.21m deep. It contained a single orangish yellow silty clay fill (090006), which contained a small amount of fired clay and pottery crumbs, too small to identify. The ceramic material from this fill was tentatively dated to the late Iron Age.

As with the other linear features in this site, Ditch [090007] probably served as a land boundary. Its absolute chronology could not be determined with certainty. In terms of relative chronology, Ditch [090007] predated Ditch [090005], which cuts through it.

Roman

Ditch [090005] ran north/south through the centre of TR09 (Illus 2, 8, 10). It had gently sloping sides with gradual breaks of slope, and a rounded base. It was 5m wide and 0.48m deep. It contained a firm light orange silty clay fill (090009), a firm light grey silty clay fill (090008), and a firm dark greyish black silty clay (090004). Fill (090009) yielded occasional CBM and pottery, too small to identify (tentatively dated to the prehistoric period). Fill (090008) contained occasional Roman pottery, with a sherd datable

to 240-400 AD (please, see the Finds Assessment section, p. 9). Fill (090004) yielded 36 prehistoric potsherds and 69 potsherds dating to the Roman period, along with Roman CBM and other very abraded fired clay. Fill (090009) also included sparse grain, weed seeds, and a fair amount of charcoal (mostly oak). Other ecofacts from this fill comprised occasional unburnt mammal bone, as well as sparse insect remains and molluscs. Fill (090004) had more plant and botanical remains than Fill (090009). These included sparse and occasional grain, weed seed, and hazel nutshell, and abundant undifferentiated plant epidermis. Abundant charcoal (mostly oak) was also contained in this fill, along with a fair amount of burnt mammal bone, sparse unburnt mammal bone and sparse earthworm capsules. This feature was affected by variations in the water table level.

Ditch [090005] was a possible field boundary. However, we found no evidence of its northern continuation in TR07 and TR06. Therefore, this feature could also be interpreted as a possible elongated pit or a pond. It might have been in use and then abandoned sometimes between the second half of the 3rd and 4th century AD. The prehistoric material recovered from Fill (090009) and Fill (090004) is likely to be residual. However, we cannot rule out the possibility that Ditch [090005] may have originally been constructed in the prehistoric period and reworked in the Roman period.

Ditch [060007] ran north-west/south-east through the centre of TR06 (Illus 2, 14). It had steep sides with a sharp break of slope on the south-western edge, a gradual break of slope on the north-eastern edge and a rounded base. It was 0.48m wide and 0.21m deep. It contained a single firm light greyish orange silty clay fill (060006), with very scant traces of vitrified industrial waste and very small crumbs of undated CBM. Ecofacts from this fill included sparse weed seeds and occasional undifferentiated plant epidermis. These were preserved as a consequence of flooding.

Ditch [060007] may have served as a field boundary. Its chronology is uncertain. However, its orientation (almost perfectly parallel to the possible Roman ditch [060010] discussed below) suggests that this Ditch [060007] could have been in a functional and/or chronological relationship with Ditch [060010].

Ditch [060010] ran north-west/south-east across the southern half of TR06 (Illus 2, 6). It had gently sloping sides, gradual breaks of slope and rounded/uneven base. It was 0.65m wide and 0.12m deep. It contained a single firm dark greyish black silty clay fill (060009). This fill yielded a small quantity of undated industrial waste, including vitrified slag, possible hammerscale and slag spheres. The fill contained also 48 crumbs of possible prehistoric pottery, prehistoric lithics and late prehistoric pottery. Most of the material from Fill (060009) is Roman, and it includes CBM and pottery. An iron nail fragment was also found in this fill. Also included in Fill (060009) were rare grain, weed seeds and a single eggshell fragment. Abundant oak charcoal was also contained in this fill, along with a fair amount of burnt and unburnt mammal bone, rare earthworm capsule and abundant molluscs. This feature was affected by waterlogging and variations in the water table level.

Ditch [060010] was probably a field boundary. It can be dated to the Roman period as most of the finds from this feature are Roman (78 potsherds and 163 CBM fragments). The prehistoric material is probably residual.

Post-medieval/Modern

Ditch [060004] ran east/west through the northern half of TR06 (Illus 2, 11). It had moderately steep sides, with gradual breaks of slope. The feature rapidly filled with water while excavating it and it was not possible to clearly assess the profile of the base. It was 1.88m wide at trench truncation level, but its original width was 2.9m. It was at least 0.60m deep, although it was not possible to reach the base of the feature. Ditch [060004] was disturbed and partially truncated by the installation of two modern drainpipes along its southern and northern edges, set along a more north-west/southeast axis than the ditch. To judge from the site plan, this ditch possibly continues through the northern half of TR05 (Illus 2). However, the feature in TR05 could not be investigated as the northern half of the trench filled with water soon after machining operations (Illus 12). Ditch [060004] contained a plastic light greyish brown silty clay fill (060008) and a plastic/compact mid reddish brown sandy clayey fill (060005). Fill (060008) yielded a small amount of medieval CBM fragments. Fill (060005) included scarce remains of undated vitrified industrial waste, and very small abraded CBM crumbs. The fill also sparse fragments of Roman tiles. The latest material from this fill comprises sparse post-medieval CBM and pottery. Ecofacts from Fill (060005) included sparse grain and weed seeds, and other undifferentiated botanical remains such

as occasional plant epidermis and root material and sparse rhizomes/tubers. Ditch [060004] was affected by fluctuations in the level of the water table.

Ditch [060004] possibly served as a field boundary. The material from the feature indicates a post-medieval chronology for the construction of the ditch. However, this late material might have ended up in the feature as result of the installation of the modern drainpipes.

4.3 Finds

4.4 Finds assessment

by Amy Koonce, Julie Lochrie, Jane Timby

The finds assemblage numbered 255 sherds (557g) of pottery, 338 sherds (723g) of ceramic building material, nine lithics, five sherds (160g) of tile, two finds of iron and 10g of industrial waste. These were found in nine separate features in five separate trenches. The late prehistoric, Roman and post-medieval periods are represented. The finds are summarised by feature in Table 1 and a complete catalogue is given at the end.

Tr	Feature	Pottery (PH) Count	Pottery (PH) Wgt (g)	Pottery (Rom) Count	Pottery (Rom) Wgt (g)	Pottery (PM) Count	Pottery (PM) Wgt (g)	Lithics Count	Lithics Wgt (g)	Iron Count	Fired clay Count	Fired clay Wgt (g)	Tile Count	Tile Wgt (g)	Ind Waste Wgt (g)	Spot date
03	ditch [030004]	8	16	-	-	-	-	-	-	-	21	<0.5	-	-	-	LPH?
06	ditch [060004]	-	-	-	-	1	3	-	-	1	54	88	3	54	2	Rom, PM
06	ditch [060007]	-	-	-	-	-	-	-	-	-	4	<0.5	-	-	1	?
06	ditch [060010]	55	34	78	114	-	-	9	3	1	163	94	-	-	7	Rom
07	ditch [070009]	1	<0.5	1	<0.5	-	-	-	-	-	25	1	-	-	-	LPH-Rom
09	ditch [090005]	37	56	71	334	-	-	-	-	-	47	42	2	106	-	Rom
09	ditch [090007]	1	<0.5	-	-	-	-	-	-	-	16	91	-	-	-	?
10	ditch [100007]	2	<0.5	-	-	-	-	-	-	-	8	407	-	-	-	PH?
	Total	104	106	150	448	1	3	9	3	2	338	723	5	160	10	

Table 1. Summary of finds assemblage by feature with spot dating

4.4.1 Methodology

The report includes both hand-collected finds and those from sample retents. The finds were collected, processed and packaged for long term storage in accordance with professional guidelines (ClfA 2014a; Watkinson & Neal 1998). The finds were each assessed and recorded by appropriate specialists. The resultant data was then drawn together into one MS Access database. A copy of this data is given at the end of the report.

The pottery was examined visually, using x20 magnification where necessary. To this end, it was examined macroscopically and sorted into fabrics based on inclusions present, the frequency and grade of the inclusions and the firing colour. It was recorded according to standards set out by specialist bodies (Barclay et al 2016).

The prehistoric material was coded using the format outlined in PCRG (1997), where letters denote the main fabric inclusions. The Roman wares are coded either with reference to or following the format used for the National Roman fabric reference series (Tomber & Dore 1998). Rims were additionally coded to form and measured for the diameter and the estimation of rim equivalence (EVE) (cf Orton et al 1993; see Appendix V). The data was recorded on to an MS Excel spread-sheet a copy of which is deposited with the site archive. Pieces which showed evidence of fresh breaks were counted as single sherds.

4.4.2 Prehistoric pottery

The prehistoric pottery assemblage amounted to 104 sherds (106g). Overall, the assemblage was in exceptionally poor condition with mainly abraded sherds or crumbs. Some of the extremely small crumbs, mostly from sieved samples, did not register on the weighing scales and are too small to determine whether these are from pottery, CBM or fired clay. These have been issued with a separate fabric code (CRUMBS). Typologically diagnostic material was almost completely absent.

Fabric Code	Fabric	Dating	Sherds	Wgt (g)
CRUMBS	Too small to identify	Late Prehistoric	86	21
SA1	Sandy ware	Late Prehistoric	2	5
SAFL	Sandy ware with sparse flint	Late Prehistoric	4	9
SAOR	Sandy ware with organic inclusions	Late Prehistoric	1	3
SASH	Sandy ware with sparse fine calcareous inclusions of limestone or shell	Late Prehistoric	11	68
Total			104	106

Table 2. Prehistoric pottery type series (after PCRG 1997)

Some of the sherds could be identified as later prehistoric on the basis of technology, firing and fabric constituents. This amounts to 18 sherds which include: a sandy ware with sparse flint (SAFL); sandy wares (SA); sandy ware with organic inclusions (SAOR) and a sandy ware with sparse fine calcareous inclusions of limestone or shell (SASH). Some of the shelly wares could also belong with this group or be later, as this fabric tradition is a particularly long-lived one in this area extending up into the early medieval period.

Only one feature, ditch [030004] (030003), contained an assemblage of pottery (eight sherds, 16g) exclusively of later prehistoric type, although odd sherds occur in ditches [060010] (060009), [070009] (070007) and [090005] (090004).

There are no featured sherds to allow a greater refinement of date, although a complete absence of grog-tempered material could suggest it is more likely to date between the later Bronze Age and middle Iron Age.

4.4.3 Roman pottery

A total of 150 sherds (448g) are tentatively dated to the Roman period. They were retrieved from four separate contexts: ditches [060010] (060009), [070009] (070007), [090005] (090004) and [090005] (090008).

Fabric Code	Fabric	Dating	Reference	Sherds	Wgt (g)
GY	Reduced (grey) sandy ware	Roman	(Tomber & Dore 1998)	5	10
OXF	Fine oxidised ware	Roman	(Tomber & Dore 1998)	1	1
OXFRS	Oxfordshire colour-coated ware	AD 240-400	(Young 1977)	1	3
OXS1	Oxidised sandy ware	Roman	(Tomber & Dore 1998)	2	33
OXS2	Oxidised sandy ware	Roman	(Tomber & Dore 1998)	7	43
SH	Local shelly ware	Roman	(Tomber & Dore 1998)	133	354
WW	White-ware	Roman	(Tomber & Dore 1998)	1	4

Total				150	448
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Table 3. Roman pottery type series

The group is dominated by local shelly ware (SH) which accounts for 89% of the group by sherd count. This is accompanied by a few sherds of reduced (grey) sandy ware (GY); oxidised sandy ware (OXS); fine oxidised ware (OXF) and single sherds of a white-ware and an Oxfordshire colour-coated ware (OXFRS). This latter is the only traded ware identifiable and is a flange from a bowl, probably a Young (1977) type C51.

Dating the group is difficult with so little to go on but the OXFRS sherd, which is from ditch [090005] (090008), dates to the late Roman period (AD 240-400). It is uncertain if all the shelly ware can also be assumed to be late Roman as opposed to early Roman, but the only forms present are five rims of everted rim or expanded rim jar types, from ditches [090005] (090004) and [060010] (060009), which would support a later rather than an earlier date.

4.4.4 Post-medieval to modern pottery

A single sherd (3g) of glazed red earthenware (PMGRE) was retrieved from ditch [060004] (060005).

4.4.5 Metalwork

Two small fragments of iron nails were retrieved from topsoil (060001) and ditch [060010] (060009). Neither of these finds can be accurately dated though, given the dating of associated pottery, they are potentially of Romano-British date.

4.4.6 Lithics

Nine lithics were retrieved from soil sample processing of ditch [060010] (060009). They comprise an edge retouched fragment, an accidental blade, a flake and six chips. None are datable, but the retouch on the edge fragment is neat and well executed suggesting it is no later than early Bronze Age. As the ditch fill also contained Roman pottery, the lithics are clearly residual.

4.4.7 Ceramic building material

A total of 338 sherds (723g) of fired clay or daub was retrieved from 11 contexts. The majority of sherds were concentrated in ditches [060010] (060009), [060004] (060005) and (090004) [090005], respectively. The fragments are pale brown in colour with sparse inclusions of chalk. None of the pieces are featured to indicate original purpose and none appear excessively burnt as might be associated with hearth or oven material. The sherds cannot be accurately dated, though the majority are associated with Romano-British pottery.

Five sherds (160g) of tile were retrieved from ditches [060004] (060005) and [090005] (090004). These are clearly of Roman date and are pieces of roof tile (*tegulae*).

4.4.8 Industrial waste

A very small assemblage of industrial waste amounting to 10g was retrieved from ditches [060004] (060005), [060007] (060006) and [060010] (060009). This consists of vitrified slag fragments and magnetic residue recovered from soils samples 003 and 006.

The vitrified remains are typically fragmentary, light and vesicular, characteristic of fuel ash slag. Fuel ash slags can be created by burning in the presence of siliceous material and can be created in domestic hearths or ovens during industrial activity.

The magnetic residue was recovered from ditch [060010] (060009) and mainly consisted of magnetised gravel, with a small amount of hammerscale and slag spheres. Hammerscale and slag spheres are created during smithing or smelting, though, here, they were found in such small amounts that they do not suggest industrial activity in the immediate vicinity. The magnetised gravel indicates no more than burning activity on site.

4.4.9 Discussion

The size and condition of the assemblage is too poor to provide accurate dating evidence. An assumption has been made, based on the presence of the Oxfordshire colour-coated ware and Roman

tile that much of the assemblage is of Romano-British in date but radiocarbon dating would be needed to confirm this.

Ditches [060004], [060010] and [090005] appear to belong to this period. Ditch [030004] and others may be earlier. This dating however is tentative at present. The finds are indicative of general domestic activity.

The lithics suggest a presence during the early prehistoric period, though the finds are clearly residual.

4.4.10 Recommendations for further work

The assemblage is too small and in too poor a condition to warrant further work, unless additional work is to be done to resolve the ambiguities over the dating.

4.4.11 Recommendations for archive

The extremely fragmentary nature of some of the material recovered suggests there is little point in retaining such material as little can be done with it. It is recommended the finds be discarded. The archive has been prepared in accordance with professional standards (AAF 2011) and the specific requirements of Saffron Walden Museum (EMWG 2015).

4.5 Environmental Report

Angela Walker

Introduction

Nine bulk sediment samples were extracted during the evaluation work. The samples were taken from a number of ditches ranging in date from late prehistoric, Roman and post-medieval periods. In addition to the bulk samples, animal bone was also hand collected from three of the sampled contexts. The aims of the assessment were to assess the presence, preservation and abundance of any environmental remains and to determine the potential of the material for indicating the character and significance of the deposit.

Method

Bulk samples were subjected to flotation and wet sieving in a Siraf-style flotation machine. The floating debris (the flot) was collected in a 250 µm sieve and once dry, scanned using a binocular microscope. Any material remaining in the flotation tank (retent) was wet-sieved through a 1mm mesh and air-dried. All samples were scanned using a stereomicroscope at magnifications of x10 and up to x100. Identifications, where provided, were confirmed using modern reference material and seed atlases including Cappers *et al.* (2006) and Zohary *et al.* (2012) nomenclature for wild taxa follows Stace (1997).

Faunal remains were examined by eye or under low magnification and, as far as possible, identified to species and skeletal element, using modern reference material and with reference to Schmid (1972), and Hillson (1992), and any marks of butchery were noted.

Results

Results of the assessment are presented in Appendix VI (Environmental sample results) and Appendix VII (Animal remains catalogue).

Cereal grain

A small number (<30) of cereal grains were recovered from five sampled ditches (Appendix VI). The grains exhibited mixed levels of preservation but were mostly poorly preserved. Cereals present included barley (*Hordeum* sp.), bread/club wheat (*Triticum* c.f. *aestivo-compactum*), glume wheat (*Triticum* sp.) and oats (*Avena* sp.).

Wild taxa

Charred weed seeds

Charred weed seeds, (here used to include seeds, fruits, achene, caryopses etc.) were recovered from two ditches; [060010] and [090005] (Appendix VI). The very small (<10) charred weed assemblage comprised poorly preserved seeds of grasses (Poaceae), peas/vetches (*Lathyrus/Vicia*) and seeds of the daisy family (Asteraceae).

Waterlogged weed seeds

Waterlogged weed seeds (<30) were present in seven of the eight ditches sampled (Appendix VI) and were particularly abundant in ditch [070009]. Species present included; elder (*Sambucus nigra*), blackberry, (*Rubus fruticosus*), raspberry (*Rubus idaeus*) and common nettle (*Urtica dioica*), as well as buttercups (*Ranunculus* sp.), docks (*Rumex* sp.) and seeds of the daisy family (Asteraceae).

Other charred plant remains

Hazel nutshell (*Corylus avellana*) was present in three ditches; [060010], [070009] and [090005] (Appendix VI).

A single well-preserved tuber of false oat-grass (*Arrhenatherum elatius*) was recovered from ditch [060004] and an indeterminate bud from context (090004) ditch [090005] (Appendix VI). This material is sufficient for AMS radiocarbon dating.

Other waterlogged plant remains

The assemblages from seven of the ditches sampled (Appendix VI) also contained fragments of monocot stems, root material and plant epidermis and a small number of undifferentiated leaf fragments.

Wood charcoal

Wood charcoal was present in varying quantities in seven of sampled ditches (Appendix VI) The charcoal exhibited mixed levels of preservation and was predominantly oak with a small number of fragments of non-oak species present.

The majority of the charcoal fragments were coated with an orange mineral concretion which had also been absorbed into the internal structure of the wood. The concretion is likely iron salts that have impregnated the wood vessels; this process is often an indication of fluctuating water levels within a deposit.

The charcoal assemblages from ditches [060010], [070009] and [090005] contained fragments (including roundwood) of a size and type potentially sufficient for AMS radiocarbon dating.

Animal bone

Unburnt bone

A moderate assemblage of fragmented animal bone was recovered from five of the sampled ditches (Appendix VII). The bone was fragmented and demonstrated mixed levels of preservation ranging from good to poor. The Minimum Number of Individuals (MNI) determined for each ditch was low (Appendix VII) the exception being Ditch [060010] which had an MNI of 5. This ditch also demonstrated the wider species diversity including mouse, fish, bird and medium sized mammal.

The most commonly represented species across the sampled ditches was mouse. Identifiable elements included teeth, mandible fragments and indeterminate long bones. Sheep/goat remains were recovered from ditch [090005] and included teeth, a radius (unfused distal end), mandible fragments, indeterminate long bone fragments and an ulna with butchery marks.

All other animal bone recovered was heavily fragmented and lacked diagnostic features.

Burnt bone

A small assemblage of burnt bone was recovered from three ditches; [060010], [090005] and [100007]. The bone was heavily fragmented and lacked diagnostic features required for identification.

Eggshell

A single fragment of indeterminate eggshell was recovered from ditch [060010].

Molluscs

A small assemblage of molluscs was recovered from five of the sampled ditches (Appendix VI). The molluscs exhibited mixed levels of preservation, and the assemblages contained both terrestrial and freshwater types.

Scientific dating potential of the remains

The remains that offer the best potential for AMS radiocarbon dating are show in the table below.

Feature	Material sufficient for AMS dating
ditch [060004]	cereal grain, charred false oat-grass tuber
ditch [060010]	cereal grain, hazel nutshell, charcoal
ditch [070009]	charcoal
ditch [090005]	cereal grain, indeterminate bud, charcoal
ditch [100007]	cereal grain
ditch [090005]	charcoal

Table 4. Remains scientific dating potential

Discussion & Recommendations

The small cereal grain assemblage does not offer any significant information relating to site economy other than possible crop choices. Once incorporated into negative features charred remains tend to survive well but, as in this case, their inclusion is often incidental, and the materials have no direct relationship to the features themselves.

The animal bone assemblage provides limited information pertaining to site economy. Due to the size and fragmented nature of the assemblage, it is unlikely that analysis would provide significant further information other than broad dietary preferences.

The orange mineral concretion present on a proportion of the charred plant remains is likely iron salts that have impregnated the vessels of the remains; this process is often an indication of fluctuating water levels within a deposit. The evidence of a fluctuating water table is further supported by the presence of waterlogged plant remains in deposits from seven of the sampled ditches.

5. DISCUSSION

5.1 Quality of preservation

The remains were generally well identifiable. The depth of the overburden at the site varied from 0.42 to 75m. The site appears to have been used as parking area (for Stansted Airport) and as halting site

for traveller communities (Client and Principal Historic Environment Advisor personal communication). As a result, patches of tarmac, construction debris, waste, hazardous material (including rusty sharp metal and possibly asbestos), a large amount vehicle tires, and plastic were found across site at the beginning of the trial trenching exercise (Illus 3). When the site was turned into a parking space, the area was probably flattened with a dozer. Part of the waste was pushed towards the north-eastern part of the site so as to create a bank separating the wooded area to the north-east from the central part of the site.

5.2 Description of heritage assets

Description of Heritage Asset	Trench	Feature	Significance of heritage asset (Low, Medium, High) and of local, regional, national, international interest
HA1: Late prehistoric ditches	TR03, TR10	[030004], [100007]	Medium significance of local interest
HA2: Late prehistoric/Roman ditches	TR07, TR09	[070009], [090007]	Medium significance of local interest.
HA3: Roman ditches	TR06, TR09	[090005], [060007], [060010]	Medium significance of local interest.
HA4: Post-medieval ditch	TR06	[060004]	Low significance of local interest

Table 5 Description of heritage assets


- HA1 comprises evidence for prehistoric activity-. This is considered to have medium significance of local and regional interest. HA1 ties in with one of the specific aims of the field work identified in the project brief, i. e. the identification of any evidence of further prehistoric occupation related to that on the west of the M11(Havis 2018)
- HA2 comprises evidence for late prehistoric/Roman activity. This is considered to have medium-significance of local interest.
- HA3 comprises evidence for Roman activity. This is considered to have medium-significance of local interest.
- HA4: comprises evidence for post-medieval activity, which is considered to have low significance of local interest


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7. APPENDICES


7.1 Appendix I – Trench and Context Summary

Trench Number	02				
		TR02 looking west			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
020001	Topsoil and tarmac: Plus layer of silty clay, dark grey/black, lumps of concrete, frequent rooting and occasional brick.	N/A	N/A	N/A	0.40m
020002	Subsoil: Mid greyish brown silty clay. Frequent small irregular gravels.	N/A	N/A	N/A	0.65m
020003	Geological substrate: Mid orange, sandy clay. Moderate chalk fragments and flint nodules.	N/A	N/A	N/A	0.75m+

Trench Number	03				
		TR03 Looking north			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
030001	Topsoil: Dark silty clay with occasional small stone inclusions and tarmac	N/A	N/A	N/A	0.27m
030002	Geological substrate: Light orangy yellow gravelly clay.	N/A	N/A	N/A	0.42m
030003	Fill of ditch [030004]: Mid bluish brown silty clay with frequent flint pebble and iron pan	N/A	1.90m+	0.50m	0.15m
030004	Cut of ditch: Gently sloping with a flat base	N/A	1.90m+	0.50m	0.15m


Trench Number	04				
		TR04 Looking south-east			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
040001	Topsoil: Mid grey brown silty clay with modern inclusions: tarmac	N/A	N/A	N/A	0.25
040002	Subsoil: Mid grey silty clay with yellow gravel inclusions	N/A	N/A	N/A	0.35
040003	Geological substrate: Light orange yellow clay with gravel inclusions	N/A	N/A	N/A	0.75+

Trench Number	05				
		TR05 Looking south			
Length	30m			1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
050001	Topsoil: Mid greyish brown silty clay with small stone inclusions	N/A	N/A	N/A	0.25m
050002	Subsoil: Mid orangy grey clay with small stone inclusions	N/A	N/A	N/A	0.35m
050003	Geological substrate: Light orange clay with gravel inclusion	N/A	N/A	N/A	0.55m+


Trench Number	06				
		TR06 Looking north			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
060001	Topsoil: Dark brownish grey silty clay with modern gravels and frequent roots	N/A	N/A	N/A	0.30m
060002	Subsoil: Mid yellow brown silty clay with moderate small angular gravels and chalk pieces	N/A	N/A	N/A	0.79m
060003	Geological substrate: Light brownish yellow sandy clay with frequent chalk fragments and moderate angular gravels	N/A	N/A	N/A	1.39m+
060004	Cut of ditch: Steeply sloping with an	N/A	1.00m	1.88m-2.90m	0.70+


	unknown base (Not Fully Excavated due to high ground water).				
060005	Fill of ditch [060004]: Mid reddish brown slightly sandy clay.	N/A	1.00m	1.88m-2.90m	0.44m
060006	Fill of ditch [060007]: Light greyish orange silty clay with occasional flint.	N/A	1.90m+	0.48m	0.21m
060007	Cut of ditch: Steeply sloping with a concave base.	N/A	1.90+	0.48m	0.21m
060008	Fill of ditch [060004]: Light greyish brown silty clay with sparse small flint and limestone flecks (wet).	N/A	1.00m	1.70m	0.30m+
060009	Fill of ditch [060010]: Dark black silty clay with occasional CMB and frequent charcoal.	N/A	1.90m+	0.65m	0.12m
060010	Cut of ditch: Gently sloping with a slightly concave base	N/A	1.90m+	0.65m	0.12m
060011	Cut of ditch: Very steep sided with a	N/A	1.00m	0.30m	0.50m

	pointed base				
060012	Fill of ditch [060012]: Mid reddish brown silty clay with very frequent small-medium flint pebble and other stones	N/A	1.00m	0.30m	0.50m


Trench Number	07				
		TR07 Looking south-east			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
070001	Tarmac: with topsoil on top	N/A	N/A	N/A	0.24m
070002	Topsoil: Dark brownish grey silty clay with moderate small angular stones and frequent roots.	N/A	N/A	N/A	0.53m
070003	Subsoil: Mid yellow brown silty clay with frequent small and medium sized gravels.	N/A	N/A	N/A	0.73m
070004	Geological substrate: Light brownish yellow sandy clay with moderate chalk flecks and frequent gravels.	N/A	N/A	N/A	0.91m+

070005	Modern fill of land drain [070006]	N/A	N/A	N/A	N/A
070006	Cut of land drain	N/A	N/A	N/A	N/A
070007	Fill of ditch [070009]: Light yellow/orange clay with occasional small stones.	N/A	1.90m+	1.08m	0.41m
070008	Fill of ditch [070009]: Light blue/grey silty clay with moderate flint and charcoal flecks.	N/A	1.90m+	0.56m	0.25m
070009	Cut of ditch: Steep sided with a v-shaped base.	N/A	1.90m+	1.28m	0.66m

Trench Number	08				
TR08 Looking west					
Length	30m	Width		1.8m	
Context No	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
080001	Topsoil: Mid greyish brown silty clay with small stone inclusions	N/A	N/A	N/A	0.25m
080002	Subsoil: Mid orangy grey silty sand	N/A	N/A	N/A	0.45m
080003	Geological substrate: Light yellow clay with gravel inclusions	N/A	N/A	N/A	0.50m+

Trench Number	09				
		TR09 Looking west			
Length	30m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
090001	Topsoil: Dark brownish grey silty clay with frequent rooting, moderate small-medium sized angular stones and occasional shell	N/A	N/A	N/A	0.28m
090002	Subsoil: Mid brownish grey silty clay with moderate small-medium sized angular gravels	N/A	N/A	N/A	0.86m
090003	Geological substrate: Light orange brown sandy clay with frequent chalk fragments and gravels	N/A	N/A	N/A	1.31m+

090004	Fill of ditch [070005]: Black silty clay with frequent flint, charcoal and pottery.	N/A	1.90m+	5.00m	0.19m
090005	Cut of ditch: Gently sloping with a concave base.	N/A	1.90m+	5.00m	0.43m
090006	Fill of ditch [090007]: Orangish yellow silty clay with small-medium rounded stones	N/A	1.00m+	3.55m	0.21m
090007	Cut of ditch: Gently sloping with an uneven base.	N/A	1.00m+	3.55m	0.21m
090008	Fill of ditch [070005]: Light grey silty clay with frequent flint and charcoal flecks.	N/A	1.90m+	5.00m	0.10m
090009	Fill of ditch [070005]: Light orange silty clay with frequent flint.	N/A	1.90m+	5.00m	0.17m

Trench Number	10				
		TR10 Looking north-west			
Length	10.00m	Width		1.8m	
Context No.	Description (Layer, Cut, Fill)	Dimensions			
		Diameter	Length	Width	Depth
100001	Topsoil: Dark brownish grey silty clay with frequent rooting and occasional small angular and sub-angular stones	N/A	N/A	N/A	0.25m
100002	Subsoil: Light brown silty clay with occasional small angular stones	N/A	N/A	N/A	0.50m
100003	Geological substrate: Light brown yellow sandy clay with frequent chalk fragments and moderate flint nodules and gravels	N/A	N/A	N/A	0.65m+

100004	Fill of ditch [010007]: Black silty clay with moderate charcoal and CBM.	N/A	1.90m+	1.45m	0.16m
100005	Fill of ditch [010007]: Light orangy brown silty sand.	N/A	1.90m+	1.34m	0.19m
100006	Fill of ditch [010007]: Light greyish orange silty clay with frequent flint, moderate snail shell and occasional chalk flecks	N/A	1.90m+	0.94m	0.23m
100007	Cut of ditch: Steep sided with a concave base.	N/A	1.90m+	1.45m	0.58m

7.2 Appendix II – Photographic Register

Photo No.	B&W	Direction	Description
001		SW	Pre excavation site conditions. Site access
002		SE	Pre excavation site conditions. Thick vegetation W of site access
003		SE	Pre excavation site conditions. Thick vegetation E of site access
004		E	Pre excavation site conditions. Central part of site
005		NE	Pre excavation site conditions. Waste in the central part of site
006		SE	Pre excavation site conditions. Central part of site
007		E	Pre excavation site conditions. Central part of site
008		SW	Pre excavation site conditions. Western boundary of site
009		N	Pre excavation site conditions. Eastern boundary of site
010		W	Pre excavation site conditions. Northern part of site
011			Accidental shot
012	36		B&W ID shot
013	35	N	TR03 after trenching
014	34	S	TR03 after trenching
015	33	W	E facing section of TR03
016	32	SE	TR04 after trenching
017	31	NW	TR04 after trenching
018	30	NE	SW facing section of TR04
019	29	N	TR05 after trenching
020	28	S	TR05 after trenching
021	27	W	E facing section of TR05
022	26	E	TR08 after trenching
023	25	W	TR08 after trenching
024	24	S	N facing section of TR08
025		SE	Track mark on tarmac and kerb
026		S	Original position of TR10 on a modern mound
027		W	Original position of TR10 full of debris
028		W	Original position of TR07
029		E	Original position of TR08
030		N	TR06 pre ex location shot
031		W	Overburden + disturbance within TR06
032		E	TR07 original location +/-overburden/bank. Not suitable for trench location
033		E	Original location for TR07- bank/ overburden. Not suitable for trench location
034	22	SE	TR10 after trenching
035	10	NW	TR10 after trenching
036	21	NE	TR10 SW facing section
037	20	E	TR09 after trenching
038		W	TR07 pre ex location shot: overburden + caravan

039		NW	TR07 pre ex location shot: overburden + caravan
040		SW	TR07 pre ex location shot: overburden+caravan
041	8	W	TR09 after trenching
042	19	N	TR09 S facing section
043	18	E	TR 07 after trenching
044	9	W	TR 07 after trenching
045	17	N	S facing section of TR07
046		S	NW/SE aligned drain in TR07
047		S	Modern drain in TR07
048		S	Modern drain in TR07
049	16	N	TR06 after trenching
050		W	Ditch 060010 in TR06- pre ex
051	15	E	W facing section of TR06
052	14	S	TR06 after trenching
053			VOID
054	13	W	TR02 after trenching
055	11	E	TR02 after trenching
056	12	N	S facing section of TR02
057	13	E	W facing section of [030004]
058		N	S facing section and plan shot of [090005] in TR09 section
059		N	S facing section and plan shot of [090005] in TR09 section
060	7	N	S facing section and plan shot of [090005] in TR09 section
061	6	N	S facing section of [090007] in TR09 section
062		N	S facing section of [090007] in TR09 section
063		NW	TR04 backfilled
064		E	TR08 backfilled
065	5	E	TR06 west facing section of ditch [060004]
066	4	NE	SW facing section of ditch [100007]
067	3	NE	SW facing section of ditch [100007]
068		SE	TR06 pre ex of ditch [060007]
069		N	TR09 pre ex of ditch [090005]
070		N	TR09 pre ex of ditch [090005]
071		W	TR09 pre ex of ditch [090005] and [090007]
072		W	TR09 pre ex of ditch [090005] and [090007]
073		E	TR09 pre ex of ditch [090005] and [090007]
074		SE	TR10 Backfilled
075	2	SE	NW facing section of ditch [060007]
076	1	SE	NW facing section of ditch [060007]
077	36		Accidental shot
078	35		B&W ID shot
079	34	E	TR06 Modern drains found during excavation of ditch [060004]
080	33	E	TR06 W facing section of ditch [060004]
081	32	N	TR09 S facing section of ditch [090007]
082	31	SE	NW facing section of ditch [060010]

083	30	SE	NW facing section of ditch [060010]
084	29	NW	Pre ex shot of ditch [070009]
085	28	N	S facing section of ditch [090005]
086	27	E	Feature N of [060009] submerged. NFE
087	26	SE	Continuation of [060004] in TR05. Submerged. NFE
088	25	SW	NE facing section of ditch [070009]
089	24	SW	NE facing section of ditch [070009]
090		NE	Post ex shot of site from SW corner
091		N	Post ex shot of site from SW corner
092		S	Post ex shot of site from SW corner
093		S	TR02 soil anomaly. Submerged.

7.3 Appendix III – Sample Register

Soil Sample	Context No.	Context description
001	030003	Grey fill of ditch-[030004]. Pottery indicates Mid Iron Age
002	100006	Lowest fill of ditch [100007]. Grey silty clay
003	060006	Fill of ditch- waterlogged [060007]
004	060005	Fill of ditch [060004]. Very wet
005	090006	Fill of ditch [090007]
006	060009	Dark fill of ditch [060010]
007	090004	Dark upper fill of ditch [090005]
008	090009	Lowest yellow fill of ditch [090005]
009	070007	Fill of ditch [070009]

7.4 Appendix IV – Finds Catalogue

Tr	Context	SF	Soil Sample	Qty	Wgt (g)	Material	Object	Description	Spot Date
03	030003	-	1	21	0	CBM	fired clay	very small crumbs	-
03	030003	-	-	3	1	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	LPH
03	030003	-	1	1	3	Pottery (PH)	SA1	sandy ware	LPH
03	030003	-	-	3	9	Pottery (PH)	SAFL	sandy ware with sparse flint	LPH
03	030003	-	-	1	3	Pottery (PH)	SAOR	sandy ware with organic inclusions	LPH
06	060001	6001	-	1	2	Iron	nail	fragment, covered in corrosion products	-
06	060005	-	4	-	2	Industrial Waste	fuel ash slag?	vitrified	-
06	060005	-	4	50	5	CBM	fired clay	very small crumbs to small abraded lumps	-
06	060005	-	-	1	3	CBM	fired clay	abraded	-
06	060005	-	-	3	54	CBM	tile	tegulae	Rom
06	060005	-	-	1	20	CBM	fired clay	fragments	PM
06	060005	-	4	1	3	Pottery (PM)	PMGRE	glazed red earthenware	PM
06	060006	-	3	-	1	Industrial Waste	fuel ash slag?	vitrified	-
06	060006	-	3	4	0	CBM	fired clay	very small crumbs	-
06	060008	-	-	2	60	CBM	fired clay	fragments	PM

Tr	Context	SF	Soil Sample	Qty	Wgt (g)	Material	Object	Description	Spot Date
06	060009	-	6	-	4	Industrial Waste	slag	vesicular, vitrified	-
06	060009	-	6	-	3	Industrial Waste	mag res	possible hammerscale and slag spheres, mainly magnetised gravel	-
06	060009	-	6	1	1	Iron	nail?	fragment, bent at right angle, covered in corrosion products	-
06	060009	-	6	47	16	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?
06	060009	-	6	1	0	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?
06	060009	-	-	11	27	CBM	fired clay/daub	chalk-tempered	?Rom
06	060009	-	6	152	67	CBM	fired clay	fragments	?Rom
06	060009	-	6	9	3	Lithics	debitage & tool	an edge retouched left lateral fragment, a flake, a blade (accidental) and six chips; one chip is burnt	PH
06	060009	-	6	1	1	Pottery (Rom)	GY	reduced (grey) sandy ware	Rom
06	060009	-	-	3	6	Pottery (Rom)	GY	reduced (grey) sandy ware	Rom
06	060009	-	-	1	1	Pottery (Rom)	OXS1	oxidised sandy ware	Rom
06	060009	-	6	1	2	Pottery (PH)	SA1	sandy ware	LPH
06	060009	-	6	6	16	Pottery (PH)	SASH	sandy ware with sparse fine calcareous inclusions of limestone or shell	LPH
06	060009	-	6	68	90	Pottery (Rom)	SH	local shelly ware	Rom
06	060009	-	6	1	6	Pottery (Rom)	SH	jar; local shelly ware	Rom
06	060009	-	-	4	10	Pottery (Rom)	SH	local shelly ware	Rom
07	070007	-	9	25	1	CBM	fired clay	very small crumbs	-
07	070007	-	9	1	0	Pottery (PH)	SAFL	sandy ware with sparse flint	LPH
07	070007	-	9	1	0	Pottery (Rom)	SH	local shelly ware	?LPH/Rom
09	090004	-	7	40	9	CBM	fired clay	very small crumbs to small abraded lumps	-
09	090004	-	-	3	33	CBM	fired clay	abraded	-
09	090004	-	-	2	106	CBM	tile	tegulae	Roman
09	090004	-	-	31	4	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?
09	090004	-	-	1	3	Pottery (Rom)	GY	reduced (grey) sandy ware	Rom
09	090004	-	-	1	1	Pottery (Rom)	OXF	fine oxidised ware	Rom
09	090004	-	-	1	32	Pottery (Rom)	OXS1	base; oxidised sandy ware	Rom
09	090004	-	-	3	1	Pottery (Rom)	OXS2	oxidised sandy ware	Rom
09	090004	-	-	4	42	Pottery (Rom)	OXS2	oxidised sandy ware	Rom
09	090004	-	-	5	52	Pottery (PH)	SASH	sandy ware with sparse fine calcareous inclusions of limestone or shell	LPH
09	090004	-	-	16	15	Pottery (Rom)	SH	local shelly ware	Rom
09	090004	-	-	39	172	Pottery (Rom)	SH	jar; local shelly ware	Rom
09	090004	-	-	1	10	Pottery (Rom)	SH	jar; local shelly ware	Rom
09	090004	-	-	1	19	Pottery (Rom)	SH	jar; local shelly ware	Rom
09	090004	-	-	1	8	Pottery (Rom)	SH	jar; local shelly ware	Rom
09	090004	-	-	1	4	Pottery (Rom)	WW	white-ware	Rom

Tr	Context	SF	Soil Sample	Qty	Wgt (g)	Material	Object	Description	Spot Date
09	090006	-	5	14	0	CBM	fired clay	very small crumbs	-
09	090006	-	5	1	0	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?
09	090007	-	-	2	91	CBM	fired clay	abraded	-
09	090008	-	-	1	3	Pottery (Rom)	OXFRS	Oxfordshire colour-coated ware (?Young 1977, C51)	240-400 AD
09	090008	-	-	1	24	Pottery (Rom)	SH	2=1; local shelly ware	Rom
09	090009	-	8	4	0	CBM	fired clay	very small crumbs	-
09	090009	-	8	1	0	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?
10	100006	-	2	4	0	CBM	fired clay	very small crumbs	-
10	100006	-	-	4	407	CBM	fired clay	vitrified amorphous lumps	-
10	100006	-	2	2	0	Pottery (PH)	CRUMBS	too small to identify, could be CBM or fired clay	PH?

7.5 Appendix V – Specialist Pottery Data

Context	Sample	Fabric	Form	Wgt (g)	No.	Rim	Diam	Eve
030003	-	CRUMBS	-	1	3	0	0	0
030003	001	SA1	-	3	1	0	0	0
030003	-	SAFL	-	9	2	1	0	2
030003	-	SAOR	-	3	1	0	0	0
060005	-	CBM	-	54	3	0	0	0
060005	-	CBM	-	20	1	0	0	0
060005	004	PMGRE	-	3	1	0	0	0
060008	-	CBM	-	60	2	0	0	0
060009	006	CRUMBS	-	16	47	0	0	0
060009	006	CRUMBS	-	0	1	0	0	0
060009	-	FC/DAUB	-	27	11	0	0	0
060009	006	FCLAY	-	67	152	0	0	0
060009	006	GY	-	1	1	0	0	0
060009	-	GY	-	6	3	0	0	0
060009	-	OXS1	-	1	1	0	0	0
060009	006	SA1	-	2	1	0	0	0
060009	006	SASH	-	16	6	0	0	0
060009	006	SH	-	90	68	0	0	0
060009	006	SH	jar	6	0	1	16	5
060009	-	SH	-	10	4	0	0	0
070007	009	SAFL	-	0	1	0	0	0
070007	009	SH	-	0	1	0	0	0
090004	-	CBM	-	106	2	0	0	0
090004	-	CRUMBS	-	4	31	0	0	0
090004	-	GY	-	3	1	0	0	0
090004	-	OXF	-	1	1	0	0	0
090004		OXS1	base	32	1	0	0	0
090004	-	OXS2	-	1	3	0	0	0

Context	Sample	Fabric	Form	Wgt (g)	No.	Rim	Diam	Eve
090004	-	OXS2	-	42	4	0	0	0
090004	-	SASH	-	52	5	0	0	0
090004	-	SH	-	15	16	0	0	0
090004	-	SH	jar	172	38	1	14	10
090004	-	SH	jar	10	0	1	16	5
090004	-	SH	jar	19	0	1	15	15
090004	-	SH	jar	8	0	1	24	5
090004	-	WW	-	4	1	0	0	0
090006	005	CRUMBS	-	0	1	0	0	0
090008	-	OXFRS	-	3	1	0	0	0
090008	-	SH	-	24	1	0	0	0
090009	008	CRUMBS	-	0	1	0	0	0
100006	002	CRUMBS	-	0	2	0	0	0
Total	-	-	-	891	420	6	85	42

7.6 Appendix VI – Environmental Samples Results

Key: + = rare (0–5), ++ = occasional (6–15), +++ = common (15–50) and ++++ = abundant (>50)												
ch = charred, w/l = waterlogged, u = uncharred												
NB charcoal over 10mm is sufficient for identification and AMS dating												
Context			030003	060005	060006	060009	070007	090004	090009	090006	100006	
Sample			001	004	003	006	009	007	008	005	002	
Context type			ditch [030004]	ditch [060004]	ditch [060007]	ditch [060010]	ditch [070009]	ditch [090005]	ditch [090005]	ditch [090007]	ditch [100007]	
Sample Vol (l)			30	40	20	40	40	40	40	40	40	
Flot Vol (ml)			10	35	3	200	50	150	40	100	8	
Sufficient for AMS?			N	Y	N	Y	Y (at risk)	Y	Y (at risk)	N	Y	
Spot date from finds report			late prehistoric	Roman, post medieval	?	Roman	late prehistoric, Roman	Roman	Roman	?	Prehistoric?	
Plant remains												
cereals	grain	ch	-	+	-	+	++	++	+	-	++	
Legumes	seed	ch	-	-	-	-	+	-	-	-	-	
weed seeds		ch	-	-	-	+	-	+	-	-	-	
weed seeds		w/l	-	+	+	+	+++	-	+	+	+	
Hazel nutshell	Qty	ch	-	-	-	-	+	+	-	-	-	
	Wgt (g)	ch	-	-	-	<0.1	<0.1	<0.1	-	-	-	
Other botanical remains												
buds	undifferentiated	ch	-	-	-	-	-	+	-	-	-	
eggshell	fragments		-	-	-	+	-	-	-	-	-	
leaves	undifferentiated	w/l	-	-	-	-	-	-	-	+	-	
monocot stems	undifferentiated	w/l	-	-	-	-	++	-	-	-	++	
plant epidermis	undifferentiated	w/l	-	++	++	-	+++	++++	-	+++	++	
rhizomes/tubers	undifferentiated	ch	-	+	-	-	-	-	-	-	-	
root material	undifferentiated	w/l	-	++	-	-	+++	-	-	++++	-	
twigs	undifferentiated	w/l	-	-	-	-	-	-	-	-	++	
wood fragments	undifferentiated	w/l	-	-	-	-	-	-	-	-	-	
Charcoal												
Charcoal	Qty	ch	++	++	-	++++	++++	++++	+++	+	+++	
	Max size (mm)	ch	6	7	-	13	9	12	9	4	8	
	Oak	ch	++	-	-	++++	++	++	++	-	++	
	Non-oak	ch	+	-	-	+++	+	+	-	-	-	
	Roundwood	ch	-	-	-	-	+	-	-	-	-	
	Not retained	ch	-	-	-	-	-	-	-	-	-	
Animal Remains												
Burnt bone	Mammal	Qty	-	-	-	+++	-	+++	-	-	+	
Unburnt bone	Mammal	Qty	-	-	-	++	+	+	++	-	++	
Earthworm egg capsule		u	-	-	-	+	-	++	-	+	-	
insect remains		u	-	++	-	-	+	-	+	+++	++	
molluscs		u	-	++	-	+++	++	-	+	-	+	

7.7 Appendix VII – Animal Remains Catalogue

Context	Sample	Hand collected	Feature	Unburnt bone								Burnt bone				Comments		
				Preservation	Minimum Number of Individuals (MNI)	Weight (g)	No. of fragments	Large Mammal	Medium sized mammal	Small mammal	other vertebrate remains	Preservation	Minimum Number of Individuals (MNI)	Weight (g)	No. of fragments			
060005	-	x	ditch [060004]	moderate	1	7.3	1	-	indeterminate sheep/goat-long bone fragment	-	-	-	-	-	-	-	-	
060009	006	-	ditch [060010]	good/moderate	5	6.2	>20	mandible fragments		mouse indeterminate long bones, indeterminate small mammal long bone	fish bone, bird bone	poor	1	0.5	>10		indeterminate burnt small mammal bone fragments; no diagnostic features present	
070007	009	-	ditch [070009]	poor	1	1	<0.1	-	-	-	-	-	-	-	-	-	-	indeterminate unburnt mammal bone fragment; no diagnostic features present
090004	007	x	ditch [090005]	good	1	76.4	>40	-	Sheep/goat horn core, teeth, mandible fragments, long bone indet fragments, radius (unfused distal end), ulna with butchery marks. tooth fragments (incisor), mandible fragments	indeterminate long bone fragments	-	poor	1	0.4	3		unburnt indeterminate mammal bone fragments, indeterminate burnt mammal bone fragments; no diagnostic features present	
090009	008	x	ditch [090005]	moderate/poor	2	>15	0.2	7 indeterminate large mammal fragments; mandible, long bone, poor preservation	-	mouse teeth and mandible fragment	-	-	-	-	-	-	-	Unburnt large mammal bone fragments; signs of weathering, indeterminate unburnt mammal bone fragments; no diagnostic features present
100006	002	-	ditch [100007]	good	4	1.1	>20	-	-	Mouse teeth (3-MNI), mandible fragment, indeterminate long bone. Indeterminate long bone fragments small mammal	-	moderate	1	0.3	4		indeterminate burnt mammal bone fragments; no diagnostic features present	

LIST OF ILLUSTRATIONS

ILLUS 1 SITE LOCATION

ILLUS 2 SITE PLAN

ILLUS 3 PRE-EVALUATION SITE CONDITION. DIFFERENT TYPES OF WASTE OCCUPIED LARGE PART OF THE SITE. LOOKING NORTH-EAST.

ILLUS 4 PRE-EVALUATION SITE CONDITION. WOODED AREAS OF SITE AFFECTED TRENCHES LOCATION. LOOKING SOUTH-EAST

ILLUS 5 WEST FACING SECTION OF DITCH [030004]. LOOKING EAST

ILLUS 6 NORTH-WEST FACING SECTION OF DITCH [060010]. LOOKING SOUTH

ILLUS 7 SOUTH-WEST FACING SECTION OF DITCH [100007]. LOOKING NORTH-EAST

ILLUS 8 BEFORE EXCAVATION OF DITCH [090005] AND [090007]. LOOKING WEST

ILLUS 9 SOUTH FACING SECTION OF DITCH [090007]. LOOKING NORTH

ILLUS 10 SOUTH FACING SECTION OF DITCH [090005]. LOOKING NORTH

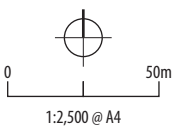
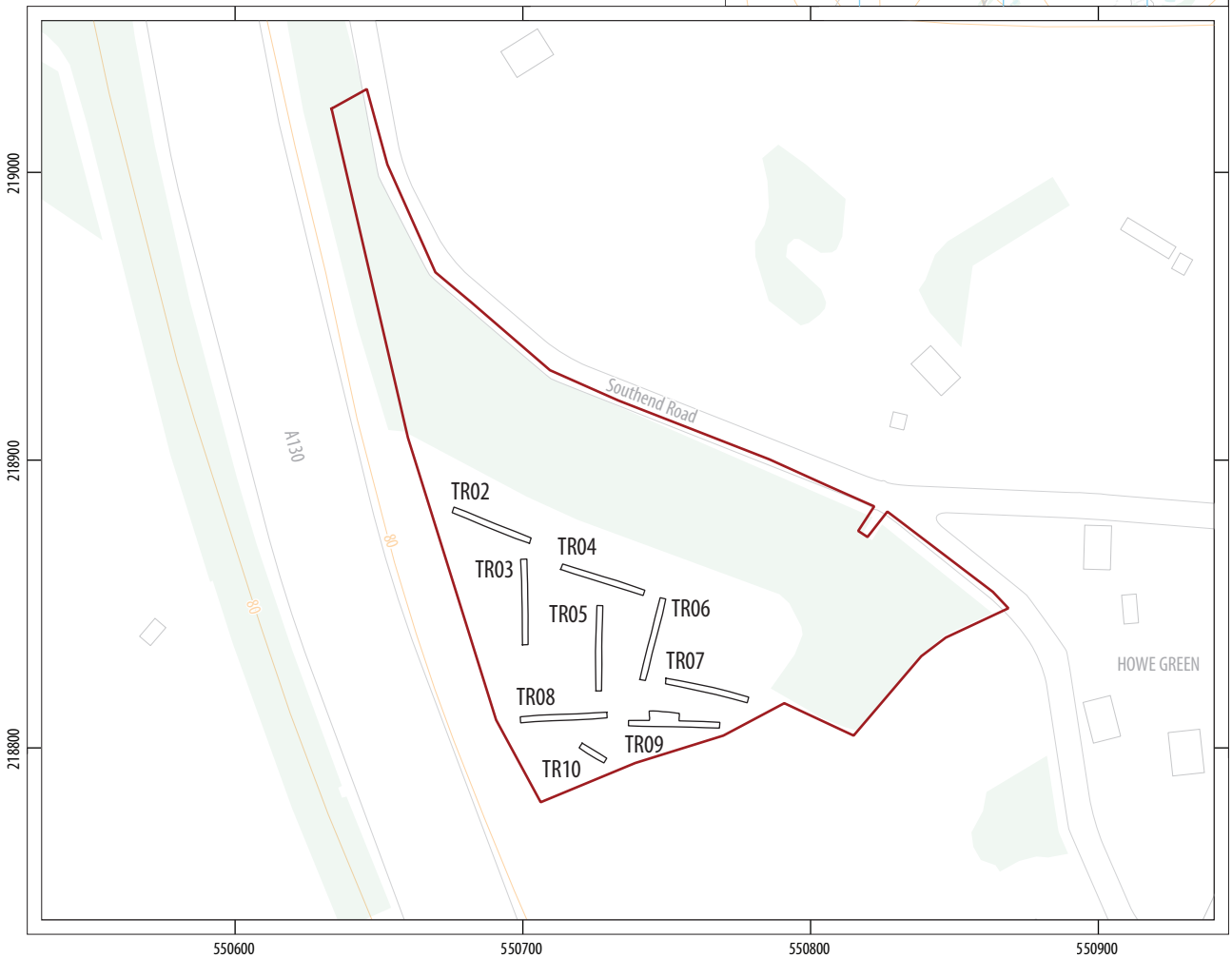
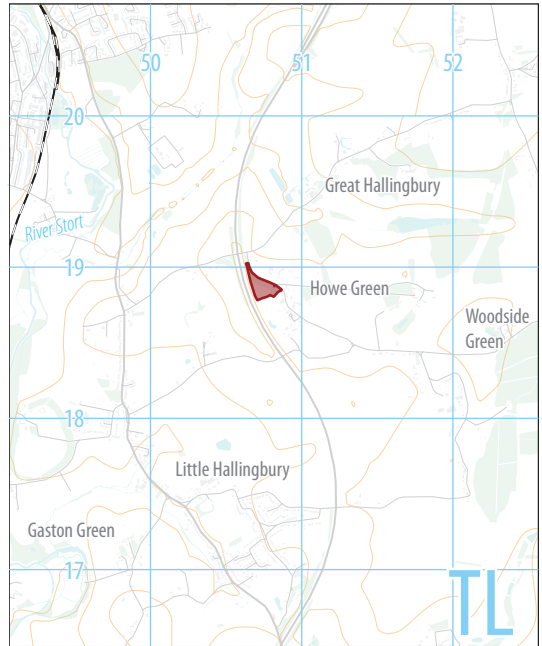
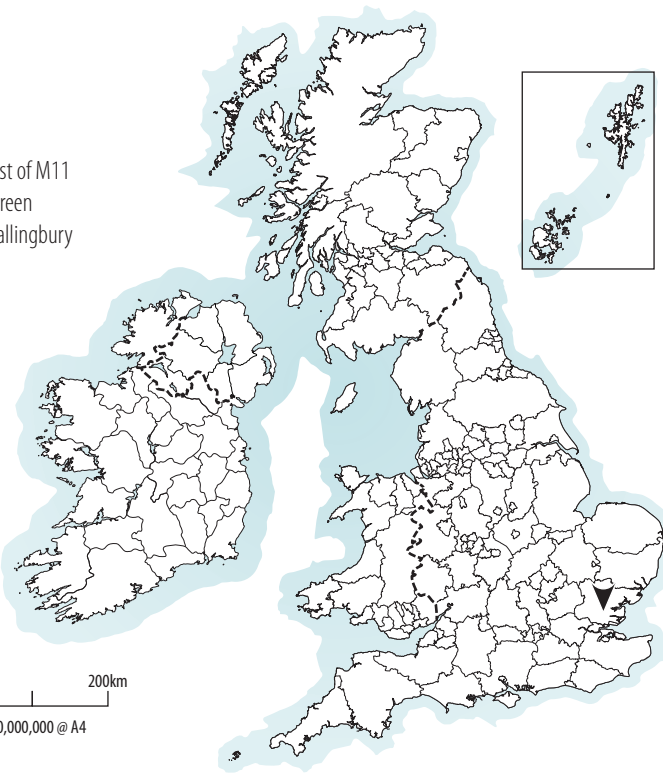
ILLUS 11 WEST FACING SECTION OF DITCH [060004]. LOOKING EAST

ILLUS 12 CONTINUATION OF DITCH [060004] IN TRENCH 5, COMPLETELY SUBMERGED. LOOKING SE

ILLUS 13 NORTH-EAST FACING SECTION OF DITCH [070009]. LOOKING SOUTH-WEST

ILLUS 14 . NORTH-WEST FACING SECTION OF DITCH [060007]. LOOKING SOUTH-EAST

Land East of M11
Howe Green
Great Hallingbury
Essex

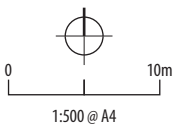
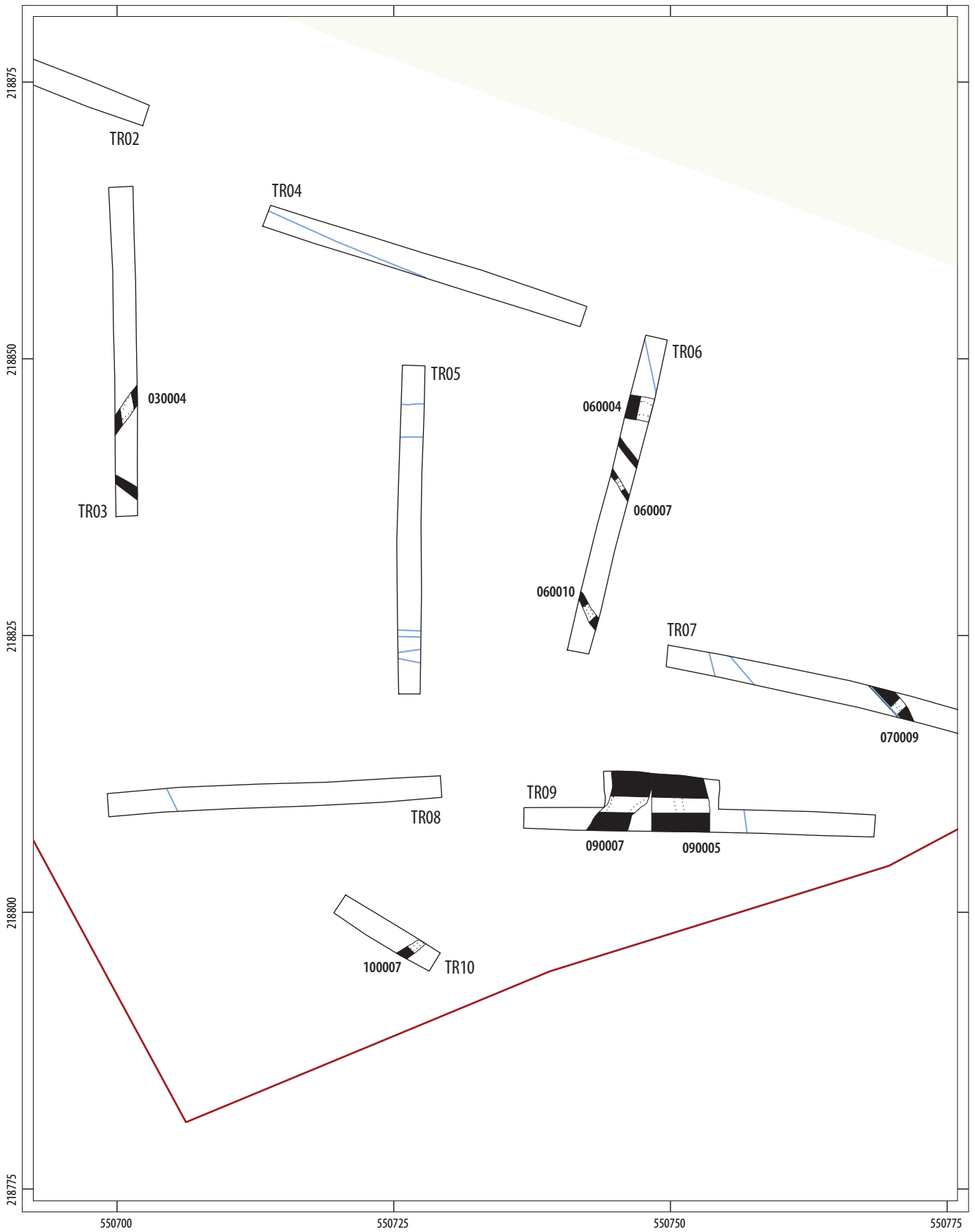


development boundary
trench location



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ILLUS 1 Site location



- development boundary
- trench location
- land drain

ILLUS 2 Site plan



ILLUS 3 Pre-evaluation site condition. Different types of waste occupied large part of the site. Looking north-east.



ILLUS 4 Pre-evaluation site condition. Wooded areas of site affected trenches location. Looking south-east



ILLUS 5 West facing section of ditch [030004]. Looking east **ILLUS 6** North-west facing section of ditch [060010]. Looking south **ILLUS 7** South-west facing section of ditch [100007]. Looking north-east



ILLUS 8 Before excavation of ditch [090005] and [090007]. Looking west **ILLUS 9** South facing section of ditch [090007]. Looking north **ILLUS 10** South facing section of ditch [090005]. Looking north



ILLUS 11 West facing section of ditch [060004]. Looking east
ILLUS 12 Continuation of ditch [060004] in Trench 5, completely submerged. Looking SE
ILLUS 13 North-east facing section of ditch [070009]. Looking south-west
ILLUS 14 . North-west facing section of ditch [060007]. Looking south-east