



Land North of Clapham Water Treatment Works, Clapham Road, Bedfordshire

Archaeological Evaluation Report

April 2019

Client: Anglian Water

Issue No: 1
OAE Report No: 2312
NGR: TL 03718 51865

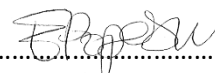


Client Name: Anglian Water
Document Title: Land North of Clapham Water Treatment Works, Clapham Road, Bedfordshire
Document Type: Evaluation Report
Report No: 2312
Grid Reference: TL 03718 51865
Planning Reference: 17/00686/PREAPP
Site Code: BEDFM2018.82
Invoice Code: XBDCWS18
Receiving Body: The Higgins, Bedford
Accession No: BEDFM2018.82
OASIS No: Oxfordar3-347353

OA Document File Location: X:\Active Projects_Use KT\Bedfordshire\XBDCWS18\Project Reports
OA Graphics File Location: X:\Active Projects_Use KT\Bedfordshire\XBDCWS18\Project Data\Graphics

Issue No: Version 1
Date: April 2019
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Land North of Clapham Water Treatment Works, Clapham Road, Bedfordshire

Archaeological Evaluation Report

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Summary

Between 18th and 22nd March 2019, Oxford Archaeology East (OA East) carried out a twenty trench archaeological evaluation on Land North of Clapham, Water Treatment Works, Clapham Road, Bedfordshire (TL 03718 51865). There was a low density of archaeological features and those present were limited to the northern half of the site. The evaluation did uncover limited evidence of Middle to Late Iron Age activity, mainly consisting of boundary and drainage ditches. On the eastern edge of the site, a wide shallow hollow was present with a metallised surface in the base. Trench 10 contained a large gravel extraction pit which probably dates from the late medieval or post-medieval period.

Acknowledgements

OA East would like to thank Anglian Water for commissioning this project. Thanks also to Geoff Saunders who monitored the work on behalf of Bedford Borough Council.

The project was managed for OA East by Liz Muldowney. The fieldwork was directed by the author, assisted by Andrew Baldwin, Edmund Cole and Guillaume Gutel. Survey and digitizing was carried out by Gareth Rees and Guillaume Gutel. Thanks also go to the illustrator and editor for their contributions.

1 INTRODUCTION

1.1 Scope of work

- 1.1.1 OA East was commissioned by Anglian Water to undertake a trial trench evaluation on land north of Clapham Water Treatment Works in advance of a proposed solar farm development (Fig 1; centred on TL 03718 51865). A total twenty 30mx1.8m trenches were excavated across the development area of c.3ha.
- 1.1.2 The proposed development lies within an area of potential archaeological sensitivity and it was recommended by the Historic Environment Team of Bedford Borough Council that a programme of archaeological evaluation be undertaken in advance of any future development. This was designed to provide information on the archaeological potential of the site and the impacts the development would have on any remains present.
- 1.1.3 A brief was set by Geoff Saunders of Bedford Borough Council outlining the requirements for work necessary to inform the planning process (Saunders 2018). A Written Scheme of Investigation (WSI) was produced by OA East (Thatcher 2018) detailing the methods by which OA East proposed to meet the requirements of the brief.

1.2 Location, topography and geology

- 1.2.1 The site lies to the south of the village of Clapham and north of the water treatment works (Fig 1). It is bordered on the west by the River Ouse to the east by Clapham Road. The site currently comprises pasture land and historic aerial imagery appears to show ridge and furrow earthworks, but these are no longer observable on site.
- 1.2.2 The site lies between 34m and 35m OD sloping slightly down towards the river. The bedrock geology in the area is sandstone, siltstone and mudstone of the Kellaways Formation overlain by superficial deposits comprising sands and gravels of the Stoke Goldington and Felmersham Members of the Ouse Valley Formation (BGS 2019).

1.3 Archaeological and historical background

- 1.3.1 The site has been the subject of a full Desk-Based Assessment (DBA) produced by WYG Environment Planning Transport Limited in which the archaeological and historical background of the site is discussed and will not be repeated here (Skinner 2017). The following is a summary of that document.
- 1.3.2 To the south of the proposed solar farm lies the known site of World War II defensive remains (BBHER MBB 21946). Located either side of the Clapham Rd and centred at TL 03860 51527, the defences comprised a pillbox on the eastern side of the road together with two sections of slit trenches either side of the road encircled by a curvilinear length of barbed wire. By 1947 these structures were no longer visible above ground.
- 1.3.3 Running along the eastern boundary of the site is the supposed Ickleford to Bedford Roman road (MBD 10480). Furthermore, in the surrounding area generally, there are

a number of known cropmarks – a possible Neolithic henge (MBD 16541) on the opposite side of the Ouse and a number of ring ditches (probably representing ploughed out burial mounds) of Iron Age and Roman date.

- 1.3.4 A number of archaeological investigations have taken place in the general vicinity of the proposal solar farm. An archaeological evaluation of the Southern Orbital Sewer Line (EBD 277) which runs approximately 200-400m distant to the west on the other side of the river identified, evidence of human activity from the Palaeolithic, Roman and medieval periods (Fig. 1). A late Iron Age/Roman settlement (MBB 975) including human burials, large enclosures, a granary, and corn dryers was located to the northwest in a similar position to the proposed site - on meadowland adjacent to the Ouse.

2 EVALUATION AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The project aims and objectives were as follows:

- i. establish the presence or absence of archaeological remains on the site, characterise where they are found (location, depth and extent), and establish the quality of preservation of any archaeology and environmental remains
- ii. provide sufficient coverage to establish the character, condition, date and purpose of any archaeological deposits
- iii. provide sufficient coverage to evaluate the likely impact of past land uses, and the possible presence of masking deposits
- iv. provide – in the event that archaeological remains are found – sufficient information to construct an archaeological mitigation strategy, dealing with preservation, the recording of archaeological deposits, working practices, timetables, and orders of cost.

2.2 Methodology

- 2.2.1 A total of twenty 30mx1.8m trenches were machine excavated using a 13 tonne 360° mechanical excavator fitted with a toothless ditching bucket under constant archaeological supervision. The positions of Trenches 9 and 18 were slightly altered from those proposed in the WSI, due to obstructions (base station and site access point).
- 2.2.2 Service plans were checked before work commenced. Prior to trenching, the footprint of each trench was scanned by a qualified and experienced operator using a CAT scanner with a valid calibration certificate.
- 2.2.3 Trial trenches were excavated to the depth of geological horizons, or to the upper interface of archaeological features or deposits, whichever was encountered first. The depth and nature of any colluvial or other masking deposits was established across the site.
- 2.2.4 Where the archaeological levels were particularly deep, safe excavation procedures were followed to ensure that trenches were safe to enter. The side of Trench 9 was stepped in order to safely hand excavate the features within.
- 2.2.5 Investigation slots through all linear features were at least 1m wide and discrete features were half-sectioned. Deep features were evaluated by a machine.
- 2.2.6 All archaeological features were recorded using OA East's pro-forma sheets. Plans and sections were recorded at appropriate scales and digital photographs were taken of all trenches, relevant features and deposits.
- 2.2.7 Site survey was carried out by survey-grade differential GPS (Leica CS10/GS08 or Leica 1200) fitted with "smartnet" technology with an accuracy of 5mm horizontal and 10mm vertical. .
- 2.2.8 Spoil and features were scanned with a metal detector to aid recovery of artefacts, but none were found.

- 2.2.9 Two bulk environmental samples were taken during the archaeological works in order to investigate the possible survival of micro- and macro- archaeobotanical remains.

3 RESULTS

3.1 Introduction and presentation of results

- 3.1.1 The results of the evaluation are presented below by trench, the trench plans are shown in figures 2 and 3). Trenches 3, 7 and 13-20 were devoid of archaeology and shall not be discussed further. The full details of all trenches with dimensions and depths of all deposits can be found in Appendix A. Finds data and spot dates are tabulated in Appendix B and environmental data is located in Appendix C.

3.2 General soils and ground conditions

- 3.2.1 The soil sequence between all trenches was fairly uniform. The natural geology of clay, sand and gravel fluvial deposits was overlain by a subsoil which consisted of a mid greyish brown silty clay and had an average depth of 0.4m. This in turn was overlain by topsoil consisting of a dark brownish grey clayey silt. Ground conditions throughout the evaluation were generally good; the trenches in the northern half of the site stayed dry but some ground water did appear in the southern trenches where the underlying geology was predominantly clay.

3.3 General distribution of archaeological deposits

- 3.3.1 Archaeological features were present in ten of the twenty trenches, predominantly those in the northern half of the field (Fig. 2) where ground conditions were better (Plates 1 and 2).

3.4 Trench 1

- 3.4.1 Trench 1 contained two pits and a posthole, all undated. Pit **37** was located at the eastern end of the trench and was sub-circular in plan. It measured 0.57m wide and 0.21m deep with gently sloping sides and a concave base, it was filled by a mid greyish brown silty clay. Pit **39** was partially obscured by the northern baulk of the trench, it appeared sub-circular in plan and measured 1m wide and 0.18m deep. It had gently sloping sides and a concave base, its fill consisted of a mid greyish brown sandy clay. Posthole **41** was located 1m to the west and was circular in plan. It measured 0.22m wide and 0.2m deep with steep sides and a concave base, it was filled by a mid greyish brown silty clay. Posthole **41** is similar in shape, size and fill to postholes **20** and **22** in Trench 2.

3.5 Trench 2

- 3.5.1 Two sub-circular postholes were identified at the south-eastern end of Trench 2. Posthole **20** measured 0.3m wide and 0.14m deep, it had steeply sloping sides and a concave base. Posthole **22** was located 2.5m to the south-east and measured 0.25m wide and 0.12m deep with a similar profile to that of posthole **20**. Both postholes were filled with a mid-greyish brown silty clay and were both undated.

3.6 Trench 4

- 3.6.1 Trench 4 contained two ditches on the same north-east to south-west alignments. Ditch **10** measured 0.66m wide and 0.13m deep, it had gently sloping sides and a concave base. It was filled with a mid greyish brown silty clay. Ditch **12** was located 4.5m to the south-east and measured 0.31m wide and 0.06m deep. It had gently sloping sides and a concave base, its single fill (13) consisted of a dark brownish grey and contained one sherd (1g) of Middle to Late Iron Age pottery and one (3g) worked flint.

3.7 Trench 5

- 3.7.1 Pit **33** was located at the northern end of the trench and measured 0.5m wide by 0.2m deep (Plate 3). It was sub-circular in plan and had steeply sloping sides and a flat base. Its single fill (34) consisted of a mid-greyish brown silty clay and contained a single sherd (3g) of Middle to Late Iron Age pottery. An environmental sample taken from this context contained some cereal grains including wheat and barley, a small quantity of weed seeds and <1ml of charcoal. Pit **35** lay 6m to the south and was partially obscured by the trench baulk to the east (Plate 4). It measured 0.8m wide and 0.2m deep, and appeared sub-circular in plan. It had gently sloping sides and a flat base and was filled by a dark brownish grey silty clay (36) with frequent small and medium stones. It contained two pieces (12g) of fired clay along with 5ml of charcoal recovered from the environmental sample.

3.8 Trench 6

- 3.8.1 A cluster of intercutting quarry pits was located at the southern end of the trench (Fig. 4, Section 8). Pit **27** was sub-circular in plan and measured 0.58m wide and 0.18m deep. It had steeply sloping sides and a concave base. It was filled with a mid greyish brown sandy clay and was cut by pit **29**. Pit **29** was sub-circular in plan and measured 1.68m wide by 0.46m deep and contained three fills. The basal fill consisted of a light yellowish brown silty sand and measured 0.28m thick. The middle fill was a mid greyish brown sandy silt, 0.14m thick, and the upper fill was a light yellowish brown silty sand measuring 0.18m thick.

3.9 Trench 8

- 3.9.1 Trench 8 contained a single north-west to south-east aligned ditch. Ditch **14** measured 2.42m wide and 0.54m deep with moderately sloping sides and a flat base (Fig. 4, Section 4). It contained two fills; the basal fill consisted of a dark greyish brown silty clay overlain by a mid-greyish brown silty clay. The upper fill (16) contained a sherd (55g) of Middle Iron Age pottery and two fragments (2g) of animal bone.

3.10 Trench 9

- 3.10.1 Trench 9 contained hollow **24**, located in the centre of the trench (Fig. 4, Section 7; Plate 5). It measured at least 10m wide and 0.5m deep. Its upper fill was excavated by machine due to its size but the base was excavated by hand. It had very gradually sloping sides and a flat base. It contained two fills; the basal fill (25) consisted of a

compacted mid greyish brown and contained very frequent sub-rounded stones. This could potentially be part of a trackway or surface. From between the stones, four pieces (109g) of animal bone were recovered. The basal fill was overlain by a dark greyish brown silty clay (26), which measured 0.4m thick, and contained twenty pieces (313g) of animal bone and one sherd (10g) of Middle Iron Age pottery. At the south-western end of the trench was a natural colluvial deposit (45). A test pit was hand excavated that revealed this layer to be 0.26m deep and approximately 4m wide. It consisted of a mid greyish brown sandy silt and contained no finds.

3.11 Trench 10

3.11.1 Pit **3** was located at the western end of Trench 10 (Fig. 3). Its full extent was not uncovered but its location corresponded to a hollow in the landscape (Plates 6 and 7). It measured at least 8m wide and appeared to have moderately sloping upper sides, becoming steeper towards the base. It was excavated to a depth of 1.2m but the base was not found. It contained four fills; the upper fill (6) consisted of a dark brownish grey silty clay and contained animal bone. The lower fills contained large amounts of brick rubble, only 13 pieces (230g) of which were retained.

3.12 Trench 11

3.12.1 Trench 11 contained a north-east to south-west aligned ditch which was not excavated in this trench as it was equivalent to ditch **18** in Trench 12.

3.13 Trench 12

3.13.1 Ditch **18** crossed the middle of the trench on a north-east to south-west alignment. It measured 1.2m wide and 0.15m deep with gently sloping sides and a flat base. It was filled with a light greyish brown silty clay (19) with occasional patches of gravel and pale yellow sand. It contained one fragment (12g) of Middle Iron Age pottery and one (1g) flint.

3.14 Finds summary

Flint (Appendix B.1)

3.14.1 A total of three (7g) worked flints were found which all came from Iron Age features and are probably residual.

CBM and Fired clay (Appendix B.2)

3.14.2 Sixteen fragments (243g), of CBM and fired clay were recovered from the site. The fragments were undated but attributed to the late medieval or post-medieval period.

Pottery (Appendix B.3)

3.14.3 A total of six sherds of pottery weighing 81g were recovered from the site. The pottery all dates from the Middle to Late Iron Age and was mostly recovered from ditch fills although single sherds were found in the fills of pit **33** (Trench 5) and hollow **24** (Trench 9).

3.15 Environmental summary

Environmental samples (Appendix C.1)

3.15.1 Two bulk samples were taken during the evaluation. The preservation of plant remains is generally poor. The most productive sample was from pit **33** (Trench 5) and contained a moderate quantity of cereal grains.

Animal bone (Appendix C.2)

3.15.2 In total, 28 fragments (527g) were recovered from the evaluation, primarily from hollow **24** (Trench 9) and pit **3** (Trench 10). The assemblage is dominated by cattle and sheep/goat remains.

4 DISCUSSION

4.1 Significance

- 4.1.1 There was a low density of archaeological remains within the investigation and is therefore of minimal significance. Any activity appears to have been peripheral and limited to the northern half of the site where the ground conditions were better on the rising slope above the river.
- 4.1.2 The site appears to have been sparsely utilised from the Iron Age to the early post-medieval period. The earliest activity comprised Middle to Late Iron Age boundary and drainage ditches with possibly associated gravel extraction pits. The next datable activity within the area was further gravel extraction in either the late medieval or early post-medieval period.

4.2 Iron Age

- 4.2.1 There was tentative evidence for Middle to Late Iron Age activity on the site. Ditches **12**, **14** and **18** contained Middle to Late Iron Age pottery and all broadly ran towards the river. This would suggest drainage from the higher land to the east. The fill of ditch **12** contained elongated lenses of gravel and pale sand which could have easily have been deposited by flowing water. Ditch **14** is on a slightly different alignment and was broader and deeper than the others which could suggest it was a field boundary or part of a field system rather than just a drainage gully. The environmental sample taken from pit **33** contained a moderate quantity of cereal grains which could also indicate agricultural activity. Nearby sites, also close to the river, have revealed similarly dated Iron Age settlement and field systems. These include the works at Cut Throat Lane (EBB870) to the south of the site (on the northern edge of Bedford), to the north of the village of Clapham (EBB311) and on the opposite bank of the river Great Ouse (EBB660) (Fig. 1; Skinner 2017, 10).
- 4.2.2 The presence of hollow **24**, on higher ground near to the field entrance, indicates activity occurred in this part of the site. The metallised surface in the base suggests prolonged use but its function is unknown. The overlying silty fill of the hollow contained a fragment of Middle Iron Age pottery which may not give a definitive date due to the wide and shallow profile of the feature. However, the form of the hollow, and the depths of the topsoil and subsoil overburden in this trench, suggests its more likely to be associated with this period.
- 4.2.3 The intercutting pits located in Trench 6 indicate small scale extraction of the fluvial gravels in this area of the site. These pits were undated but their morphology strongly suggests they date from the Late Iron Age or perhaps the Romano-British period.

4.3 Late medieval or early post-medieval

- 4.3.1 Trench 10 contained a large extraction pit, which probably dates from the late medieval or early post-medieval periods. Its backfill contained frequent fragments of CBM which could be waste from the 19th century brickworks located directly to the south (Skinner 2017, 12).

APPENDIX A TRENCH DESCRIPTIONS AND CONTEXT INVENTORY

Trench	Orientation	Length (m)	Depth (m)	Topsoil (m)	Subsoil (m)	Archaeology
1	E-W	30	0.85	0.55	0.3	Y
2	NW-SE	30	0.5	0.15	0.35	Y
3	N-S	30	0.7	0.3	0.4	
4	NW-SE	30	0.6	0.3	0.3	Y
5	N-S	30	0.7	0.2	0.5	Y
6	N-S	30	0.65	0.4	0.25	Y
7	E-W	30	0.8	0.3	0.5	
8	NE-SW	30	0.7	0.4	0.3	Y
9	NE-SW	30	0.9	0.2	0.7	Y
10	E-W	30	0.6	0.25	0.35	Y
11	N-S	30	0.6	0.3	0.3	Y
12	NE-SW	30	0.55	0.25	0.3	Y
13	N-S	30	0.75	0.3	0.45	
14	E-W	30	0.5	0.2	0.3	
15	E-W	30	0.4	0.2	0.2	
16	N-S	30	0.5	0.2	0.3	
17	N-S	30	0.6	0.3	0.3	
18	NNW-SSE	30	0.6	0.35	0.25	
19	E-W	30	0.6	0.3	0.3	
20	NE-SW	30	0.7	0.3	0.4	

Table 1: Trench descriptions

Context No.	Trench	Type	Width (m)	Depth (m)	Description	Finds	Date
1	-	layer	-	0.3	topsoil	-	-
2	-	layer	-	0.4	subsoil	-	-
3	10	cut		-	pit	-	-
4	10	fill		0.19	pit		
5	10	fill		0.7	pit	CBM	-
6	10	fill		0.7	pit	Bone	-
10	4	cut	0.66	0.13	ditch	-	-
11	4	fill		0.13	ditch	-	-
12	4	cut	0.31	0.06	ditch	-	-
13	4	fill		0.06	ditch	Pottery, Flint	MIA-LIA
14	8	cut	2.42	0.54	ditch	-	-
15	8	fill		0.25	ditch	-	-
16	8	fill		0.54	ditch	Pottery, Bone	MIA
17	10	fill			pit	-	-
18	12	cut	1.2	0.15	ditch	-	-
19	12	fill		0.15	ditch	Pottery, Flint	MIA
20	2	cut	0.3	0.14	post hole	-	-

Context No.	Trench	Type	Width (m)	Depth (m)	Description	Finds	Date
21	2	fill		0.14	post hole	-	-
22	2	cut	0.25	0.12	post hole	-	-
23	2	fill		0.12	post hole	-	-
24	9	cut			hollow	-	-
25	9	fill		0.1	hollow	Bone	-
26	9	fill			hollow	Pottery, Bone, Flint	MIA
27	6	cut	0.58	0.18	pit	-	-
28	6	fill		0.18	pit	-	-
29	6	cut	1.68	0.46	pit	-	-
30	6	fill		0.28	pit	-	-
31	6	fill		0.14	pit	-	-
32	6	fill		0.18	pit	-	-
33	5	cut	0.5	0.1	pit	-	-
34	5	fill		0.1	pit	Pottery	MIA-LIA
35	5	cut	0.8	0.2	pit	-	-
36	5	fill		0.2	pit	Fired clay	-
37	1	cut	0.57	0.21	pit	-	-
38	1	fill		0.21	pit	-	-
39	1	cut	1	0.18	pit	-	-
40	1	fill		0.18	pit	-	-
41	1	cut	0.22	0.2	post hole	-	-
42	1	fill		0.2	post hole	-	-
45	9	layer		0.26	colluvium	-	-

Table 2: Context Inventory

APPENDIX B FINDS REPORTS

B.1 Flint

By Rona Booth

Introduction

B.1.1 A total of three worked flints were recovered during the evaluation. The flintwork derives from the fills of three cut features. The assemblage is quantified by type and context in Table 3.

Trench	Context	Cut	Context type	Secondary Blade/let	Retouched flake	Total worked
4	13	12	ditch		1	1
12	19	18	ditch	1		1
9	26	24	hollow	1		1
Total						3

Table 3: Quantification of the flint assemblage by context and type

Results and Discussion

B.1.2 The flint from all three contexts is likely to be residual. The small retouched flake from ditch **12** is lightly burnt and is not strongly diagnostic. Ditch **18** produced a slightly plunging small bladelet of Late Mesolithic or Early Neolithic date, whilst a thicker broken blade, of indeterminable date was recovered from a hollow **24**.

B.1.3 The presence of struck flint attests to some prehistoric activity at the site but little else can be gleaned from an assemblage of this size.

Future work

B.1.4 The flint should be retained and added to any catalogue produced; if further work is carried out on the site.

B.2 Ceramic building material (CBM) and Fired clay

By Ted Levermore

B.2.1 Context 5, within quarry pit **3** (Trench 10), contained 11 fragments (226g) of amorphous fired clay or very abraded CBM. Some remnant surfaces were seen but no original form could be identified. They were made in a fine sandy fabric, fired orange with yellow streaks, with few fine inclusions and occasional coarse reddish clay patches and calcareous pellets. This context also contained two fragments (6g) of CBM made in a dark red sandy fabric, each had remnants of a cream-grey glaze. All fragments in

this context were severely abraded as such the material is of little archaeological significance.

- B.2.2 Context 36, the fill of pit **35** (Trench 5) contained two fragments (15g) of fired clay made in a very porous silty clay with occasional quartz grains. They refitted to form a longer fragment bearing a light brown surface and a reduced body. On the reduced portion was a rod impression or gully (~3-5mm wide). The original purpose of these fragments is unclear. However, the porosity of the material suggests it may have been from a mould but this conclusion should not be overstated.

B.3 Iron Age Pottery

By Carlotta Marchetto

- B.3.1 Five sherds of handmade Iron Age pottery were recovered from the evaluation.
- B.3.2 One sherd (55g) was recovered from context 16, within ditch **14** (Trench 8). The sherd is in a mica and quartz sand tempered fabric with rare elongated voids, similar to the fabric F35 (Wells 2008, 296). It is part of a vessel base. Context 19, a fill of ditch **18** (Trench 12) contained one sherd (12g, refitted from 2 sherds). The sherd is in a coarse sand fabric with quartz, similar to the fabric F29 (Wells 2008, 296). It is also part of a vessel base. One sherd (10g) was recovered from context 26, within hollow **24** (Trench 9). The sherd is in a sandy fabric with linear voids from burnt out organic matter, similar to the fabric F19 (Wells 2008, 295-296). The character of the fabrics of these three sherds is typical of pottery dating from the Middle Iron Age in Bedfordshire, c. 350-50 BC.
- B.3.3 Two small abraded sherds of handmade prehistoric pottery were recovered from context 13, within ditch **12** (Trench 4) and from context 34, the fill of pit **33** (Trench 5). The first sherd (1g) is in a sandy orange fabric with frequent voids. The second (3g) is in a sandy organic fabric, possibly containing some grog. These sherds cannot be closely dated, but the fabric and thickness (3 to 5 mm) suggest a Middle to Late Iron Age date, c. 350 BC-AD 50.

APPENDIX C ENVIRONMENTAL REPORTS

C.1 Environmental Samples

By Martha Craven

Introduction

- C.1.1 Two bulk samples were taken from features in the evaluation in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations. Samples were taken from features encountered within Trench 5 from deposits that likely date from the Middle to Late Iron Age.

Methodology

- C.1.2 The total volume (up to 16L) of each of the samples was processed by tank flotation using modified *Siraf*-type equipment for the recovery of preserved 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.
- C.1.3 The dried flots were scanned using a binocular microscope at magnifications up to x 60 and an abbreviated list of the recorded remains are presented in Table 1. Identification of plant remains is with reference to the Digital Seed Atlas of the Netherlands (Cappers et al. 2006) and the authors' own reference collection. Nomenclature is according to Zohary and Hopf (2000) for cereals and Stace (1997) for other plants. 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.1.4 For the purpose of this initial assessment, items such as seeds and cereal grains have been scanned and recorded qualitatively according to the following categories:
- # = 1-5, ## = 6-25, ### = 26-100, #### = 100+ specimens
- C.1.5 Items that cannot be easily quantified such as charcoal and molluscs have been scored for abundance
- + = occasional, ++ = moderate, +++ = frequent, ++++ = abundant

Results

- C.1.6 Preservation of plant remains is by carbonisation and is generally poor; many of the flots contain rootlets which may have caused movement of material between contexts.
- C.1.7 Sample 3, fill 34 of pit **33** (Trench 5) contained a moderate quantity of cereals consisting of barley (*Hordeum vulgare*), wheat (*Triticum sp.*) and cereals that were too

heavily abraded to positively identify. The sample also contained a small quantity of weed seeds which consisted of a stinking chamomile (*Anthemis cotula*), grasses (Poaceae), and rushes (*Juncus* sp.) Sample 3 also contained a small amount of charcoal. Sample 4, fill 36 of pit **35** (Trench 5) contained only a small amount of charcoal.

C.1.8 Sample 3 contained a small quantity of molluscs.

Trench No.	Sample No.	Context No.	Cut No.	Feature Type	Volume processed (L)	Flot Volume (ml)	Cereals	Weed Seeds	Snails From Flot	Charcoal	Hammerscale
5	3	34	33	Pit	16	10	###	#	+	<1ml	++
5	4	36	35	Pit	8	20	0	0	0	5ml	++

Table 4: Environmental samples

Discussion

C.1.9 The recovery of a moderate quantity of grain and a small quantity of weed seeds and charcoal indicates that there is limited potential for the preservation of plant remains in the area around Trench 5.

C.1.10 If further excavation is planned for this area, it is recommended that environmental sampling is carried out in accordance with Historic England guidelines (2011).

C.2 Animal Bone

By Zoë Uí Choileáin

Introduction and Methodology

C.2.1 A small assemblage of animal bone weighing 491g and totalling 10 countable fragments was recovered from four contexts during the evaluation. The material was recovered from pit **3**, ditch **14** and hollow **24**. All bone was identified using Schmid (1972). Preservation condition was evaluated using the 0-5 scale devised by Brickley and McKinley (2004, 14-15).

Results

C.2.2 The fragmentation levels are high and only two specimens can be identified to taxon. The remaining fragments were recorded as large and are included in Table 5.

C.2.3 The surface condition of the bone on average represents a 2 on the scale devised by Brickley and McKinley (*ibid*) Several of the long bone fragments show signs of rodent gnawing.

C.2.4 Four fragments of cattle bone and three fragments of sheep/goat are recordable. A single unfused distal sheep/goat tibia is present. No metric data is collectable. An MNI (minimum number of individuals) of one is recordable for both taxa.

Trench	Cut	Context	Type	Taxon	Element	Weight	Count
10	3	6	Pit	Cattle	Atlas	103	1
8	14	16	Ditch	Sheep/Goat	Tibia	2	1
8	14	16	Ditch	Cattle	Radius	114	1
9	24	25	Hollow	Large mammal	Vertebra	81	1
9	24	25	Hollow	Cattle	Metapodial	27	1
9	24	26	Hollow	Large mammal	Metapodial	9	1
9	24	26	Hollow	Sheep/Goat	Radius	6	1
9	24	26	Hollow	Large mammal	Pelvis	34	1
9	24	26	Hollow	Cattle	Radius	113	1
9	24	26	Hollow	Sheep/Goat	Loose mand cheek tooth	2	1
Totals						491	10

Table 5: Total weight count and taxa present per feature

Summary and Recommendations

C.2.5 This is a very small assemblage most likely representative of domestic waste. Due to the high fragmentation levels there is little other information that can be gleaned from the material. If further excavations take place the fusion data should be incorporated into any larger analysis. It is recommended that the material be dispersed.

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APPENDIX E OASIS REPORT FORM

Project Details

OASIS Number	Oxfordar3-347353		
Project Name	Land North of Clapham Water Treatment Works, Clapham Road, Bedfordshire		
Start of Fieldwork	18-03-19	End of Fieldwork	22-03-19
Previous Work	No	Future Work	Unknown

Project Reference Codes

Site Code	BEDFM2018.82	Planning App. No.	17/00686/PREAPP
HER Number		Related Numbers	

Prompt	NPPF
Development Type	Solar farm
Place in Planning Process	Pre-application

Techniques used (tick all that apply)

- | | | |
|--|---|---|
| <input type="checkbox"/> Aerial Photography – interpretation | <input type="checkbox"/> Grab-sampling | <input type="checkbox"/> Remote Operated Vehicle Survey |
| <input type="checkbox"/> Aerial Photography - new | <input type="checkbox"/> Gravity-core | <input checked="" type="checkbox"/> Sample Trenches |
| <input type="checkbox"/> Annotated Sketch | <input type="checkbox"/> Laser Scanning | <input type="checkbox"/> Survey/Recording of Fabric/Structure |
| <input type="checkbox"/> Augering | <input type="checkbox"/> Measured Survey | <input type="checkbox"/> Targeted Trenches |
| <input type="checkbox"/> Dendrochronological Survey | <input type="checkbox"/> Metal Detectors | <input type="checkbox"/> Test Pits |
| <input type="checkbox"/> Documentary Search | <input type="checkbox"/> Phosphate Survey | <input type="checkbox"/> Topographic Survey |
| <input type="checkbox"/> Environmental Sampling | <input type="checkbox"/> Photogrammetric Survey | <input type="checkbox"/> Vibro-core |
| <input type="checkbox"/> Fieldwalking | <input type="checkbox"/> Photographic Survey | <input type="checkbox"/> Visual Inspection (Initial Site Visit) |
| <input type="checkbox"/> Geophysical Survey | <input type="checkbox"/> Rectified Photography | |

Monument	Period	Object	Period
Ditch	Iron Age (- 800 to 43)	Pottery	Iron Age (- 800 to 43)
Pit	Late Prehistoric (- 4000 to 43)	Flint	Late Prehistoric (- 4000 to 43)
Pit	Post Medieval (1540 to 1901)	Animal bone	Iron Age (- 800 to 43)
		CBM	Post Medieval (1540 to 1901)

Project Location

County	Bedfordshire	Address (including Postcode) Land North of Clapham Water Treatment Works Clapham Road Bedford Bedfordshire
District	Bedford Borough	
Parish	Clapham	
HER office	Bedford Borough	
Size of Study Area	3ha	
National Grid Ref	TL 03718 51865	

	MK41 6EL
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Project Originators

Organisation	Oxford Archaeology East
Project Brief Originator	Geoff Saunders (Bedford Borough Council)
Project Design Originator	Liz Muldowney (OA East)
Project Manager	Liz Muldowney (OA East)
Project Supervisor	Emily Abrehart (OA East)

Project Archives

	Location	ID
Physical Archive (Finds)	The Higgins, Bedford	BEDFM2018.82
Digital Archive	OA East	XBDCWS18
Paper Archive	The Higgins, Bedford	BEDFM2018.82

Physical Contents	Present?	Digital files associated with Finds	Paperwork associated with Finds
Animal Bones	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ceramics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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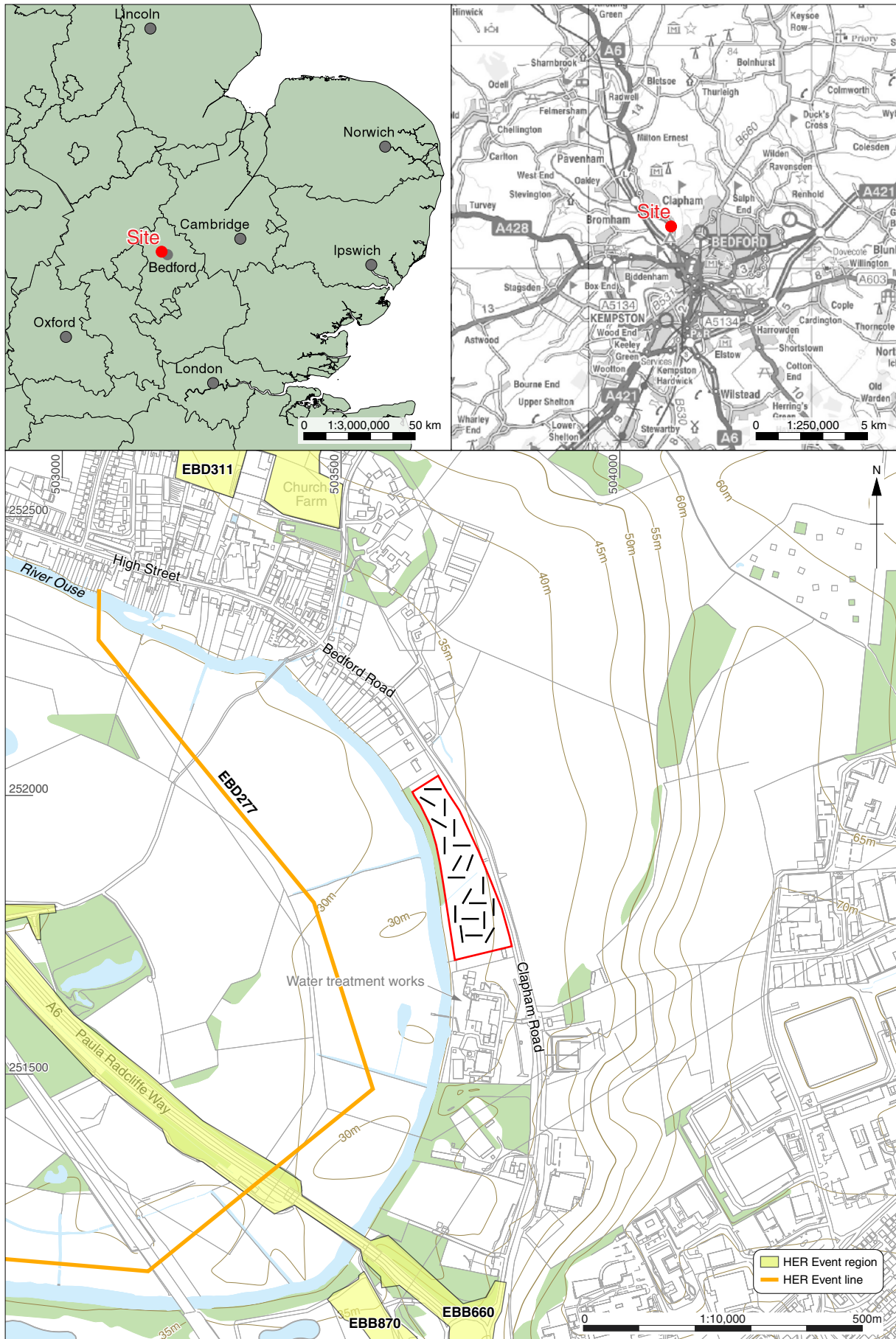
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Miscellaneous	<input type="checkbox"/>
Research/Notes	<input type="checkbox"/>

Photos (negatives/prints/slides)	<input type="checkbox"/>
Plans	<input checked="" type="checkbox"/>
Report	<input checked="" type="checkbox"/>
Sections	<input checked="" type="checkbox"/>
Survey	<input type="checkbox"/>

Further Comments



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Figure 1: Site location map with development area outlined (red), trenches (black) and HER entries

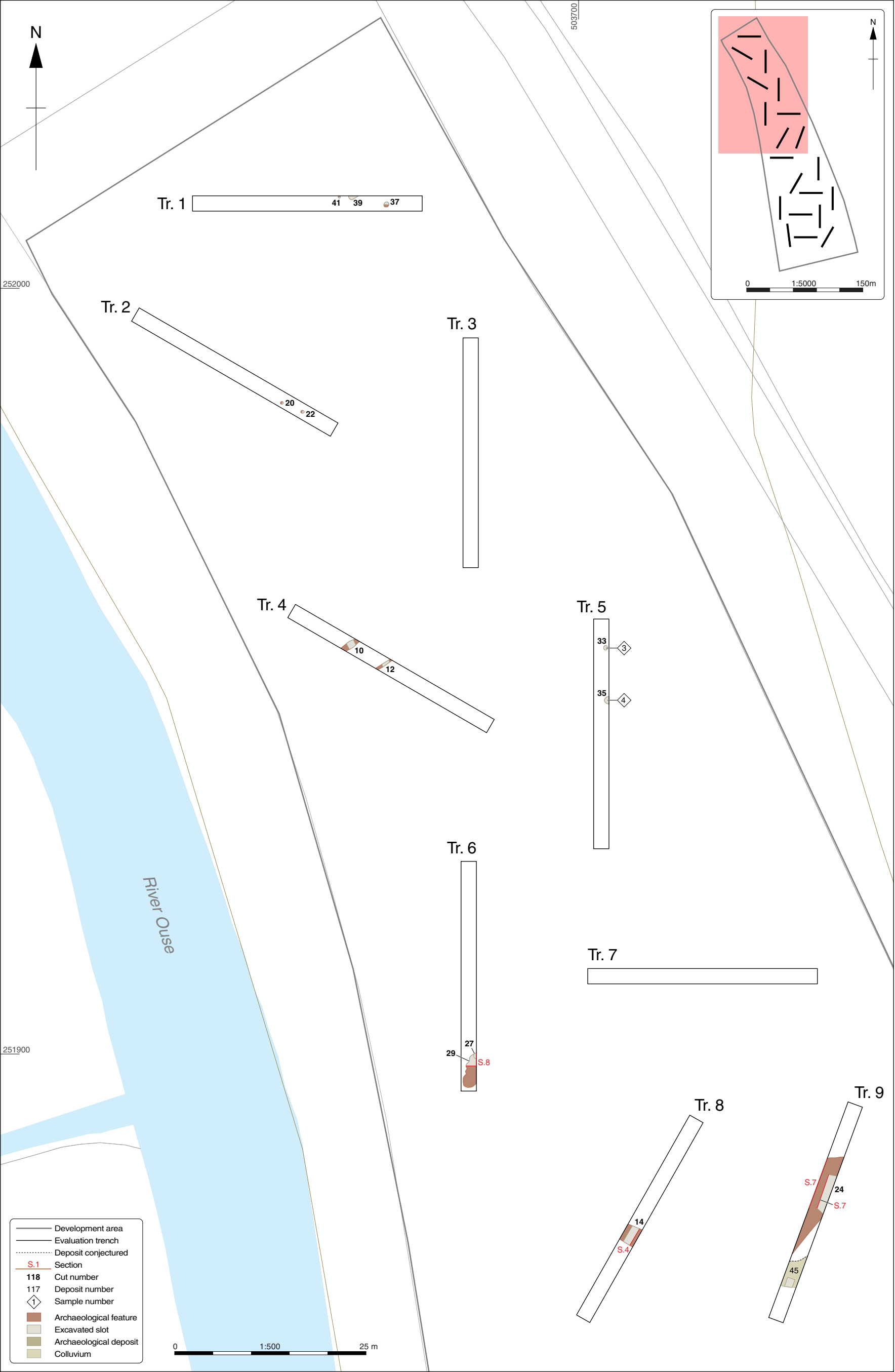


Figure 2: Northern part of site plan

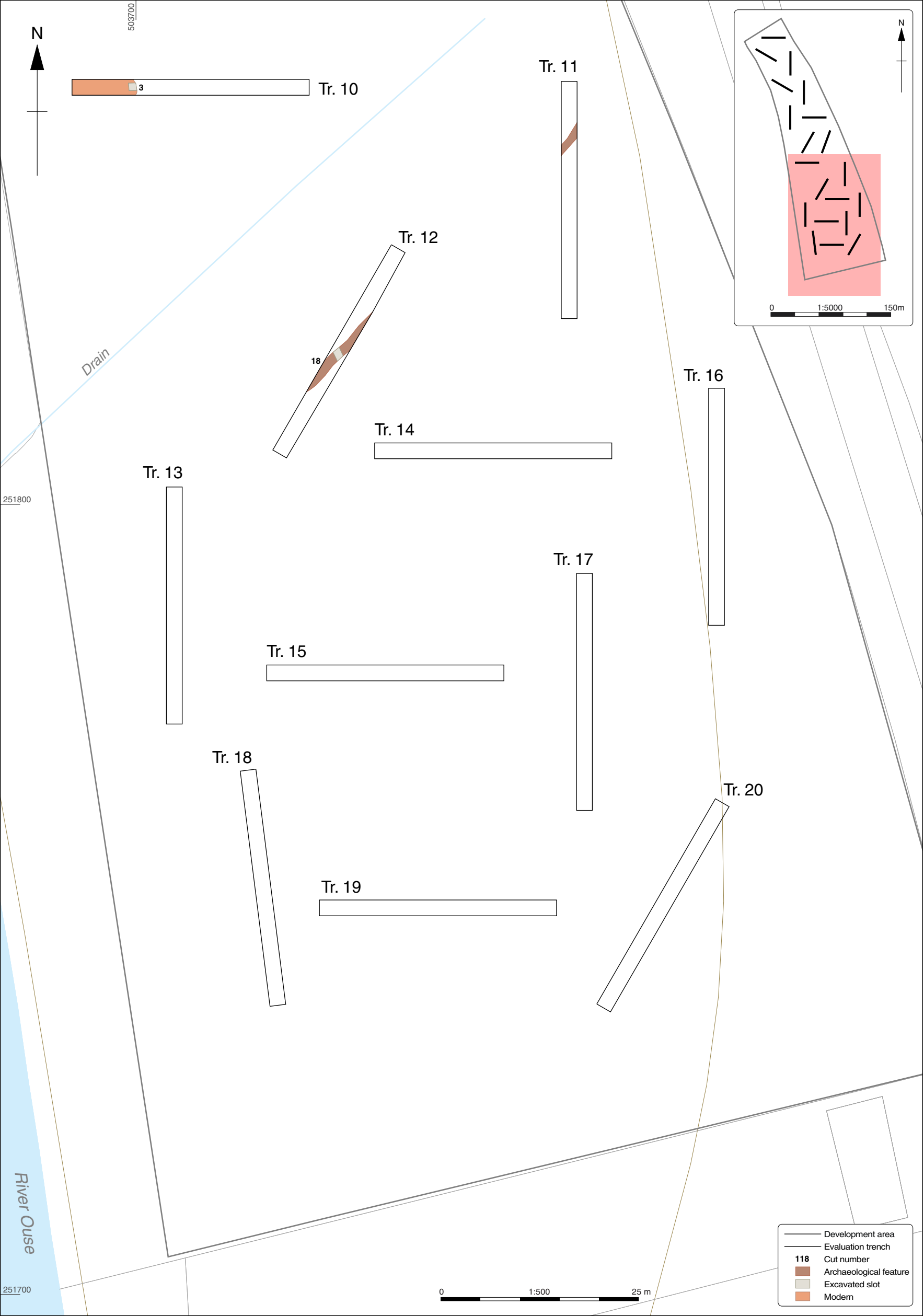


Figure 3: Southern part of site plan

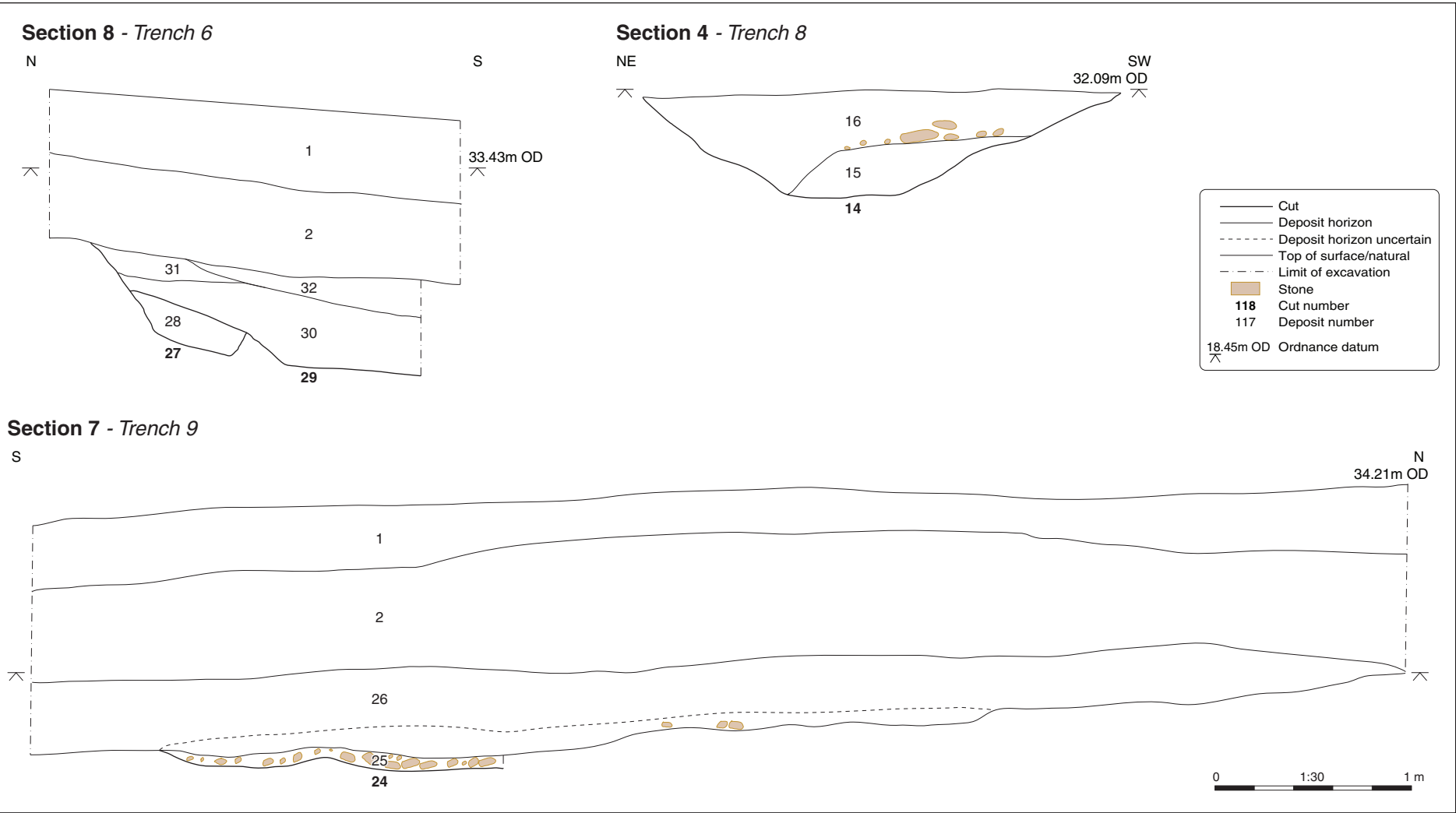


Figure 4: Selected sections



Plate 1: Trench 16, looking south



Plate 2: Trench 2, looking north-west



Plate 3: Pit 33, Trench 5, looking south



Plate 4: Pit 35, Trench 5, looking east



Plate 5: Hollow **24**, Trench 9, looking north-west



Plate 6: Pit **3**, Trench 10, looking south



Plate 7: Trench 10, looking east



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