

Report 2344



nau archaeology

**An Archaeological Evaluation at
Middleton Main Replacement,
Grandcourt Farm Scheme, East Winch, Norfolk.**

ENF 124453



Prepared for
Anglian Water Services Limited.



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May 2010



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<i>Issue 1</i>		

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Location:	Land off Gayton Road, East Winch
District:	King's Lynn and West Norfolk
Grid Ref.:	TF 6690 1622 - TF 6927 1653
HER No.:	ENF 124453
Client:	Anglian Water Services Ltd
Dates of Fieldwork:	6 to 9 April 2010

Summary

An archaeological evaluation was conducted for Anglian Water Services Ltd ahead of proposed water main replacement for Middleton Quarry. The archaeological potential of the site was thought to be reasonably high, lying close to a number of previously identified cropmark features of probably medieval date.

The results revealed an arrangement of intercutting ditches and pits dating to the Romano-British and medieval periods. Although, there was no direct connection with cultural occupation on the site, evidence of Romano-British and Early Saxon artefacts suggests that historical activity had occurred within the vicinity of the site.

Five 20m long trenches were excavated, all of which produced archaeologically noteworthy features and deposits.

1.0 INTRODUCTION

In April 2010 NAU Archaeology undertook an archaeological evaluation along the 650m route of the proposed pipeline. The site lay in arable fields to the west of East Winch village before running parallel to the A47 opposite All Saints' Church. The five evaluation trenches, each measured 20m by 1.8m (360m² in total) and were excavated to provide an approximate 5% sample of the area of the proposed construction corridor which covered an area of approximately 6,000m². The trenches were set out by the Land Survey Team of NPS Property Consultants (Fig. 1).

This work was undertaken on behalf of Anglian Water Services Limited (Ref. 4501319298) and a Brief issued by Norfolk Landscape Archaeology (Ref. CNF42478]). The work was conducted in accordance with a Project Design and Method Statement prepared by NAU Archaeology (Ref. BAU2344/DW). This work was commissioned by John Davies of Anglian Water Services Limited who also funded the work.

This programme of work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, following the guidelines set out in Planning and Policy Guidance Note 16: Archaeology and Planning (Department of the Environment 1990). The results will enable decisions to be made by the Local Planning Authority about the treatment of any archaeological remains found.

The site archive is currently held by NAU Archaeology and on completion of the project will be deposited with the Norfolk Museums and Archaeology Service (NMAS), following the relevant policies on archiving standards.

2.0 GEOLOGY AND TOPOGRAPHY

The fields in which this work took place slopes gently from north-south ranging from 13.62m OD to 19.53m OD. The underlying geology in the East Winch area consists largely of Freckenham, Lynn, Worlingham soil series of sandy; glaciofluvial drift and coversand overlying solid geology of Lower Cretaceous Carstone or Chalk-sand drift.

3.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The site was located in an area rich in archaeological evidence, particularly from the Iron Age, Roman and medieval periods. The Norfolk Historic and Environmental Record (NHER) was consulted and the most relevant entries are discussed below in broad chronological order. The proposed development area is located within area where a number of archaeologically significant cropmarks were identified by the National Mapping Programme in 2008.

To the east of the development area NHER 41711 and 42579 have produced Roman coins and pottery, Early Saxon metalwork, medieval and post-medieval coins and metalwork, medieval and post-medieval pottery and ceramic building materials.

All Saints' church NHER 3418 dates to the Late Saxon period with a 12th-century piscina and stonework. The church undertook major alterations by the Howard family during the early 15th century.

Cropmarks representing medieval earthwork enclosures and drainage ditches HER 50835 were located to the north west of the site, north east of Grandcourt Farm.

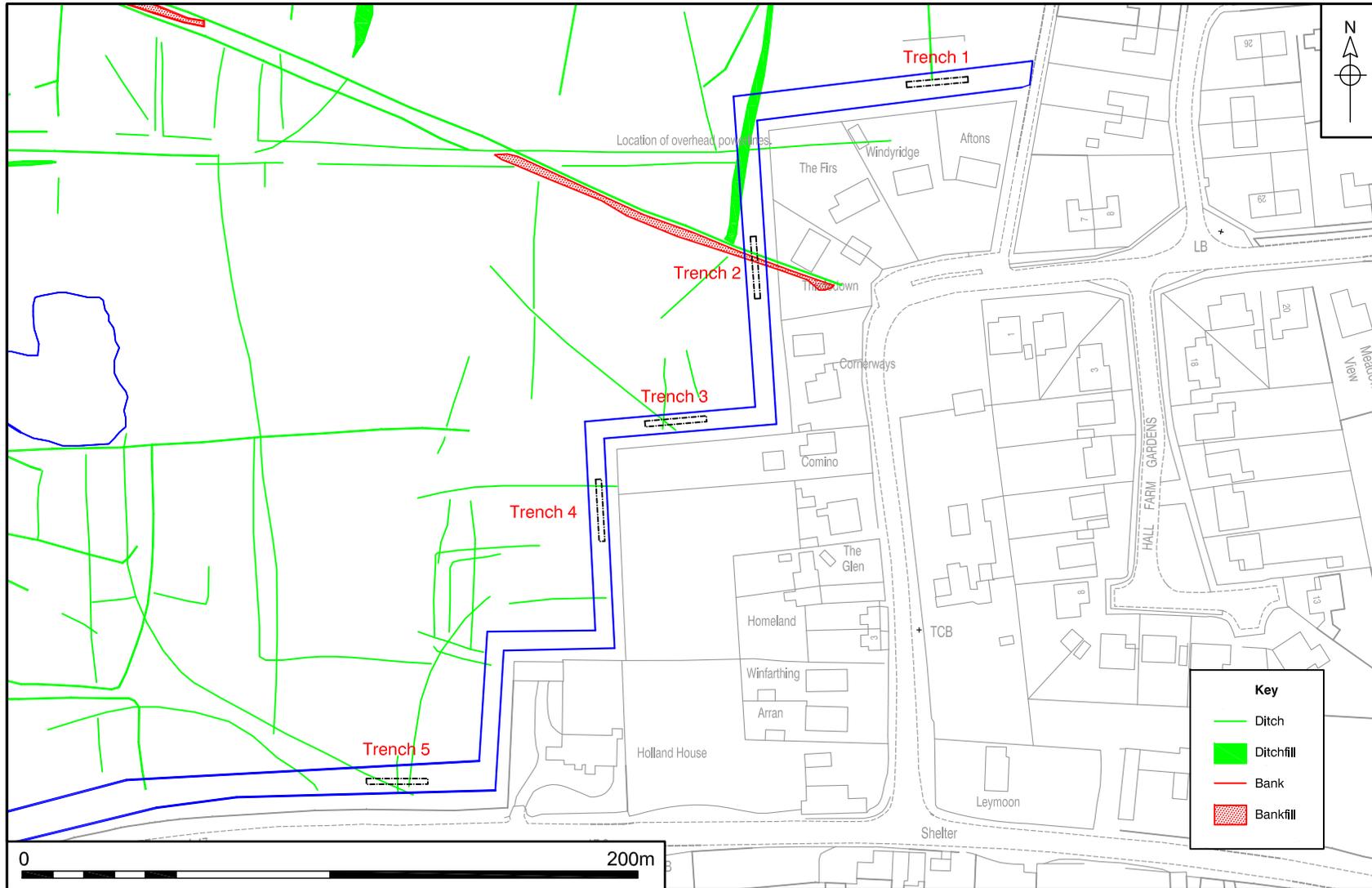
Excavations by Archaeological Project Services just to the north of the site have discovered significant Iron Age remains.

4.0 METHODOLOGY

A series of trenches were positioned to gain an understanding of the presence, date, purpose and function of cropmarks recorded by the National Mapping Programme in 2008. The cropmarks probably represent medieval field boundaries. The objective of this evaluation was to determine as far as reasonably possible the presence or absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the evaluation area.

The Brief required that trial trenching covered an approximate 5% of the development area. This coverage was achieved through the excavation of five 20m by 1.8m trenches. The trenches were distributed across the development area and positioned as to investigate as many of the cropmarks identified by the National Mapping programme in 2008, (Fig.2). All trenches were located using a Leica GPS9000 surveying system.

Machine excavation was carried out with tracked 8 tonne hydraulic 360° excavator equipped with a toothless ditching bucket and operated under constant archaeological supervision. All of the evaluation trenches measured 20m in length by 1.8m in width.



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Figure 2. Trench locations, showing the results of rectified cropmarks. Scale 1:2000

Spoil, exposed surfaces and features were scanned with a metal-detector. All metal-detected and hand-collected finds, other than those which were obviously modern, were retained for inspection.

Two environmental samples were taken from Ditch [1] fill [2] and Ditch [17] fill [18].

All archaeological features and deposits were recorded using NAU Archaeology pro forma. Trench locations, plans and sections were recorded at appropriate scales. Colour, monochrome and digital photographs were taken of all relevant features and deposits where appropriate.

The temporary benchmarks were positioned at the ends of each trench and were established by the use of the Leica GPS9000 surveying system.

Site conditions were good, with the work taking place in fine weather.

5.0 RESULTS

Archaeological features and deposits were recorded in all opened areas i.e. Trenches 1, 2, 3, 4 and 5. The survival of the archaeological remains was very good because of deep topsoil and subsoil overburden which ranged between 0.30m to 0.90m deep.

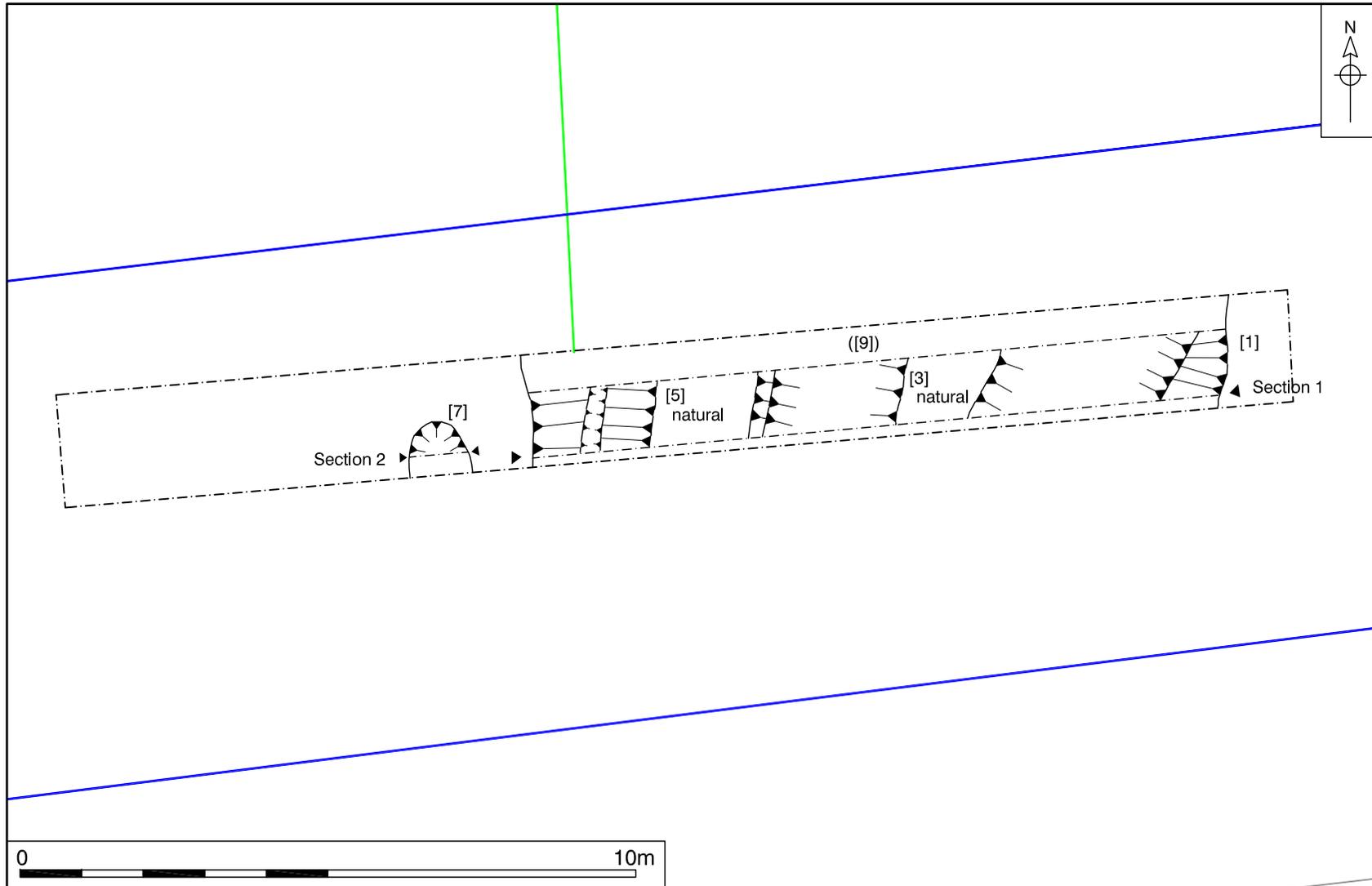
5.1 Trench 1

(Figs 2, 3, 4 and 5, Plates 1 and 2)



Plate 1 Ditches [1], [3] and [5] and deposit [9] looking south-east

Trench 1 was located on the north eastern part of the site and was aligned east-west. The trench was positioned on a gentle east facing slope ranging between 13.26m OD and 13.62m OD. One linear cropmark was seen to run into this trench (Fig. 2). The finished machined level of this trench was at 12.77m OD (eastern end) and 13.02m OD (western end). The machining level stopped at a point where an archaeologically significant deposit ([9]) was encountered.



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Figure 3. Trench 1. Ditches [1], [3] and [5] and pit [7], location of sections 1 and 2.
Scale 1:100

However, at this point no archaeological cut features were seen but after a subsequent slot was excavated through deposit [9] three Ditches [1], [3] and [5] were revealed (Plate 1). To the west of the ditches, one Pit [7] was excavated.

Deposit [9], (Fig. 4) was of an uncertain nature and measured in the region of 12m in length (east-west) by 0.15m deep. It consisted of a mixed deposit of black and dark brown silty sand with moderate medium sized flint nodules.

Ditch [1], (Figs. 3 and 4) was located to the eastern part of the trench and appeared to be aligned north-east to south-west. It measured in the region of 4m wide and was excavated to a depth of 0.40m. It consisted of dark brown silty sand [2] which was very similar to deposit [9]. One sherd of 10th- to 11th-century Grimston-type Thetford Ware was recovered. Environmental sample <2> produced a very sparse assemblage including a single grain which was too poorly preserved for close identification. This assemblage almost certainly derived from scattered refuse which was accidentally incorporated within the ditch fill.

Ditch [3] (Figs. 3 and 4) was centrally located between Ditches [1] and [5] and was aligned north-to-south. It was approximately 2.4m wide and was excavated to a depth of 0.35m. It contained a mixed deposit of dark brown silty sand and orangey brown silty sand [4] from which one sherd of unglazed local medieval ware was recovered.

Ditch [5] (Figs. 3 and 4) was located to the west of the trench and aligned north-south. It is likely that Ditch [5] represents the linear cropmark seen by aerial photographs (Fig. 2). The profile of this ditch was steeper than Ditches [1 and 3] which may explain why this ditch was recorded on aerial photographs.

Ditch [5] measured in the region of 1.2m wide by 0.50m deep. It contained a mixed single fill consisting of dark brown silty sand and mixed brown orange silty sand [6] towards the base of the feature (Plate 2). A large fragment of Romano-British roof tile was recovered.



Plate 2, Ditch [5] looking south

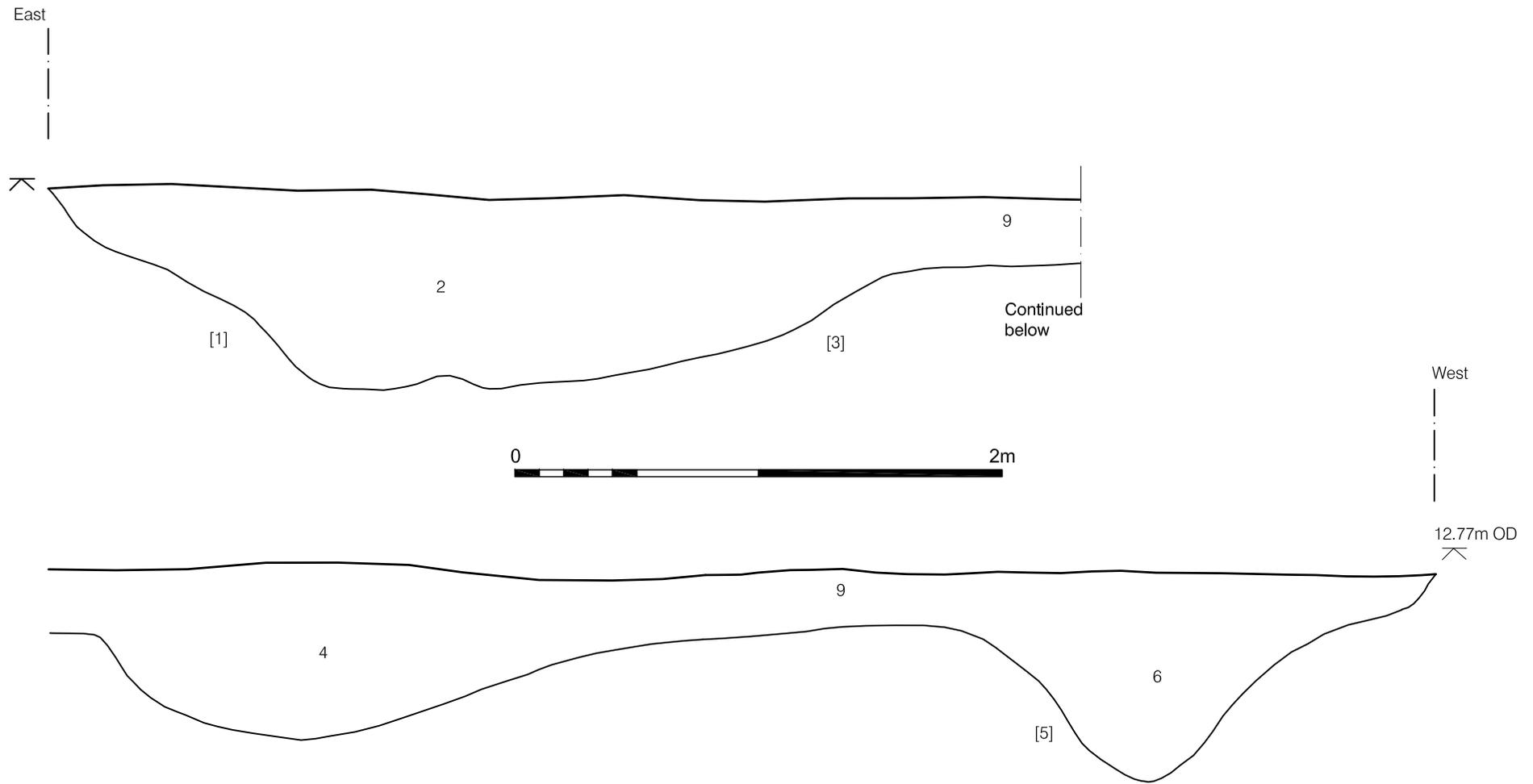


Figure 4. Trench 1. North facing section 1. Scale 1:25

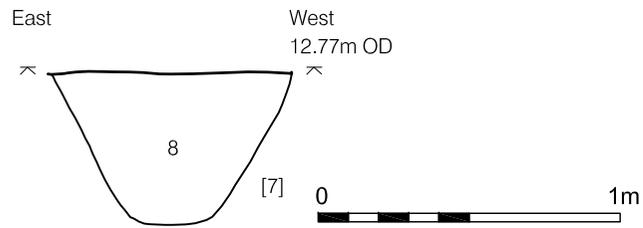
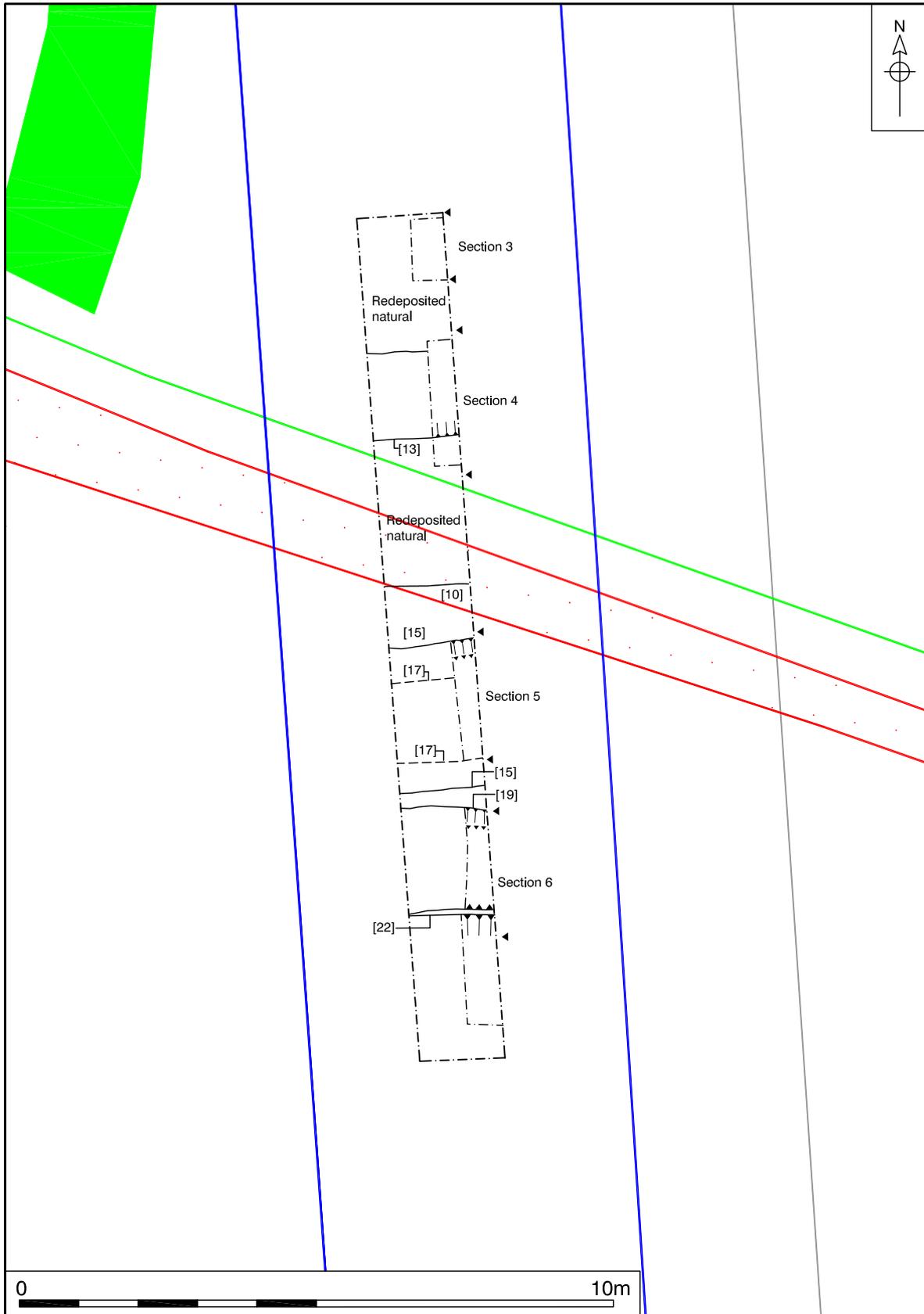


Figure 5. Trench 1. North facing section 2. Scale 1:25



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Figure 6. Trench 2. Ditches [13] and [17] and pits [10], [15], [19] and [22], location of sections 4, 5, 6 and 7. Scale 1:100

5.2 Trench 2

(Figs 2, 6, 7, 8, 9 and 10)

Trench 2 was located to the south west of Trench 1 and was aligned north-to-south (Fig. 2). The trench was positioned on a gentle north facing slope ranging between 15.46m OD and 16.13m OD. The finished machining level of this trench was at 15.14m OD (northern end) and 15.40m (southern end). A large linear trackway cropmark was seen to run into this trench at the northern end (Fig. 2). Because of the mixed nature of the archaeological features and deposits and the redeposited material it was very difficult to determine distinct cuts. Therefore, slotting across these mixed areas was the only way to interpret archaeological remains, which were mainly seen in section

A series of five slots were evenly placed across the trench and revealed the probability of two Ditches [13] and [17] and four extraction Pits [10], [15], [19] and [22], (Fig. 6). However, the interpretations of archaeological feature and deposits may be ambiguous as the redeposited natural made cut features difficult to define in plan and many features were only determined in section.

Extraction pit [10] was located at the northern end of the trench and contained two undulating deposits [11] and [12]. The pit measured at least 1.8m by 8m wide by approximately 0.65m deep. Upper deposit [12] measured 0.35m deep and consisted of dark brown silty sand. The lower deposit [11] measured 0.28m deep and consisted of mixed deposit of mid brown silty sand and orange sand (Figs. 6 and 7). Finds recovered from the upper deposit of the pit included a small bodysherd of Romano-British greyware and two small sherds of local unglazed early medieval pottery of 11th- to 12th-century date. A small piece of animal bone was also found. No artefacts were recovered from the lower fill of the pit.

Ditch or pit [13] was seen to cut across the upper part of pit [10] (Figs 6 and 8). There is the possibility that [13] could be a re-cut into an earlier extraction pit however the aerial photographs certainly give the impression that a linear feature was cutting across this trench (Fig. 2). The ditch or pit contained a single fill consisting of dark brownish orange mottled sand [14] which was devoid of artefactual evidence.

Above [13], a further re-cut was seen. Feature [15], also likely to be a pit, was not fully revealed in plan although a faint trace of the cut may have been observed north of [13] (Figs. 6, 8 and 9). The pit was 3m wide by 0.70m deep and contained a single dark brown silty sand fill [16]. Deposit [16] produced 47 fragments of animal bone, mostly butchered cattle bone, along with single sherds of Roman and Early Saxon pottery, lava quern fragments and metalworking debris.

Pit [15] was truncated to the south by a probable east-west ditch [17] (Section 5 Fig. 9). This ditch was 1.80m long by 2.60m wide by 0.50m deep. It contained a single fill [18] which produced an artefact assemblage which was very similar to that found in Pit [15]. The finds from Ditch [17] included 91 fragments of animal bone, fired clay, lava quern fragments and a single sherd of Early Saxon pottery. An environmental sample taken from the deposit produced an assemblage characteristic of low density of hearth waste including possible dietary detritus of cereals and the burnt bone fragments and fuel residues of charcoal/charred wood and the heather stem fragments. Fragments of vitreous material, almost certainly

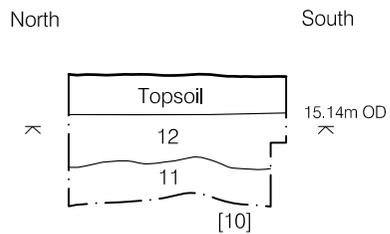


Figure 7. Trench 2. West facing section 3.
Scale 1:50

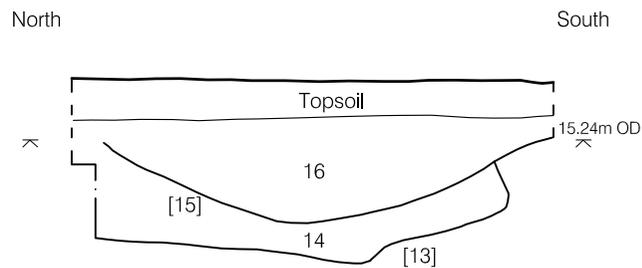


Figure 8. Trench 2. West facing section 4.
Scale 1:50

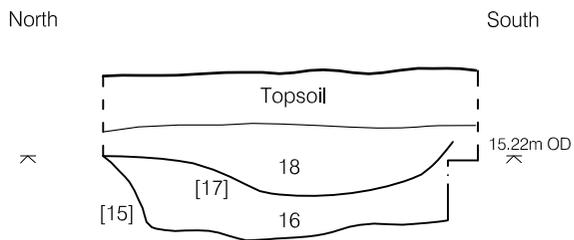


Figure 9. Trench 2. West facing section 5.
Scale 1:50

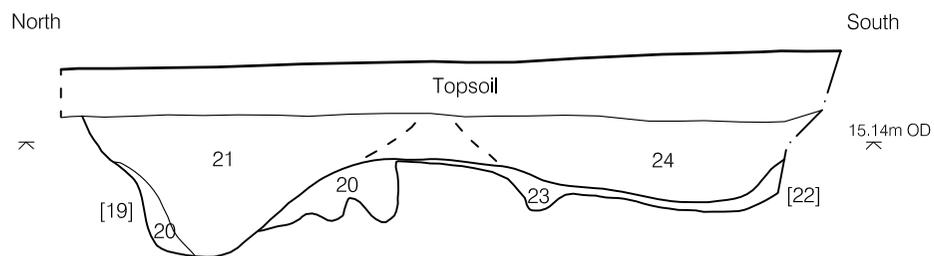


Figure 10. Trench 2. West facing section 6.
Scale 1:50



indicative of high temperature combustion suggest that cultural activity had occurred close by.

Pit/tree hole [19] (Figs 2, 6 and 10) was located south of Pit [15]. The pit, which produced two sherds of medieval pottery and a scrap of animal bone, was 2m long by 1.80m wide and 1m deep. The pit or tree hole contained two fills, the upper fill [21] consisted of dark brown silty sand and the lower fill [20] consisted of brown orange sand likely to be redeposited natural. The undulating nature of the sides of this feature is suggestive of natural occurrences.

To the south of [19] was a further probable quarry pit [22]. This pit was seen in the same section as [19] therefore they are probably contemporary to each other. Pit [22] measured 1.80m in length by 3m wide by 0.60m deep and contained two fills. The upper fill [23] measured 0.50m deep and consisted of dark brown silty sand. The lower fill [24] consisted of brownish orange sand and contained eight pieces of animal bone.

5.3 Trench 3

(Figs, 2, 11 and 12)

Trench 3 was located in the central part of the site and was aligned east-to-west (Fig. 2). The trench was positioned on a flat plateau ranging between 16.62m OD and 16.83m OD. The finished machine level of this trench was 16.24m OD (western end) and 16.35m (eastern end). Two linear cropmarks were mapped to run into this trench at the western end (Fig. 2). However, only one ditch [25] was recognised during the excavations, although there is still the possibility of two ditches being present as the excavated slot was placed at the intersection of the cropmark

Ditch [25] was located to the central western end of the trench and was aligned east-to-west. It measured approximately 3.3m wide by 0.65m deep and contained a single ditch fill consisting of dark brown silty sand [26]. The ditch profile (Fig. 12) may also suggest that two ditches intersected at this point although no separation of deposits were established to confirm this theory. The western cut is certainly a shallower profile than the eastern cut suggesting that the slot was perhaps placed across the intersection of two ditches.

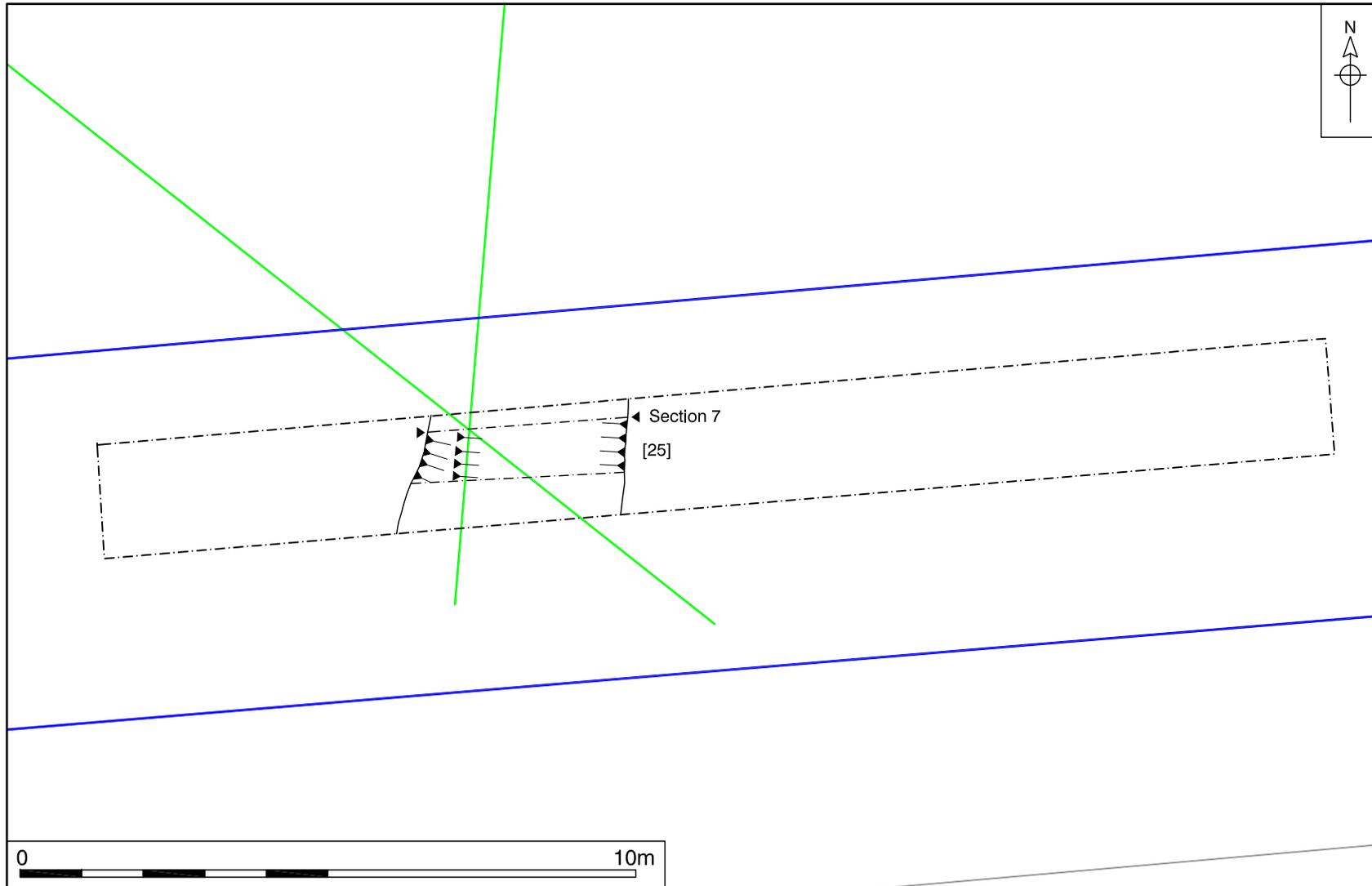
No artefacts were found in features in Trench 3.

5.4 Trench 4

(Figs 2, 13 and 14)

Trench 4 was located in the south-eastern part of the site and was aligned north-to-south (Fig. 2). The trench was positioned on a flat plateau ranging between 17.05m OD and 16.74m OD. The finished machined level of this trench was at 16.38m OD (northern end) and 16.28m (southern end). One linear cropmark was seen to run into this trench at the northern end (Fig. 2). Undated ditch [27] measured 1.80m in length by 1.95m wide by 0.45m deep. The ditch contained a single fill of mid brown silty sand.

Trench 4 was devoid of artefactual evidence.



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Figure 11. Trench 3. Ditch [25], location of section 7. Scale 1:100

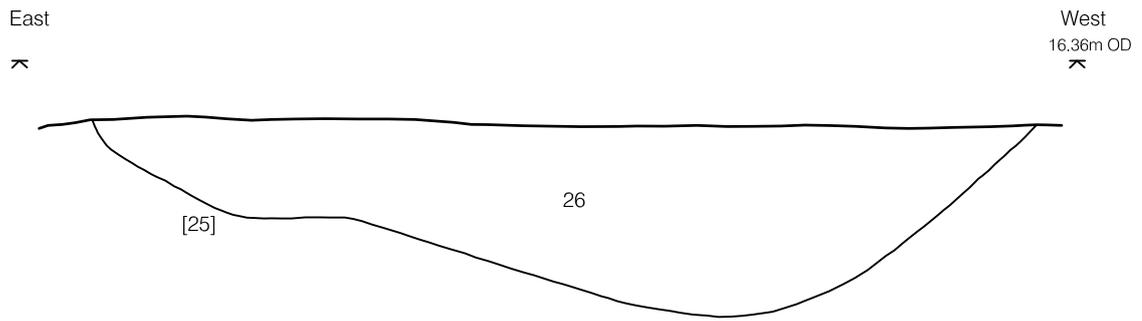


Figure 12. Trench 3. South facing section 7.
Scale 1:25

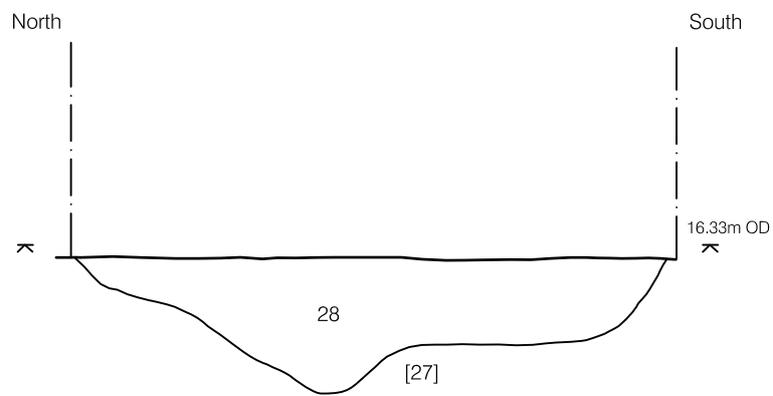
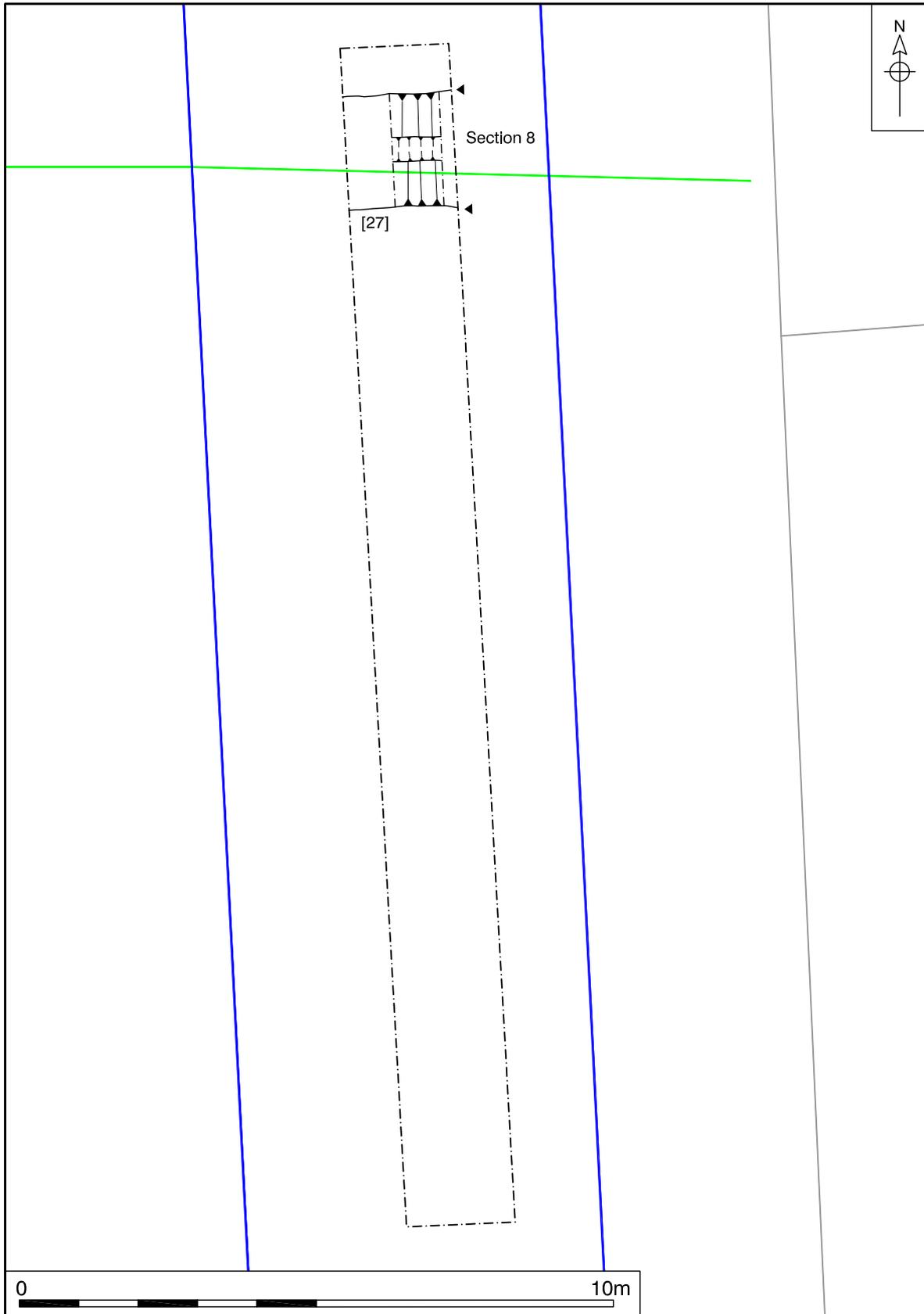


Figure 13. Trench 4. West facing section 8.
Scale 1:25





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Figure 14. Trench 4. Ditch [27], location of section 8. Scale 1:100

5.5 Trench 5

(Figs 2, 15 and 16)

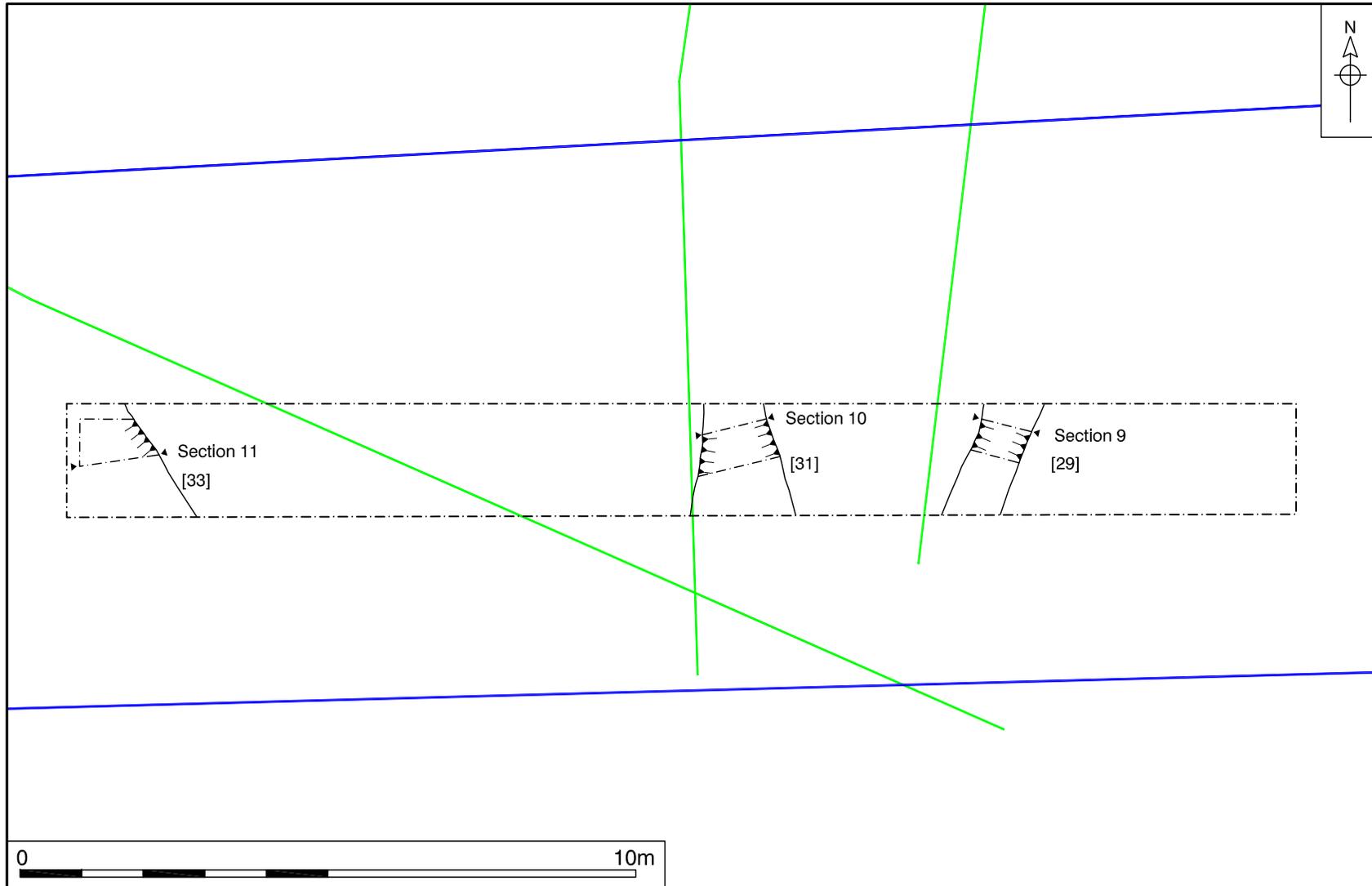
Trench 5 was located in the southern part of the site and was aligned east-to-west (Fig. 2). It was positioned on a north-facing gentle slope ranging between 19.30m OD (eastern end) and 19.53m OD (western end). The finished machine level of this trench was at 18.99m OD (eastern end) and 19.14m OD (western end). Three linear cropmarks were seen to run into this trench, two of which may share the same alignment.

Ditch [29] was located towards the eastern end of the trench and was aligned north east-south west. It measured 1.80m in length by 0.95m wide by 0.40 deep and contained a single ditch fill consisting of dark brown silty sand [30].

Ditch [31] was located to the central part of the trench and was aligned north west-south east and measured 1.80m in length by 1.10m wide at the southern end before splaying out to 1.80m at the northern end. It was 0.40m deep and contained a single fill consisting of dark brown silty sand [32].

Ditch [33] was located to the far western part of the trench and was aligned north west-south east. The full width of this ditch was not established. This ditch measured 2m in length by 1.50m wide by 0.45m deep and contained a mixed deposit consisting of dark brown silty sand and redeposited natural sands [34].

No artefacts were recovered from any feature in this trench.



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Figure 15. Trench 5. Ditches [29], [31] and [33], location of sections 9, 10 and 11.
Scale 1:100

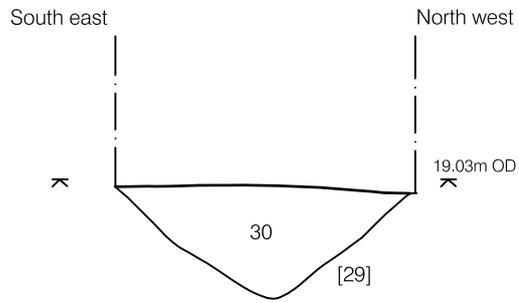


Figure 16. Trench 5. South east facing section 9. Scale 1:25

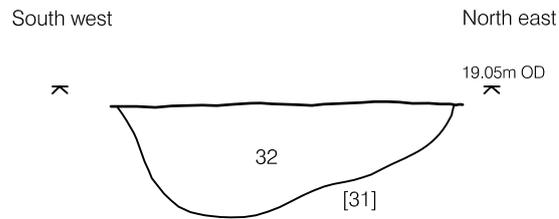


Figure 17. Trench 5. South west facing section 10. Scale 1:25

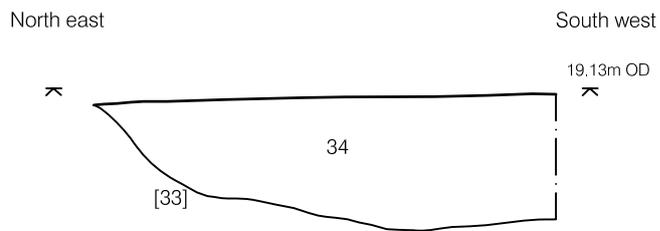


Figure 18. Trench 5. North west facing section 11. Scale 1:25



6.0 THE FINDS

A mixed assemblage of finds was recovered suggesting a range of industrial and domestic occupation in the area of the evaluation, from the Roman period onwards. Only small numbers of finds came from Trench 1, which produced two sherds of pottery (one Late Saxon and one medieval) and a Romano-British tile fragment each present as single finds within ditch fills. The majority of the finds, including all the animal bone, lava, metalworking debris and fired clay came from Pit [15] and Ditch [17] in Trench 2. The presence of smelting slag suggests iron working whilst the small assemblage of possible briquetage indicates salt production. Finds of pottery and lava quern show domestic activity had also been taking place. A small number of Early Saxon, Late Saxon and medieval pottery sherds were also found.

6.1 Pottery

By Sarah Percival and Andrew Rogerson

A total of ten sherds of pottery weighing 151g were recovered from five contexts (Appendix 3). A range of pottery was found, the earliest being Romano-British with small numbers of Early Saxon, Late Saxon and medieval sherds also present. All are small and abraded suggesting that the assemblage is largely residual. Two sherds were found in the fills of two ditches in Trench 1. The majority of the pottery was found in Trench 2 which produced eight sherds from ditch and pit fills.

6.1.1 Romano-British

A small Romano-British assemblage comprising two sandy greyware body sherds weighing 41g was recovered from two contexts. A small undecorated bodysherd was found in the fill of Pit [10] and a larger sherd decorated with an incised panel filled with diagonal lines came from in Pit [15], both in Trench 2. The sherds are unsourced and cannot be closely dated within the Romano-British period.

6.1.2 Early Saxon

Two small undecorated bodysherds in coarse, chaff-tempered fabric were recovered from two contexts in Trench 2. One sherd was found in the fill of Pit [15] which also contained a sherd of Romano-British pot. A second Early Saxon sherd was found in the fill of Ditch [17].

6.1.3 Late Saxon

A single sherd of Grimston Thetford type ware was found in the fill of Ditch 1 in Trench 1.

6.1.4 Medieval

A partially glazed fragment of strap handle from a late 12th- to 14th-century Grimston jug or pitcher and an unsourced medieval unglazed body sherd were recovered from the fill of pit or tree hole [19] in Trench 2, and an unglazed body sherd came from the fill of Ditch [3] Trench 1.

6.2 Ceramic Building Material

By Sarah Percival

A large fragment of *tegula* in fine sandy fabric with sparse flint inclusions was found in the fill of Ditch [05], Trench 1.

6.3 Fired Clay

By Sarah Percival

A small assemblage of five fragments of fired clay weighing 318g was recovered from the fill of Ditch [17] in Trench 2. All the pieces are of pale-cream, silty-clay with numerous elongated voids indicating organic inclusions, perhaps chopped hay or grass. The pieces have one smoothed surface occasionally with fingertip impressions and an opposing rough surface typical of lining which has been pressed onto a rough background. The fired clay can be cautiously identified as being briquetage however the lack of other diagnostic features means that the identification must remain tentative.

The pale buff/cream colouring and organic temper of the fired clay are typical of briquetage, the fired clay debris associated with salt production, and indeed evidence for an extensive late Roman salt making operation has been found during previous excavations at Middleton (Lane and Morris 2001). Evidence for Anglo-Saxon salt-winning in the Fenlands is limited (Crowson, Lane, Penn and Trimble 2005, 294) suggesting that if this is briquetage it is likely to be residual debris from Roman salting activity.

6.4 Lava

By Sarah Percival

Lava was found in small quantities in the fills of Ditches [15] and [17] in Trench 2. Twelve pieces weighing 670g of grey vesicular lava were recovered, most with opposing flat surfaces surviving. All the pieces are highly abraded and no tooling or dressing survives on the surfaces.

Lava was imported into Britain from sources in the Rhineland and was used throughout the Romano-British, later Saxon and medieval periods. A short break in importation occurred during the Early Saxon period perhaps suggesting that the lava found in Trench 2 is residual from Romano-British activity in the area.

6.5 Metalworking Debris

By Sarah Percival

A small assemblage of metalworking debris was recovered from the fill of ditch [15], Trench 2. All of the metalworking debris is tap slag and exhibits the flowing appearance associated with waste run-off from a bloomery furnace. All of the pieces have a smooth shiny upper surface with runs and trills characteristic of tapping slag whilst the opposing surface is rough and sandy. The small quantity of slag recovered suggests that it is redeposited, perhaps as hardcore. Intermittent but extensive Romano-British iron smelting industries are well known from the Nar Valley being particularly concentrated around Wormegay where the ferruginous beds present there in the Lower Greensand provided suitable raw material (Silvester 1988, 145).

6.6 Animal Bone

By Julie Curl

6.6.1 Methodology

The assessment was carried out following a modified version of guidelines by English Heritage (Davis, 1992). All of the bone was examined to determine range of species and elements present (Appendix 4). A note was also made of butchering and any indications of skinning, hornworking and other modifications. When possible a record was made of ages and any other relevant information, such as pathologies. Counts and weights were noted for each context. All information was recorded directly into Excel for quantification and assessment. A basic catalogue is included in the written report and the full assessment database is available in the digital archive.

6.6.2 The assemblage – provenance and preservation

A total of 4,829g of faunal remains, consisting of 148 pieces, was recovered from five contexts. The largest deposits of bone were derived from the fill of Ditch [17] which also produced Early Saxon pottery, lava quern and fired clay, and from Quarry Pit [15] which also produced Romano-British and Early Saxon pottery. Small quantities of animal bone were found in Pits [10] and [19] which contained medieval pottery and Pit [22] which contained no pottery.

The remains are in good condition, although some fragmentation had occurred, largely from butchering. Numerous bones are sufficiently complete and with diagnostic zones to allow species identification, measurements and counts (Davis, 1992) to be made. Several bones from Ditch fill [18] showed canid gnawing, suggesting some scavenger activity here. Invertebrate (insect/isopod/molluscs) damage was also evident on the bone from the ditch fill, which is expected in a deposit that is often damp or even waterlogged at times, creating a better environment for such creatures.

6.6.3 General butchering

Much of the assemblage has been butchered. Fine cut marks were seen on a jaw and lower limb bones from the skinning process and heavier cuts and chop marks were recorded from the dismemberment of the carcass. No butchering evidence was noted on the bird bones, although bird carcasses are often cooked whole and once cooked little effort is required to remove the meat. A chop mark was noted at the base of a horncore, which might indicate this was to remove it for hornworking.

6.6.4 Species range and modifications and other observations

Six species, four mammal and two bird, were identified. The vast majority of the identifiable bones were of cattle, which were seen in four of the five fills, with at least two individuals present in Pit [15], fill [16]. Sheep/goat was seen in three fills and pig/boar in two. Three bones of a large pony or small horse were retrieved from pit fill [16]. A single galliforme (chicken/pheasant) wing bone was produced from Pit fill [16] and a goose humerus was yielded from the fill of Ditch [17].

Mature animals were recorded, along with juveniles, suggesting a range of uses for stock at this site. Pathologies were seen on some cattle bones from Ditch fill [18] during the assessment and further pathological evidence may be discovered with more extensive examination.

6.6.5 Conclusions and recommendations for further work

The largest and best preserved animal bone assemblages came from features which contained Early Saxon pottery. The bulk of these assemblages suggest domestic stock, with evidence of butchering and food waste. The range and ages of elements present would suggest that animals were probably raised, culled and consumed at the site or close by. Pathologies that were seen on some cattle bones that indicate age-related diseases, possibly a poor diet and probable physical strain, perhaps from use as traction animals. Baker in her analysis of animal bone from Saxon sites excavated as part of the Fenland Survey showed a similar predominance of cattle and sheep with low densities of equids and very few pigs with a mix of foetal animals and older livestock, some of which had been used for traction (Baker 2005, 217). This pattern of animal exploitation matches well with the animal bone assemblage from Trench 2, perhaps suggesting a Saxon date for the assemblage; however this suggestion must remain tentative.

7.0 THE ENVIRONMENTAL EVIDENCE

By Val Fryer

7.1 Plant Macrofossils

7.1.1 Introduction and method statement

Evaluation excavations at East Winch, undertaken by NAU Archaeology, recorded a small number of features of probable medieval date. Samples for the evaluation of the content and preservation of the plant macrofossil assemblages were taken from fills within Ditches [1] and [17], and two were submitted for assessment.

The samples were processed by manual water flotation/washover and the flots were collected in a 300 micron mesh sieve. The dried flots were scanned under a binocular microscope at magnifications up to x 16 and the plant macrofossils and other remains noted are listed in Appendix 5. Nomenclature within the table follows Stace (1997). All plant remains were charred. Modern contaminants, including fibrous roots, seeds and arthropod remains, were present within both assemblages.

The non-floating residues were collected in a 1mm mesh sieve and will be sorted when dry. Any artefacts/ecofacts will be retained for further specialist analysis.

7.1.2 Results

Cereal grains/seeds were present at a low to moderate density within both assemblages. Preservation was moderately good although some grains were puffed and distorted, probably as a result of combustion at very high temperatures.

Barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were present with Sample 1, with barley being predominant. Sample 2 contained a single grain, which was too poorly preserved for close identification. Seeds were exceedingly scarce; single specimens of an indeterminate large grass (Poaceae) and a possible bur-reed (*Sparganium* sp.) seed were noted within the assemblage from Sample 1. Charcoal/charred wood fragments were present throughout along with pieces of charred root/stem. Sample 2 contained at least one fragment of possible heather (Ericaceae) stem. Charred florets and buds were also recorded.

Other remains were scarce, although both assemblages did contain small fragments of burnt/calced bone. Fragments of vitreous material were also noted within Sample 1. The pieces of coal noted within both assemblages were probably intrusive within the features from which the samples were taken.

7.1.3 Conclusions

The assemblage from Sample 1 appears to contain a low density of hearth waste including possible dietary detritus (the cereals and the burnt bone fragments) and fuel residues (the charcoal/charred wood and the heather stem fragments). The fragments of vitreous material are almost certainly indicative of high temperature combustion. The assemblage from Sample 2 is very sparse and is almost certainly derived from scattered refuse, which was accidentally incorporated within the ditch fill. Although small, the assemblages clearly illustrate that well-preserved plant macrofossils are present within the archaeological horizon in this area of East Winch.

8.0 CONCLUSIONS

The presence of low densities of artefacts in Trenches 1 and 2 suggests a concentration of occupation in this area of the site. Work by the Norfolk Mapping Programme (NMP) has recorded a series of field boundaries several of which were revealed during excavation. Dating of these boundaries is uncertain. The NMP has tentatively characterised the fields as being of medieval origin and the presence of low numbers of medieval sherds within the artefactual assemblage supports this view of low density agricultural activity on the edges of the known medieval occupation.

Within Trench 2, a concentration of artefacts including Romano-British and Early Saxon sherds perhaps suggests that medieval field boundaries had cut through deposits containing occupation debris of Early Saxon or earlier date. Both medieval Ditch [17] and Quarry pit [15] produced large assemblages of animal bone along with lava quern fragments, metalworking debris and possible briquetage perhaps a mix of redeposited Romano-British industrial waste and animal bone and pottery of Early Saxon date. The presence of the smelting slag suggests iron working whilst the small assemblage of possible briquetage indicates salt-winning both perhaps occurring in the Romano-British period. Finds of pottery and lava quern show domestic activity had also been taking place here, perhaps in the Early Saxon period.

Acknowledgements

Excavations were funded by Anglian Water Services Limited. The finds were processed by Sarah Percival. The pottery was identified by Andrew Rogerson and the animal bone was analysed by Julie Curl. All other finds were analysed by Sarah Percival. The report was compiled by David Dobson and edited by Jayne Bown.

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Appendix 1a: Context Summary

Context	Category	Cut Type	Fill Of	Description	Trench
1	Cut	Ditch		North east-south west ditch	1
2	Deposit		1	Dark brown silty sand	1
3	Cut	Ditch		North-south ditch	1
4	Deposit		3	Dark brown silty sand	1
5	Cut	Ditch		North-south ditch	1
6	Deposit		5	Mixed deposit of dark brown silty sand and redeposited sand	1
7	Cut	Pit		Pit	1
8	Deposit		7	Dark brown silty sand	1
9	Deposit			Mixed deposit of black silty sand and dark brown silty sand	1
10	Cut	Pit		Quarry pit	2
11	Deposit		10	Mixed mid brown silty sand and redeposited natural	2
12	Deposit		10	Dark brown silty sand	2
13	Cut	Ditch		East-west ditch	2
14	Deposit		13	Mid brown orangey sand	2
15	Cut	Pit		Quarry pit	2
16	Deposit		15	Dark brown silty sand	2
17	Cut	Ditch		East-west ditch	2
18	Deposit		17	Dark brown silty sand	2
19	Cut	Pit		Tree hole or pit	2
20	Deposit		19	Mid brown orangey sand	2
21	Deposit		19	Dark brown silty sand	2
22	Cut	Pit		Quarry pit	2
23	Deposit		22	Mid brown orangey sand	2
24	Deposit		22	Dark brown silty sand	2
25	Cut	Ditch		North-south ditch	3
26	Deposit		25	Dark brown silty sand	3
27	Cut	Ditch		East-west ditch	4
28	Deposit		27	Mid brown silty sand	4
29	Cut	Ditch		North-south ditch	5
30	Deposit		29	Dark brown silty sand	5
31	Cut	Ditch		North east-south west ditch	5
32	Deposit		31	Dark brown silty sand	5
33	Cut	Ditch		North west-south east ditch	5
34	Deposit		33	Dark brown silty sand	5

Appendix 1b: OASIS Feature Summary

Period	Cut Type	Total
Medieval	Ditch	8
Unknown	Ditch	2
	Pit	5

Appendix 2a: Finds by Context

Context	Material	Qty	Wt	Period	Notes
2	Pottery	1	26g	Late Saxon	Trench 1
4	Pottery	1	3g	Medieval	Trench 1
6	Ceramic Building Material	1	148g	Roman	Trench 1
12	Pottery	1	5g	Roman	Trench 2
12	Pottery	2	16g	Medieval	Trench 2
12	Animal Bone	1	15g	Unknown	Trench 2
16	Pottery	1	36g	Roman	Trench 2
16	Pottery	1	11g	Early Saxon	Trench 2
16	Lava	3	316g	Unknown	Trench 2
16	Animal Bone	47	1,955g	Unknown	Trench 2
16	Metalworking Debris	15	1,536g	Unknown	Trench 2
18	Pottery	1	9g	Early Saxon	Trench 2
18	Animal Bone	91	2,523g	Unknown	Trench 2
18	Lava	9	354g	Unknown	Trench 2
18	Fired Clay	5	318g	Unknown	Trench 2
21	Pottery	2	45g	Medieval	Trench 2
21	Animal Bone	1	26g	Unknown	Trench 2
24	Animal Bone	8	310g	Unknown	Trench 2

Appendix 2b: OASIS Finds Summary

Period	Material	Total
Roman	Ceramic Building Material	1
	Pottery	2
Early Saxon	Pottery	2
Late Saxon	Pottery	1
Medieval	Pottery	5
Unknown	Animal Bone	148
	Fired Clay	5
	Lava	12
	Metalworking Debris	15

Appendix 3: Pottery

Context	Fabric	Fabric code	Description	Qty	Wt (g)	Era	Spotdate
2	Grimston Thetford	THETG	Body sherd	1	26	Late Saxon	C10th - C11th
4	Local medieval unglazed	LMU	Body sherd	1	3	Medieval	C11th - C14th
12	Sandy greyware	SGW	Body sherd	1	5	Roman	C2nd - C4th
12	Early medieval ware (unglazed).	EMW	Body sherd	2	16	Medieval	C11th - C12th
16	Sandy greyware	SGW	Decorated body sherd	1	36	Roman	C2nd - C4th
16	Early Saxon grass tempered	ESO1	Body sherd	1	11	Early Saxon	AD450 - 850
18	Early Saxon grass tempered	ESO1	Body sherd	1	9	Early Saxon	AD450 - 850
21	Glazed Grimston	GRIM	Strap handle	1	41	Medieval	C13th - C14th
21	Local medieval unglazed	LMU	Body sherd	1	4	Medieval	C11th - C14th

Appendix 4: Animal Bone

Context	Context Quantity	Wt (g)	Species	NISP	Age	Butchering	Comments
12	1	15	Sheep/Goat	1	Adult	cut	MC cut at distal end. Skinning
16	47	1955	Cattle	15	Adult and juvenile	cut, chopped	
16			Sheep/Goat	4	Adult	cut, chopped	
16			Equid	3	Adult		Med-large equid, lge ponys, horse
16			Bird	1	Adult		Chicken/pheasant
16			Mammal	24		cut, chopped	Mostly large rib frags
18	91	2523	Cattle	22	Adult	cut, chopped	High calc, periodontal disease., limb: strain, large.horncore
18			Sheep/Goat	6	Adult and juvenile	cut, chopped	Dp4 erupted/M1 not erupted
18			Pig/Boar	2	j	cut, chopped	
18			Bird	1	Adult		Goose
18			Mammal	60		cut, chopped	Fragments of large mammal
21	1	26	Cattle	1	Adult		M3 in low wear
24	8	31	Cattle	5	Adult	cut, chopped	
24			Sheep/Goat	1		chopped	
24			Mammal	1			

Key: NISP = Number of Individual Species elements Present.

Appendix 5: Environmental Table

Sample No.	1	2
Context No.	18	2
Feature No.	17	1
Cereals		
<i>Hordeum</i> sp. (grains)	x	
<i>H. vulgare</i> L. (lateral asymmetrical grains)	xcf	
<i>Hordeum/Secale cereale</i> type (rachis nodes)	x	
<i>Triticum</i> sp. (grains)	x	
Cereal indet. (grains)	x	x
Other seeds/fruits		
Large Poaceae indet.	x	
<i>Sparganium</i> sp.	xcf	
Other plant macrofossils		
Charcoal <2mm	xxxx	xx
Charcoal >2mm	xx	x
Ericaceae indet. (stem)		x
Charred root/stem	x	x
Indet. floret.	x	
Indet. bud	x	
Other remains		
Black porous 'cokey' material		x
Black tarry material		x
Bone	x xb	x xb
Small coal frags.	x	x
Small mammal/amphibian bones	x	
Vitreous material	x	
Sample volume (litres)	20	20
Volume of flot (litres)	<0.1	<0.1
% flot sorted	100%	100%

Key : x = 1 – 10 specimens, xx = 11 – 50 specimens, xxxx = 100+ specimens, cf = compare, b = burnt