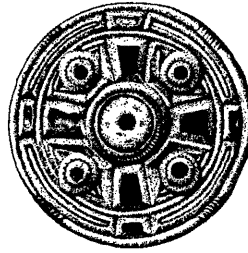


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Archaeological Field Unit

**Drainage Systems at Littleport, Padnal: An
Archaeological Evaluation.**

Joe Abrams
February 2002

Cambridgeshire County Council

Report No. A 199
Persimmon Homes Limited

Drainage Systems at Littleport, Padnal: An Archaeological Evaluation.

TL 5745 8626

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2002

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SUMMARY

An archaeological evaluation was carried out at Padnal, Littleport (TL 5745 8626) to inform the planning process in advance of the construction of 80 dwellings and associated works. The work was carried out by the Archaeological Field Unit of Cambridgeshire County Council between 22nd and 29th January 2002.

Nine trenches were excavated, eight contained ditches, which have been interpreted as drainage features. One ditch produced artefactual material dating to the nineteenth/twentieth centuries AD, other linear features contained twentieth century land drains. However, most features contained no dating material at all.

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Drainage Systems at Littleport, Padnal: An Archaeological Evaluation.

NGR TF 5745 8626

1 INTRODUCTION

An archaeological evaluation was carried out at Padnal, Littleport (TF 5745 8626) to inform the planning process in advance of the construction of 80 dwellings and associated works. The work was carried out by the Archaeological Field Unit of Cambridgeshire County Council between 22nd and 29th January 2002.

2 GEOLOGY AND TOPOGRAPHY

Boulder Clay (Till) underlies most of Littleport island (British Geological Survey, Sheet 173), however the Fenland Survey and recent work in the 1990s (Macaulay 2002) identified a capping of glacial sand and gravel over much of the island of Littleport (Hall 1996). The site itself is *c*1000m east of the core of Littleport, close to the interface with the Nordelph Peat (and the fens).

The site slopes from north to south. The height above ordnance datum was 3.01m OD adjacent to Trench 7 (north), 2.50m OD adjacent to Trench 9 (central), and 1.32m OD adjacent to Trench 1 (south).

The subject site was bordered by the London, Kings Cross to Kings Lynn railway line (built in 1847) on its eastern edge, by Padnal Drove on its north-western edge and by a drain along its south-western edge.

3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

3.1 Prehistoric (before AD 43)

Prehistoric activity is recorded in the parish of Littleport (Hall 1996). The Old Croft was the principal channel of the Ouse River system during later prehistory and was a significant and determining factor for the location of archaeological settlement of all periods around Littleport. Archaeological remains in the parish are found either on the higher land or close to watercourses to exploit the available resources.

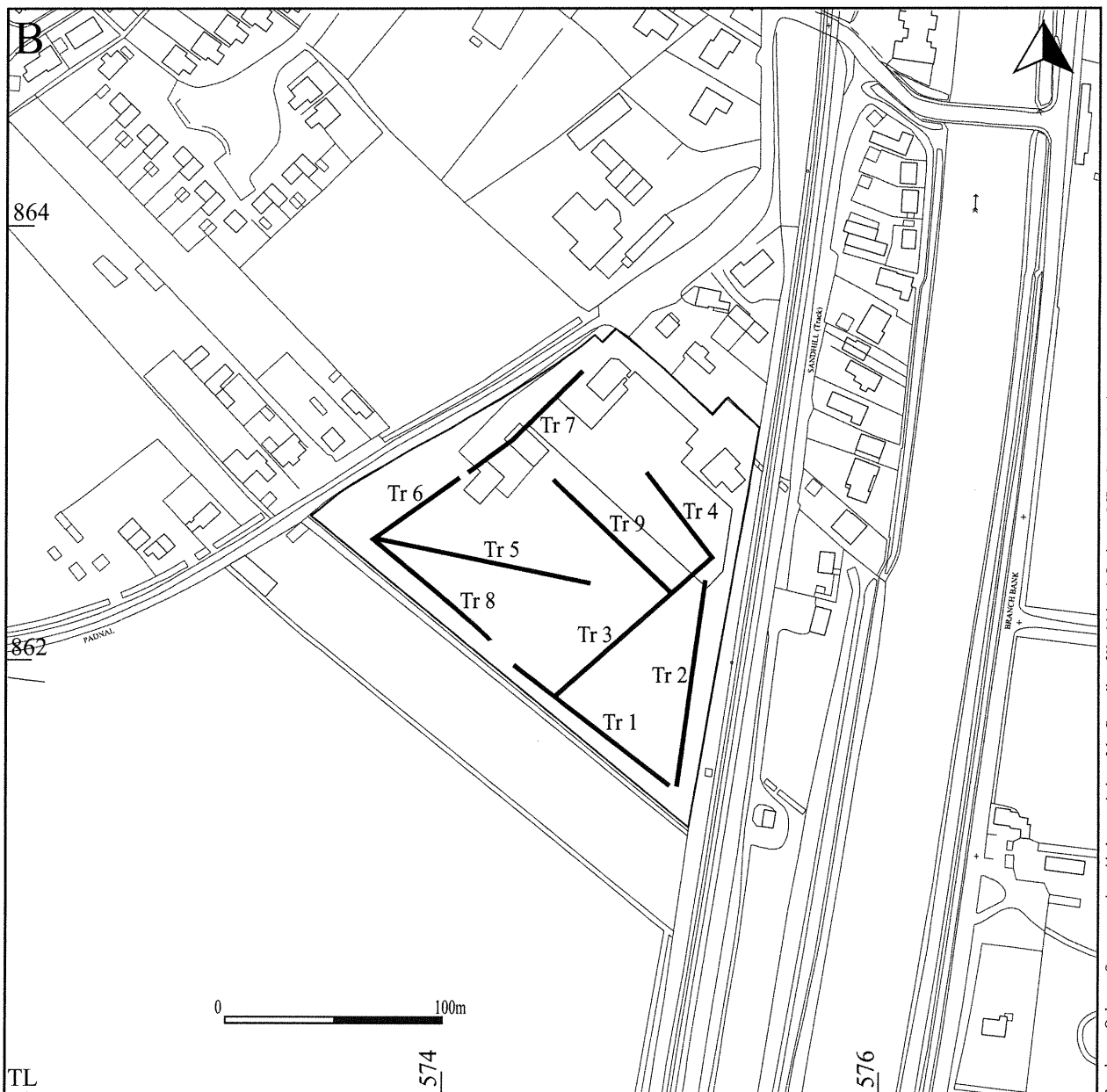
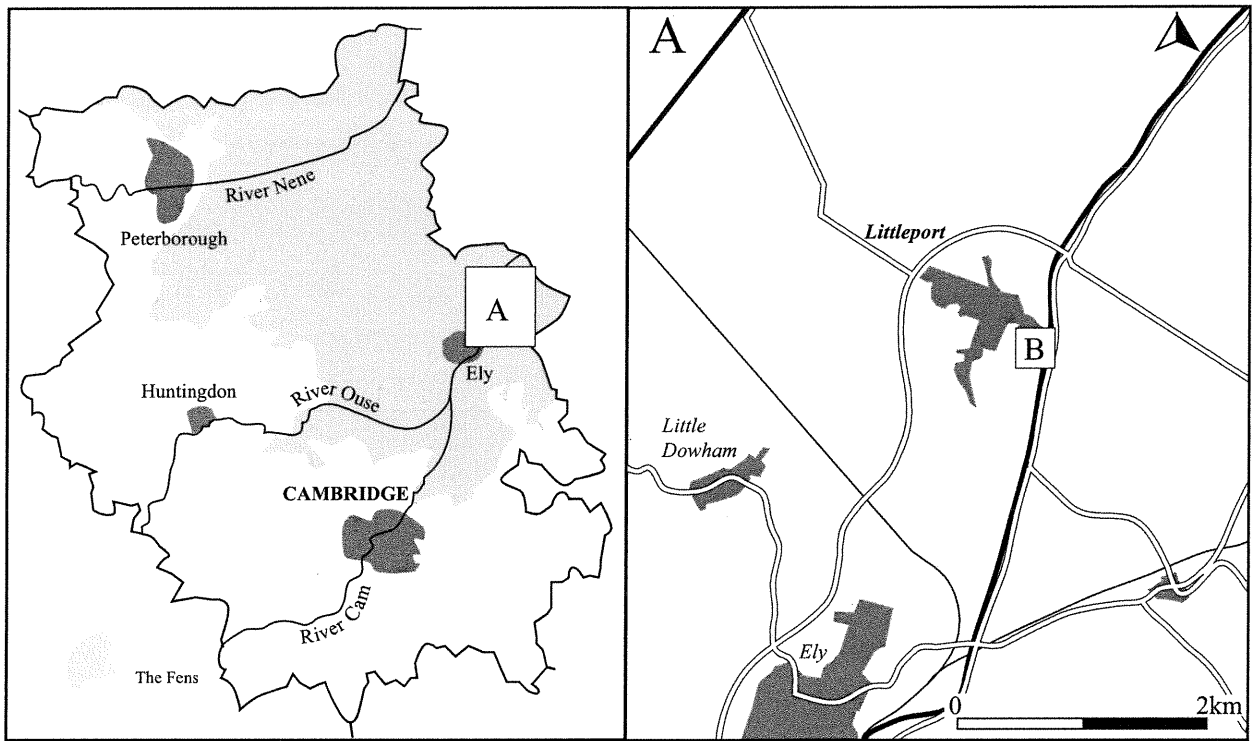


Figure 1 Development area showing position of archaeological trenches,

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The most important early prehistoric remains lie to the south-east of the parish, on higher land/islands (e.g. Peacock's Farm - Clark, Godwin & Clifford 1935). This area represents the western extent of the intense prehistoric activity centres around Hockwold and Mildenhall in Norfolk and Suffolk. Other notable prehistoric activity in the parish is to be found at Apes Hall, again on higher ground overlooking the Old Croft, where Mesolithic and Neolithic lithic scatters have been recorded.

Bronze Age axes and chance finds have been discovered in Littleport, with a settlement site at Plantation Farm excavated by Clark in 1932 (Clark *et al* 1935). Early Bronze Age material was also discovered at Peacock's Farm (Clark *et al* 1935). Again these sites are related to the prehistoric activity to the east, in Norfolk and Suffolk. On Littleport island itself there have only been two sparse lithic scatters recorded, both assigned to the Bronze Age. To the northwest, at Apes Hall, Bronze Age flints and settlement evidence is recorded beneath and close to the later Roman archaeology (see below). During the Bronze Age the landscape around Littleport would have consisted of a peat fen which would have covered the minor roddons and waterways, although the Old Croft remained active. Roddon silts were deposited along the edge of the Old Croft during the Iron Age.

The Iron Age is very poorly represented with only two sites recorded in the whole parish. This is a very low figure, given that the land around Ely (to the south) is fairly intensively occupied in this period. Both sites are located to the north-west of Littleport Island on higher ground at Butchers Hill. Indeed this site shows that the hill was continuously occupied from the Later Bronze Age until the end of the Roman period (Hall 1996, 25).

3.2 Romano-British (AD 43-410)

Prior to 1997 (Macaulay 2002) there had been no significant Roman activity recorded in the modern town of Littleport, although this is most likely as much a factor of fieldwork and development bias rather than the absence of such material. Roman activity is, however, very important within the parish of Littleport, and the focus lies to the north of the village. The Fenland Survey (Hall 1996) identified the main Roman activity as an array of saltern sites which occur in great density along the roddon of the Old Croft River. Within the fens roddons were well suited for this industry with the necessary brackish water easily accessible.

The most significant excavation of Roman remains to have taken place at Littleport occurred in 1997-98 at Camel Road, immediately to the south of the Blackbank Drain. Camel Road excavations were c1000m from the subject site. This investigation revealed stratified deposits including ditches, pits, a round house and possible settling tanks. The recovery of a high status pottery and painted wall plaster and tile from a bath house suggested that a possible villa-type estate was once present at Littleport, close to Camel Road. Occupation spans the second to fourth centuries, when the site was abandoned due to increased flooding (Macaulay 2002).

Investigations of Roman saltern sites in the Cambridgeshire and Lincolnshire fens have concluded that such sites are associated with the *briquetage* (usually brown, yellow and red fired clay) used in the salt making process (Hall 1996). There are potentially as many as 30 such sites along the Old Croft, the largest of which may cover over three hectares, although it is important to note that these sites have not been excavated, but identified from field survey. The largest site (No 36 in Fenland Survey, Littleport, Hall 1996) is considered a settlement in its own right and is linked to a 'Celtic' field system. It is thought to be of an early date (Fowler 1931, Hall 1996). The site was raised, surviving as an earthwork in the 1930's and 40's. In 1948 it was ploughed and a circular enclosure excavated (Fowler 1949) which produced first century coins and was interpreted as an 'altar' site. In addition 18 'hut' sites were identified, although this interpretation has been challenged, with the ring-ditches being potentially more saltern sites and *briquetage* mistaken for daub (Hall 1996:25). At Apes Hall a second concentration of Roman sites were found, again thought to focus on salt making and located on the roddons. At least ten sites, lying on both sides of the Old Croft make up this complex. 'Ladder' settlements (linear series of attached small paddocks on the roddon) are recorded, with larger curvilinear enclosures to the west on the island of Apes Hall, which is a total of 29 hectares. These linears and droveways are interpreted by the Fenland Project (Hall 1996) as stock enclosures and fields, in more open land than the roddon would have provided. Along the roddon and river a series of saltern sites are recorded, identified by *briquetage* debris (as well as pottery sherds) and 'hut' sites.

The Roman road of Akeman Street is thought to run through Littleport. Beginning at Cirencester it runs through Verulanium (St Albans), connects Ermine Street with Cambridge and then runs northeast into the fens towards Ely and a possible final destination at Denver where it would meet with the Fen Causeway (Garrod 1938). No trace of the road, however, has yet been found north of Ely.

3.3 Anglo-Saxon (AD 410-1066)

To date there is no known Anglo-Saxon sites in the parish. Saxon settlement at Littleport was probably based around the hithe where the Old Croft ran close to the island.

3.4 Medieval (AD 1066-1520)

The Domesday Book records a *vill* and it is assumed that the present town cover part (if not all) of the medieval centre. Littleport was allotted to the Bishop of Ely on the formation of the See of Ely in 1109. The church of St. George, to the south of the site, dates from the fourteenth century and was almost entirely rebuilt in the fifteenth century and restored in 1857. During the medieval period the island of Littleport was ploughed, visible as ridge and furrow, and the whole area (except the settlement itself) was given over to arable agriculture with summer pasturing along the fen edge.

3.5 Post-medieval (AD 1520-present)

A wind pump (SMR 07232) is c300m south-east of the subject site, on the opposing bank of River Great Ouse. These pumps were used to drain the fens moving large quantities of groundwater into man-made drains. Hence the location of this one next to Sandy's Cut (man-made) of River Great Ouse.

The presence of agricultural features from this period were considered a high possibility due to the location of the subject site on the eastern periphery of Littleport.

4 METHODOLOGY

Nine trenches totalling 709.5m in length, were excavated within the area of the proposed development site. This gave a 4.72% (1206 square metres) sample of the affected area. Topsoil and modern overburden were removed using a wheeled mechanical excavator with a 1.70m wide flat-bladed ditching bucket. This was carried out under the supervision of an archaeologist. Trenches were located to give a representative sample of the available area.

After machining each trench was photographed. Archaeological features were excavated by hand in order to determine date and character. The AFU's single context based recording system was used to record all archaeological features. Deposits and sections were hand drawn at a scale of 1:10 for features, and 1:50 in the case of evaluation trench sections. Plans were hand-drawn at a scale of 1:50. In addition all the spoil heaps from the trenches were scanned for artefacts by eye and a metal detector was used to scan for metal artefacts.

In this report deposit numbers are shown in plain text and cut numbers are in **bold** text. Detailed descriptions of the character and morphology of each feature are listed below the main text for each Trench.

5 RESULTS

5.1 Detail of layers in trenches 1 to 9

There was a significant difference between the uppermost layers encountered in the trenches in the northern part of the site (disturbed by development and demolition) as opposed to the trenches in the southern part of the site (little or no disturbance).

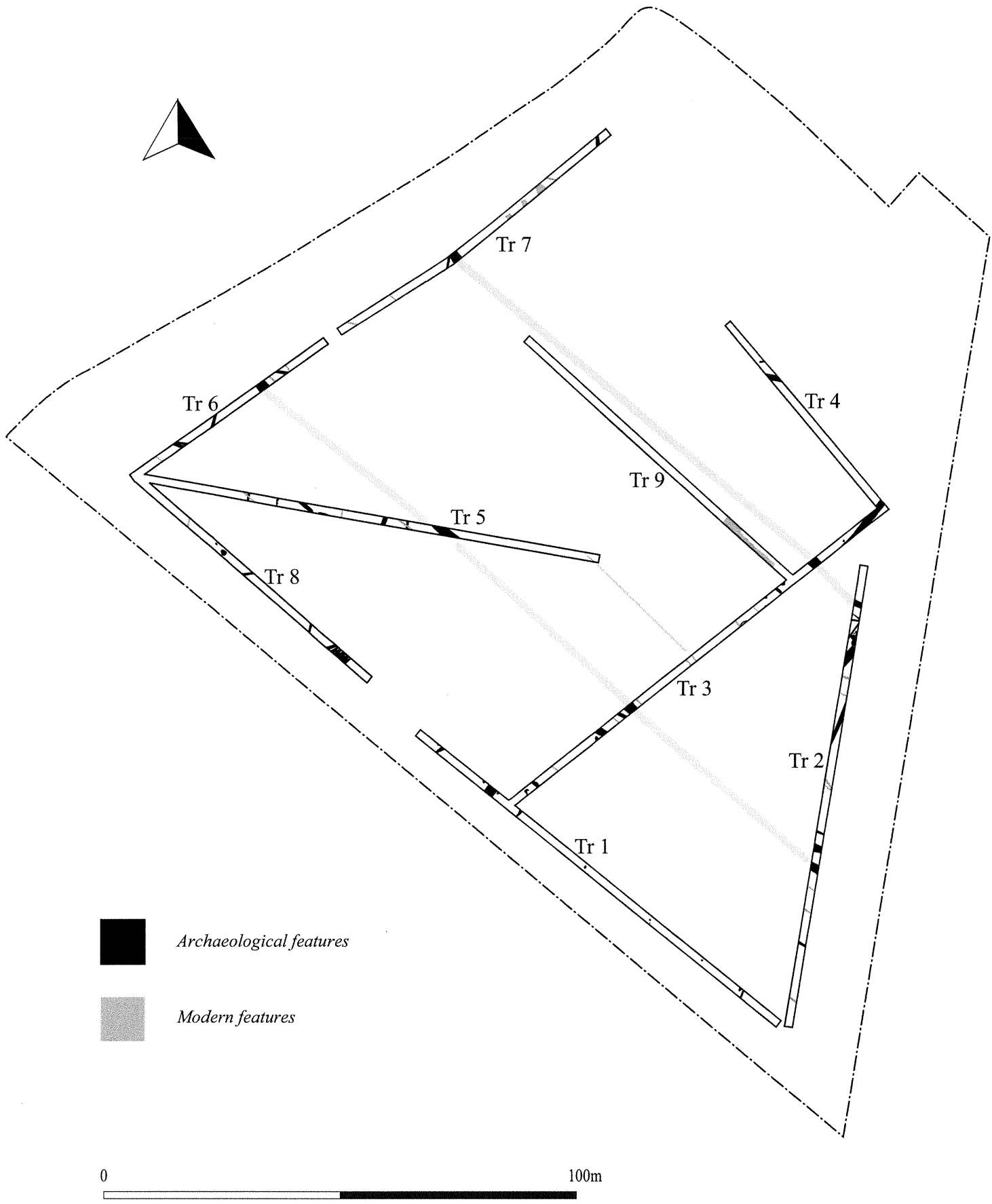


Figure 2 Plan of Site with Trenches and features

The top layer (3) in trenches 4 and 9 and the northern parts of trenches 2, 3 and 7, was yellow sand and coarse gravel with frequent concrete fragments and boulders. This layer was derived from the factory construction and the subsequent demolition rubble. The topsoil (1) in trenches 1 and 8 and the southern parts of trenches 2, 3 and 6, was a blackish dark brown silty sand layer 0.20m to 0.30m deep, with occasional rounded pebbles. Topsoil (1) and the plough soils observed in the fields immediately south on the subject site were identical, both had a significant organic/peaty content.

Below layers (4) and (1) was subsoil (2) a blackish dark brown sandy clay layer 0.30m deep with no inclusions. The boundary between topsoil (1) and subsoil (2) was very diffuse in all trenches.

The natural geological layer (4) varied from mid orange sand to white-ish yellow clay. This was encountered at a depth of 0.50m to 1.00m below the present ground level.

5.2 Trench 1

Trench 1 was 98.50m long 1.70m wide and 0.75m deep and aligned north-west to south-east (Fig 2). Trench 1 contained fifteen features cutting into the natural geology.

Pits **101**, **105**, **111**, **121** and **123** each contained one fill (see below), these features shared marked similarities in morphology and character. They were not fully excavated as other examples of this type of feature had already been excavated and recorded in Trench 3 (**334**, **336**, **340**) and Trench 8 (**805**), sampling produced no artefactual evidence from these features.

Posthole **125** contained one fill 124, which produced no artefactual evidence, this feature shared similarities in morphology with postholes **117**, **119** and **115**. Sampling produced no artefactual evidence from these features, all of which contained one fill.

Ditch **129** contained one fill 128, from which no artefactual material was recovered. Immediately west of **129** was ditch terminal **127**, which contained one fill 126, from which no artefactual material was recovered. Other ditches sharing very similar morphology and character were recorded in Trench 1: **103**, **107**, **109** and **113**. Sampling of these features produced no artefactual material.

101, 1.50m long, 0.30m wide, semi-circular shape in plan, aligned north-east to south-west, contained one visible fill:
Fill 100, mid/dark blueish grey clay, no inclusions.

103, 0.80m wide, linear ditch shape in plan, aligned north-east to south-west, contained one visible fill:
Fill 102, dark greyish brown silty sand.

105, 0.80m wide, semi circular shape in plan, contained one visible fill:
Fill 104, dark greyish brown silty sand.

107, 0.75m wide, linear ditch shape in plan, contained one visible fill:
Fill 106, dark greyish brown silty sand.

109, 1.50m wide, linear ditch shape in plan, aligned north-east to south-west, contained one visible fill:
Fill 108, mid/dark brown silty sand, occasional rounded pebbles.

111, 0.65m wide, semi circular shape in plan, contained one visible:
Fill 110, light/mid brown silty sand.

113, 0.80m wide, linear ditch shape in plan, aligned north-east to south-west, contained one visible fill:
Fill 112, mid/dark brown silty sand.

115, 0.65m diameter, circular shape in plan, contained one visible fill:
Fill 114, mid brown silty sand.

117, 0.50m long, 0.30m wide, sub rectangular in plan, aligned north-south, contained one visible fill:
Fill 116, blackish dark brown silty sand.

119, 0.25m diameter, circular in plan, contained one visible fill:
Fill 118, blackish dark brown silty sand.

121, 0.80m long, 0.25m wide, semi-circular in plan, one visible fill:
Fill 120, blackish dark brown silty sand.

123, 0.50m long, 0.30m wide, semi-circular in plan, contained one visible fill:
Fill 122, blackish dark brown silty sand.

125, 0.20m wide, 0.50m long, 0.05m deep, oval shape in plan, concave sides, concave base, east-west alignment, contained one fill:
Fill 124, dark brown silty sand.

127, 0.60m wide, 0.10m deep, ditch terminal shape in plan, gradual sloping concave sides, concave base, north-east to south-west alignment, contained one fill:
Fill 126, dark grey silty sand.

129, 0.38m wide, 0.07m deep, linear ditch shape in plan, gradual sloping concave sides, concave base, north-east to south-west alignment, contained one fill:
Fill 128, dark grey silty sand.

5.3 Trench 2

Trench 2 was 99m long 1.70m wide and 0.72m to 1.14m deep and aligned north-east-north to south-west-south (Fig.2). Trench 2 contained twenty-two features cutting into the natural geology.

Sampling of features **201**, **207**, **211**, **223** and **225** proved that they were land drains. Each land drain contained one fill and lengths of ceramic pipe.

Ditches **205**, **217**, **221** and **233** each contained one fill and produced no artefactual material. These ditches share similarities in morphology with many features on the site, including **103**, **107**, **109** and **113** (Trench 1), **303**, **320** (Trench 3), **507**, **509**, **521** and **515** (Trench 5) other examples from trenches 6, 7 and 8 are visible on Figures 2, 3 and 4.

Four larger ditches (1.50m+ wide) **213**, **215**, **227** and **244** were also recorded (Fig 3). Ditch **213**, which contained pieces of modern glass. This feature is part of a clear north-west to south-east post medieval drainage/boundary ditch (Fig 2), this alignment includes **322** (Trench 3), **503** (Trench 5) and **607** (Trench 6).

Ditch **215** contained one fill 214, from which no artefactual material was recovered. This feature shares a north-west to south-east alignment with **316** in Trench 3 (Fig 3), both features also shared very similar morphology. Significantly fills 214 in ditch **215**, and 314 in ditch **316**, were very similar in character and neither produced any dateable material.

Ditch **244** contained one fill 243 from which no artefactual material was recovered. This feature shared a north-west to south-east alignment with ditches **347** (Trench 3) and **707** (Trench 7), together these features form a second post-medieval drainage/boundary ditch. This alignment was located parallel to the alignment described above consisting of **213** (Trench 2) **322** (Trench 3), **503** (Trench 5) and **607** (Trench 6). It is suggested that these features are contemporary and part of the same post-medieval field system.

Ditch **227** contained two fills 226, and 236, neither deposit produced any artefactual material.

A cluster of intercutting pits consisting of **229**, **231**, **238**, **240**, and **242** (Fig 3) was recorded at the northern end of Trench 2. Each of these contained one fill from which no artefactual evidence was recovered.

201, 0.55m wide, linear ditch in plan, north-west to south-east alignment, contained one visible fill:
Fill 200, very dark brown sandy silt, no inclusions.

205, 0.75m wide, linear ditch shape in plan, north-west to south-east alignment, contained one visible fill:
Fill 204, very dark brown sandy silt, no inclusions.

207, 0.45m wide, linear ditch shape in plan, north-west to south-east alignment, contained one fill:
Fill 206, very dark brown sandy silt, no inclusions.

211, 0.40m wide, linear ditch shape in plan, northwest to south-east alignment, contained one visible fill:
Fill 210, mid brown sandy silt, occasional pebbles.

213, 1.65m wide, linear ditch shape in plan, north-west to south-east alignment, contained one visible fill:
Fill 212, very dark brown sandy silt, moderate glass pieces.

215, 1.50m wide, 0.25m deep, linear ditch shape in plan, steep concave sloping sides, flat base, north-west to south-east alignment, contained one visible fill:
Fill 214, very dark greyish brown silty clay, occasional medium angular flint pebbles, occasional medium chalk pebbles.

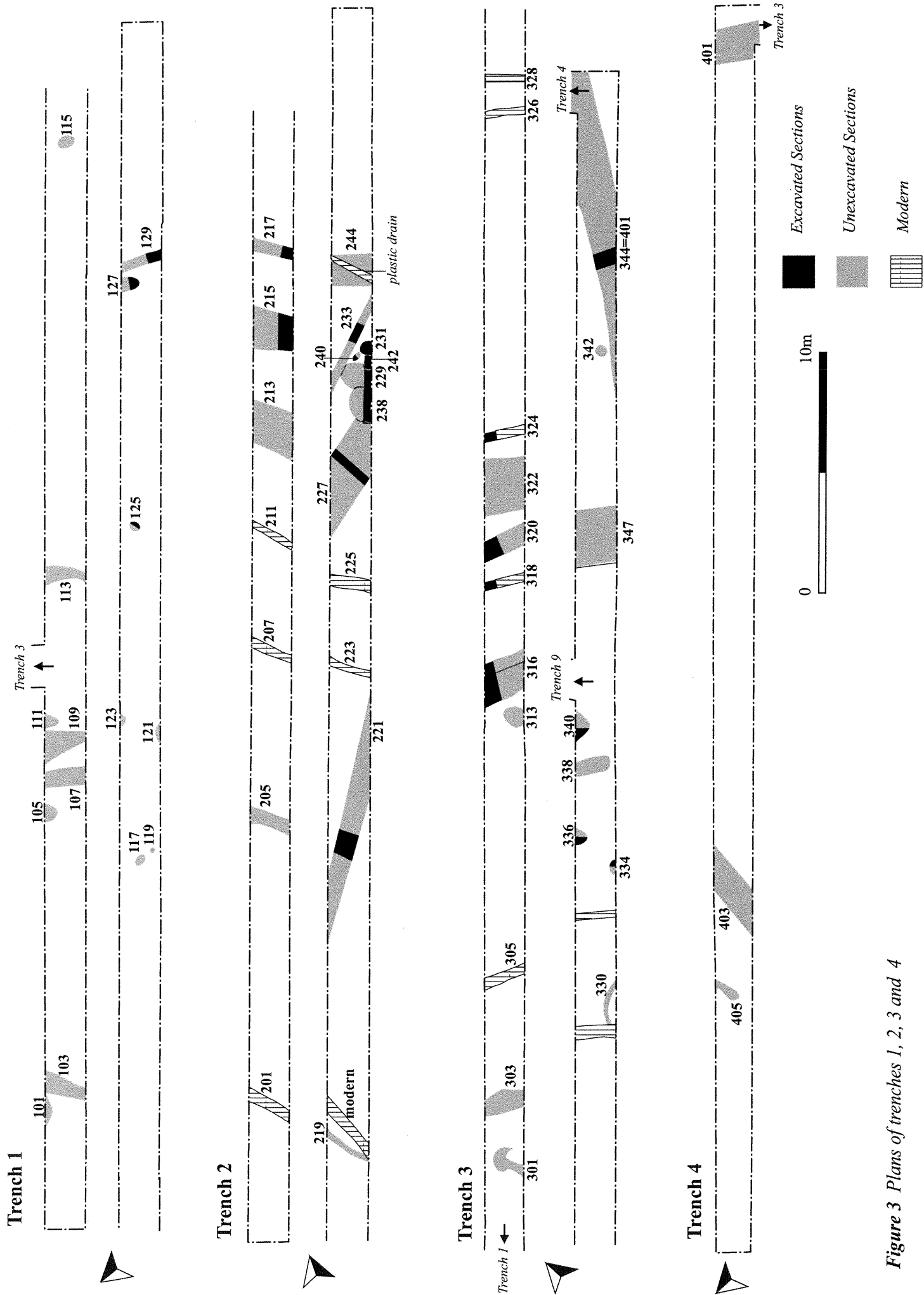


Figure 3 Plans of trenches 1, 2, 3 and 4

217, 0.50m wide, 0.25m deep, linear ditch shape in plan, steep concave sides, narrow flat base, north-west to south-east alignment, contained one visible fill:
Fill 216, dark greyish brown clayey silt, occasional lenses reddish brown sand.

219, 0.35m wide, linear ditch shape in plan, north-west to south-east alignment in plan, contained one visible fill:
Fill 218, very dark brown sandy silt, no inclusions.

221, 0.70m wide, 0.20m deep, linear ditch shape in plan, steep concave sides, narrow flat base, north-east-north to south-west-south alignment in plan, contained one fill:
Fill 220, very dark blackish brown silty clay, occasional medium chalk pebbles, occasional lenses of reddish brown sand, occasional fine flint pebbles

223, 0.40m wide, linear ditch shape in plan, north-west to south-east alignment in plan, contained one visible fill:
Fill 222, very dark brown sandy silt, no inclusions.

225, 0.50m wide, linear ditch shape in plan, north-west to south-east alignment in plan, contained one visible fill:
Fill 224, very dark brown sandy silt, no inclusions.

227, 2.00m wide, 0.30m deep, linear ditch shape in plan, concave sides, flat base, aligned north-east to south-west, contained two fills:
Fill 226, dark orange brown with red mottling, silty clay, occasional flecks of chalk and snail shells.
Fill 236, very dark greenish black, clay.

229, 0.85m wide, 0.28 deep, oval shape in plan, convex steep slides, flat base, contained one fill:
Fill 228, dark greyish brown silty clay, occasional fine pebbles.

231, 0.70m wide, 0.16m deep, semi circular ditch terminal shape in plan, concave sides, flat base, contained one fill:
Fill 230, dark greyish brown silty clay, occasional reddish brown sand lenses, occasional flint and chalk flecks.

233, linear ditch shape in plan, steep concave sides, flat base, aligned north-east to south-west, contained one fill:
Fill 232, dark greyish brown silty clay, occasional pebbles.

238, 1.20m wide, 0.30m deep, circular in plan, concave steep sides, flat base, contained one fill:
Fill 237, dark greyish brown silty clay, occasional flint pebbles.

240, 0.40m wide, 0.10m deep, sub-rectangular shape in plan, steep concave sides, slightly concave base, contained one fill:
Fill 239, mid greyish brown silty clay, occasional fine flint pebbles, moderate lenses of reddish brown sand.

242, 0.55m wide, 0.26m deep, circular shape in plan, concave sides, flat base, contained one fill:
Fill 241, dark greyish brown silty clay, occasional fine flint pebbles.

244, 2.00m wide, linear ditch shape in plan, contained one visible fill:
Fill 243, dark brown silty sand, occasional fine pebbles.

5.4 Trench 3

Trench 3 was 99m long 1.70m wide and 0.67m to 1.12m deep, aligned north-east to south-west (Fig.2). Trench 3 contained twenty features cutting into the natural geology.

Five small pits **313**, **334**, **336**, **340** and **342** were recorded each contained one fill from which no artefactual evidence was recovered.

Ditches **303** and **320** shared similar morphology and character and a similar north-west to south-east alignment, neither deposit produced artefactual material.

Ditch **344** was recorded at the northern end of this trench, it continued into Trench 4 as feature **401**. This feature contained one fill 400 from which no artefactual evidence was recovered. However, the silty composition of 400, and the presence of organic material suggested that this feature may have high environmental potential, therefore sample *1* was taken (Appendix 3).

Three large ditches (1.50m+ wide), **316**, **322** and **347** were recorded. Ditch **316** contained three fills (314, 345 and 315) none of which produced any artefactual material. Ditch **322** contained one fill 321 from which pieces of modern glass were recovered, this shared an alignment with **213** (Trench 2), **503** (Trench 5) and **607** (Trench 6). Together they formed a north-west to south-east alignment across the site.

Sampling of ditch **347** recorded one fill 346, from which no artefactual evidence was recovered. As already mentioned in my discussion of Trench 2, this feature and ditches **244** and **707** form a north-west to south-east alignment across the site.

An irregular pit **301**, was at the southern end of Trench 3, this is likely to be a tree bowl. Gully **330**, in the centre of this trench also contained one fill and its narrow curving morphology was also suggestive of a naturally derived feature such as an animal burrow or root hole.

Five land drains **305**, **318**, **324**, **326** and **328** were recorded in Trench 3. Each land drain contained one fill and lengths of ceramic pipe.

301, 0.50m to 1.00m wide, 1.50m long, irregular shape in plan, contained one visible fill:
Fill 300, mid grey sandy silt, no inclusions.

303, 1.00m wide, linear ditch shape in plan, contained one visible fill:
Fill 302, dark brown sandy silt, occasional medium pebbles.

305, 0.45m wide, linear ditch shape in plan, contained one visible fill:
Fill 304, very dark brown sandy silt, occasional medium pebbles.

313, sub-circular shaped pit in plan, contained one visible fill:
Fill 312, mid grey fine sand.

316, 1.75m wide, 0.49m deep, linear ditch shape in plan, steep irregular concave sides, irregular base, north-west to south-east alignment, contained one fill:

Fill 314, dark brownish grey clay.

Fill 345, mid grey clay.

Fill 315, mid grey sandy clay.

318, 0.50m wide, 0.94m deep, linear ditch shape in plan, near vertical sides, flat base, north-west to south-east alignment, contained one fill:

Fill 317, mid orange-ish brown silty clay, occasional fine flint pebbles.

320, 0.74m wide, 0.32m deep, linear ditch shape in plan, steep flat sides, concave base, north-west to south-east alignment, contained one fill:

Fill 319, mid greyish brown sandy clay, occasional medium flint gravel.

322, 2.50m wide, linear ditch shape in plan, north-west to south-east alignment, contained one fill:

Fill 321, very dark brown sandy silt, moderate glass pieces.

324, 0.49m wide, 0.29m deep, linear ditch shape in plan, steep sides, flat base, north-west to south-east alignment, contained one fill:

Fill 323, greyish brown clay with orange mottling, sandy clay.

326, 0.40m wide, linear ditch shape in plan, north-west to south-east alignment, contained one fill:

Fill 325, very dark brown sandy silt, no inclusions.

328, 0.40m wide, linear ditch shape in plan, north-west to south-east alignment, contained one fill:

Fill 327, very dark brown sandy silt, no inclusions.

330, 0.40m wide, linear ditch shape in plan, north-west to south-east alignment, contained one fill:

Fill 329, very dark brown sandy silt, no inclusions.

334, 0.65m long, 0.30m wide, 0.34m wide, semi circular shape in plan, concave steep sides, concave base, contained one fill:

Fill 333, mid greyish brown sand.

336, 0.70m long, 0.50m wide, 0.28m deep, semi circular ditch terminal shape in plan, steep concave sides, concave base, contained one fill:

Fill 335, dark blue-ish black sand.

338, 0.65m wide, sub-rectangular shape in plan, contained one fill:

Fill 337, very dark brown silty sand.

340, 1.25m long, 0.65m wide, 0.13m deep, sub triangular shape in plan, steep sides, irregular base, contained one fill:

Fill 339, mid grey sandy clay, occasional fine flint gravel.

342, sub-circular shape in plan, contained one fill:

Fill 341, very dark brown silty sand.

344, 1.70m wide, 0.60m deep, linear ditch shape in plan, steep concave sides, concave base, aligned north-east to south-west, contained one fill:

Fill 343, dark grey silt, no inclusions.

347, 2.35m wide, linear ditch shape in plan, contained one visible fill:

Fill 346, dark brown silty sand, occasional fine pebbles.

5.5 Trench 4

Trench 4 was 52m long, 1.70m wide and 1.10m deep, and aligned north-west to south-east (Fig 2). Trench 4 contained three features cutting into the natural geology.

Ditch **401** is a continuation of **344** from Trench 3, and is discussed above.

Sampling of ditch **403** recorded one fill 402, from which no artefactual evidence was recovered. Irregular feature **405** was adjacent to ditch **403**, and has the appearance of a tree bowl. Sampling of this feature produced no artefactual evidence and it contained one fill 404, which was identical in character to 402 within ditch **403**. Both features were contaminated by diesel.

401, 1.70m wide, 0.60m deep, linear ditch shape in plan, steep concave sides, concave base, aligned north-east to south-west, contained one fill:
Fill 400, dark grey silt, no inclusions.

403, 1.25m wide, linear ditch shape in plan, aligned east-west, contained one fill:
Fill 402, blackish grey sandy clay, possibly diesel contaminated.

405, 1.10m long, 0.50m wide, ditch terminal shape in plan, contained one fill:
Fill 404, blackish sand, possibly diesel contaminated.

5.6 Trench 5

Trench 5 was 100m long, 1.70m wide and 0.55m to 0.66m deep, and aligned east-west (Fig 2). Trench 5 contained ten features recorded into the natural geology.

One large ditch (1.50m > wide) **503** was recorded, this contained one fill 502 from which pieces of twentieth century pottery, glass and metal fencing panels were recovered. This ditch shared a north-west to south-east alignment across the site with features of **213** (Trench 2), **322** (Trench 3), and **607** (Trench 6) which are considered to be part of the same drainage/boundary ditch.

Four other ditches **509**, **507**, **521** and **515** were excavated each contained one fill and produced no artefactual material.

One possible pit was recorded in the centre of this trench. Pit **513**, contained one fill 512 from which no artefactual material was recovered.

An irregular feature **517** was recorded in the centre of this trench, it contained one fill 516, and is considered to be a tree bowl.

Four land drains **501**, **505**, **511** and **519** were recorded. Each land drain contained one fill and lengths of ceramic pipe.

501, 0.30m wide, linear ditch shape in plan, contained one visible fill:
Fill 500, very dark brown silty clay, occasional fine flint pebbles.

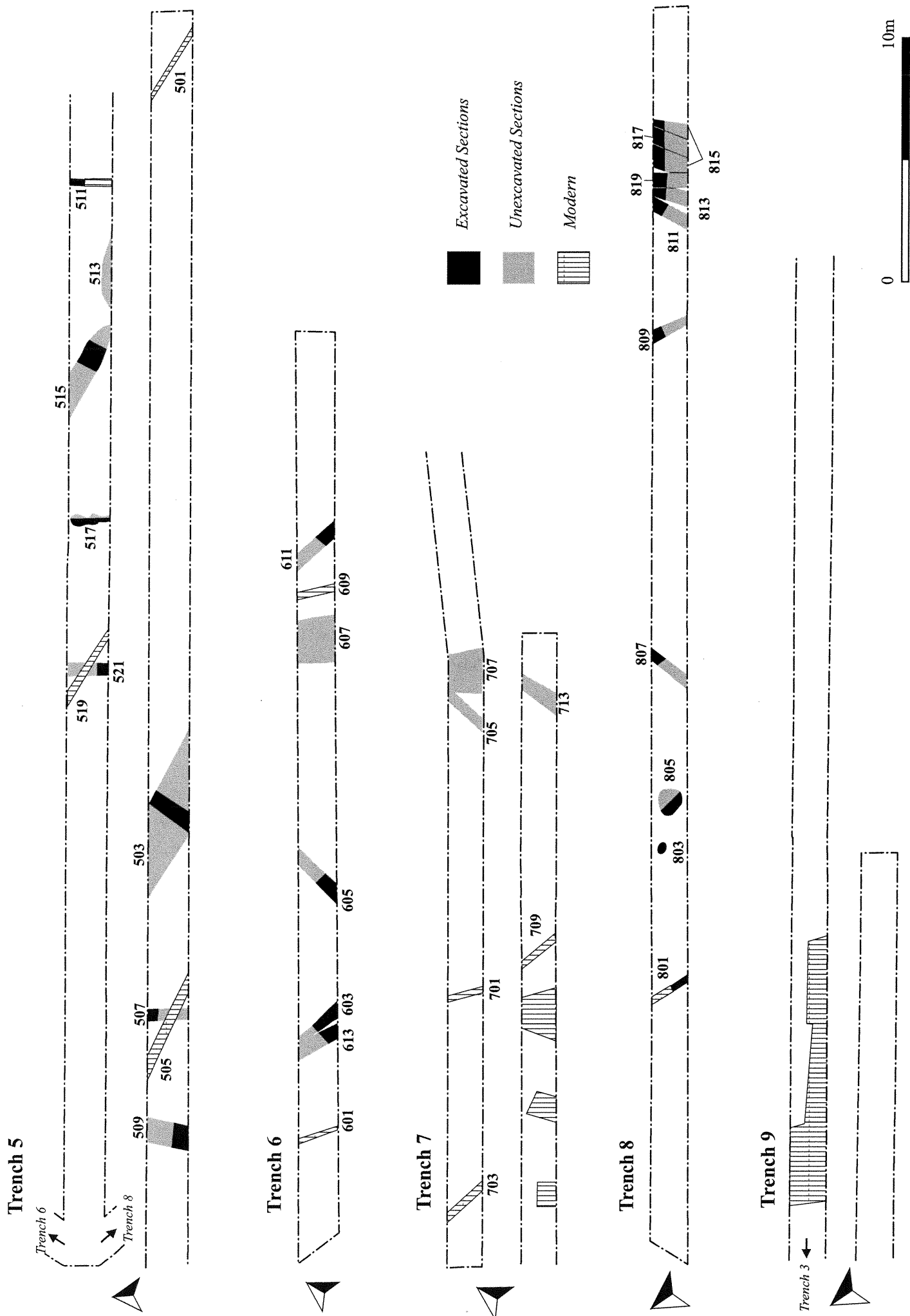


Figure 4 Plans of trenches 5, 6, 7, 8 and 9

503, 2.10m wide, linear ditch shape in plan, steep slightly concave sides, flat base, aligned north-west to south-east, contained one fill:

Fill 502, dark brown silty sand, occasional metal objects, occasional fine pebbles.

505, 0.40m wide, linear ditch shape in plan, aligned north-west to south-east, contained one visible fill:

Fill 504, very dark brown silty clay, occasional fine pebbles.

507, 0.50m wide, linear in plan, steep concave sides, flat base, aligned north-south, contained one fill:

Fill 506, greyish brown silty clay, occasional medium rounded pebbles.

509, 0.90m wide, 0.45m deep, linear ditch shape in plan, steep concave sides, concave base, aligned north-east to south-west.

Fill 508, mid grey with orange mottling, clay.

511, 0.35m wide, 0.13m deep, linear ditch shape in plan, steep flat sides, slightly V-shaped base, aligned north-east to south-west.

Fill 510, greyish dark brown fine sand.

513, 3.00m long, 0.45m wide, semi-circle shape in plan, contained one visible fill:

Fill 512, mid grey silty clay.

515, 0.78m wide, 0.18m deep, linear ditch shape in plan, concave sides, concave base, aligned northwest to south-east, contained one fill:

Fill 514, dark grey clay, occasional angular pebbles.

517, 1.38m long, 0.50m wide, 0.10m deep, irregular pit shape in plan, concave slightly sloping sides, contained one fill:

Fill 516, light grey fine sand.

519, 0.30m wide, linear ditch shape in plan, contained one visible fill:

Fill 518, very dark brown silty sand, occasional fine pebbles.

521, 0.60m wide, 0.08m deep, linear ditch shape in plan, gradually sloping concave sides, slightly concave base, contained one visible fill:

Fill 520, greyish mid brown silty sand.

5.7 Trench 6

Trench 6 was 50m long 1.70m wide and 0.41m to 0.94m deep, and aligned north-east to south-west (Fig.2). Trench 6 contained seven features.

One large ditch (1.50m> wide) **607**, was recorded this shared a north-west to south-east alignment with **213** (Trench 2), **322** (Trench 3) and **503** (Trench 5). Ditch 607 contained one fill, sampling of which recovered pieces of modern glass and metal.

Four other ditches were recorded in this trench, **613**, **603**, **605** and **611**. Each of these contained one fill from which no artefactual material was recovered.

Two land drains were recorded in Trench 6 **601** and **609**. Each contained one fill and lengths of ceramic pipe.

601, 0.30m wide, linear ditch shape in plan, aligned north-west to south-east, contained one visible fill:

Fill 600, very dark brown silty sand.

603, linear ditch shape in plan, gradually sloping sides, flat base, aligned north-west to south-east, contained one fill:

Fill 602, mid grey fine sand.

605, linear ditch shape in plan, steep concave sides, concave base, aligned north-south, contained one fill:

Fill 604, dark grey silty sand.

607, 2.50m wide, linear ditch shape in plan, aligned north-west to south-east, contained one fill:

Fill 606, very dark brown sandy silt, moderate glass pieces.

609, 0.45m wide, linear ditch shape in plan, aligned north-west to south-east, contained one visible fill:

Fill 608, dark brown silty sand.

611, 0.65m wide, 0.19m deep, concave sides, concave base, aligned east-west, contained one fill:

Fill 610, dark grey silty sand, occasional fine pebbles.

613, 0.55m wide, 0.30m deep, near vertical sides, U-shaped base, aligned north-west to south-east, contained one fill:

Fill 612, mid grey fine sand.

5.8 Trench 7

Trench 7 was 71m long 1.70m wide and 0.67m deep, and aligned north-east to south-west (Fig 2). Trench 7 contained six features.

One large ditch (1.50m> wide) **707** was recorded in Trench 7. This contained one fill from which no artefactual material was recovered. As already mentioned in my discussion of Trench 2, this feature and ditches **244** and **347** form a north-west to south-east alignment across the site.

Two other ditches **705** and **713**, were recorded in this trench. Each feature contained one fill and no artefactual material. Both features shared a north-south alignment.

Three land drains were recorded in Trench 7 **701**, **703** and **709**. Each contained one fill and lengths of ceramic pipe.

Three modern concrete footings for the former factory building were recorded in this trench.

701, 0.40m wide, linear ditch shape in plan, aligned north-west to south-east, contained one visible fill:

Fill 700, blackish dark brown silty clay.

703, 0.45m wide, linear ditch shape in plan, aligned east-west, contained one visible fill:

Fill 702, dark brown with blue/grey mottling, silty clay.

705, 0.50m wide, linear ditch shape in plan, aligned north-south, contained one visible fill:

Fill 704, dark brown silty sand.

707, 2.25m wide, linear ditch shape in plan, aligned north-west to south-east, contained one visible fill:

Fill 706, dark brown silty sand, occasional fine pebbles.

709, linear ditch shape in plan, aligned east west, contained one visible fill:

Fill 708, dark brown silty sand.

713, linear ditch shape in plan, aligned north-south, contained one visible fill:

Fill 712, dark brown silty clay.

5.9 Trench 8

Trench 8 was 65m long 1.70m wide and 0.52m to 0.83m deep, and aligned north-west to south-east (Fig 2). Trench 8 contained ten features.

Pit **803** contained one fill 802, from which no artefactual material was recovered.

At the south-eastern end of Trench 8, a series of intercutting ditches were located **811**, **813**, **815**, **817** and **819**. Each ditch contained one fill from which no artefactual material was recovered. It is suggested that they represent the repeated re-cutting of a drainage/boundary ditch in this relatively low-lying part of the site.

Two isolated ditches were also recorded **807** and **809**, both of these contained one fill from which no artefactual material was recovered.

Tree bowl **805** contained one fill 804 from which no artefactual material was recovered. The extremely irregular base and sides of this feature (Fig 5) suggest it was a tree bowl.

One land drain was recorded in this Trench **801**. It contained one fill and lengths of ceramic pipe.

801, 0.30m wide, 0.06m deep, linear ditch shape in plan, steep concave sides, flat base, aligned north-south, contained one fill:

Fill 800, dark grey silty sand, occasional fine rounded chalk pebbles.

803, 0.60m long, 0.35m wide, oval shape in plan, contained one visible:

Fill 802, mid grey fine sand, occasional fine pebbles.

805, 1.25m long, 1.00m wide, 0.32m deep, oval shape in plan, near vertical sides in north, concave undercutting in south, irregular base, contained one fill:

Fill 804, dark grey silty clay.

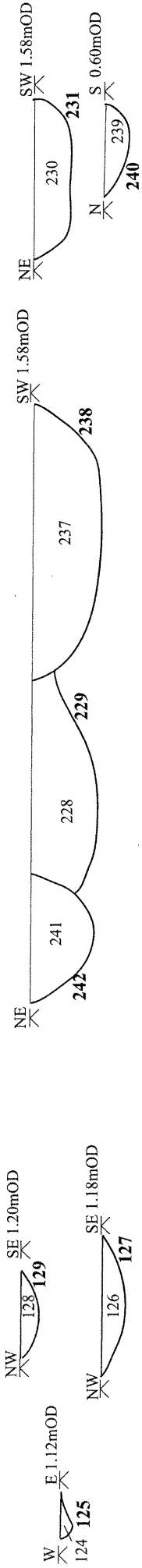
807, 0.55m wide, 0.28m deep, linear ditch shape in plan, steep flat sides, U-shaped base, aligned east-west, contained one fill:

Fill 806, dark grey clay, occasional sub-angular pebbles.

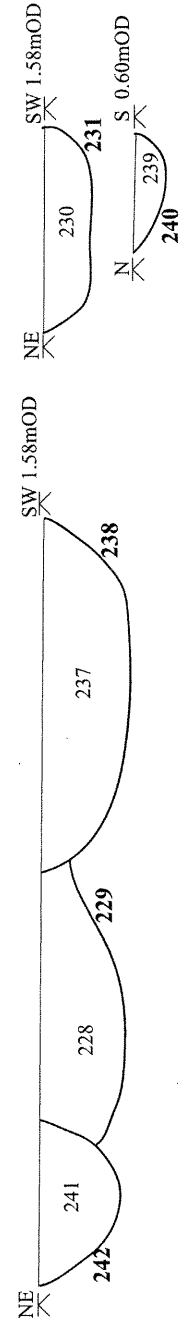
809, 0.47m wide, 0.20m deep, linear ditch shape in plan, steep flat sides, flat base, aligned north-south, contained one fill:

Fill 808, blackish dark grey silty sand.

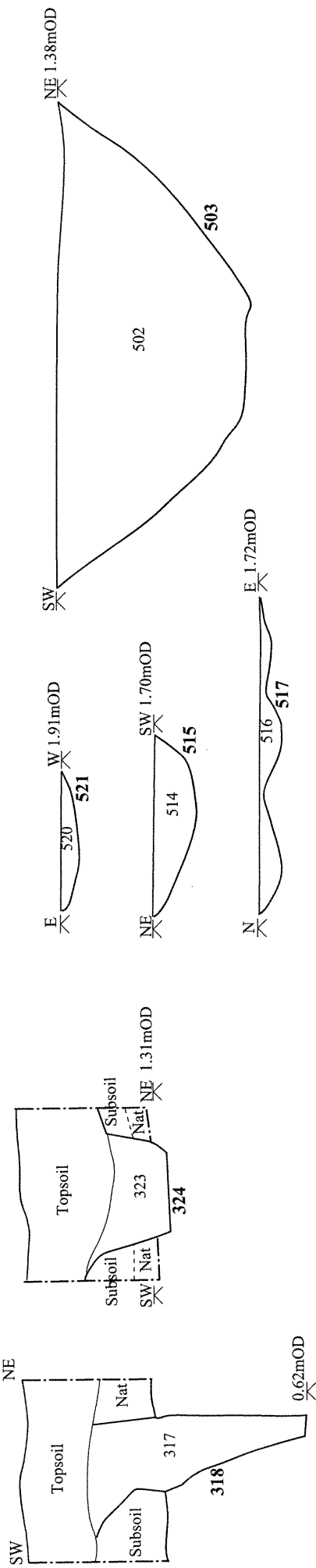
TR 1



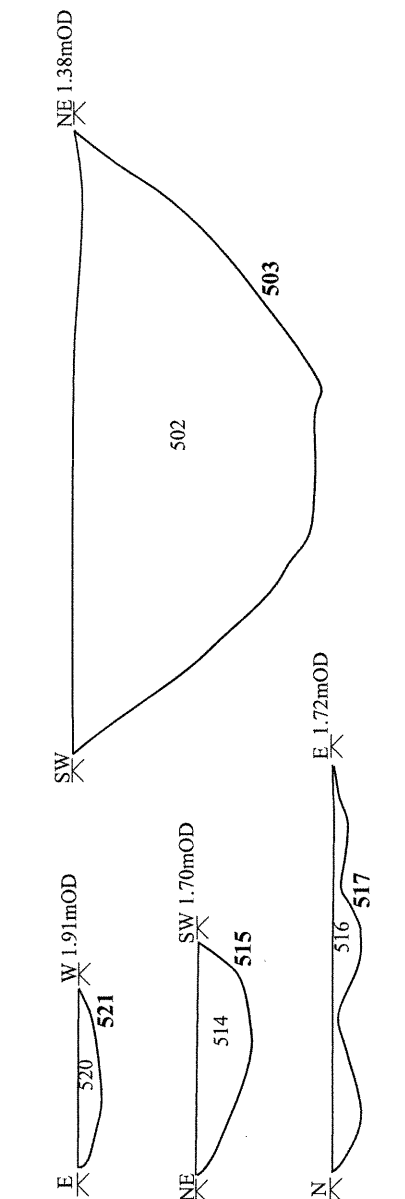
TR 2



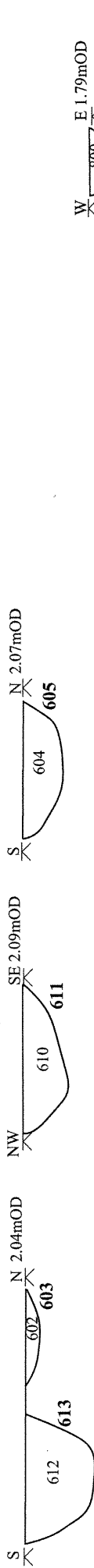
TR 3



TR 5



TR 6



TR 8

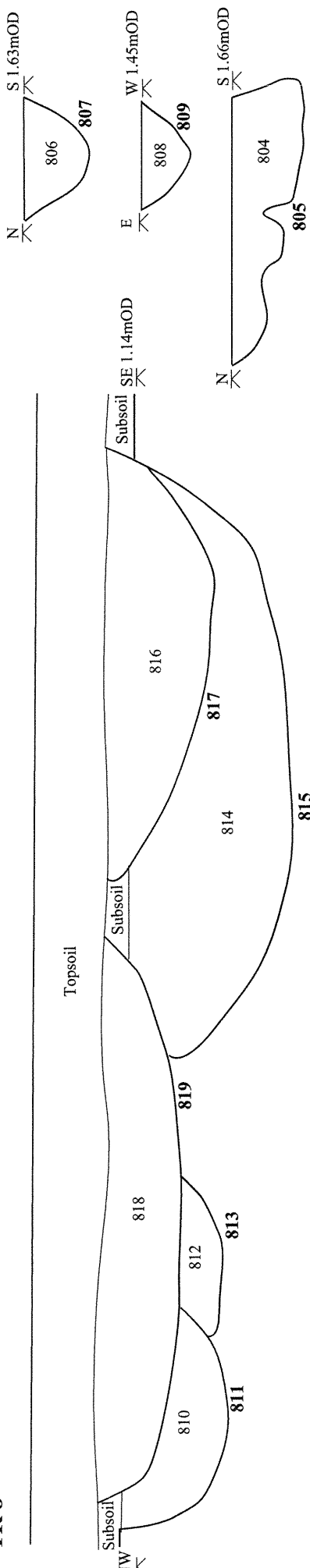


Figure 5 Selected Sections

811, 0.96m wide, 0.48m deep, linear ditch shape in plan, steep concave sides, concave base, aligned east-west, contained one fill:
Fill 810, dark grey clay.

813, 0.34m wide, 0.10m deep, linear ditch shape in plan, concave steep sides, concave base, aligned north-east to south-west, contained one fill:
Fill 812, dark grey clay.

815, 2.60m wide, 0.50m deep, linear ditch shape in plan, steep concave sides, slightly concave base, aligned north-east to south-west, contained one fill:
Fill 814, dark grey clay.

817, 1.88m wide, 0.50m deep, linear ditch shape in plan, concave sides, concave base, aligned north-east to south-west, contained one fill:
Fill 816, mid brown compacted clay, moderate lenses black peaty material.

819, 2.44m wide, 0.34m deep, linear ditch shape in plan, slightly concave sides, flat base, aligned north-east to south-west, contained one fill:
Fill 818, mid brown silty sand, frequent lenses yellow clay and sand.

5.10 Trench 9

Trench 9 was 75m long 1.70m wide and 0.48m deep, and aligned north-west to south-east (Fig 2). Trench 9 contained no features.

A c15m length of modern building footings were revealed in this trench.

6 DISCUSSION

Features on this site fall into five groups A) large (1.50m> wide) drainage/boundary ditches, B) drainage/boundary ditches (<1.50m), C) sub-circular pits, D) tree bowls and E) post-medieval land drains.

6.1 Group A) Large (1.50m> wide) drainage/boundary ditches:

Two significant north-west to south-east alignments of large ditches were recorded. Southern alignment – **607** (Trench 6), **503** (Trench 5), **322** (Trench 3) and **213** (Trench 2), northern alignment **707** (Trench 7), **347** (Trench 3) and **244**, (Trench 2) see Figs 2, 3 and 4. These run parallel to one another, and are interpreted as post medieval drains/boundary ditches, which were back filled at the time the factory was constructed (late twentieth century). Artefactual material was recovered to support the date of back filling (see Appendix 2). Also, the comparatively loose character of the fills in these ditches is typical of deliberately back filled deposits, the fine composition of such deposits, tends to be more mixed, where as naturally silted up deposits are generally of a firm homogenous character.

Four other large ditches were recorded on the site, these were all aligned broadly north-east to south-west direction. The likely function of these ditches

is also as drainage, again no artefactual material was recovered, which makes assigning a reliable date impossible. However, the character of the fills in these ditches was firm and homogenous, typical of naturally silted up deposits. This is in contrast to the two alignments discussed above and may suggest that these features were abandoned and silted up prior to the back filling of the two ditch alignments discussed above and the subsequent construction of the factory.

It is likely that these ditches are post medieval drainage features which went out of use after the introduction of more efficient systems (land drains), and became silted up.

6.2 Group B) Drainage/boundary ditches (<1.50m wide):

A further 29 ditches were recorded on the site (see table 1 below). None of these produced any artefactual material, they ranged from 0.40m to 0.70m wide, and were between 0.20m to 0.50m deep. The function of these ditches is unknown, however the most likely explanation is that they are connected with drainage in this low-lying, agriculturally rich land on the periphery of Littleport.

Trench No	Cut no's of ditches <1.50m width
1	103, 107, 109, 113, 127, 129
2	205, 217, 219, 221, 233
3	303, 320, 338,
4	403
5	509, 515, 521
6	603, 605, 611, 613
7	705, 713
8	807, 809, 811, 813, 815, 817, 819
9	None

6.3 Group C) Sub-circular pits:

A cluster of pits, 238, 229, 242, 231 and 240, were recorded in the northern end of Trench 2. The function of these is unknown, and they produced no artefactual material. The deposits within them had the appearance and character of naturally derived deposits, rather than deliberate back filling with rubbish or other material.

Other pits recorded on the site also had the appearance of deposits, which have resulted from natural silting up processes. Again no artefactual material was recovered therefore it is impossible to reliably date or assign a definite function to these features.

6.4 Group D) Tree bowls:

Four tree bowls were identified on the site 301, 405, 805 and 517. This interpretation was assigned due to the extremely irregular nature of the features and by comparison to similar features encountered by the author.

6.5 Group E) Post medieval land drains:

A total of 24 land drains were identified crossing the site, it is very likely that several of these were encountered more than once due to the positioning of the evaluation trenches.

7 CONCLUSION

Very little dating evidence was retrieved from any of these features, more can be said of the likely function of ditches in such a low-lying agricultural area than their date.

The large ditches are presumed to be drainage and boundary features associated with post-medieval field systems on the outskirts of Littleport. Drains made the peaty soils on the edge of the fens dry enough to be productive. The possibility that they are earlier in date cannot be ruled out although the complete lack of any artefactual evidence makes it impossible to prove this.

ACKNOWLEDGEMENTS

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The project was carried out in response to a brief written by Jeremy Parsons from the County Archaeology Office (Development Control), who visited and monitored the site.

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Maps consulted

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Appendix 1 - Context List

Trench No	Context No	Fill of	Filled by	Context type
1/2/3/4/5/6/ 7/8/9	1	-	-	Topsoil layer
1/2/3/4/5/6/ 7/8/9	2	-	-	Subsoil layer
1/2/3/4/5/6/ 7/8/9	3	-	-	Modern demolition layer
1/2/3/4/5/6/ 7/8/9	4	-	-	Natural geology
1	100	101		Pit fill
1	101		100	Pit cut
1	102	103		Ditch fill
1	103		102	Ditch cut
1	104	105		Pit fill
1	105		104	Pit cut
1	106	107		Ditch fill
1	107		106	Ditch cut
1	108	109		Ditch fill
1	109		108	Ditch cut
1	110	111		Pit fill
1	111		110	Pit cut
1	112	113		Ditch fill
1	113		112	Ditch cut
1	114	115		Post hole fill
1	115		114	Post hole cut
1	116	117		Post hole fill
1	117		116	Post hole cut
1	118	119		Post hole fill
1	119		118	Post hole cut
1	120	121		Pit fill
1	121		120	Pit cut
1	122	123		Pit fill
1	123		122	Pit cut
1	124	125		Post hole fill
1	125		124	Post hole cut
1	126	127		Ditch terminal fill
1	127		126	Ditch terminal cut
1	128	129		Ditch fill
1	129		128	Ditch cut
2	200	201		Land drain fill
2	201		200	Land drain cut
2	204	205		Ditch fill
2	205		204	Ditch cut
2	206	207		Land drain fill
2	207		206	Land drain cut
2	210	211		Land drain fill
2	211		210	Land drain cut
2	212	213		Ditch fill
2	213		212	Ditch cut
2	214	215		Ditch fill
2	215		214	Ditch cut
2	216	217		Ditch fill
2	217		216	Ditch cut

2	218	219		Ditch fill
2	219		218	Ditch cut
2	220	221		Land drain fill
2	221		220	Land drain cut
2	222	223		Land drain fill
2	223		222	Land drain cut
2	224	225		Land drain fill
2	225		224	Land drain cut
2	226	227		Ditch fill
2	227		226	Ditch cut
2	228	229		Pit fill
2	229		228	Pit cut
2	230	231		Pit fill
2	231		230	Pit cut
2	232	233		Ditch fill
2	233		232	Ditch cut
2	236	227		Ditch fill
2	237	238		Pit fill
2	238		237	Pit cut
2	239	240		Post hole fill
2	240		239	Post hole cut
2	241	242		Pit fill
2	242		241	Pit cut
2	243	244		Ditch fill
2	244		243	Ditch cut
3	300	301		Tree bowl fill
3	301		300	Tree bowl cut
3	302	303		Ditch fill
3	303		302	Ditch cut
3	304	305		Land drain fill
3	305		304	Land drain cut
3	312	313		Pit fill
3	313		312	Pit cut
3	314	316		Ditch fill
3	315	316		Ditch fill
3	316		314, 345, 315	Ditch cut
3	317	318		Land drain fill
3	318		317	Land drain cut
3	319	320		Ditch fill
3	320		319	Ditch cut
3	321	322		Ditch fill
3	322		321	Ditch cut
3	323	324		Land drain fill
3	324		323	Land drain cut
3	325	326		Land drain fill
3	326		325	Land drain cut
3	327	328		Land drain fill
3	328		327	Land drain cut
3	329	330		Ditch fill
3	330		329	Ditch cut
3	333	334		Pit fill
3	334		333	Pit cut
3	335	336		Pit fill
3	336		335	Pit cut
3	337	338		Ditch terminal fill
3	338		337	Ditch terminal cut
3	339	340		Pit fill

3	340		339	Pit cut
3	341	342		Post hole fill
3	342		341	Post hole cut
3	343	344		Ditch fill
3	344		343	Ditch cut
3	345	316		Ditch fill
3	346	347		Ditch fill
3	347		346	Ditch cut
4	400	401		Ditch fill
4	401		400	Ditch cut
4	402	403		Ditch fill
4	403		402	Ditch cut
4	404	405		Irregular pit fill
4	405		404	Irregular pit cut
5	500	501		Land drain fill
5	501		500	Land drain cut
5	502	503		Ditch fill
5	503		502	Ditch cut
5	504	505		Land drain fill
5	505		504	Land drain cut
5	506	507		Ditch fill
5	507		506	Ditch cut
5	508	509		Ditch fill
5	509		508	Ditch cut
5	510	511		Land drain fill
5	511		510	Land drain cut
5	512	513		Pit fill
5	513		512	Pit cut
5	514	515		Ditch fill
5	515		514	Ditch cut
5	516	517		Tree bowl fill
5	517		516	Tree bowl cut
5	518	519		Land drain fill
5	519		518	Land drain cut
5	520	521		Ditch fill
5	521		520	Ditch cut
6	600	601		Land drain fill
6	601		600	Land drain cut
6	602	603		Ditch fill
6	603		602	Ditch cut
6	604	605		Ditch fill
6	605		604	Ditch cut
6	606	607		Ditch fill
6	607		606	Ditch cut
6	608	609		Land drain fill
6	609		608	Land drain cut
6	610	611		Ditch fill
6	611		610	Ditch cut
6	612	613		Ditch fill
6	613		612	Ditch cut
7	700	701		Land drain fill
7	701		700	Land drain cut
7	702	703		Land drain fill
7	703		702	Land drain cut

7	704	705		Ditch fill
7	705		704	Ditch cut
7	706	707		Ditch fill
7	707		706	Ditch cut
7	708	709		Land drain fill
7	709		708	Land drain cut
7	712	713		Ditch fill
7	713		712	Ditch cut
8	800	801		Land drain fill
8	801		800	Land drain cut
8	802	803		Post hole fill
8	803		802	Post hole cut
8	804	805		Pit fill
8	805		804	Pit cut
8	806	807		Ditch fill
8	807		806	Ditch cut
8	808	809		Ditch fill
8	809		808	Ditch cut
8	810	811		Ditch fill
8	811		810	Ditch cut
8	812	813		Ditch fill
8	813		812	Ditch cut
8	814	815		Ditch fill
8	815		814	Ditch cut
8	816	817		Ditch fill
8	817		816	Ditch cut
8	818	819		Ditch fill
8	819		818	Ditch cut

Appendix 2 - Finds List

Context	Finds category	Date/description	Quantity
502	Glass	Twentieth century	2 pieces
502	Pottery	Twentieth century	3 sherds

Appendix 3 - Environmental Samples- Rachel Fosberry

One bulk sample was processed for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. Ten litres of the sample was processed by bucket flotation, the flot was collected in a 0.5mm mesh and the residue was retained in a 1.0 mm mesh.

The dried flots were rapidly scanned under a binocular microscope at low power (x 14) and the residue was scanned by eye.

The sample contained two species of charred seeds; *Chenopodium sp.* and *Rumex sp.*, both common weed seeds. Preservation was by charring and was particularly good. There were at least five different species of modern weed seeds contaminating the sample.

The low density of charred plant macrofossils in this assemblage precludes the identification of any specific activity that may be associated with the feature. It is not considered that further analysis would add to this interpretation and further work is not recommended.



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