

Post-medieval pasture field system at Pates Farm, near Tipps End, Welney, Norfolk



Archaeological Evaluation Report



November 2008

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Post-medieval pasture field system at Pates Farm, Tipps End, Welney, Norfolk

Archaeological Evaluation


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Table 1: Trenches

Summary

The evaluation found the remains of part of a post-medieval pasture field system probably dating to the 17th or 18th century and was likely to have been a pre-enclosure field system. Within the development area, there were two north to south ditches from this system, about 100m apart, and one of these was dated by artefacts to at least the 17th or 18th century. There was evidence of stake holes along the base of both ditch lines showing that the fields were enclosed. It is likely that these fences were for cattle farming for grazing in the dryer summer months. There were a few other undated ephemeral features within the evaluation area but it is likely most of these were of natural origin. The present field boundaries of the development area cut this former field system. The new boundaries were probably established as part of the 18th century enclosing of the fens. The area was also affected by the various Parliamentary Acts to drain and improve the area in the 18th and 19th centuries. This process meant that arable farming took over as the main farming use in fen lands.

1 INTRODUCTION

1.1 Location and scope of work

- 1.1.1 An archaeological evaluation was conducted at Pates Farm near Tipps End, Welney, Norfolk (TL 5050 9510; Fig. 1) before construction of a proposed reservoir in this location. The work on the reservoir was part of a larger project to construct a sewer pipe, associated pumping stations and reservoir over c.4.95km from the village of Christchurch, Cambridgeshire to Welney, Norfolk (TL 4900 9700 – 5300 9400). This report deals only with the area of the reservoir, a later report will deal with remaining archaeological work on the pumping stations and along the pipe route.
- 1.1.2 The archaeological evaluation on the proposed reservoir was undertaken in accordance with a Brief issued on 15th July 2008 (Gore 2008) of Cambridgeshire County Council (CCC), supplemented by a Specification prepared by Rob Atkins (Atkins 2008) of Oxford Archaeology (OA) East (formerly Cambridgeshire County Council's CAM ARC).
- 1.1.3 The Brief required that there would be a suitable level of documentary research, including consultation with CHER (Cambridge Historic Environmental Record) and NHER (Norfolk Historic Environmental Record), to set the results in their geographical, topographical, archaeological and historical context (Gore 2008). The likely archaeological potential of the site would then be assessed with regard to current regional and national research issues and preservation criteria. The area of the reservoir was 6.25 acres (2.53ha) and the brief required that 5% of the site be subjected to trial trenching.
- 1.1.4 A specification for the site was written on the 18th August 2008 (Atkins 2008). This specification was written after suitable documentary research had been undertaken. Both the CHER and NHER have supplied records within the route of the pipeline with a buffer of 0.50km around it. A visit to the NHER took place and the air photographic collection was analysed. As a result, a request for ten photographs to be scanned and put on disk was made to the NHER office. A further two photos will be requested from the CUP (Cambridge University Photographic Collection) if features are encountered during test pitting. Two large OS (Ordnance Survey) photographs were too large to scan and these were photocopied. Secondary records were analysed and photocopied where appropriate.
- 1.1.5 The evaluation trenching took place after the removal of an onion crop.
- 1.1.6 The work was designed to assist in defining the character and extent of any archaeological remains within the proposed redevelopment area, in accordance with the guidelines set out in *Planning and Policy Guidance 16 - Archaeology and Planning* (Department of the Environment 1990). The results will enable decisions to be made by CCC, on behalf of the Local Planning Authority, with regard to the treatment of any archaeological remains found.
- 1.1.7 The site archive is currently held by OA East and will be deposited with Norfolk County Council in due course.

1.2 Geology and topography

- 1.2.1 The underlying geology is Ampthill Clay, overlain by Terrington Beds: Marine Alluvium, salt marsh deposits (British Geological Society (BGS) 1980 map sheet 173). The Old Croft River lies 400m to the east of the site.
- 1.2.2 The proposed reservoir was on relatively flat land at about 2.5m OD.

1.3 Archaeological and historical background

Cropmarks

- 1.3.1 The proposed reservoir was within Pates Farm 0.5km to the north-west of Tipps end. The Cambridgeshire HER have recorded features from air photographs 100m to the north (CHER 10635). The Norfolk HER have recorded the area to be within an area of cropmarks (NHER 2477)
- 1.3.2 The Cambridgeshire HER reference (10635) was derived from a note from Rog Palmer dated 4th October 1989. The record was referenced to TL 499 956 with field system and ditch recorded as the cropmarks. Rog Palmer wrote, "Part of a regular (brickwork) field system, all straight ditched which continues into Norfolk where not mapped". The ditches can clearly be seen in air photograph (Fig. 3). These ditches run into the development area of the reservoir and were sampled in this evaluation (see below). The air photographs show a north to south and east to west ditches within the field system with the ditches up to 100m apart and they do not run quite parallel to each other. Some of the north to south ditches can be seen to run more than 300m and are cut by the present day field boundaries of the development area.
- 1.3.3 The Norfolk HER have recorded NHER 2477 to an area about 1km by 0.6km and defined them as, "cropmarks of possible ring ditches and Roman field system". The possible Ring ditches are recorded at TL5038 9521, c.300m to the south-east of the reservoir. The other cropmarks, between c.100m and c.400m to the south of the proposed works, show a large regular planned Roman settlement on a north to south gridded axis. These cropmarks are especially dense here. Roman finds were found on the surface within this settlement c.400m to the south of the development area at TL 5045 9510 and consisted of a small scatter of 2nd to 4th century grey ware, coarse red gritted ware and briquetage (OS inspector: OS records). These cropmarks stop c.100m from the development area. The north to south and east to west ditches can be seen within the development area and to the north into Cambridgeshire can not be seen joining up with the Roman settlement remains and they run at a slightly different alignment to the settlement remains. The large Ordnance Survey photograph dated 1976 (OS 76-126-296 and 297) seemed to show a possible large sub oval double ditched enclosure in the area of the proposed reservoir which is cut by the field system. Within this possible enclosure there seems to be round anomalies which are possible ring ditches. The evaluation proved these cropmarks were not real archaeological features (see below).

History

- 1.3.4 The northern boundaries of the reservoir site is on the Cambridgeshire boundary of Upwell Parish and the development area is within the silt lands of the Wisbech region. This is important as geographically and geologically the Flandrian deposits in this area are mostly marine and as such were unable to support human habitation until the Roman period and later, when some of them emerged from the sea (Hall 1996, 189).

This means the site was very marginal from the Roman period to modern days and it is not surprising that many of the Roman settlements in this area were founded probably to use this marginal land affected by tidal brackish water for salt making. Briquetage found a few hundred metres away from the reservoir site (see above) was almost certainly part of this salt making industry. Although the Romans and the later medieval inhabitants did drain some of the land, it was only in the post-medieval period that the draining became more efficient.

- 1.3.5 The northern site boundaries were in the Wisbech hundred and the VCH lists it under Outwell and Upwell (Pugh 1967, 206-219). Outwell and Upwell had four parishes with Christchurch the southern hamlet of Upwell. In the early 17th century Outwell and Upwell had several large drains cut through the area to drain it (Pugh 1967, 206). The reservoir development area is in the middle of two large drains - the Middle Level Drain c.3km to the north-west and the New Bedford River cut directly through to the south of Welney in 1651, c. 3km to the south-east. The development area is c.400m to the west of the Old Croft River and it is uncertain how much these drains would have benefited the reservoir area. Fenland enclosures took place in this area in the 18th century which would have divided up the land. Outwell, Upwell and Welney were also amongst other neighbouring areas listed in several Parliamentary Fenland Drainage Acts of the 18th and 19th centuries (1747, 1748 (amended 1772) and 1801 (amended 1872)). These acts all emphasise draining and improving the land showing that there was constant need to drain this area better.
- 1.3.6 In the pre-enclosure period, cattle was often grazed during summer on marginal land, fattened up and slaughtered in autumn and the land left fallow during winter. Marginal land only became fit for arable in the 18th century onwards with steam engines used to drain land and later for steam ploughing. Land plots became relatively small and were surrounded by deep drainage ditches. Due to this activity and the various Parliament Acts for drainage land improvement it caused arable farming to be the predominant farming land use in the fenland area.
- 1.3.7 The present field boundaries has not changed for at least 120 years. The 1889 1st Edition Ordnance Survey Map (1: 10 560) shows the same boundaries as today. These field boundaries cut the north to south ditches shown on the cropmarks (Fig 3). The surrounding fields in the 1st Ordnance Survey map are all relatively small with deep drainage ditches around them.

1.4 Acknowledgements

- 1.4.1 The author would like to thank Anglian Water who commissioned and funded the archaeological work especially Stephen Burrows who organised the scheme. Dick Prescott of Savills liaised with the landowners. Ken Goodger of Pates Farm kindly allowed access to his yard and was exceptionally accommodating throughout the project. Alice Cattermole of Norfolk HER was extremely helpful and patient. The project was managed by James Drummond-Murray and this report was also edited by him. The brief for archaeological works was written by Eliza Gore (Gore 2008) of Cambridgeshire County Council in liaison with Ken Hamilton of Norfolk County Council and the specification by Rob Atkins (Atkins 2008) of Oxford East.
- 1.4.2 I am grateful for specialist analysis from Nina Crummy, Carole Fletcher and Rachel Fosberry. Helen Fowler supervised the post-excavation of the artefacts. Gareth Rees surveyed in the trenches. Rob Atkins directed the evaluation with Louis Budworth, Hazel Butler, Ben Davenport, Anna Finesilver, Stuart Randall and Chris Thatcher assisting. Séverine Bézie produced the illustrations.

2 AIMS AND METHODOLOGY

2.1 Aims

- 2.1.1 The objective of this evaluation was to determine as far as reasonably possible the presence/absence, location, nature, extent, date, quality, condition and significance of any surviving archaeological deposits within the development area.
- 2.1.2 In the event that archaeological remains are present the evaluation will seek to consider appropriate methodologies and suitable resourcing levels for excavation.

2.2 Methodology

- 2.2.1 The plan for the evaluation trenching took into account the air photographic evidence of possible sub oval enclosure and ditches from the field system. In the event 675m of trenches, a c.5% sample of the proposed development was excavated with 10 trenches excavated between 50m and 125m in length (Figs. 1 and 2). A 360° excavator machine with a 2.2m wide toothless ditching bucket was used under archaeological supervision.
- 2.2.2 The site survey was carried out by Gareth Rees using a Leica G.P.S. 1200.
- 2.2.3 All archaeological features and deposits were recorded using OA East's *pro-forma* sheets. Trench locations, plans and sections were recorded at appropriate scales and colour, digital and monochrome photographs were taken of all relevant features and deposits. Two environmental samples were taken from ditch deposits. Work took place under generally good weather conditions.

3 RESULTS

3.1 Introduction

- 3.1.1 Few features were found within the evaluation. These comprised two ditches which were seen in four and three of the trenches respectively. The other features were only found within a single trench. It was thought appropriate to not only describe features by trench but also cross reference in a table (Table 1). Three of the ten trenches (Nos. 6, 7 and 10) were totally barren.
- 3.1.2 All the contexts have been also recorded in Appendix 1 as a large table.
- 3.1.3 One metre wide slots were in the first instance excavated through the features but the lack of artefacts recovered in these slots meant that features were often totally excavated in the hope for dating evidence.
- 3.1.4 The topsoil was given one number (1) for the whole area although the two artefacts found in the topsoil were also given a trench number. The topsoil was between 0.33m and 0.42m deep and comprised a mid brown fine silt sand with very occasional small sub-rounded stone inclusions. There was no subsoil within the trenches and all features cut the natural and then were sealed by the topsoil.

| Tr. | Dimensions | Features | Equivalent | Artefacts in features |
|-----|--------------|---|---|--------------------------------------|
| 1 | 125m by 2.2m | Furrow? (3), tree hole (5), ditch (8) and ditch and stake holes (17/18) | Ditch (17/18) = Tr. 2 (27), Tr. 3 (12) and Tr. 4 (22) | None |
| 2 | 50m by 2.2m | Ditch (27) | Ditch (27) = Tr.1 (17/18), Tr. 3 (12) and Tr. 4 (22) | None |
| 3 | 50m by 2.2m | Ditch (12) and ditch (14) | Ditch (12) = Tr.1 (17/18), Tr. 2 (27) and Tr. 4 (22) | None |
| 4 | 50m by 2.2m | Ditch (22) and ditch (38)/(40) | Ditch (22) = Tr. 1 (17/18), Tr. 2 (27) and Tr. 3 (12) | None |
| 5 | 100m by 2.2m | Ditch (30) hollow (32) and ditch (43) | Ditch (43) = Tr. 8 (34) and Tr. 9 (46) | Brick and metal object from ditch 43 |
| 6 | 50m by 2.2m | No features | - | None |
| 7 | 50m by 2.2m | No features | - | None |
| 8 | 50m by 2.2m | Ditch (34) | Ditch (34) = Tr. 5 (43) and Tr. 9 (46) | Bone fragment |
| 9 | 100m x 2.2m | Ditch (46) and ditch (48) | Ditch (46) = Tr. 5 (43) and Trench 8 (34) | |
| 10 | 50m by 2.2m | No features | - | None |

Table 1 : Trenches

3.2 Trench 1 (Fig. 4)

- 3.2.1 Trench 1 was 125m long, ran north-west to south-east. The trench was situated to examine a complete section across the possible sub-oval enclosure recorded in the air photograph. The trench contained up to four undated features, three of which were in

the southern 22m of the trench while the fourth was in the extreme north-western part of the trench.

- 3.2.2 A shallow possible furrow (3) was seen nine metres from the southern end of the trench. It ran north-east to south-west, was 1.15m wide and between 0.05m and 0.18m deep (Fig. 4, S. 1). It was filled with a dark brown peat, moderately well compacted. Running parallel to feature (3) and 6m to the north-east was ditch (8) (Fig. 4, S. 5). It was 2.43m wide with gentle sides and was 0.34m deep. The primary deposit (7), 0.18m thick, comprised an orangey grey clay silt. This was overlain by a dark brown peat (6).
- 3.2.3 Directly to the north-west of ditch (8) was a possible tree hole (5) which was partly within the trench. This tree hole was seemingly sub-oval in shape, more than 1.02m long, 1.1m wide and 0.18m deep (Fig. 4, S. 4). The lower backfill deposit (4) comprised a 0.1m deep very dark brown peat with a little clay. This was sealed by a mixed backfill deposit (20) which consisted of a light grey brown silt with a little clay. There were also some orange flecks and peat flecks.
- 3.2.4 At the far north-western part of the trench there was a ditch (17) which ran roughly north to south. The ditch was up to 0.7m wide and 0.18m deep with moderate edges (Fig. 1, S.6). There was evidence of a linear stake hole palisade (18) within the centre of the northern metre of the ditch but these faded away going southwards. It is likely that the ditch was cut and then the stakes inserted down its centre. There were five stake holes placed between 0.15m and 0.25m apart. The stakes were sub-rounded, 0.14m to 0.20m in diameter, and up to 0.15m deep. They had vertical edges and a flattish base.
- 3.2.5 A thin deposit (15) butted up to the stake holes and this was light to medium bluish grey peaty silt up to 0.04m thick. After disuse it is uncertain whether the stakes were then removed and deposit 16 backfilled the whole ditch including the stake holes or whether the stakes were left *in situ* and rotted away and then a separate fill sealed all. If this was the case the two deposits were too similar to differentiate. Deposit 16 was a very dark brownish black silty peat.

3.3 Trench 2 (Fig. 5)

- 3.3.1 Trench 2 was 50m long and aligned to look at the possible enclosure as well as a north to south ditch seen in Trenches 1, 3 and 4 (Table 1). This ditch was uncovered in the trench (27) within the trench. It measured 1.25m wide and 0.35m deep with moderate edges but no stake holes (Fig. 5, S. 7). There was a little primary silting on both sides (25 and 26) of the ditch. These layers were up to 0.05m thick and consisted of a light orangey grey clayey silt with occasional orange flecks. Sealing both these deposits was deposit 24, a very dark brown peat. Cutting the top of this deposit along its centre was a naturally arisen small possible drainage channel (23), 0.45m wide and 0.08m deep comprising of a loose mid greyish brown sandy silt.

3.4 Trench 3 (Fig. 6)

- 3.4.1 Trench 3 was 50m long and aligned to look at the possible enclosure as well as a north to south ditch. There were two undated ditches (12 and 14) in the trench with the former ditch (12) almost certainly corresponded with the ditch seen on the cropmarks but seems to have been drawn slightly wrongly on the plans (Fig. 3). Ditch (12) was on the eastern side of the trench while the second ditch (14) on the western side of the trench. Ditch 12 was 1.3m wide and 0.4m deep (Fig. 6, S. 3). It had moderate sides and had been uncovered in Trenches 1, 2 and 4. It was filled with the same deposits as in

Trench 2 (27) including the 'drainage channel' cutting the top fill. Ditch **14** ran north-west to south-east, it was 0.75m wide and 0.15m deep (Fig. 6, S. 2). A single backfilled deposit comprised a very dark brown to black 'crumbly' peat.

3.5 Trench 4 (Fig. 7)

3.5.1 Trench 3 was 50m long and aligned to look at the possible enclosure as well as a north to south ditch. There were two undated ditches found within the trench (**22** and **38/40**). The north to south ditch (**22**) seen in the air photograph was uncovered in the middle of the trench (Fig. 3) and a second ditch (**38/40**) was found in the western part. Ditch **22** was 0.75m wide and 0.22m deep, was filled with a very dark brown to black peat (Fig. 7, S. 8). A soil sample taken from this deposit proved barren. Ditch **38/40** meandered in a roughly east to west direction. It is possible this wasn't a ditch and was a natural infilling of a hollow. The feature was between 1.1m and 1.64m wide and 0.06m to 0.12m deep and filled with a mid to dark brown peat (Fig. 7, S. 11).

3.6 Trench 5 (Fig. 8)

3.6.1 Trench 5 was 100m long and ran parallel to the southern boundary of the site at the western side of the field. There was a north to south ditch seen in the air photographs and this was uncovered near the western end of the trench (**43**). In all three possible features were found, a hollow (**32**), a possible ditch (**30**) and ditch (**43**) with only the latter having any dating evidence. Hollow (**32**) was more than 3.2m+ long and 2.1m+ wide and 0.08m deep. It is probably not a feature, it had an uneven base and was probably a shallow natural hollow filled with a dark black brown silty sand. Directly to the west of the hollow was a possible north to south ditch (**30**) which butt-ended on its northern side within the trench. The ditch was 0.90m wide and 0.30m deep with moderate sides and a concave base (Fig. 8, S. 5). The primary fill was a dark black brown clay silt and this was sealed by a mid orange brown silty sand. North to south ditch (**43**) was 1.10m wide, 0.42m deep and filled with a very dark brown/black silty peat (Fig. 8, S. 12). There was post-medieval brick fragments and a post-medieval iron object within this deposit. Across the trench there were minor east to west plough marks. These were almost certainly modern in origin.

3.7 Trenches 6 and 7

3.7.1 Trenches 6 and 7 were both 50m long and were placed in the middle of the evaluation. No features were encountered in either trench.

3.8 Trench 8 (Fig. 9)

3.8.1 Trench 8 was 50m long, aligned roughly north to south in the western half of the evaluation area. Cropmark evidence showed a north to south ditch running through the centre of the trench. This ditch (**34**) was 0.90m wide and 0.30m deep with moderate sides and a slightly rounded base (Fig. 9, S. 10). Running along the centre of the base in the southern half of this ditch there were eight stake holes (**41**). They seem to have been dug after the ditch had been cut but before it silts up. It is uncertain if this process was almost simultaneous or there was a time gap. The stake holes were better defined near the southern baulk, they fade northwards and were not seen in the northern half of the ditch side. The stake holes were 0.06m to 0.09m in diameter and 0.03m to 0.08m deep. The stake holes were filled with a peaty deposit whereas the primary fill of the ditch, silted on the eastern side and comprised a yellow grey silty sand 0.05m thick. This layer was sealed by a very dark brown peaty silty sand. A tiny bone fragment was

the only artefact found from the ditch. A soil sample was taken of this deposit but it proved barren.

3.9 Trench 9 (Fig. 10)

3.9.1 Trench 9 was 100m in length and aligned parallel to the northern boundary of the site on its western side. There were two ditches found with the trench (**46** and **48**). Ditch **46** was a cropmark seen on the air photograph and had been excavated within Trenches 5 and 8. Ditch **46** was very similar to ditch **34** from Trench 8, although it was far wider (at 1.57m) though had a similar depth at 0.32m and there were stake holes down the centre of the ditch (Fig. 10, S. 13). These stake holes were c.0.06m in diameter and more than 0.10m deep. There was evidence of natural silting in the base of the ditches abutting up to the stake hole fence line. This silting was between 0.05m and 0.10m thick and comprised a light to medium bluish grey peaty silt. This deposit was sealed by a very dark brownish black silty peat within both the stake holes and the remainder of the ditch. A single piece of fired clay/brick was recovered from this fill.

3.9.2 To the west of Ditch **46** there was an undated shallow ditch (**48**) which ran roughly north-east to south-west. It was 0.27m wide and 0.08m deep with gentle sides and filled with a dark grey brown peat.

3.10 Trench 10

3.10.1 Trench 10 was 50m long and aligned parallel to the western side of the excavation area. No features were found within the trench.

3.11 Finds Summary

3.11.1 The evaluation produced a dearth of artefacts with only a post-medieval iron object and two probable post-medieval brick fragments found within ditch features. The topsoil was also very sterile with only a clay pipe and a glass fragment recovered.

3.12 Environmental Summary

3.12.1 A single bone fragment (unidentifiable) was recovered from one ditch section. The two bulk samples taken produced no ecofacts.

4 DISCUSSION AND CONCLUSIONS

4.1 Overview

- 4.1.1 The evaluation found the remains of a post-medieval pasture field system dating possibly dating to the 18th century or earlier and were probably a pre-enclosure field system. The air photographs show a north to south and east to west ditches within the field system with the field system more than 300m and c.200m wide and are cut by the present day field boundaries of the development area. These ditches have been recorded by Rog Palmer as a regular (brickwork) field system running from the north of the site (Cambridgeshire) to the south including into the development area (Norfolk). The Cambridgeshire CHER has given this field system the number 10635.
- 4.1.2 The evaluation found two of these north to south ditches about 100m apart within the development area and one of these were dated by artefacts to at least the 17th or 18th century. There is evidence of stake holes with the bottom of both ditch lines showing that the fields were enclosed. It is likely that these fences were for cattle farming for grazing in the summer months. The present land at 2.5m OD is very low and during the winter months is likely to have been too wet for any use in this post-medieval period. The soil samples from the peaty fills of the former ditches found no ecofacts which further emphasises the lack of arable farming. When the former fence line was abandoned the marginal nature of this land can be seen in that these peaty soils formed in the former ditches (which represented vegetation build up in anoromic conditions). There were a few undated ephemeral features within the evaluation area but some were probable silting within natural hollows.
- 4.1.3 No Roman remains or artefacts were found within the evaluation. The probable Roman salt making site and settlement, 100m-400m to the south, did not continue into the development area.
- 4.1.4 The present field boundaries of the development area probably relate to the 18th century enclosure of the fen lands. These enclosures were helped by various 18th and 19th century Parliament Acts to drain and improve the fen lands. It was through steam engines that marginal land such as this site allowed arable farming to take place. This involved relatively small fields with large drainage ditches around them. All the maps from the 1st Edition Ordnance survey to present day shows these small fields.

4.2 Significance

- 4.2.1 The evaluation did not find significant archaeological remains. Only the remains of a post-medieval pasture field system was found as well as a few undated ephemeral features.

4.3 Recommendations

- 4.3.1 Recommendations for any future work based upon this report will be made by the County Archaeology Office.

APPENDIX A. HEALTH AND SAFETY STATEMENT

- A.1.1 OA East will ensure that all work is carried out in accordance with relevant Health and Safety Policies, to standards defined in *The Health and Safety at Work, etc. Act, 1974* and *The Management of Health and Safety Regulations, 1992*, and in accordance with the manual *Health and Safety in Fieldwork Archaeology* (SCAUM 1997).
- A.1.2 Risk assessments prepared for the OA East office will be adhered to.
- A.1.3 OA East has Public Liability Insurance. Separate professional insurance is covered by a Public Liability Policy.
- A.1.4 Full details of the relevant Health and Safety Policies and the unit's insurance cover can be provided on request.

APPENDIX B. CONTEXT INVENTORY

| Context | Cut | Trench | Feature Type | Function | Width | Depth | Artefacts |
|---------|-------|--------|--------------|----------|---------------|------------|--------------------------|
| 1 | - | All | Layer | Topsoil | - | 0.42m | Clay pipe stem and glass |
| 2 | 3 | 1 | Furrow? | Fill | - | - | - |
| 3 | 3 | 1 | Furrow? | Cut | 1.15m | 0.05-0.18m | - |
| 4 | 4 | 1 | Tree hole? | Fill | - | - | - |
| 5 | 4 | 1 | Tree hole? | Cut | 1.02m+x 1.1m | 0.18m | - |
| 6 | 8 | 1 | Ditch | Fill | - | - | - |
| 7 | 8 | 1 | Ditch | Fill | - | - | - |
| 8 | 8 | 1 | Ditch | Cut | 2.45m | 0.34m | - |
| 9 | 12 | 3 | Ditch | Fill | - | - | - |
| 10 | 12 | 3 | Ditch | Fill | - | - | - |
| 11 | 12 | 3 | Ditch | Fill | - | - | - |
| 12 | 12 | 3 | Ditch | Cut | 1.3m | 0.4m | - |
| 13 | 14 | 3 | Ditch | Fill | - | - | - |
| 14 | 14 | 3 | Ditch | Cut | 0.75m | 0.15m | - |
| 15 | 17 | 1 | Ditch | Fill | - | - | - |
| 16 | 17/18 | 1 | Ditch | Fill | - | - | - |
| 17 | 17 | 1 | Ditch | Cut | 0.70m | 0.18m | - |
| 18 | 18 | 1 | Stake holes | Cut | 0.20m | 0.15m | - |
| 19 | 12 | 3 | Ditch | Fill | - | - | - |
| 20 | 5 | 1 | Tree hole? | Fill | - | - | - |
| 21 | 22 | 4 | Ditch | Fill | - | - | - |
| 22 | 22 | 4 | Ditch | Cut | 0.75m | 0.22m | - |
| 23 | 27 | 2 | Ditch | Fill | - | - | - |
| 24 | 27 | 2 | Ditch | Fill | - | - | - |
| 25 | 27 | 2 | Ditch | Fill | - | - | - |
| 26 | 27 | 2 | Ditch | Fill | - | - | - |
| 27 | 27 | 2 | Ditch | Cut | 1.25m | 0.35m | - |
| 28 | - | 5 | Layer | Topsoil | - | - | - |
| 29 | 30 | 5 | Ditch | Fill | - | - | - |
| 30 | 30 | 5 | Ditch | Cut | 0.90m | 0.30m | - |
| 31 | 32 | 5 | Hollow | Fill | - | - | - |
| 32 | 32 | 5 | Hollow | Cut | 3.2m+ X 2.1m+ | 0.08m | - |
| 33 | 34 | 8 | Ditch | Fill | - | - | Bone fragment |
| 34 | 34 | 8 | Ditch | Cut | 0.90m | 0.30m | - |
| 35 | 30 | 5 | Ditch | Fill | - | - | - |
| 36 | 34 | 8 | Ditch | Fill | - | - | - |
| 37 | 38 | 4 | Ditch | Fill | - | - | - |
| 38 | 38 | 4 | Ditch | Cut | 1.64m | 0.12m | - |

| | | | | | | | |
|----|----|---|-------------|------|---------------|---------------|------------------------|
| 39 | 40 | 4 | Ditch | Fill | - | - | - |
| 40 | 40 | 4 | Ditch | Cut | 1.10m | 0.06m | - |
| 41 | 41 | 8 | Stake holes | Cut | 0.06m - 0.09m | 0.03m - 0.08m | - |
| 42 | 43 | 5 | Ditch | Fill | - | - | Brick and metal object |
| 43 | 43 | 5 | Ditch | Cut | 1.10m | 0.42m | - |
| 44 | 46 | 9 | Ditch | Fill | - | - | - |
| 45 | 46 | 9 | Ditch | Fill | - | - | Fired clay/brick |
| 46 | 46 | 9 | Ditch | Cut | 1.57m | 0.31m | - |
| 47 | 48 | 9 | Ditch | Fill | - | - | - |
| 48 | 48 | 9 | Ditch | Cut | 0.27m | 0.08m | - |

APPENDIX C.

FINDS REPORTS

C.1 The iron object

by Nina Crummy

- 4.3.2 SF 1 Trench 5 context 42 (ditch **43**). Dense iron fragment, either part of an unforged smith's billet, debris from iron-smelting, or possibly late post-medieval or modern cast iron. 75 by 47 mm. Weight 100 g.

C.2 Glass and clay pipe

by Alasdair Brooks

- 4.3.3 A single neck fragment (0.002kg) of glass bottle from the topsoil in Trench 5 (1) ?Post-medieval
- 4.3.4 A single stem fragment from clay pipe (0.002kg) from topsoil within Trench 2 (1). The bore hole is wide. Post-medieval.

C.3 Brick or fired clay

by Carole Fletcher and Rob Atkins

- 4.3.5 Three very small fragments of probable post-medieval brick (0.038kg) was found from two contexts. From Trench 5 context 42 (ditch **43**) there were two small fragments (0.020kg) of a yellow/red puddled hard fired clay which were probably part of the interior of a brick. Probably 17th or 18th century. A brick or fired clay fragment (0.018kg) was recovered from Trench 9 context 45 (ditch **46**). There are traces of lime mortar attached. Post-medieval.

APPENDIX D. ENVIRONMENTAL REPORTS

D.1 Environmental samples

by Rachel Fosberry

- 4.3.6 Two bulk samples were taken from two ditches within the evaluation in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations.
- 4.3.7 Ten litres of each sample were processed by tank flotation for the recovery of charred plant remains, dating evidence and any other artefactual evidence that might be present. A 0.5mm nylon mesh and a 1mm sieve was used.
- 4.3.8 The two samples (contexts 33 and 21) were from post-medieval ditches (**34** and **22**) and both proved to be sterile with no artefacts or ecofacts.

APPENDIX E. BIBLIOGRAPHY

Atkins, R., 2008 Specification for Archaeological Evaluation Christchurch to Welney Pipeline Oxford East (unpublished)

Gore, E., 2008 Brief for Archaeological Evaluation Christchurch to Welney S101a and WWTW Cambridgeshire Archaeology Planning and Countryside Advice (unpublished)

Hall, D., 1996 *The Fenland Project, Number 10: Cambridgeshire Survey, Isle of Ely and Wisbech* E. Anglian Archaeology 79

Pugh, R. B. (ed.), 1967 A history of Cambridge and The Isle of Ely Volume 4 The Victoria History of the Counties of England

APPENDIX F. OASIS REPORT FORM

Project Details

| | | | |
|---------------------------------|--|-------------|------------|
| OASIS Number | Oxfordar3- 51757 | | |
| Project Name | Post-medieval pasture field system at Pates Farm, Tipps End, Welney, Norfolk | | |
| Project Dates (fieldwork) Start | 21-09-2008 | Finish | 24-09-2008 |
| Previous Work (by OA East) | No | Future Work | Yes |

Project Reference Codes

| | | | |
|-----------|------------|-----------------------|--------------|
| Site Code | NHER 2477 | Planning App. No. | Pre-planning |
| HER No. | ENF 121634 | Related HER/OASIS No. | NHER 2477 |

Type of Project/Techniques Used

| | |
|------------------|---|
| Prompt | Direction from Local Planning Authority - PPG16 |
| Development Type | Pipelines/Cables |

Please select all techniques used:

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

Monument Types/Significant Finds & Their Periods

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

| Monument | Period | Object | Period |
|--------------|----------------------------|--------------|--------------------------------|
| Field System | Post Medieval 1540 to 1901 | Brick | Post Medieval 1540 to 1901 |
| | Select period... | metal object | Early Prehistoric -500k to -4k |
| | Select period... | | Select period... |

Project Location

| | | | |
|------------|---------------------------|---|--------------|
| County | Norfolk | Site Address (including postcode if possible) | |
| District | Kings Lynn + West Norfolk | Pates Farm, Wisbech Road Tipps End Nr. Welney NE 11 8SQ | |
| Parish | Welney | | |
| HER | Norfolk | | |
| Study Area | 2.53ha | National Grid Reference | TL 4997 9541 |

Project Originators

| | |
|---------------------------|---|
| Organisation | OA EAST |
| Project Brief Originator | Eliza Gore, Cambridgeshire County Council |
| Project Design Originator | Rob Atkins, OA East |
| Project Manager | James Drummond-Murray |
| Supervisor | Rob Atkins |

Project Archives

| Physical Archive | Digital Archive | Paper Archive |
|------------------|-----------------|---------------|
| Norfolk | OA East | Norfolk |
| NHER 2477 | NHER 2477 | NHER 2477 |

Archive Contents/Media

| | Physical Contents | Digital Contents | Paper Contents |
|---------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Animal Bones | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Ceramics | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Environmental | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Glass | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Human Bones | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| Stratigraphic | | <input type="checkbox"/> | <input type="checkbox"/> |
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| None | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| Digital Media | Paper Media |
|---|--|
| <input checked="" type="checkbox"/> Database | <input checked="" type="checkbox"/> Aerial Photos |
| <input checked="" type="checkbox"/> GIS | <input checked="" type="checkbox"/> Context Sheet |
| <input type="checkbox"/> Geophysics | <input checked="" type="checkbox"/> Correspondence |
| <input checked="" type="checkbox"/> Images | <input type="checkbox"/> Diary |
| <input checked="" type="checkbox"/> Illustrations | <input checked="" type="checkbox"/> Drawing |
| <input type="checkbox"/> Moving Image | <input type="checkbox"/> Manuscript |
| <input type="checkbox"/> Spreadsheets | <input type="checkbox"/> Map |
| <input checked="" type="checkbox"/> Survey | <input type="checkbox"/> Matrices |
| <input checked="" type="checkbox"/> Text | <input type="checkbox"/> Microfilm |
| <input type="checkbox"/> Virtual Reality | <input type="checkbox"/> Misc. |
| | <input type="checkbox"/> Research/Notes |
| | <input checked="" type="checkbox"/> Photos |
| | <input checked="" type="checkbox"/> Plans |
| | <input checked="" type="checkbox"/> Report |
| | <input checked="" type="checkbox"/> Sections |
| | <input type="checkbox"/> Survey |

Notes:



Figure 1: Location of trenches (black) with the development area outlined (red)

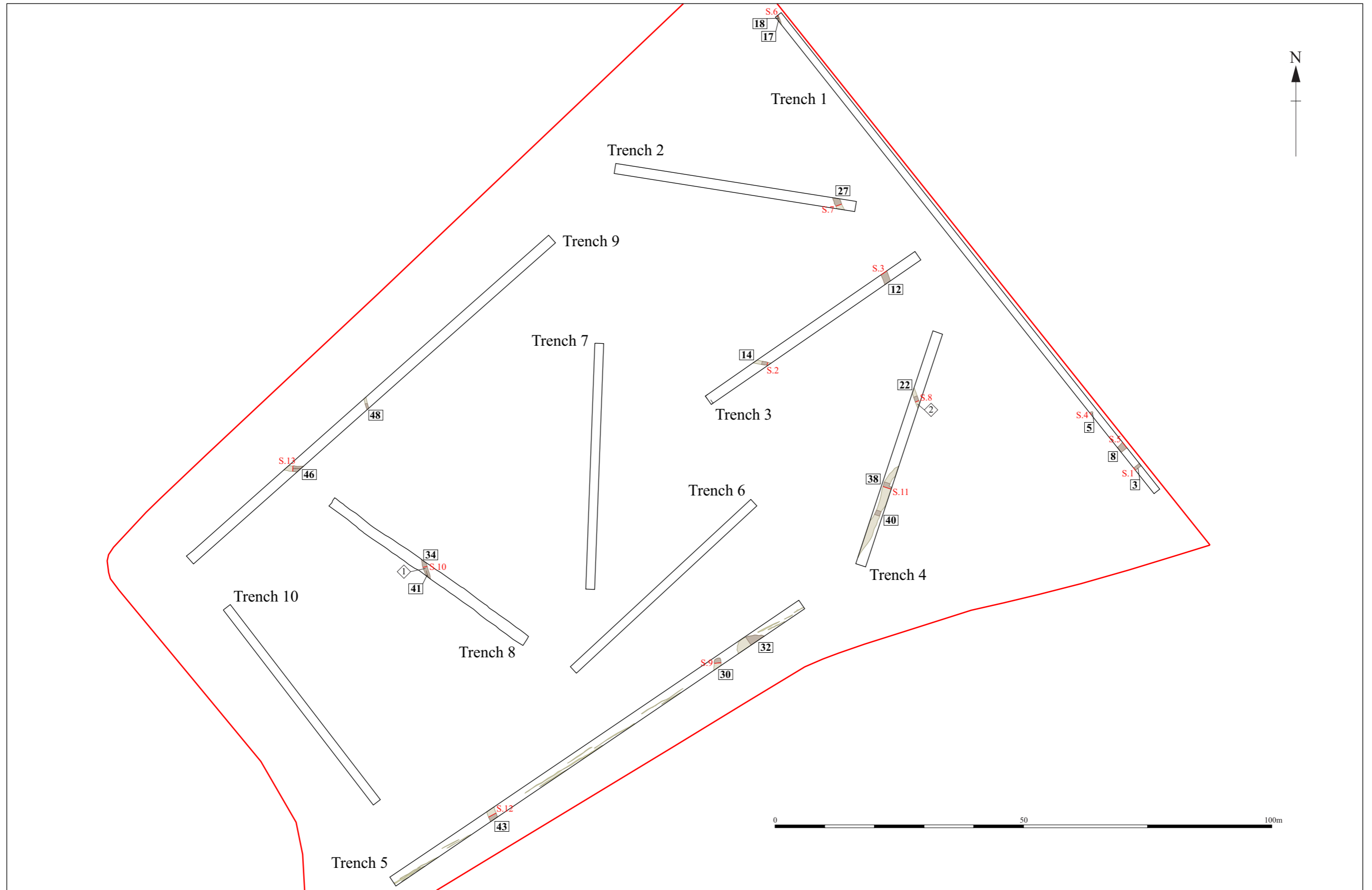


Figure 2: Location of trenches within the evaluation

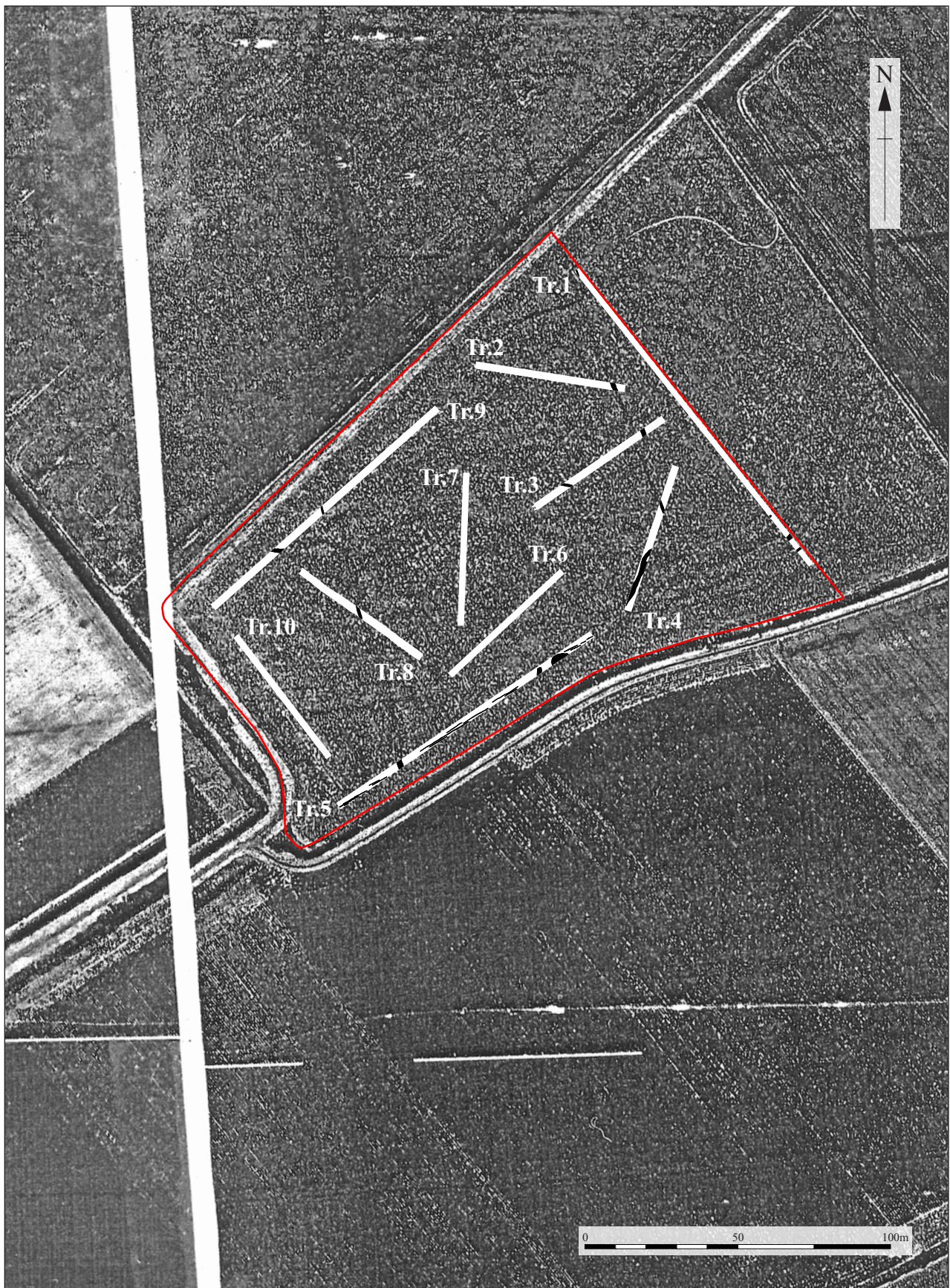


Figure 3: Air photograph overlaying trenches within the evaluation (acknowledgments - Norfolk Museums and Archaeology Service and Ordnance Survey)

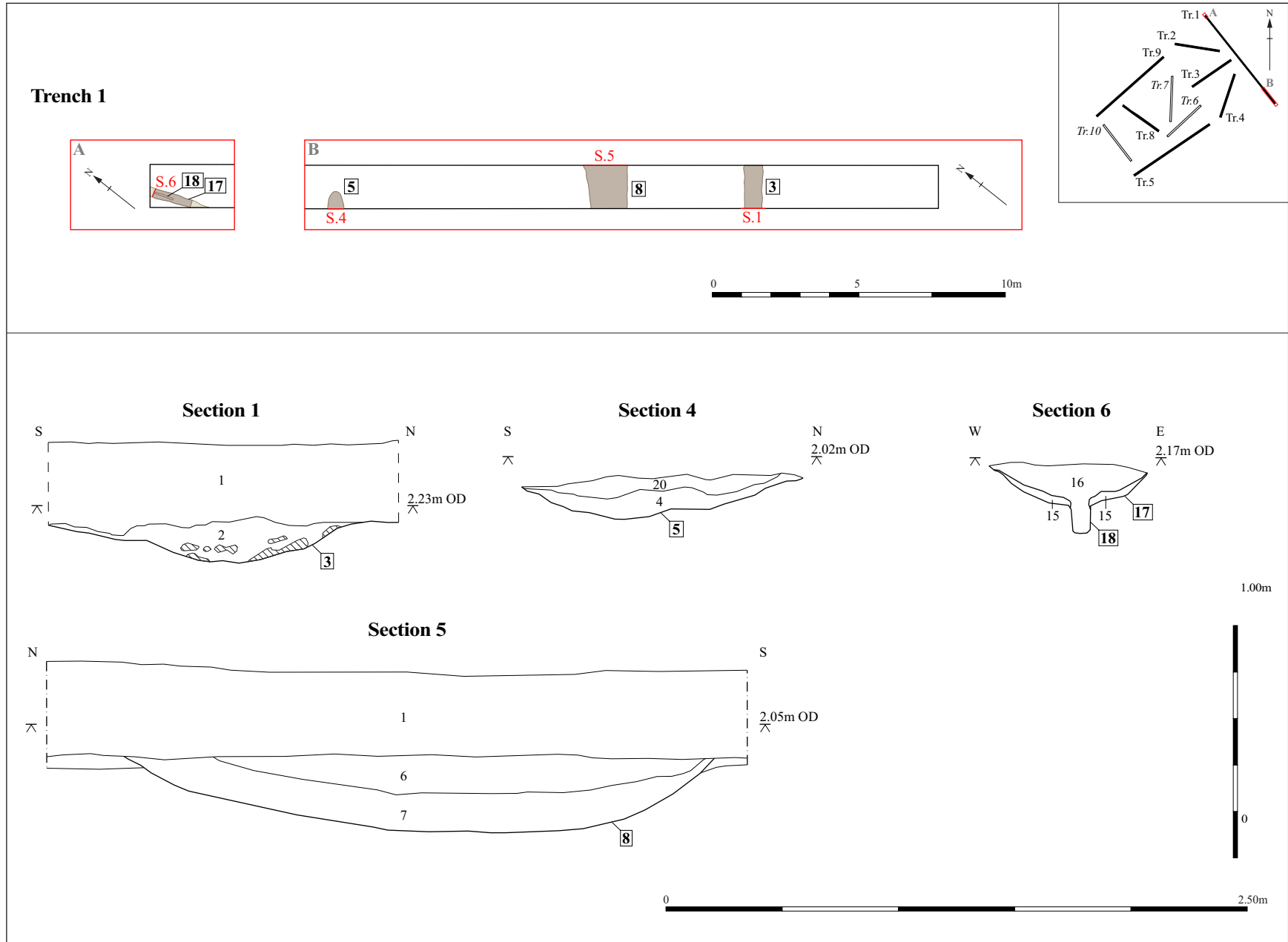


Figure 4: Plan of trench 1 and sections 1, 4, 5 and 6

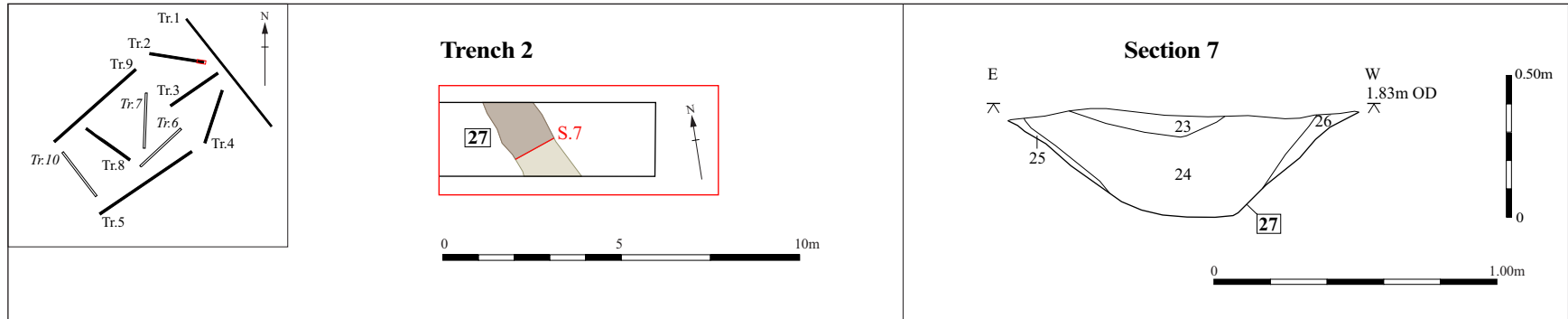


Figure 5: Plan of trench 2 and section 7

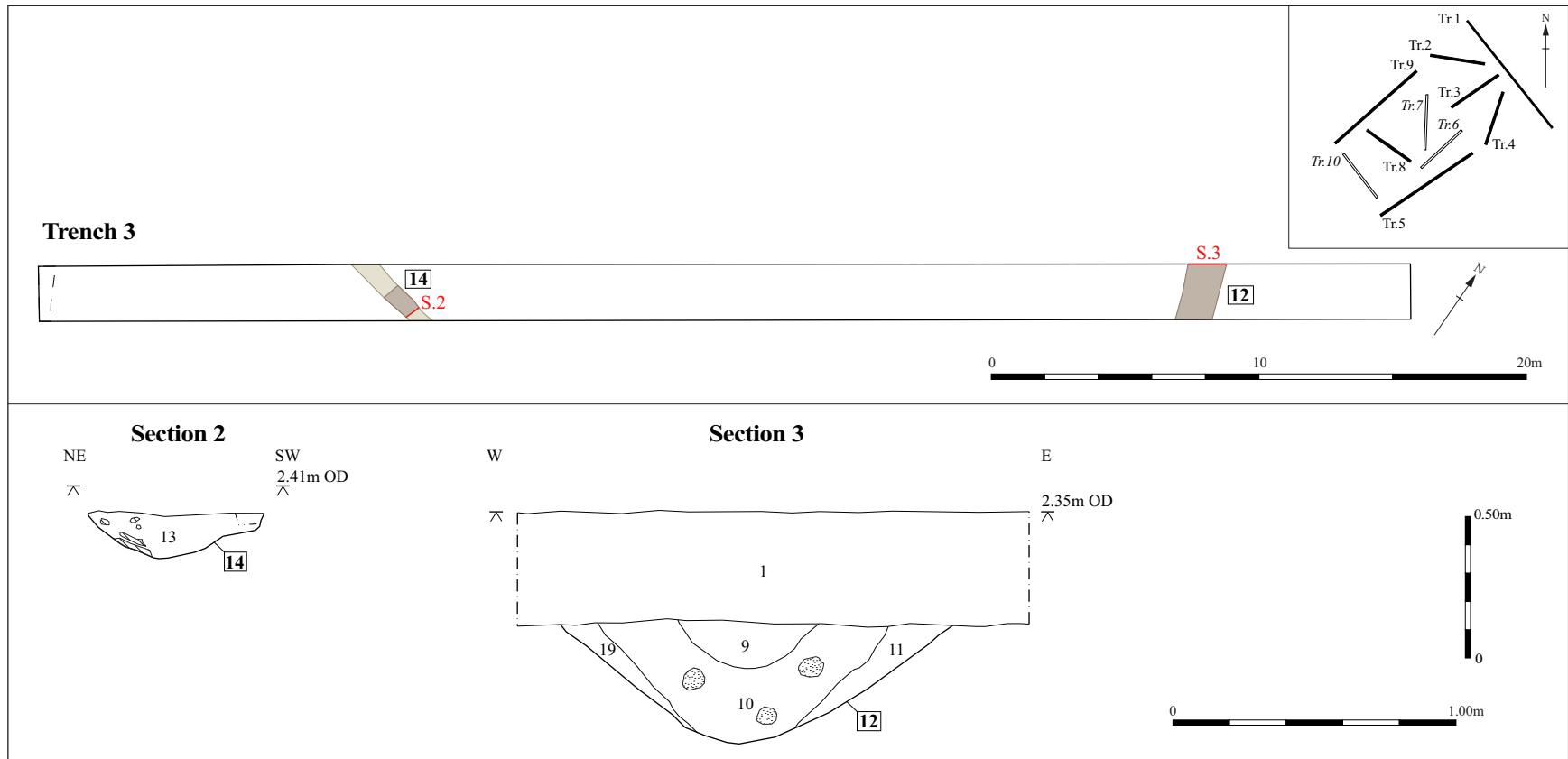


Figure 6: Plan of trench 3 and sections 2 and 3

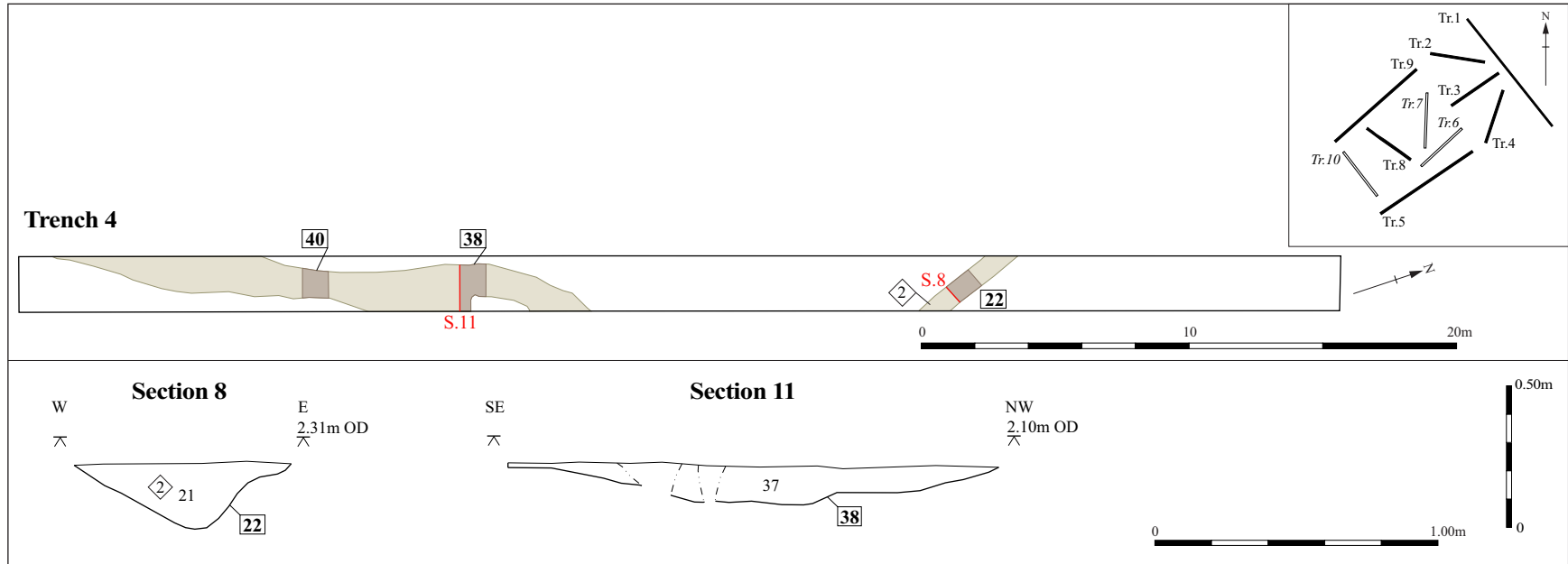


Figure 7: Plan of trench 4 and sections 8 and 11

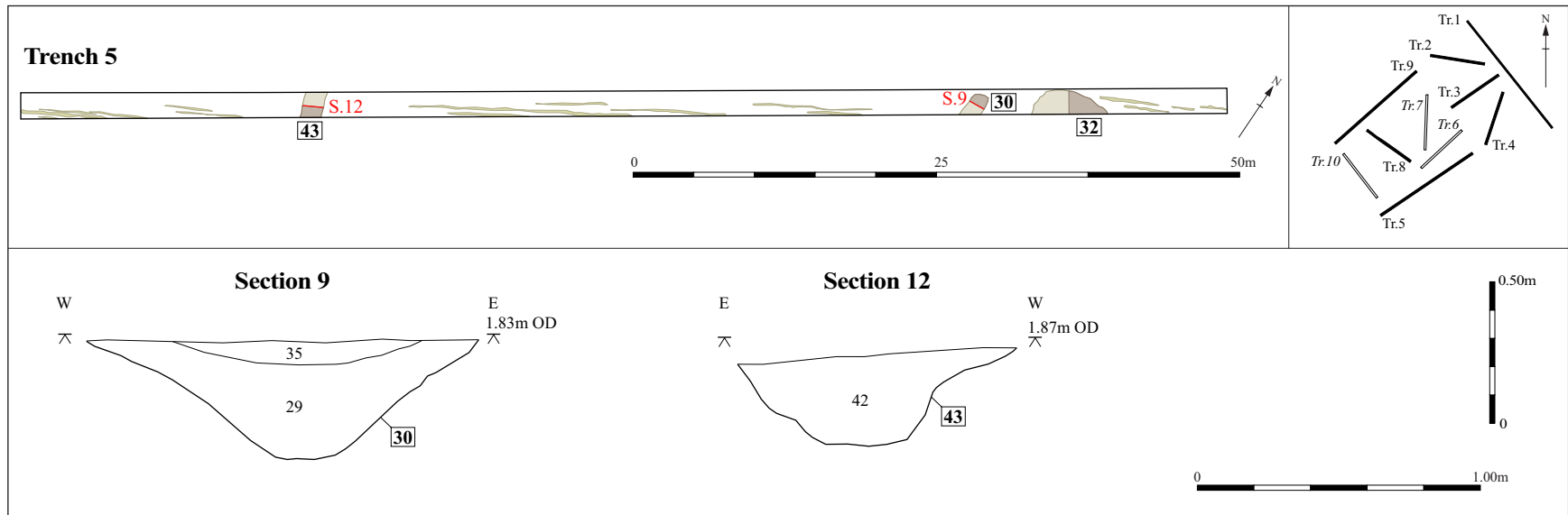


Figure 8: Plan of trench 5 and sections 9 and 12

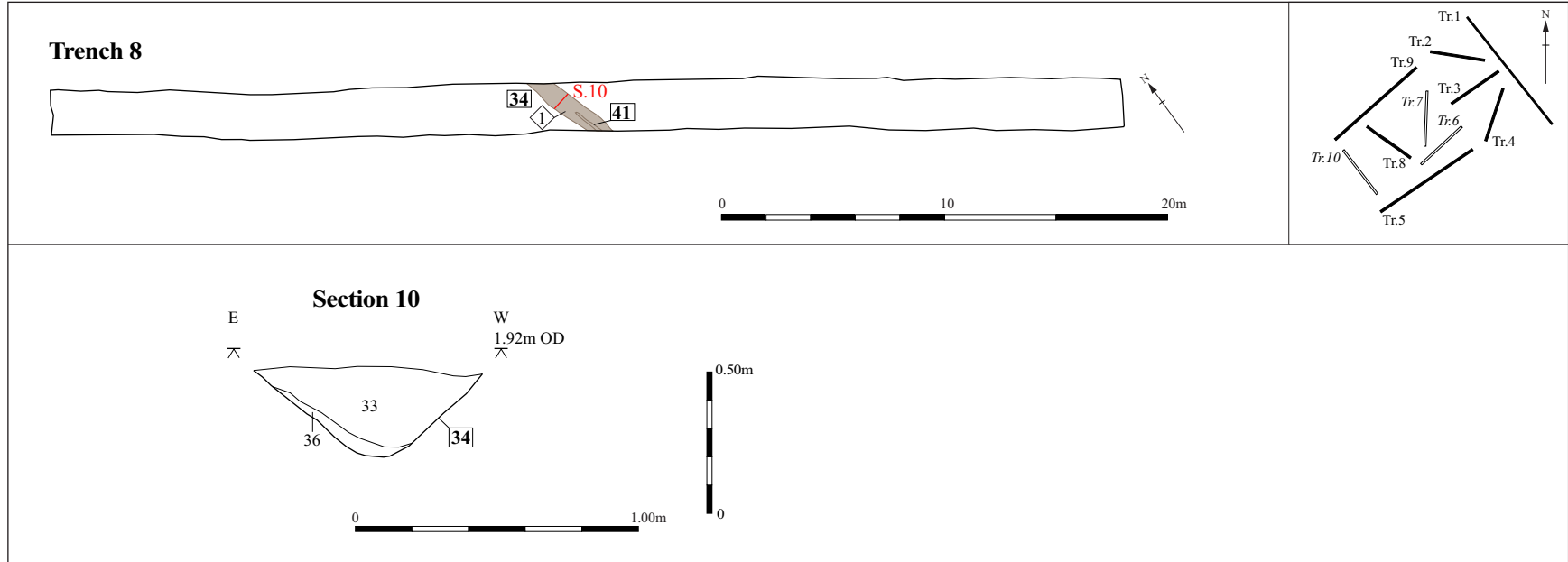


Figure 9: Plan of trench 8 and section 10

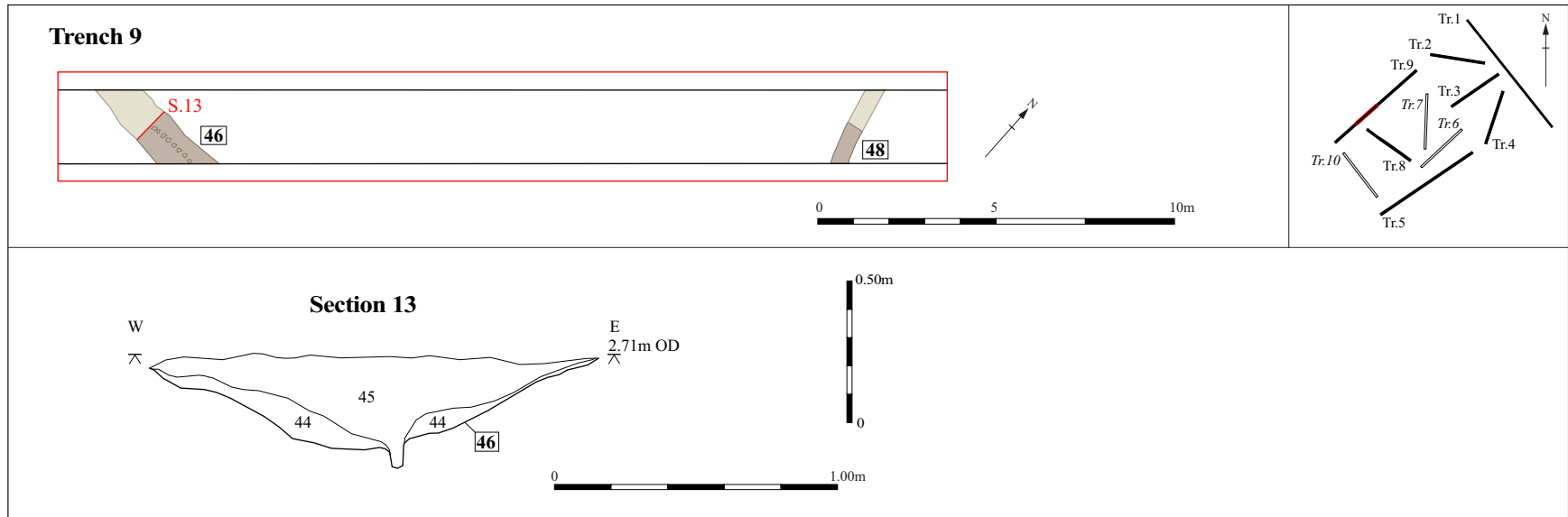


Figure 10: Plan of trench 9 and section 13



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