

**Northern Spine Road,
Lowestoft,
Suffolk
LWT 193**

Archaeological Evaluation Report

SCCAS Report No. 2013/122

Client: Suffolk County Council Transport Strategy Team

Author: Linzi Everett

October 2013

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Any opinions expressed in this report about the need for further archaeological work are those of the Field Projects Team alone. Ultimately the need for further work will be determined by the Local Planning Authority and its Archaeological Advisors when a planning application is registered. Suffolk County Council's archaeological contracting services cannot accept responsibility for inconvenience caused to the clients should the Planning Authority take a different view to that expressed in the report.

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Contents

Summary

1. Introduction	1
2. Geology and topography	1
3. Archaeology and historical background	3
4. Methodology	3
5. Results	5
6. Finds and environmental evidence	24
7. Discussion	34
8. Archive deposition	35
9. Acknowledgements	35

List of Figures

Figure 1. Site location	2
Figure 2. Location of trenches	4
Figure 3. Trench 1 plan and sections	7
Figure 4. Trench 2 plan and sections	8
Figure 5. Trench 3 plan and section	9
Figure 6. Trench 5 plan and section	10
Figure 7. Trench 7 plan and section	11
Figure 8. Trench 9 plan and sections	12
Figure 9. Trench 11 plan and section	13
Figure 10. Trench 16 plan and sections	16
Figure 11. Trench 18 plan and section	17
Figure 12. Trench 38 plan and section	18
Figure 13. Trench 40 plan and profile	19
Figure 14. Extract from 2nd edition Ordnance Survey Map	20

Figure 15. Trench 28 plan and section	21
Figure 16. Extract from 1st edition Ordnance Survey Map	24
Figure 17. Trench 50 plan and section	25
Figure 18. Trench 54 plan and sections	26
Figure 19. Trench 62 plan and section	27
Figure 20. Trench 64 plan and section	28

List of Tables

Table 1. Area A trench dimensions	5
Table 2. Area B trench dimensions	14
Table 3. Area C trench dimensions	22
Table 4. Finds quantities	29
Table 5. Late Iron Age and Roman fabric quantities	30

List of Plates

Plate 1. Section through pond cut 0061, looking north	24
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List of Appendices

Appendix 1. Context list	35
Appendix 2. Pottery by context	39
Appendix 3. OASIS summary	41
Appendix 4. WSI	43

Summary

An area of c.6.9 hectares was evaluated by trial trenching along the route of a proposed road scheme. Seventy five trenches were excavated, revealing a low density of archaeological features. Where present, these mainly consisted of undated field boundaries but evidence of Roman activity was identified in the south of the site. A roughly east - west aligned ditch in the north of the site shows on the 3rd edition Ordnance Survey map as a field boundary. The only other incised features present were what appeared to be large extraction pits, probably associated with the nearby brickworks, a possible pond feature and a small number of isolated pits.

1. Introduction

A trial trench evaluation was carried out on the area of the proposed Lowestoft Northern Spine Road (LWT 193; TM 532 967 - TM 530 946). The proposed development area (hereafter referred to as 'the site') consisted of an area of c.6.9 hectares.

The evaluation was carried out at the request of the local planning authority, according to a brief issued by Jess Tipper, which outlined the manner of the fieldwork, and a Written Scheme of Investigation (WSI) detailing the archaeological methodology (Gardner 2013, Appendix 4).

The trial trenching was conducted by the Field Team of the Suffolk County Council Archaeological Service (SCCAS) in two phases between May and September 2013.

The site has been recorded with the County Historic Environment Record (HER) code LWT 193.

2. Geology and topography

The site runs north to south across parts of the county parishes of Corton, Lowestoft and Oulton, over a distance of approximately 1.2km, and at varying heights between c.15m OD down to c.5m OD. The majority of the proposed route runs across arable land and an area of grassland retained between modern developments to enable the construction of the proposed road. The route crosses a small valley that forms a tributary of the River Waveney, which is situated c.3km to the west.

The underlying geology comprises a mixture of glacial deposits, such as chalky clay tills, with occasional sandy drift deposits. There are also areas of with a variable covering of periglacial wind-blown material, with occasional patches of more clayey subsoils.

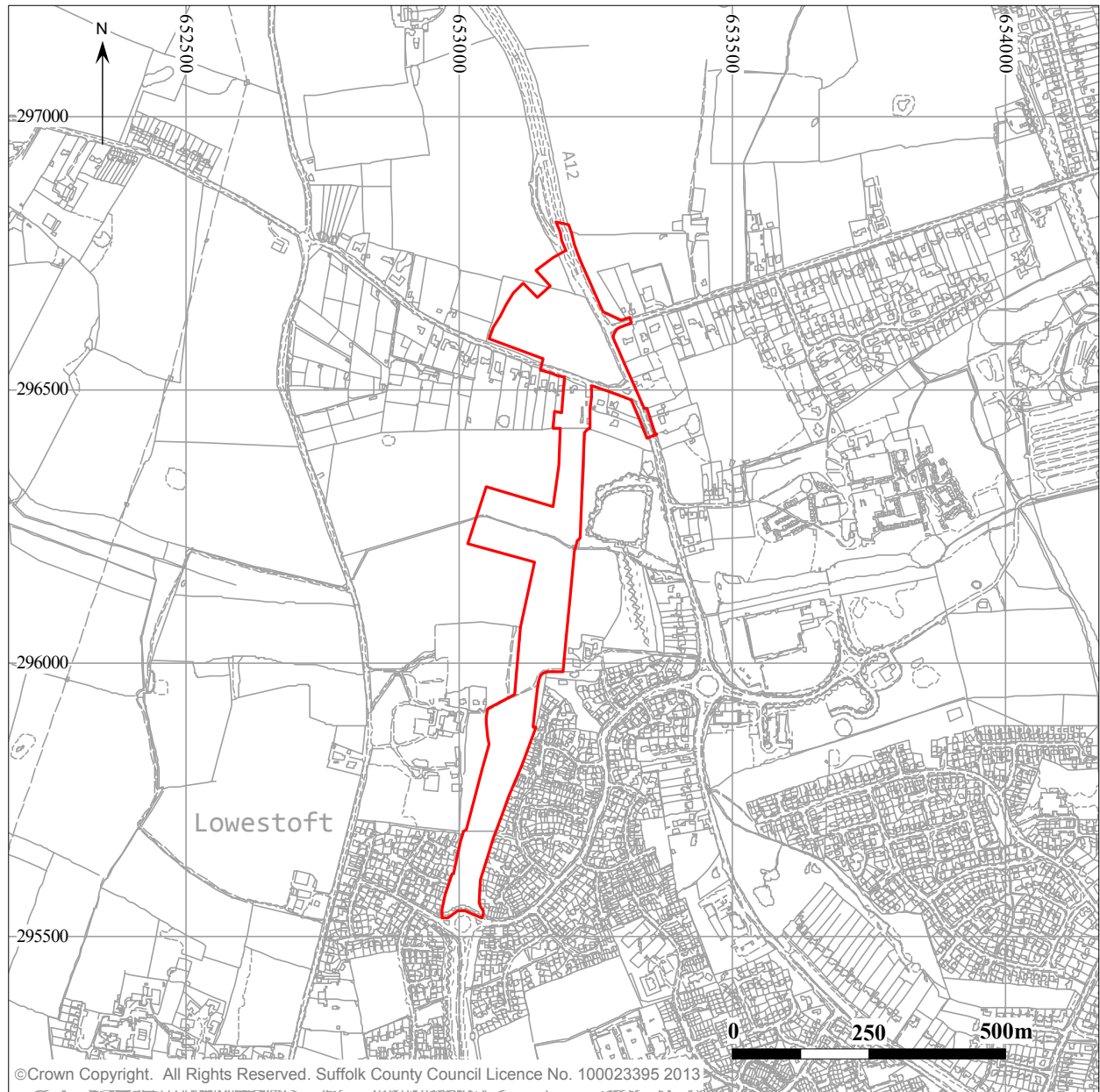
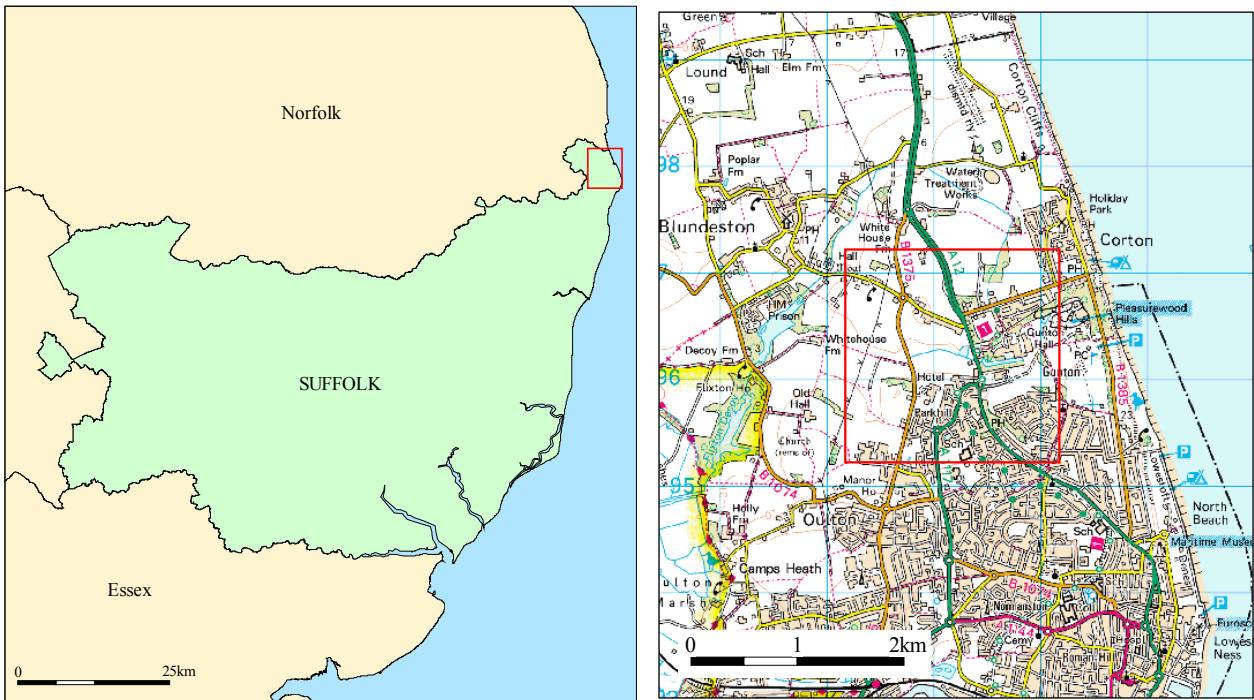


Figure 1. Site location

3. Archaeology and historical background

The area has been subject to a desk based assessment (SCCAS report no. 2012/193). This identified very little evidence in either HER records or readily available cartographic sources to suggest specific potential for encountering archaeological remains of any period. This may be primarily due to the site not having been subject to any previous archaeological investigation. Potential was largely based on the sites size and its focus on a valley likely to be topographically favourable for early activity.

4. Methodology

Trenching was conducted using a tracked mechanical digger equipped with a toothless ditching bucket. All machining was observed by an archaeologist standing adjacent to or within the trench. Topsoil was removed by machine to reveal undisturbed natural subsoil and/or archaeological deposits.

The base of each trench was examined for features or finds of archaeological interest. The upcast soil was examined visually for any archaeological finds. Records were made of the position and length of trenches and the depths of deposit encountered.

The site has been given the Suffolk HER code LWT 193. All elements of the site archive are identified with this code. An OASIS record (for the Archaeological Data Service) has been initiated and the reference code suffolkc1-151210 has been used for this project.

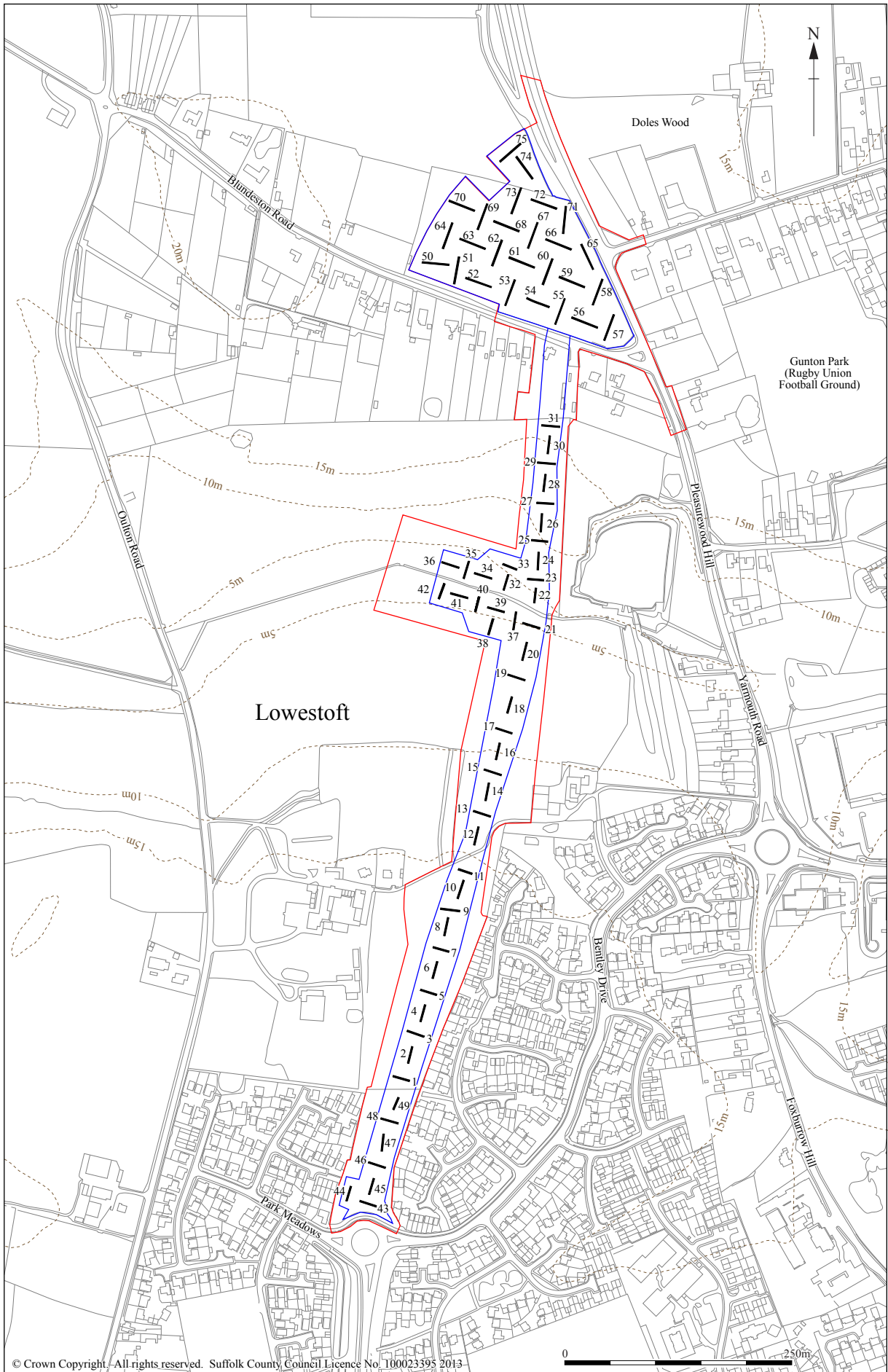


Figure 2. Trench locations

5. Results

A total of seventy five trenches were excavated across the site (Fig. 2), opening a total area of 2529.4 square metres. For the purposes of reporting, the development area has been sub-divided into three areas shown on Fig. 2. Trench dimensions are recorded in the tables below.

Area A

Trench	Length	Area	Height	Depth	Features
1	20m	36m ²	19.29m W 19.11m E	0.3m	0002; 0004; 0013
2	20m	36m ²	19.02m N 18.75m S	0.3m	0006; 0008
3	20m	36m ²	18.78m W 18.63m E	0.3m	0011
4	20m	36m ²	18.20m N 18.71m S	0.32m	-
5	20m	36m ²	18.44m W 18.21m E	0.35m	0017
6	20m	36m ²	17.80m N 17.87m S	0.37m	-
7	20m	36m ²	18.02m W 17.99m E	0.37m	0019
8	20m	36m ²	17.55m N 17.85m S	0.37m	-
9	20m	36m ²	17.41m W 17.15m E	0.35m	0021; 0023
10	20m	36m ²	15.80m N 16.59m S	0.35m	-
11	20m	36m ²	15.58m W 15.41m E	0.35m	0036
43	20m	36m ²	18.85m W 19.00m E	0.9m	-
44	20m	36m ²	18.55m N 18.29m S	0.5m	-
45	20m	36m ²	18.79m N 18.84m S	0.3m	-
46	20m	36m ²	19.04m W 18.84m E	0.3m	-
47	20m	36m ²	19.22m N 18.96m S	0.4m	-
48	20m	36m ²	19.54m W 18.89m E	0.4m-0.8m	-
49	15m	27m ²	18.95m N 19.15m S	0.45m	-

Table 1. Area A trench dimensions

18 trenches were excavated on generally flat, cultivated land. A uniform layer of dark brown clay loam topsoil was present over the area which measured between 0.3m and 0.45m thick. Most of the trenches were only as deep as this topsoil layer, with plough

scars visible in the natural subsoil underneath. The natural subsoil comprised pale grey brown clay sand.

Features were present in 7 trenches in Area A. 0002 was a shallow pit, only partially exposed in the south side of Trench 1 (Fig 3), filled by mid grey brown clay silty sand with occasional charcoal flecks, from which one sherd of Roman pottery was recovered. It was located immediately south east of 0004, a shallow NNE-SSW aligned linear feature some 0.25m deep with a flat base. Its fill, 0005 mottled mid grey brown and orangey brown clay silty sand which contained a quantity of Late Iron Age and Roman pottery. A wide E-W aligned ditch, 0013, was exposed in the west end of the trench. Its main fill, 0016, was a mid brown silty clay, in the upper part of which, two discrete, thin layers of silty clay (0014) and chalky clay (0015) were noted, The only find recovered from this feature was a fragment of animal bone in upper fill 0014.

In Trench 2 (Fig 4), two approximately W-E aligned ditches were recorded, c.7m apart and of similar form and dimensions. 0006 had an even, rounded profile and was filled by 0007, a pale orangey brown clay silt with occasional charcoal flecks. 0008 was generally rounded but with a flattish base and a stepped northern edge, possibly the result of a recut. Two fills were identified within this ditch. Upper fill 0009 was a pale orangey brown clay silty sand with occasional charcoal flecks which may represent a recut of an earlier ditch. This sealed 0010, a dark grey clay which was noticeably stoneless. No dating evidence was recovered from either ditch.

A narrow linear, 0011, was recorded in the east end of Trench 3 (Fig 5). It was E-W aligned with some suggestion that it could turn south or south west at its western end, and was shallow, with a rounded profile. Its fill, 0012, was a mixed fill of orangey yellow to pale grey clay with no finds.

A further ditch was observed in Trenches 5, 7, and 11, (Figs 6, 7 and 9) aligned approximately SSW-NNE. Assuming it was a continuous linear, it is possible that the eastern end of Trench 9 just missed this ditch. Its silty clay fill varied slightly along its length and no datable evidence was recovered from the excavated sections.

In Trench 9 (Fig 8), two parallel, narrow linears, 0021 and 0023, were observed, running NW-SE. They were immediately adjacent to each other and of similar size and

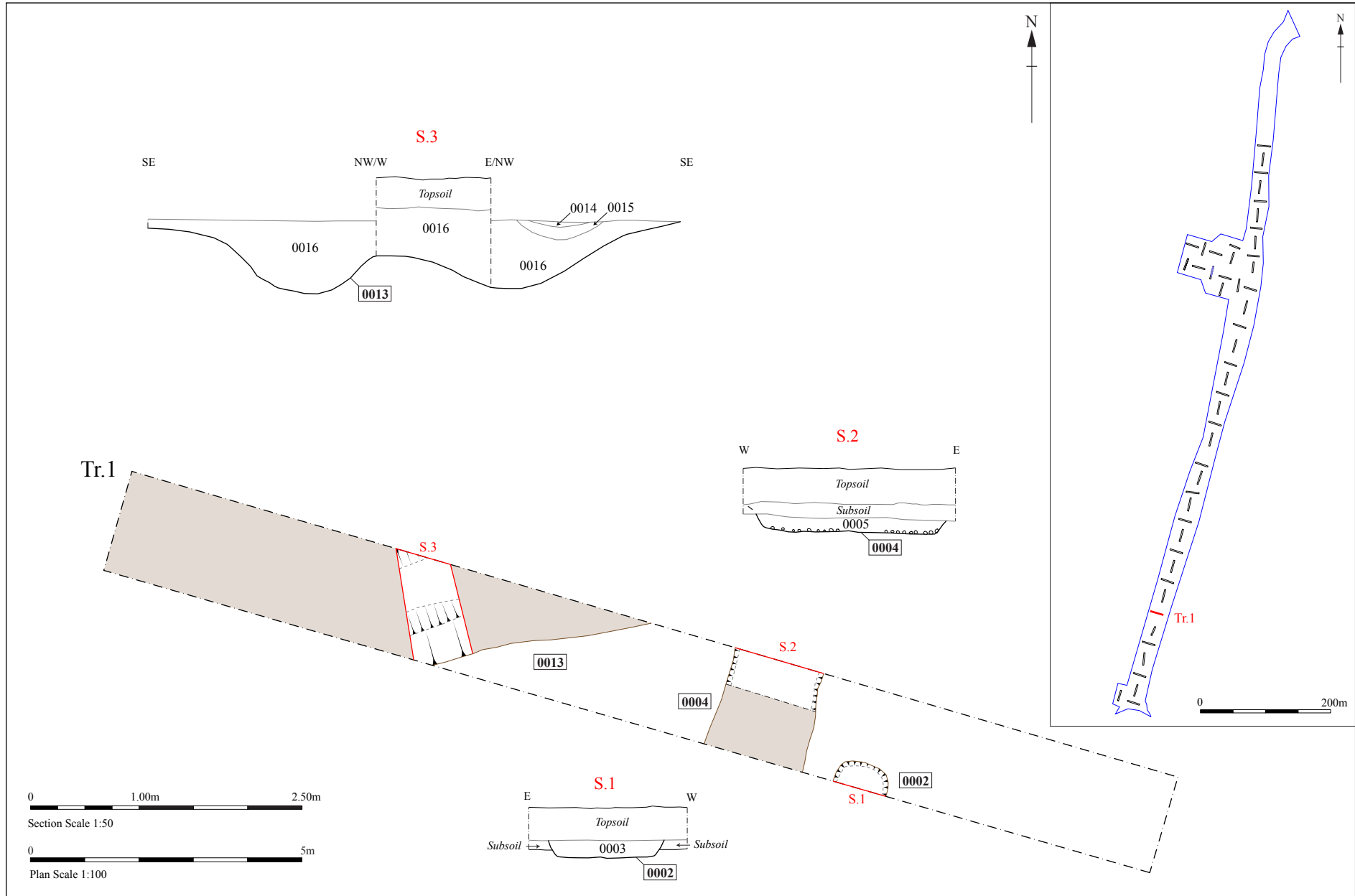


Figure 3. Trench 1, detailed plan and sections

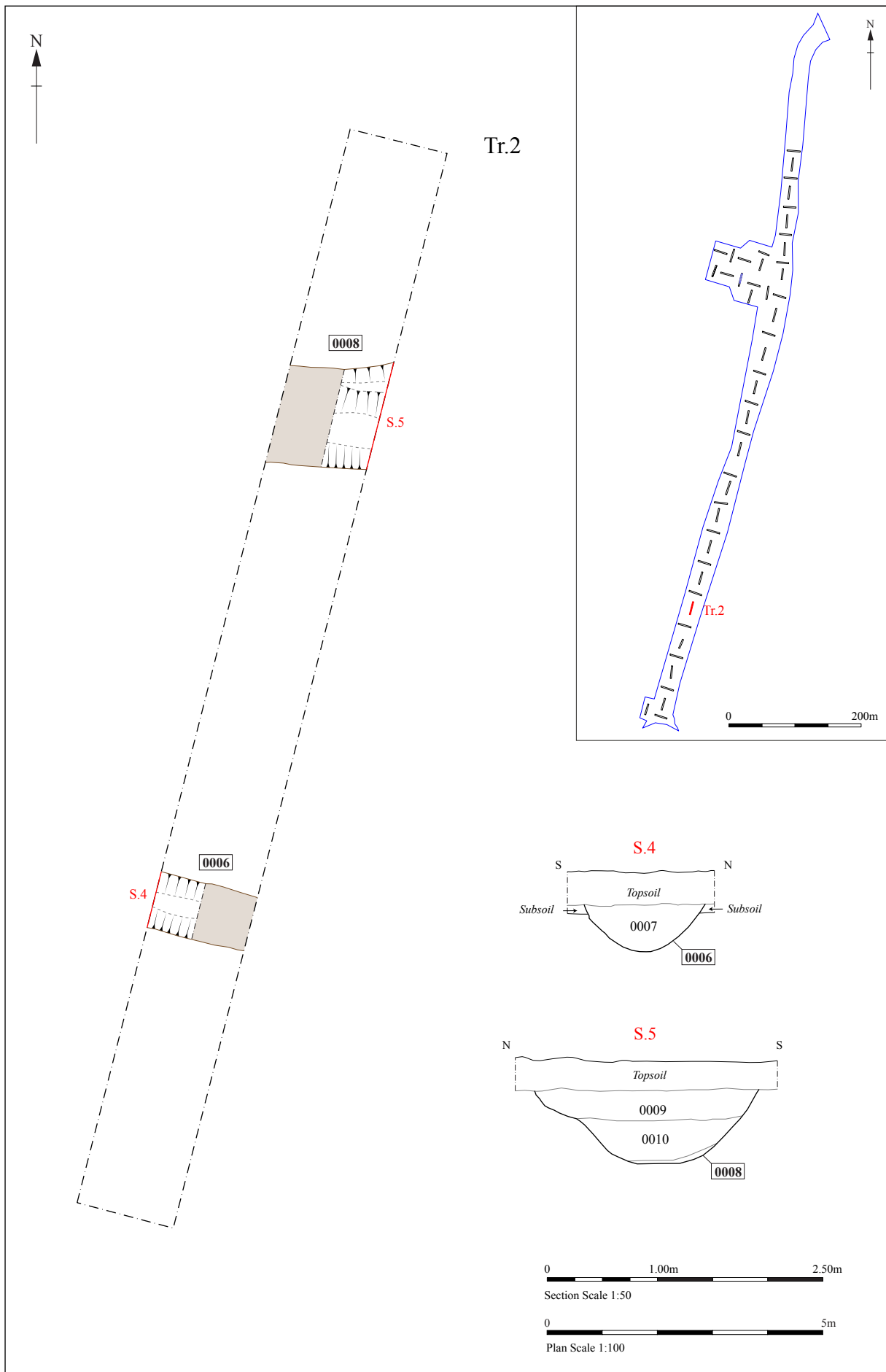


Figure 4. Trench 2, detailed plan and sections

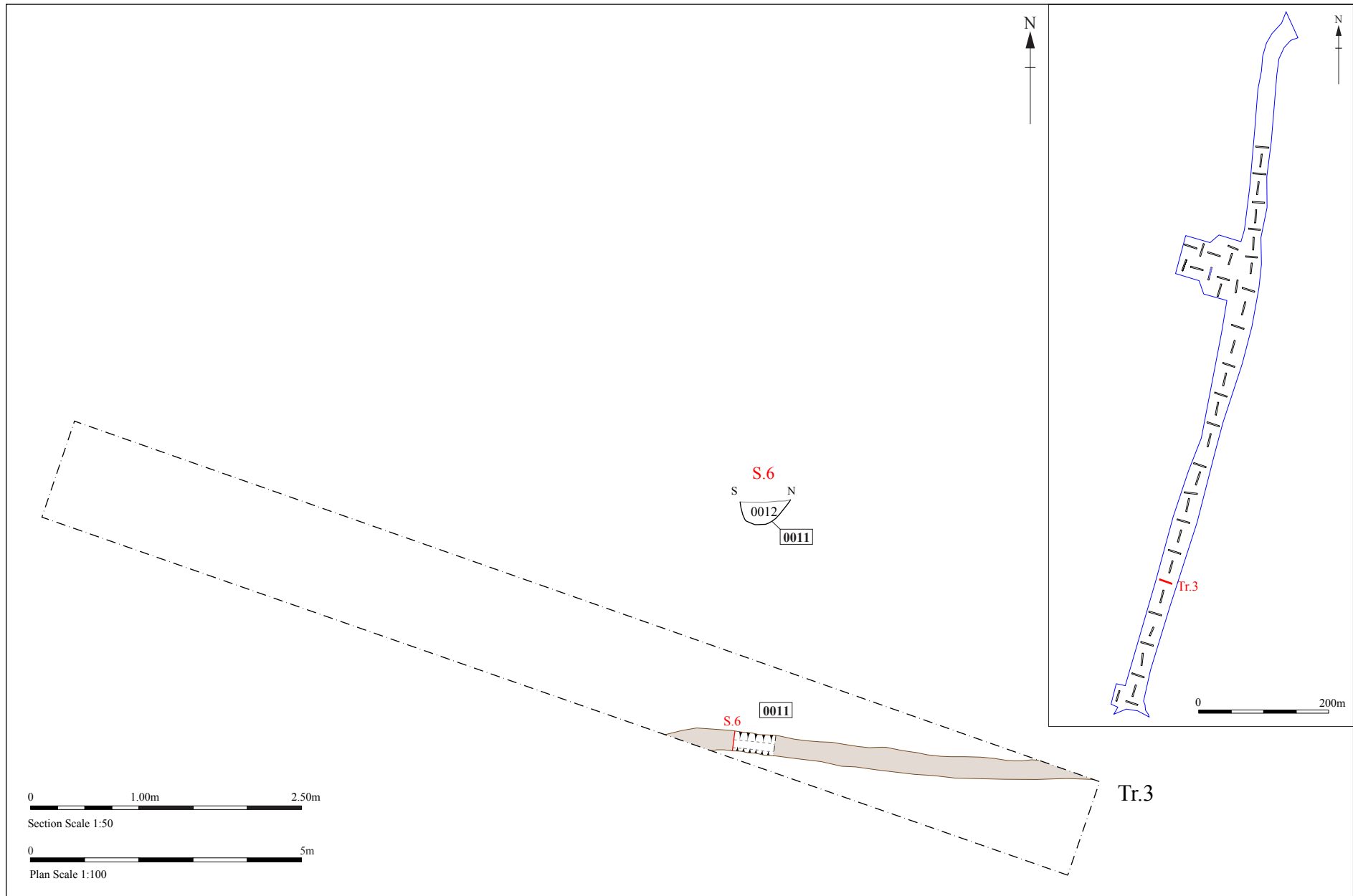


Figure 5. Trench 3, detailed plan and section

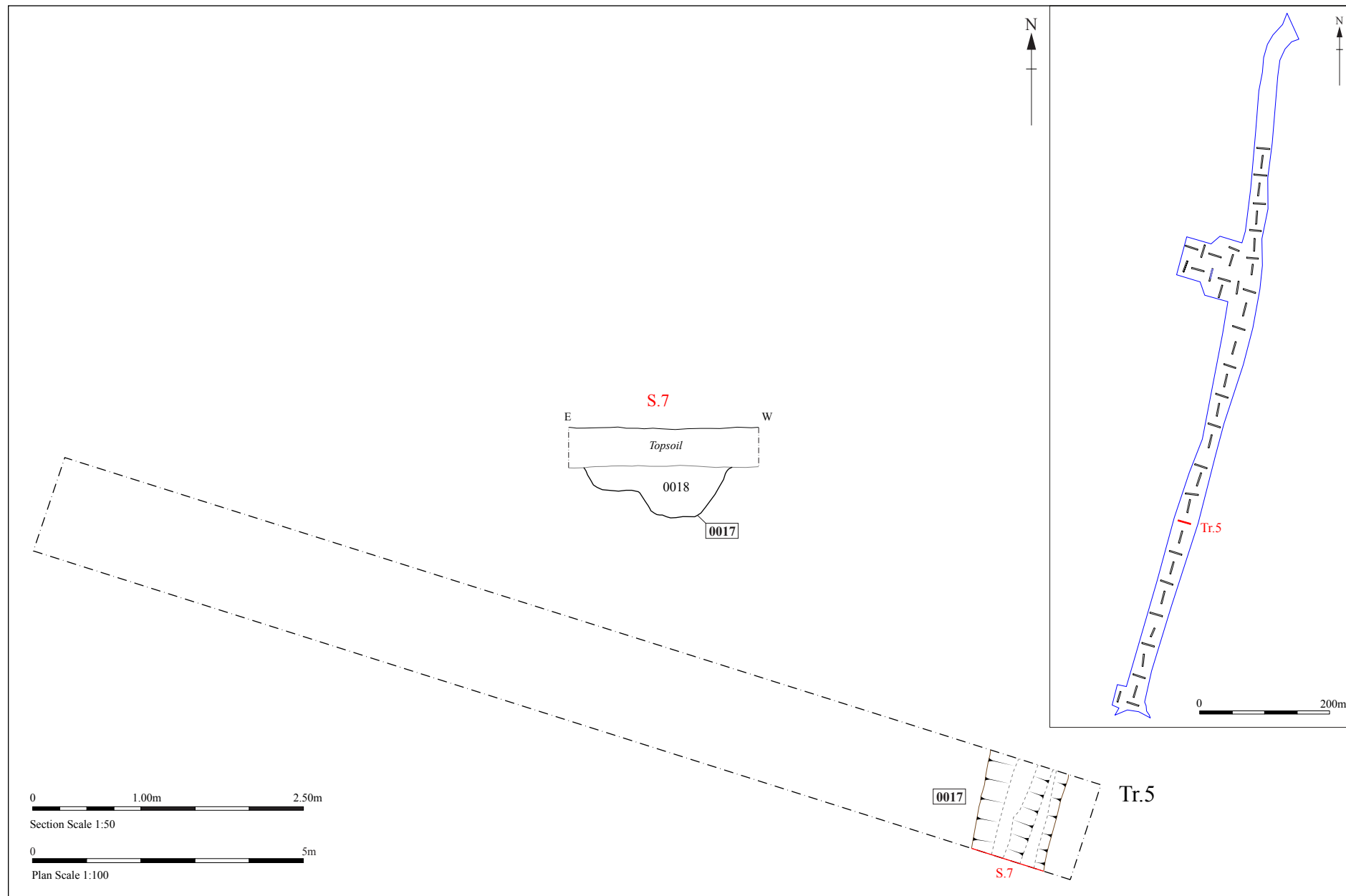


Figure 6. Trench 5, detailed plan and section

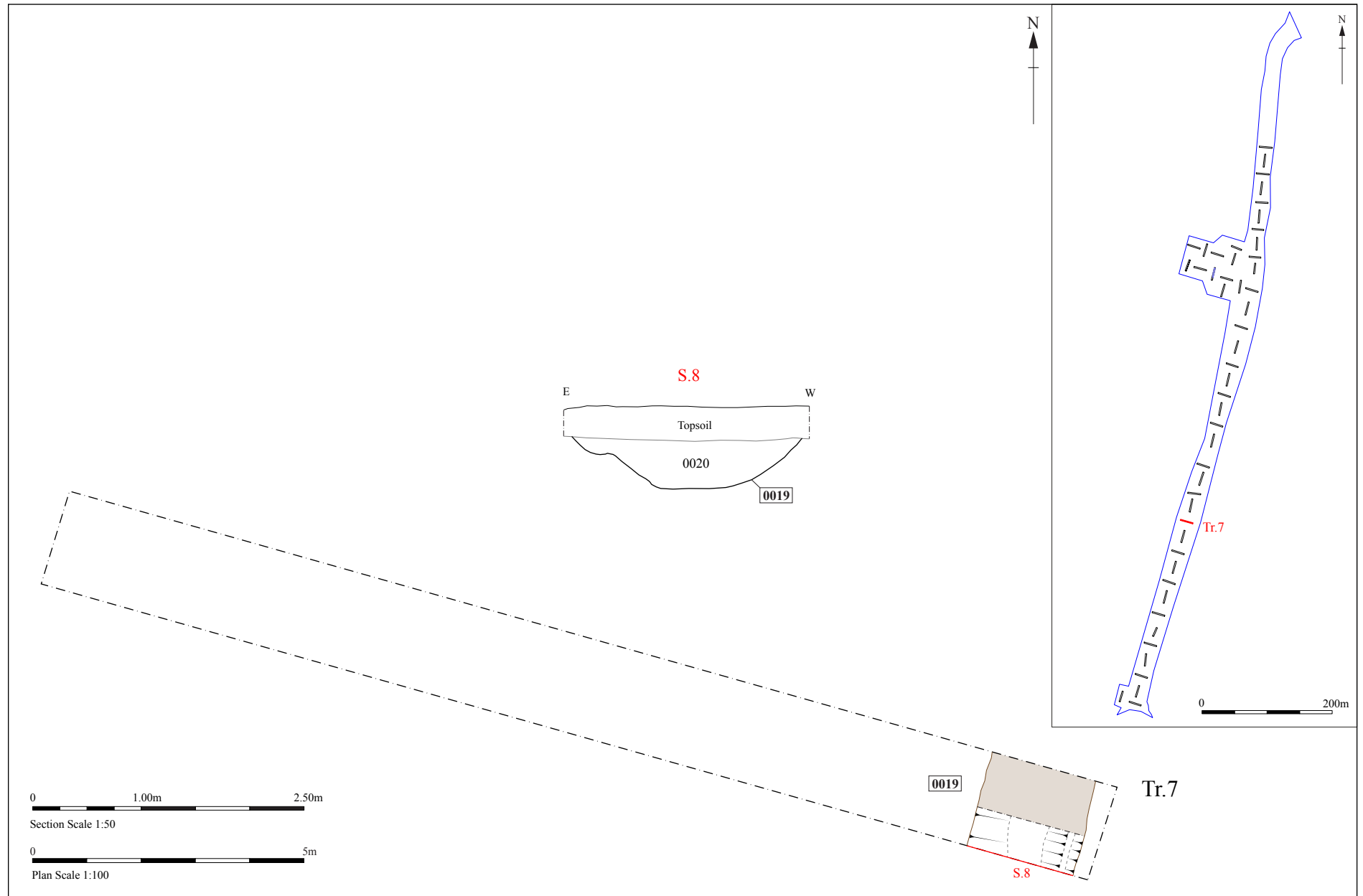


Figure 7. Trench 7, detailed plan and section

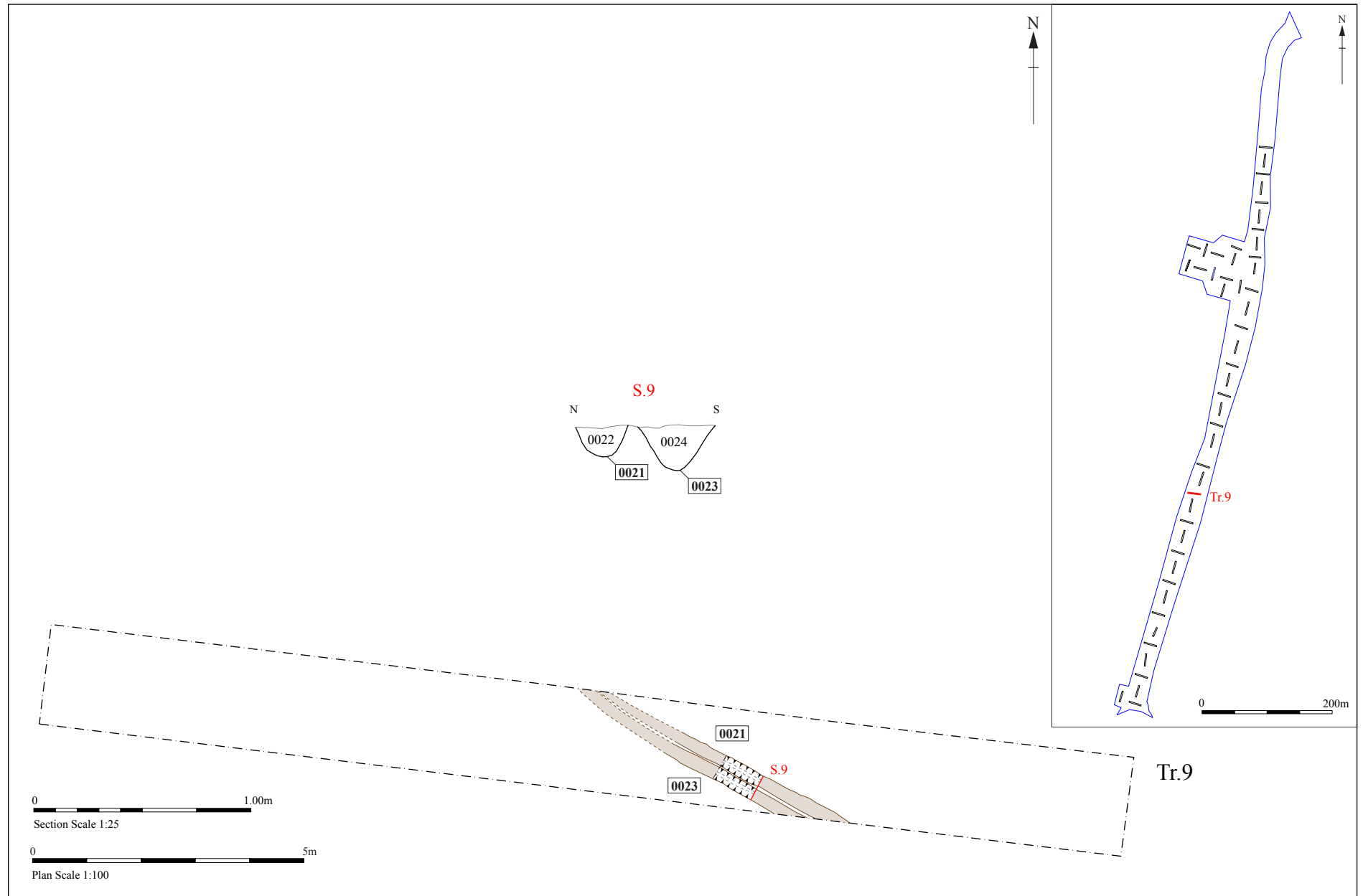


Figure 8. Trench 9, detailed plan and section

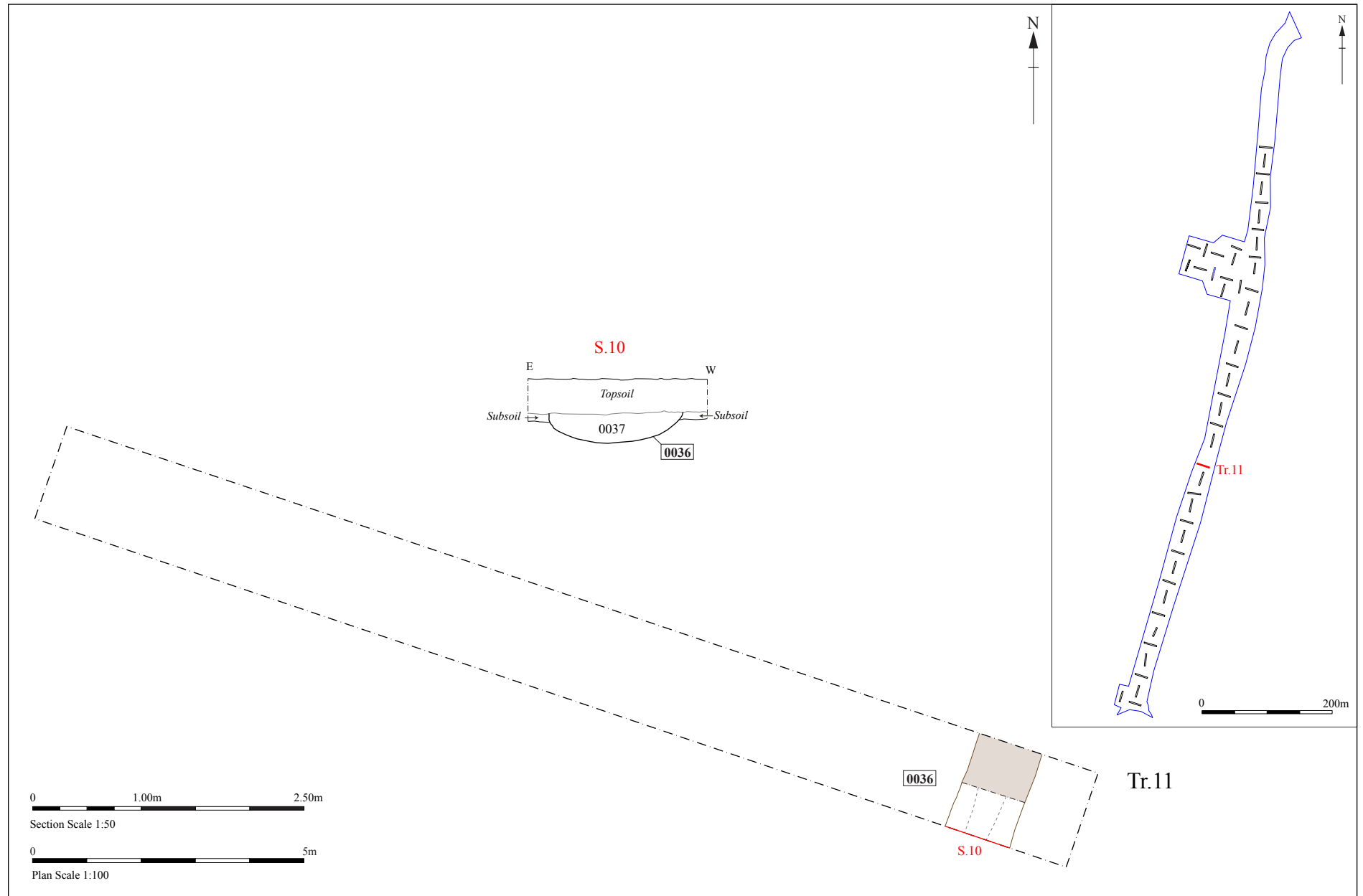


Figure 9. Trench 11, detailed plan and section

form, with 0023, the southern of the two, slightly deeper but with the same U-shaped profiles. Each was filled by a dark grey almost stone free, silty sandy clay, with five fragments of post-medieval CBM recovered from gully 0021.

Area B

Trench	Length	Area	Height	Depth	Features
12	20m	36m ²	13.37m W 13.11m E	<0.55m	-
13	20m	36m ²	12.77m N 12.43m S	<0.55m	-
14	20m	36m ²	11.04m W 11.24m E	<0.48m	-
15	20m	36m ²	10.22m W 9.91m E	<0.4m	-
16	20m	36m ²	8.98m N 9.75m S	<0.42m	0027; 0029
17	20m	36m ²	8.05m W 7.89m E	<0.4m	-
18	20m	36m ²	7.02m N 7.72m S	0.35m	0031
19	20m	36m ²	6.75m W 6.42m E	<0.4m	-
20	20m	36m ²	5.90m N 6.23m S	<0.4m	-
21	20m	36m ²	5.89m W 5.66m E	<0.4m	-
22	20m	36m ²	6.12m N 5.59m S	<0.65m	-
23	20m	36m ²	6.63m W 6.85m E	<0.55m	-
24	20m	36m ²	9.46m N 7.76m S	<0.45m	-
25	20m	36m ²	10.10m W 11.29m E	<1.5m	-
26	20m	36m ²	12.75m N 11.37m S	<1.5m	-
27	20m	36m ²	13.00m W 14.02m E	<1.5m	-
28	20m	36m ²	13.56m N 13.32m S	0.35m-0.4m	0033
29	20m	36m ²	13.81m W 14.21m E	0.35m-0.4m	-
30	20m	36m ²	15.02m N 14.32m S	0.35m-0.4m	-
31	20m	36m ²	14.98m W 15.42m E	0.35m-0.4m	-
32	20m	36m ²	6.45m N 5.78m S	0.6m	-
33	17m	30.6m ²	7.02m W 6.61m E	0.45m	-

34	20m	36m ²	5.75m W 5.85m E	0.5m-0.95m	-
35	20m	36m ²	6.03m N 5.57m S	0.55m	-
36	20m	36m ²	5.63m W 5.67m E	0.6m	-
37	20m	36m ²	5.21m N 5.30m S	0.75m	-
38	20m	36m ²	5.12m N 5.42m S	0.6m	0038
39	20m	36m ²	4.21m W 5.15m E	0.9m	-
40	20m	36m ²	5.21m N 5.12m S	0.35m-0.4m	0031; 0041
41	20m	36m ²	4.92m W 5.13m E	0.35m-0.4m	-
42	20m	36m ²	4.87m N 4.80m S	0.35m-0.4m	-

Table 2. Area B trench dimensions

31 trenches were excavated on the cultivated southern slope and grassland north slope of the valley. A uniform layer of dark brown clay loam topsoil was present over the cultivated area which measured between 0.35m and 0.45m thick whilst the grassland appeared not to have been subject to deep cultivations and topsoil was minimal. The natural subsoil comprised either a pale grey brown clay sand with some dark brown mineralised patches or mottled orange and grey clay.

Archaeological features were identified in five trenches in Area B. In Trench 16 (Fig 10), two adjacent but not quite parallel ditches were recorded, 0029 running WNW-ESE and just cutting 0027, which was aligned approximately E-W. A fragment of post-medieval roof tile was recovered from the mottled mid orangey grey silty clay fill of ditch 0029.

In Trench 18 (Fig 11), 0031 was a narrow E-W aligned ditch, quite shallow, with a rounded profile, filled by a mottled pale grey/brown/orange clay silt from which no finds were recovered.

Trench 38 (Fig 12), contained a single NW-SE aligned ditch which was fairly shallow with an even, rounded profile. It was filled by a mottled pale grey/orange clay silty sand, with no finds.

In Trench 40 (Fig 13), a spread of very dark blackish brown silty clay up to 0.3m thick covered much of the base of the trench. It contained frequent heat altered flints but no

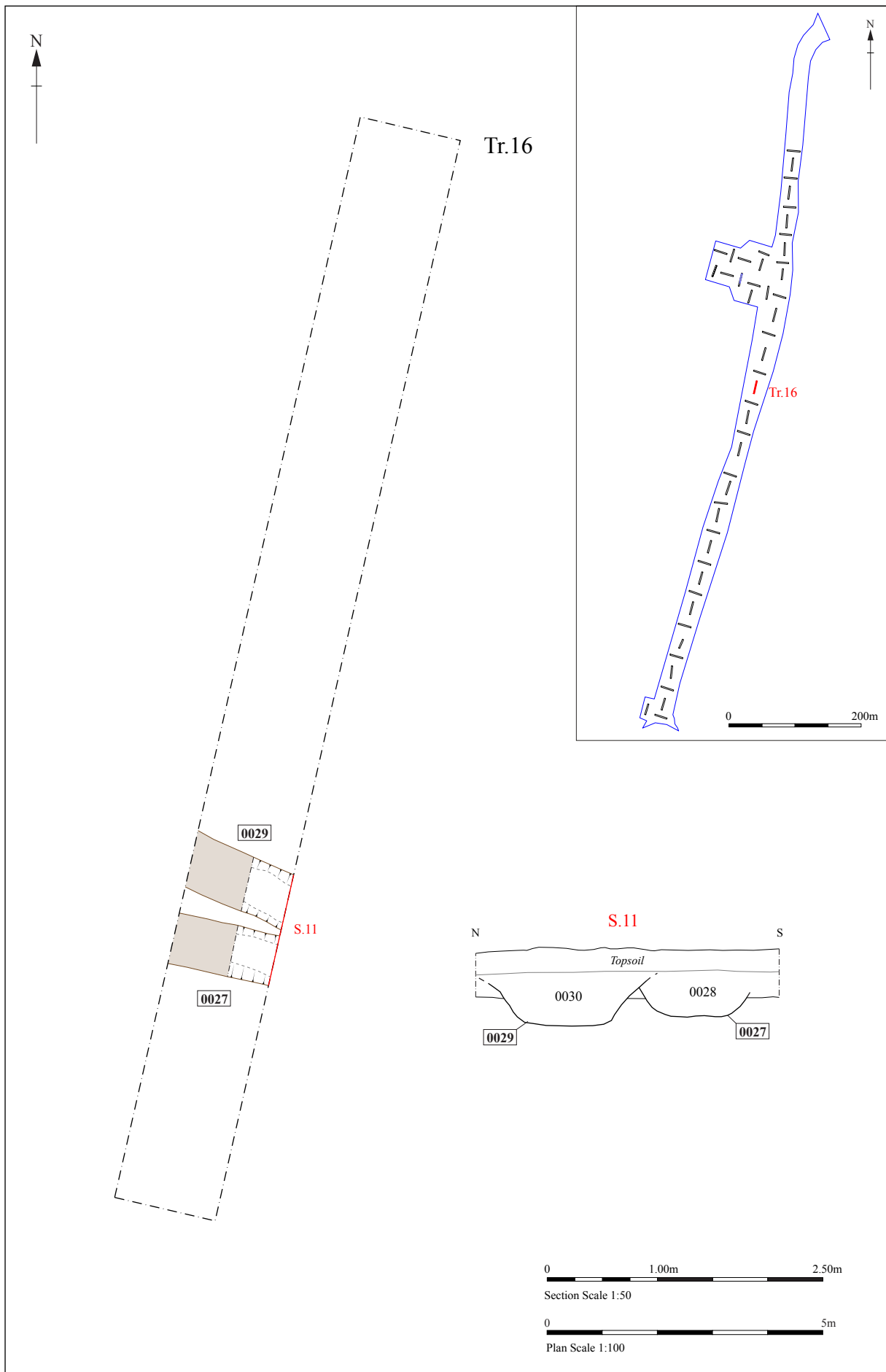


Figure 10. Trench 16, detailed plan and section

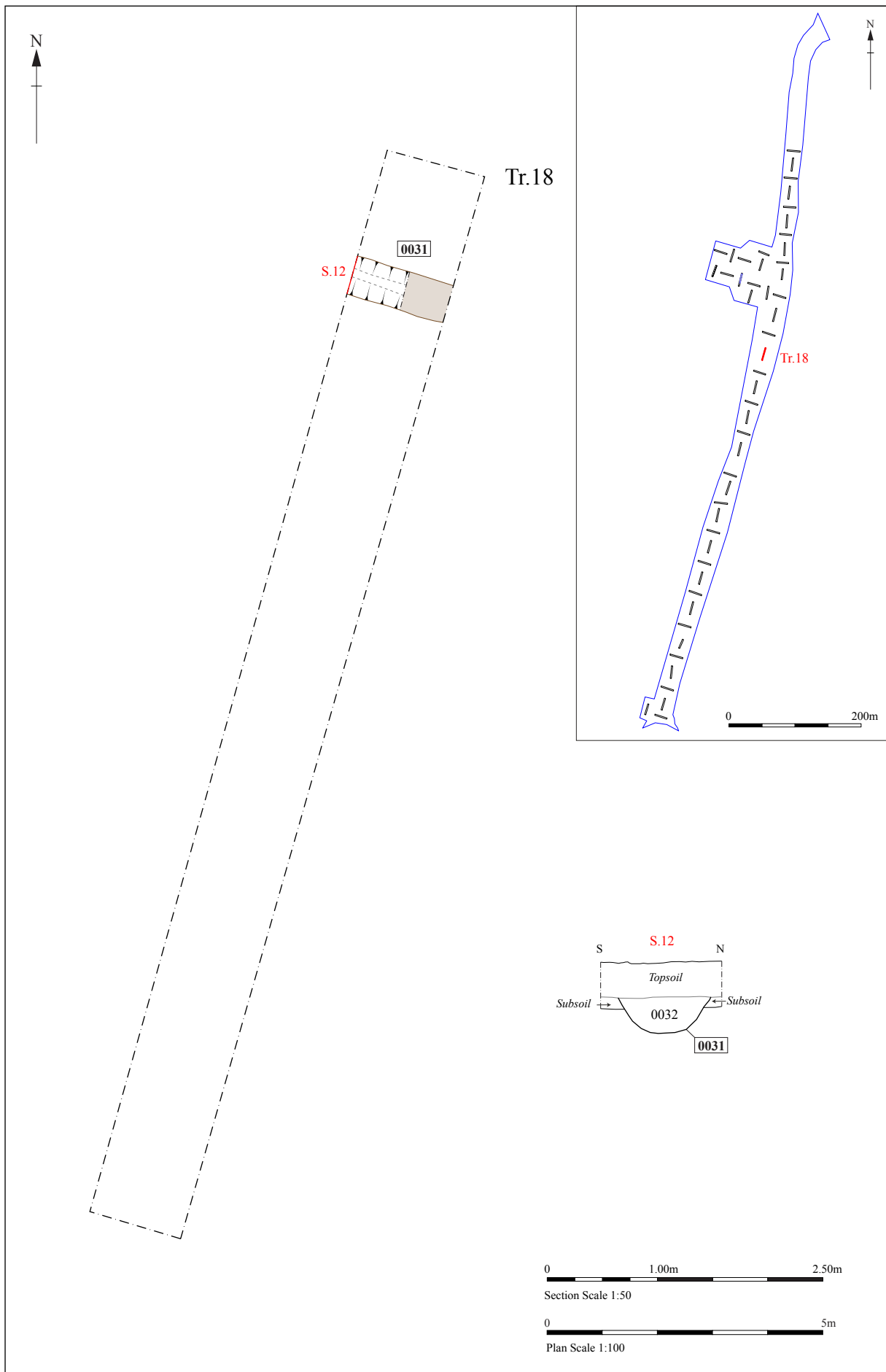


Figure 11. Trench 18, detailed plan and section

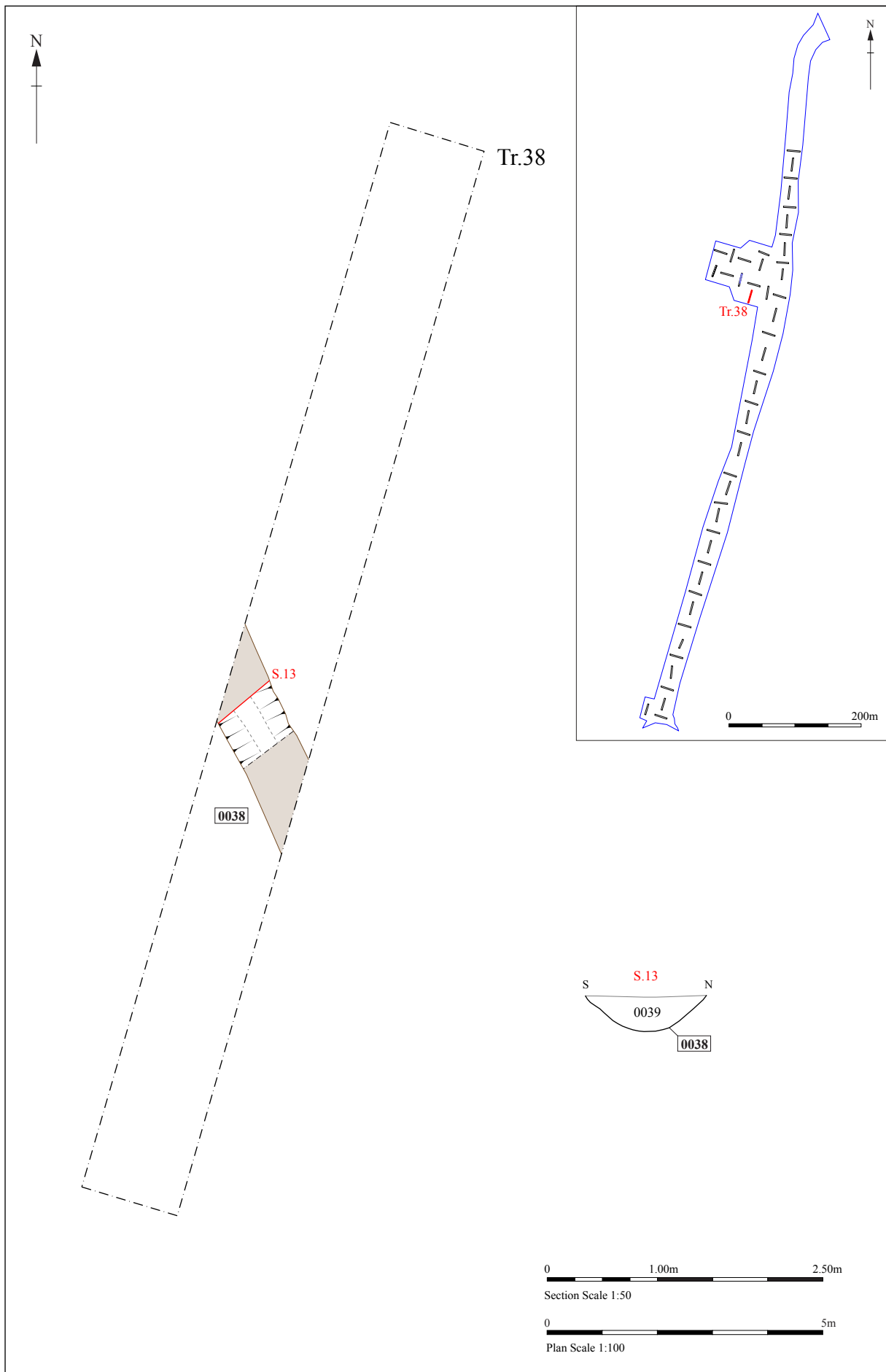


Figure 12. Trench 38, detailed plan and section

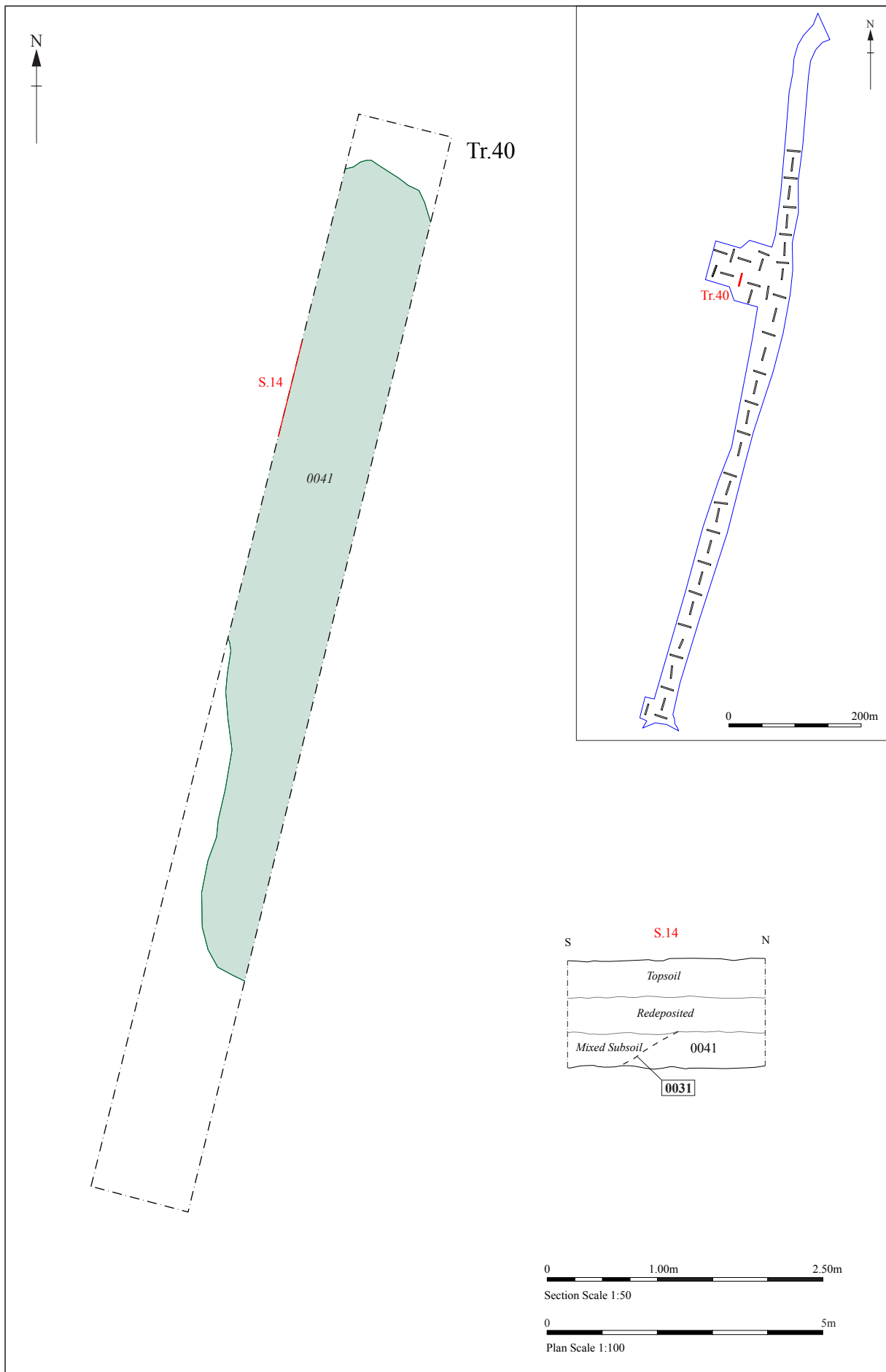


Figure 13. Trench 40, detailed plan and section

datable finds were found within this deposit, from which an environmental sample was taken.

Trenches 22, 23 and 24 contained a thick layer of subsoil, likely to be hillwash. Two prehistoric worked flints and two small fragments of abraded prehistoric pottery were found within this layer.

Deep deposits, possibly extraction pits were recorded in trenches 25, 26 and 27, each filled with around 1.5m of mixed silt and clay layers. It is likely that these are associated with the former brickworks immediately east of these trenches (Fig. 14).

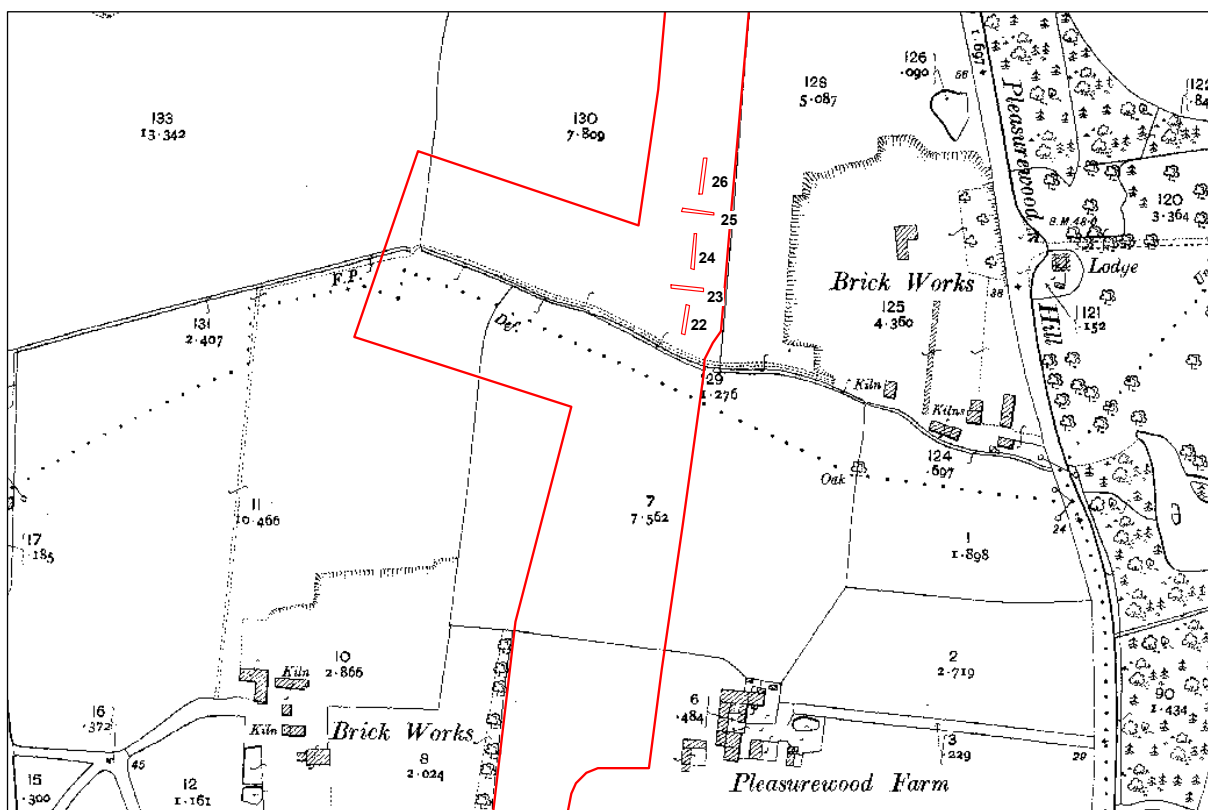


Figure 14. Extract from the 2nd edition Ordnance Survey map showing the brick works and related pits east of trenches 22-26.

In Trench 28 (Fig 15), a single small isolated pit or post hole was present in the north end of the trench. 0033 was circular in plan with a rounded, U-shaped profile. Its upper fill was a pale grey silty clay with occasional charcoal flecks sealing a lower fill of essentially the same matrix with a much higher density of charcoal.

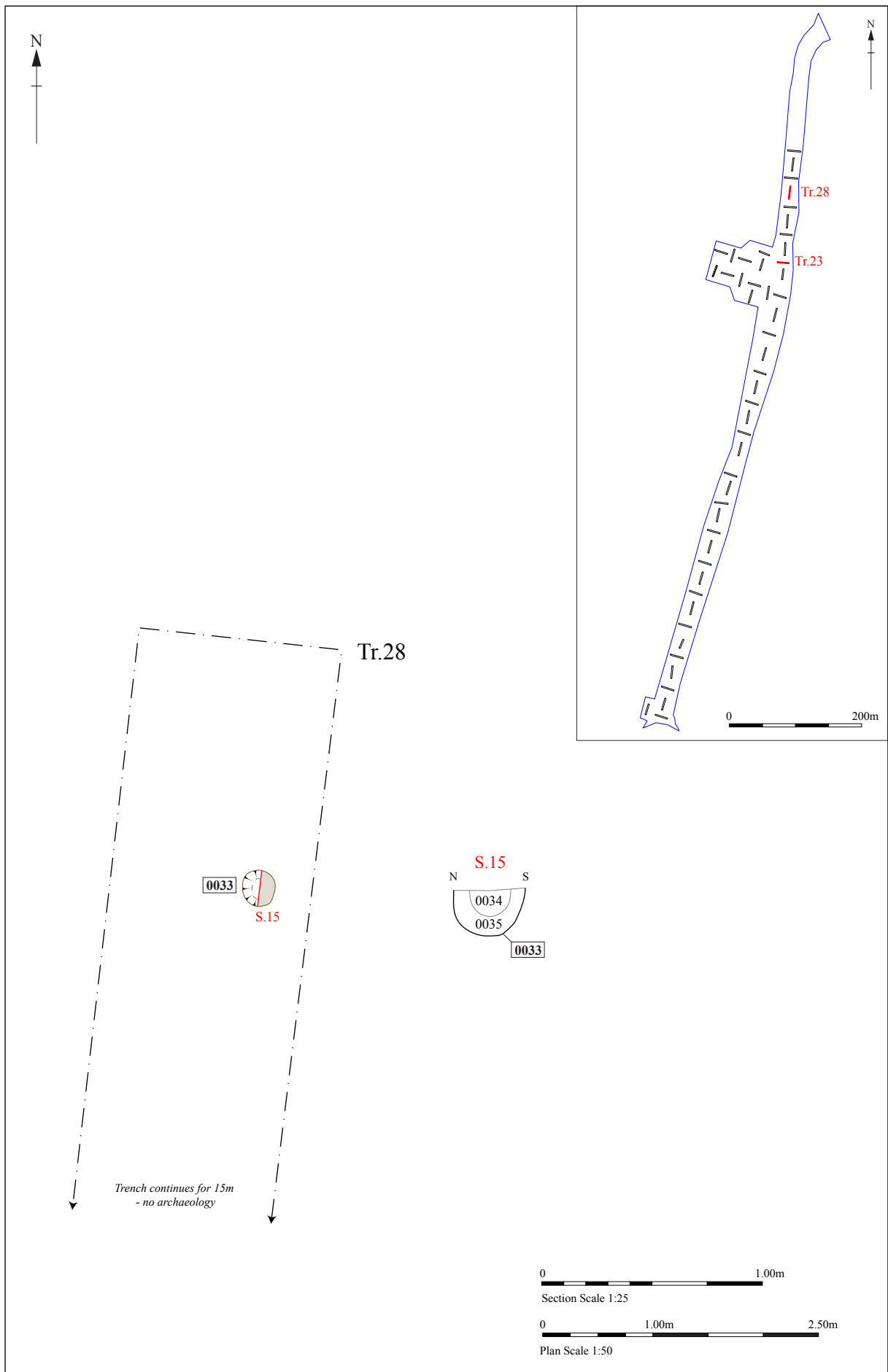


Figure 15. Trenches 28, detailed plan and section

Area C

Trench	Length	Area	Height	Depth	Features
50	30m	60m ²	19.59m W 19.12m E	0.3m-0.4m	0043
51	30m	60m ²	18.89m N 19.15m S	0.3m	-
52	30m	60m ²	19.00m W 18.78m E	0.3m	-
53	30m	60m ²	18.39m N 18.46m S	0.3m	-
54	30m	60m ²	18.29m W 17.82m E	0.3m	0045; 0047
55	30m	60m ²	17.71m N 17.63m S	0.3m	-
56	30m	60m ²	17.30m W 16.92m E	0.3m	0051
57	30m	60m ²	17.11m N 16.85m S	0.3m	-
58	30m	60m ²	17.21m N 17.15m S	0.3m	-
59	30m	60m ²	17.70m W 17.30m E	0.3m	-
60	30m	60m ²	17.52m N 17.92m S	0.3m	0055
61	30m	60m ²	18.19m W 17.8m E	0.3m	-
62	30m	60m ²	17.99m N 18.52m S	0.3m	-
63	30m	60m ²	18.68m W 18.20m E	0.3m	-
64	30m	60m ²	18.67m N 19.05m S	0.3m	0048
65	30m	60m ²	17.18m NW 17.19m SE	0.3m	-
66	30m	60m ²	17.39m W 17.22m E	0.3m	-
67	30m	60m ²	17.40m N 17.82m S	0.3m	-
68	30m	60m ²	17.97m W 17.71m E	0.3m	-
69	30m	60m ²	18.09m N 18.23m S	0.3m	-
70	30m	60m ²	18.52m W 17.29m E	0.3m	-
71	30m	60m ²	17.35m N 17.15m S	0.3m	-
72	30m	60m ²	17.39m W 17.17m E	0.3m	-
73	30m	60m ²	17.61m N 17.66m S	0.3m	-
74	30m	60m ²	17.44m NW 17.24m SE	0.3m	-
75	30m	60m ²	17.52m NE 17.72m SW	0.3m	-

Table 3. Area C trench dimensions

26 trenches were excavated on generally flat, cultivated land bounded by Blundeston Road to the south and the A12 to the north east. A uniform 0.3m thick layer of dark brown clay loam topsoil was present over the area, sealing the natural subsoil underneath. The natural subsoil comprised either mainly an orangey brown sandy clay with gravel patches and some areas of dark blackish brown mineralised material and fine, pale grey sands characteristic of heathland soils.

In Trench 50 (Fig. 17), 0043 was a ditch aligned approximately N-S with an even, rounded profile. It was filled by 0042 which comprised of alternating stripes of pale grey silty sand and dark blackish grey silty sand. This ditch was also visible continuing into Trench 64 (Fig. 20) although slightly narrower, shallower and with a more uniform brownish grey fine silty sand fill, becoming darker towards the base. No datable evidence was recovered from this ditch.

Two possible features were excavated in Trench 54 (Fig. 18). Pit 0047 was oval in plan, aligned roughly NW-SE, with a shallow, concaved profile and a flattish uneven base. Its fill was a dark greyish black, firm silty clay with occasional flecks of charcoal. A large, thin flint flake with possible blade scar was found in the base of the pit, which may be Neolithic in date. Pit 0045 was poorly defined, had a diffuse horizon with the natural subsoil in many places and may be a natural feature or tree throw. Similar features excavated in Trench 56 and Trench 60 were also thought unlikely to be archaeological.

In Trench 62, (Fig 19) 0056 was a large NW-SE aligned ditch with gradual sloping sides and a rounded base. Its upper fill was a thin layer of mid to dark brown silty sand with occasional charcoal, coal and chalk flecks which sealed a mid-pale greyish brown silty sand mottled with pale brown silty sand and orange mineralised flecks. It was darker towards the base but there was no clear horizon. A vertically sided cut was visible in section at the base of which was a circular ceramic field drain. Finds from the fill above this drain were of 18th-19th century date. The same ditch was present in Trench 64 and Trench 60, and ties in with a boundary shown on the 1st edition Ordnance Survey map (Fig. 16) As a drainage ditch, it may also have been related to a large, deep pit, 0061, partially exposed in the eastern end of Trench 62 (Plate 1). It measured up to 1.45m deep with a mixed fill consisting of mid greyish brown, firm clay silt with bands and stripes of yellow clay and humic dark organic deposits. Ceramic drainage pipes the

same as those in ditch 0056 in the adjacent trench were present in this pit which may have been a pond into which ditch 0056 drained.

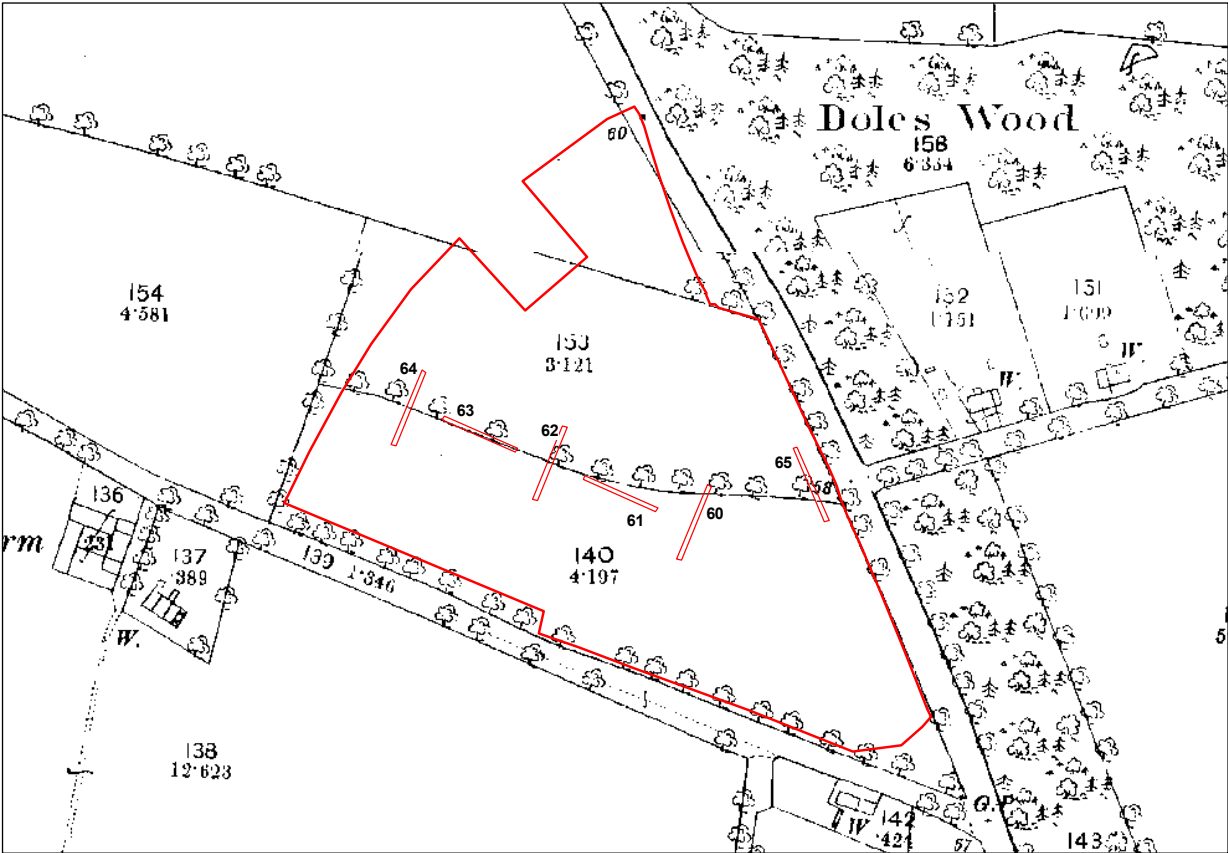


Figure16. Extract from the 1st edition Ordnance Survey map showing the east-west field boundary seen in trenches 64, 62 and 60.



Plate 1. Section through pond cut 0061, looking north

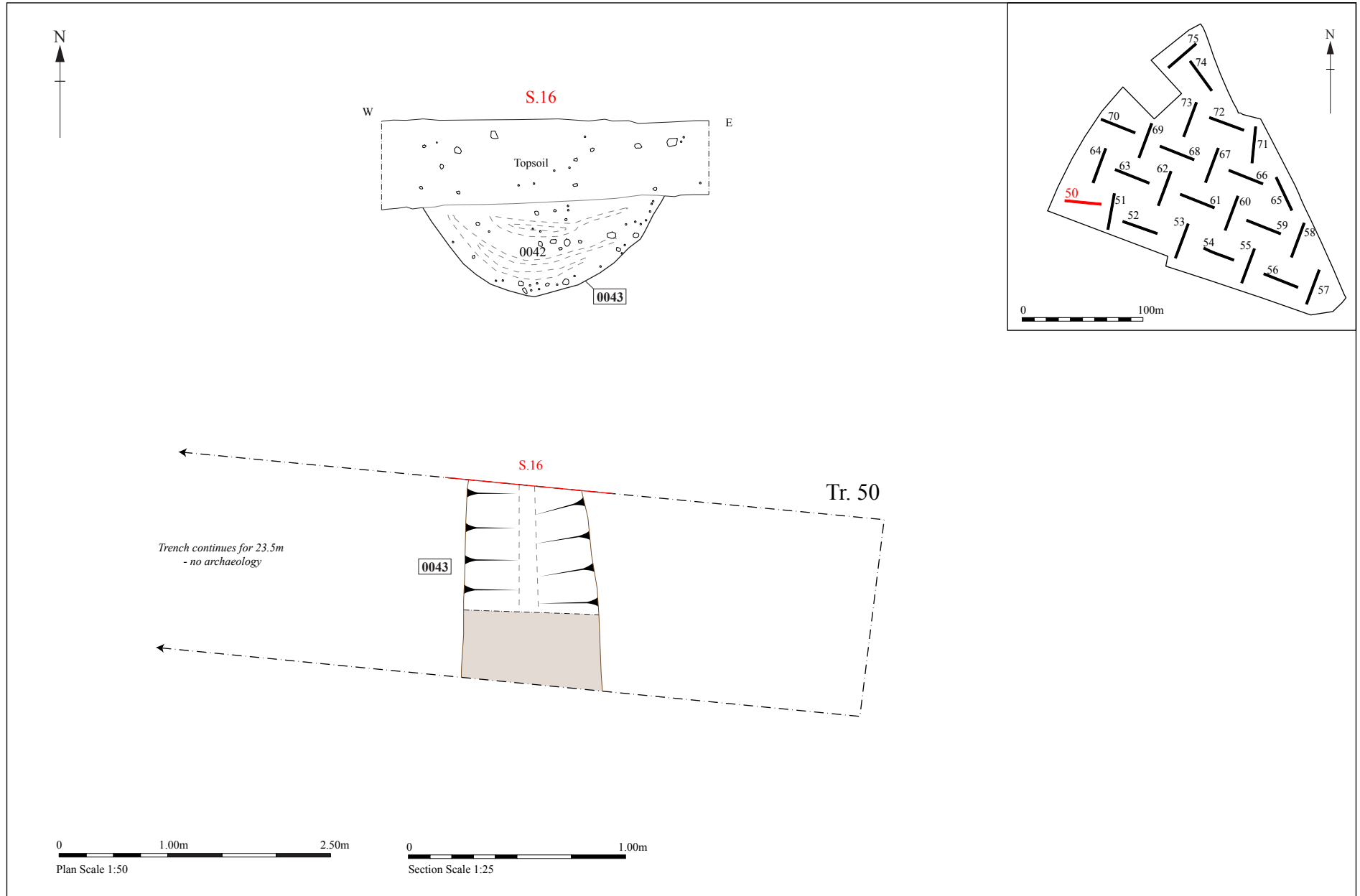


Figure 17. Trench 50, detailed plan and section

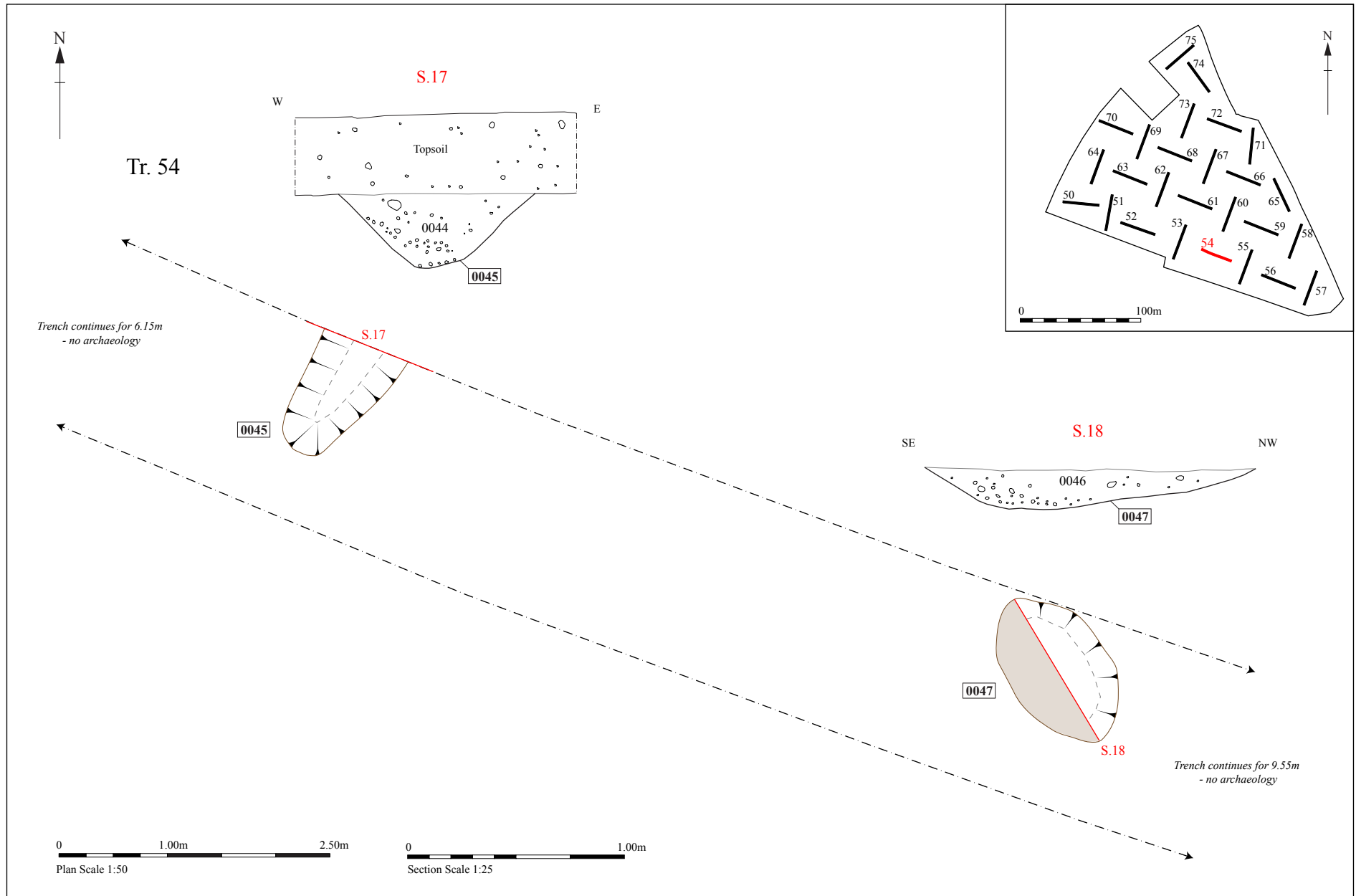


Figure 18. Trench 54, detailed plans and sections

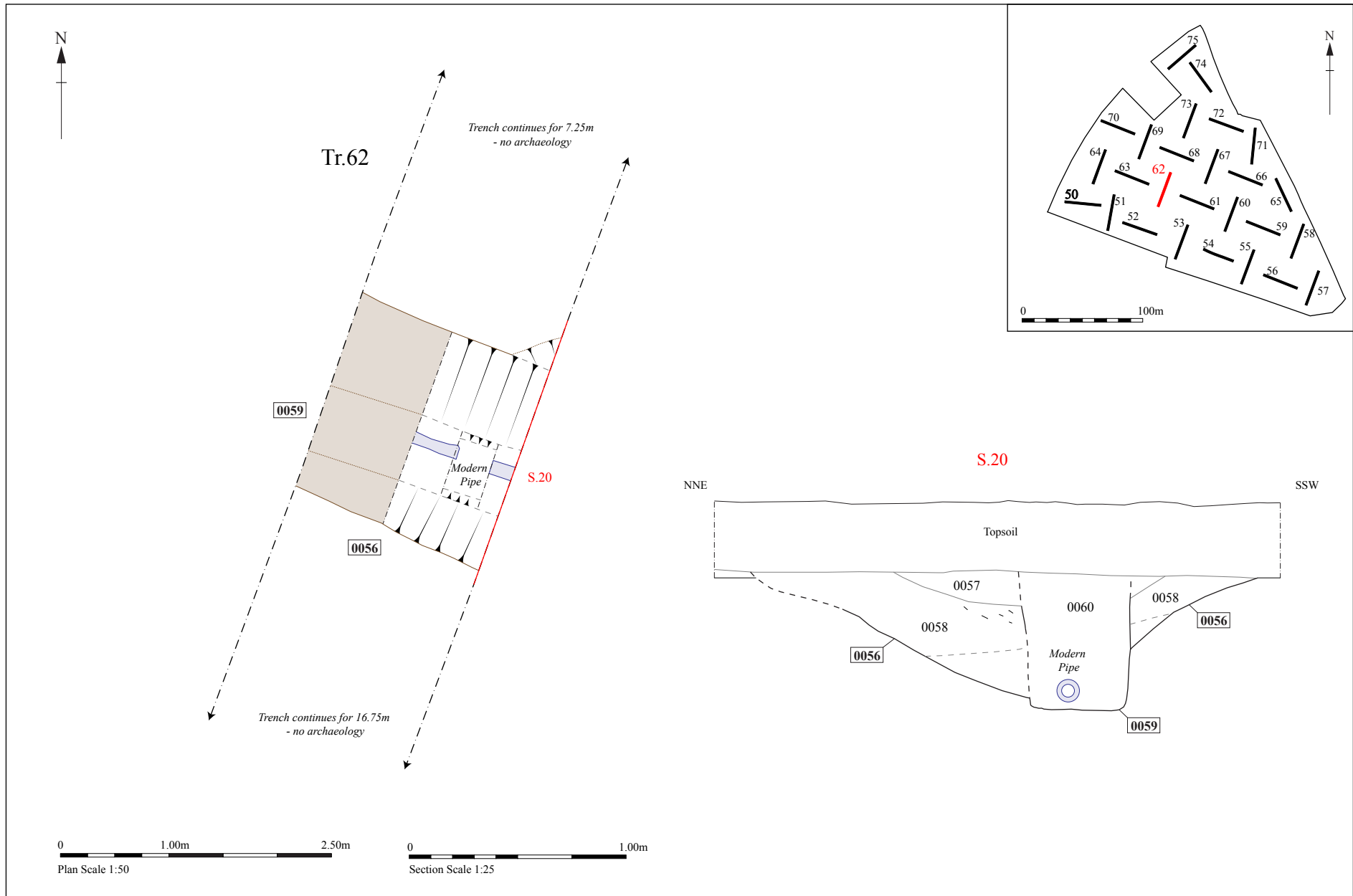


Figure 19. Trench 62, detailed plan and sections

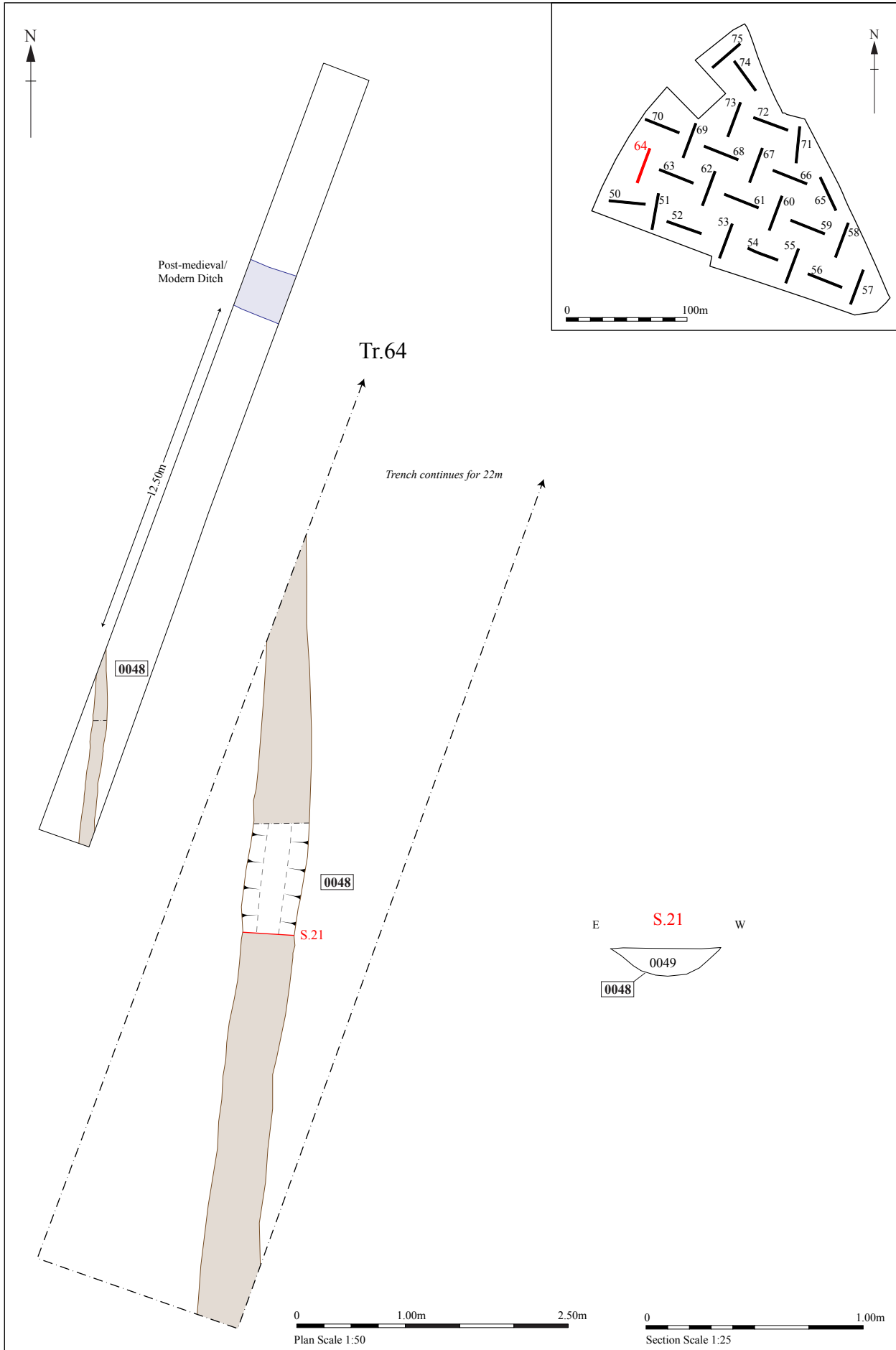


Figure 20. Trench 64, detailed plan and sections

6. Finds and environmental evidence

Richenda Goffin

Introduction

Table 4 shows the quantities of finds recovered from the evaluation.

Context	Pottery		CBM		Slag		W Flint		An bone		Notes	Date Range
	No.	Wt/g	No.	Wt/g	No.	Wt/g	No.	Wt/g	No.	Wt/g		
0003	1	17										Roman
0005	25	289										Roman
0014									1	61		
0022			5	322								P-med
0025	1	2										Medieval
0026	2	30					2	13				Pre/ Roman
0030			1	16								L med/ med
0034			3	4							3 fired clay frags from Sample 2	
0041					2	22					56g burnt flint, all Sample 3	Prehistoric ?
0046							1	33				Prehistoric ?
0060	2	85			1	37						1770-1850
Total	31	423	9	324	3	59	3	46	1	61		

Table 4. Finds quantities

The Pottery

Stephen Benfield and Richenda Goffin

Thirty-one sherds of pottery weighing 423g were recovered from nine trenches.

Prehistoric Pottery

A single small, abraded sherd of flint-tempered prehistoric pottery (5g) was recovered from the subsoil layer 0026, which is probably a hillwash deposit. The sherd is tempered with common medium-coarse crushed burnt flint and is not closely dated other than as Neolithic-Bronze Age.

Late Iron Age and Roman Pottery

Twenty-two sherds of Roman pottery (237g) were identified, together with two probable Late Iron Age sherds (65g). The pottery, which consists entirely of coarsewares, was recorded using the Suffolk Roman pottery fabric series and vessel forms were

catalogued using the Suffolk (Pakenham) form type series (unpublished). The pottery fabrics are listed by count, weight and estimated vessel equivalence (EVE) in Table 5.

Fabric name	Fabric	No	Wt/g	EVE
Hand-made sand-tempered	HMS	2	65	
Miscellaneous buff wares	BUF	9	45	
Grey micaceous wares (grey-surfaced)	GMG	1	10	0.03
Miscellaneous sandy grey wares	GX	14	182	0.59
<i>Total</i>		26	302	0.62

Table 5. Late Iron Age and Roman fabric quantities

Two abraded sand-tempered sherds (Fabric HMS) are moderately thick and appear to be hand-made. Both sherds have fresh breaks and are probably part of the same vessel, but do not join. The sherds have a hard fired sandy fabric, mostly quartz sand, with some fragments of burnt organic matter, and the smaller sherd has some small ironstone or iron pan fragment inclusions. There is part of a shallow shoulder or girth groove on both sherds. The hand-made, hard fired sandy fabric and probable form of the vessel with a neat body groove suggests a Late Iron Age date. They were recovered from the fill of ditch 0004 (0005) together with Roman pottery and a date of the 1st century AD appears likely for these two sherds.

The Roman pottery was recovered from two contexts, ditch 0004 (0005) and pit 0002 (0003), both of which were in Trench 1.

Most of the pottery (25 sherds weighing 286 g) was recovered from the fill of ditch 0004 (0005). The pottery from this feature consists of abraded body sherds in a buff fabric (Fabric BUF) which are likely to be part of the same vessel, probably a flagon, a micaceous sherd (Fabric GMG) which may originate in the Wattisfield area and greyware sherds (Fabric GX) from jars and/or deep bowls. The greyware sherds include an abraded group which are all in a similar coarse sandy fabric with some flint and ironstone inclusions. These sherds may be severely abraded Black-surface wares (Fabric BSW). The different degrees of abrasion on sherds from this feature could suggest that some of the pottery is residual and this might be reflected in the vessel forms. The buff ware sherds, possibly representing a flagon, are likely to date to the early-mid Roman period, and the abraded greyware sherds appear to represent shouldered jars of possible mid 1st-mid 2nd century date. The micaceous sherd (Fabric GMG) is possibly also from an early Roman bowl form. Other greyware sherds which are not so abraded are from a deep bowl form which, by its projected shoulder shape,

may be likely to date to the mid Roman period of the 2nd-3rd century or later. However, close dating of the pottery from the feature is difficult especially as the the sherd size for the abraded greywares sherds and the probable Iron Age sherd (above) is good. Overall a 2nd-3rd century date appears likely.

The pottery from pit 0002 (0003) is just a single, abraded base sherd in a coarse greyware (Fabric GX2) of the same fabric type as the coarse abraded sherds from ditch 0004. This sherd is simply dated as Roman, but by association with the pottery of this type from the ditch it might be of similar early-mid Roman date. However, its abraded condition could also suggest it is residual in this feature.

Medieval and post-medieval

Two sherds of medieval pottery were recovered from two trenches. A small fragment of a wheelthrown sandy ware with an oxidised external margin was present in the spoil from Trench 11. It dates to the late 12th to 14th century and is likely to have been made locally. The abraded remnant of the strap handle of another medieval coarseware identified from the subsoil layer in Trenches 22-24 is also of the same date.

Two fragments of a Transfer printed pearlware lid from the fill 0060 of the field drain 0059 in Trench 62 are dated c.1770-1850.

The ceramic building material and fired clay

Six fragments of ceramic building material were collected from two trenches. Five fragments from ditch fill 0022 in Trench 9 consist of three pieces of a post-medieval maroon coloured brick, whilst two smaller and more abraded fragments are made in finer, softer fabrics which are likely to date to the early post-medieval period. A small piece of a fully oxidised post-medieval roof tile was present in ditch fill 0030 in Trench 16.

Three small and abraded fragments of undiagnostic fired clay were recovered through the environmental processing of Sample 2, pit fill 0034 in Trench 28.

Slag

Three fragments of slag were identified in two features in two different trenches. A large fragment of vesicular slag was present in the fill 0060 of the field drain in Trench 62.

Two smaller fragments which may be fuel ash slag were recovered from Sample 3 from layer 0041 in Trench 40.

Worked flint

Identifications by Dr Colin Pendleton

Three fragments of worked flint were collected from two different trenches. A thin and large struck flint with a possible blade scar may be Neolithic. It was found in the fill 0046 of a pit in Trench 54. Two other flints were found in the subsoil layer (Trenches 22,24).

One is an unpatinated long flake with hinge fracture and limited edge retouch. It has parallel flake/blade scars on the dorsal face. It is probably Neolithic or early Bronze Age.

The second flint is another unpatinated flake with limited edge retouch, with parallel flake scars on the dorsal face. It is probably Neolithic or Bronze Age.

Burnt flint

A sample of fifty-six fragments of heat-altered flint was retained from Sample 3 (56g) from layer 0041 in Trench 40. Most of it can be identified as pot-boiler debris, blue-grey to white and very fire cracked (Cathy Tester, pers. comm).

Animal bone

A single fragment of animal bone was found in the ditch fill 0014 in Trench 1. It has no diagnostic features but the size and shape suggests that it may be part of a large mammal tibia, from either a horse or a cow.

Environmental evidence

Anna West

Introduction and method statement

Four samples were taken from archaeological features during an evaluation of the northern spine road in Lowestoft. The samples were all processed in order to assess the quality of preservation of plant remains and their potential to provide useful data as part of further archaeological investigations.

The samples were processed using manual water flotation/washover and the flot was collected in a 300 micron mesh sieve. The dried flot was scanned using a binocular microscope at x16 magnification and the presence of any plant remains or artefacts were noted. Identification of plant remains is with reference to New Flora of the British Isles, 3rd Ed (Stace C).

The non-floating residues were collected in a 1mm mesh and sorted when dry. No artefacts/ecofacts were recovered from these residues.

Results

Samples 1, fill (0020) from ditch 0019 and 3, (0041) from layer 0040 only produced small quantities of flot, less than 20ml each. Sample 2 produced approx 600ml, of which 100ml was scanned for identifiable plant remains for the purpose of this report, and Sample 4, fill (0046) from pit 0047, produced a relatively large flot residue of 300ml. The flots from samples 1 and 3 were scanned in full but no plant macro fossils were observed within this material, only fragments of wood charcoal and modern fibrous rootlets. Samples 2 and 4 contained larger quantities of charcoal but these were highly comminuted and as a result may be too small to be identifiable or of use in dating. Three seeds were observed within the scanned flot of Sample 4, two *Rubus* sp. (Bramble) and a single *Chenopodium* sp. (Goosefoot), these were not charred and although they were slightly abraded are likely to be intrusive within the archaeological deposit.

Conclusions and recommendations for further work

It is not recommended that any further work is carried out on the flot material from this sample as it would offer little extra information of value to the results of the evaluation. However if further intervention is planned on this site, it is recommended that further sampling should be carried out from well sealed and dated contexts. Any plant macro fossils within future samples could provide insight into to the utilisation of local plant resources, agricultural activity and economic evidence from this site.

7. Discussion

Evaluation revealed a low density of archaeological features within the evaluated area. Generally, only a thin layer of topsoil sealed the archaeological deposits and being largely situated within agricultural land, the area had been subject to ploughing which may have resulted in the loss of evidence which once existed at a higher level. However, only two sherds of medieval pottery were recovered from the topsoil; had a significant number of surface finds been recovered, it may have suggested the disturbance of shallow archaeological features.

Small quantities of artefacts dating to the prehistoric period were identified in Trenches 40 and 54 and in subsoil deposits. Some Late Iron Age pottery was recovered with a more substantial amount of Roman pottery in two features in Trench 1, the only area of the site to have produced significant evidence of early activity.

The post-medieval period is represented by a small amount of pottery and CBM dated from the 18th to 19th century, some of which is associated with the field boundary known to have been extant until at least the 1880's.

8. Archive deposition

The archive is lodged with the SCCAS at its Ipswich office under the HER reference LWT 193. A summary of this project has also been entered onto OASIS, the online archaeological database, under the reference suffolkc1-151210.

Photographs are catalogued under the code HUJ 1-94.

Digital archive: R:\Environmental Protection\Conservation\Archaeology\Archive\
Lowestoft\LWT 193 Northern Spine Road

9. Acknowledgements

The fieldwork was carried out by Preston Boyles, Phil Camps and Simon Picard and directed by Linzi Everett.

Project management was undertaken by Rhodri Gardner who also provided advice during the production of the report.

Post-excavation management was provided by Richenda Goffin. The finds report was produced by Richenda Goffin with additional specialist advice provided by Stephen Benfield, Colin Pendleton and Anna West.

The report illustrations were created by Linzi Everett and Crane Begg and the report was edited by Richenda Goffin.

Bibliography

Stace, C., 2010, *New Flora of the British Isles*. Second edition. Cambridge University Press

Appendix 1

Context Number	Feature Type	Category	Feature Number	Description
0001		Layer	0001	Topsoil and unstratified
0002	Pit	Cut	0002	Shallow pit, only partially exposed in the S side of trench. Angled sides breaking sharply to a flat base, shallow.
0003	Pit	Fill	0002	mid grey brown clay silty sand with occasional charcoal flecks and occasional small stones. Moderate compaction, cuts subsoil.
0004	Ditch	Cut	0004	shallow NNE-SSW aligned ditch with angled sides breaking sharply to a flat base.
0005	Ditch	Fill	0004	mottled mid grey brown and orangey brown clay silty sand with regular rounded stones. Firm compaction. Sealed by subsoil.
0006	Ditch	Cut	0006	E-W aligned ditch with rounded profile. Cuts subsoil
0007	Ditch	Fill	0006	pale orangey brown clay silt with occasional stones and charcoal flecks. Moderate compaction
0008	Ditch	Cut	0008	WSW-ENE aligned ditch, generally rounded profile, slightly stepped N edge, flattish base
0009	Ditch	Fill	0008	pale orangey brown clay silty sand with occasional charcoal flecks and small stones
0010	Ditch	Fill	0008	dark grey clay, fairly stone free, firm compaction
0011	Ditch	Cut	0011	narrow SW-NE aligned ditch or gully with steeply sloping sides breaking gradually to a flattish base
0012	Ditch	Fill	0011	mixed fill of orangey yellow to pale grey clay. Moderate compaction
0013	Ditch	Cut	0013	large SW-NE aligned ditch, full width not exposed within the confines of the trench. Shallow sloping edges breaking to a rounded profile and base.
0014	Ditch	Fill	0013	thin layer of mid brown silty clay with occasional small stones in the upper part of the ditch fill but not present throughout the visible length of the ditch. Firm compaction
0015	Ditch	Fill	0013	layer of dark grey chalky clay in the upper part of the ditch fill, not present throughout the visible length of the ditch. Firm compaction
0016	Ditch	Fill	0013	mid brown silty clay with occasional small pebbles. Firm compaction

Context Number	Feature Type	Category	Feature Number	Description
0017	Ditch	Cut	0017	N-S aligned ditch with a stepped E side (possible re-cut?) and steep W side, breaking sharply to a flattish base
0018	Ditch	Fill	0017	mid brown clay silty sand with occasional charcoal flecks and orangey lumps of natural origin. Moderate to firm compaction
0019	Ditch	Cut	0019	N-S aligned ditch with stepped E side and gently sloping, rounded W side breaking gradually to a flattish base
0020	Ditch	Fill	0019	dark grey silty clay sand with orangey lumps of probable natural origin
0021	Ditch	Cut	0021	northern of two adjacent and parallel narrow NW-SE aligned ditches or gullies. Open 'u' shaped profile
0022	Ditch	Fill	0021	dark grey silty sandy clay, almost stone free. Moderate compaction
0023	Ditch	Cut	0023	southern of two adjacent and parallel narrow NW-SE aligned ditches or gullies. 'v' shaped profile with rounded base
0024	Ditch	Fill	0023	dark grey silty sandy clay, almost stone free. Moderate compaction
0025		Other	0025	Unstratified finds from the spoil of Trench 11
0026		Layer	0026	Subsoil (probable hillwash) layer in Trenches 22, 23, 24
0027	Ditch	Cut	0016	shallow E-W aligned ditch with steeply sloping sides breaking gradually to a flattish base. Cuts subsoil
0028	Ditch	Fill	0027	mottled mid-pale orangey grey silty clay, almost stone free, moderate compaction
0029	Ditch	Cut	0029	SSE-NNW aligned ditch with sloping sides breaking fairly sharply to a flattish base. Cuts subsoil
0030	Ditch	Fill	0029	mottled mid orangey grey silty clay, almost stone free, moderate compaction
0031	Ditch	Cut	0031	narrow E-W aligned ditch, quite shallow, with a rounded profile. Cuts subsoil
0032	Ditch	Fill	0031	mottled pale grey/brown/orange clay silt, almost stone free. Moderate compaction
0033	Pit	Cut	0033	small, circular post hole with a 'u' shaped profile. Isolated feature near the N end of the trench
0034	Pit	Fill	0033	pale grey silty clay with occasional charcoal flecks
0035	Pit	Fill	0033	pale grey silty clay with frequent charcoal flecks
0036	Ditch	Cut	0036	shallow N-S aligned ditch with a rounded profile. Cuts subsoil

Context Number	Feature Type	Category	Feature Number	Description
0037	Ditch	Fill	0036	mottled pale grey and orange clay silt, almost stone free
0038	Ditch	Cut	0038	NW-SE aligned ditch, sloping sides breaking gradually to a slightly rounded base. Cuts subsoil
0039	Ditch	Fill	0038	mottled pale grey/orange clay silty sand, very occasional stones and firm compaction
0040	Layer	Layer	0040	redeposited material
0041	Layer	Layer	0041	very dark/blackish layer of silty clay with frequent heat altered flints. Firm compaction, no finds
0042	Ditch	Fill	0043	Mixed fill of alternating stripes of pale white/grey silty sand and dark black/grey silty sand, containing mod sml and med sub/rnd and sub/ang stones.
0043	Ditch	Cut	0043	Linear cut in plan, aligned roughly n-s with mod sloping concaved sides down to a rounded concaved base.
0044	Ditch	Fill	0045	Dark black/grey firm silty clay, containing lenses of sml and med sub/rnd and sub/ang stones. Occ flecks of charcoal in fill. Diffuse horizon with natural in many places.
0045	Ditch	Cut	0045	Linear cut in plan, aligned roughly ne-sw, with steep to moderately sloping concaved sides down to a flattish concaved base. Poor definition of edges in places, but appears to have a rounded terminus.
0046	Pit	Cut	0047	Dark greyish black, firm silty clay containing mod sml and med rnd, sub/rnd and sub/ang stones. Occ flecks of charcoal. Sample taken.
0047	Pit	Cut	0047	Oval cut in plan, aligned roughly nw-se, with a shallow, concaved profile and a flattish uneven base.
0048	Ditch	Cut	0048	Linear n-s aligned, shallow concaved profile, concaved sides and base. ?Same as Ditch 0043 in trench 50?
0049	Ditch	Fill	0048	Mid-dark brownish grey v-fine silty sand, becoming darker towards the base. Hard but friable with very few inclusions. Very occ sml rnd pebbles and v-occ charcoal flecks.
0050	Pit	Fill	0051	Dark greyish black, firm sandy silt containing occ sml rnd and sub/rnd stones. Occ charcoal flecks.
0051	Pit	Cut	0051	?Possiible Pit? Cut goes beyond southern L.O.E of trench 56, but what is visible appears to be oval in plan with gently sloping concaved sides down to a flattish concaved base.
0052	Ditch	Fill	0053	Dark greyish black/brown firm sandy silt, containing occ sml rnd, sub/rnd, sub/ang and ang stones.

Context Number	Feature Type	Category	Feature Number	Description
0053	Ditch	Cut	0053	Linear cut in plan, aligned nw-se with mod sloping concave sides down to a concaved base.
0054	Pit	Fill	0055	Dark greyish black/brown, mottled, firm sandy silt cotaining occ sml rnd and sub/ang stones. Diffuse horizon with natural.
0055	Pit	Cut	0055	?Possible Pit? Feature goes beyond eastern L.O.E of trench 60 and has diffuse/ poorly defined edges but appears to be roughly oval in plan, with a shallow concaved profile and a flattish concaved base.
0056	Ditch	Cut	0056	Linear wnw-ese aligned with gradual sloping sides and rounded base. Cut by field drain 0059 on same alignment. Cut seen in lower fill 0058 but conjectured in upper fill 0057. Ditch also visible in trench 64 (where it is shallower) and trench 60.
0057	Ditch	Fill	0056	Upper fill of mid to dark brown silty sand with occ charcoal/ coal flecks, chalk flecks and reg sml-med rnd pebbles. Sealed by topsoil and probably cut by 0059.
0058	Ditch	Fill	0056	Mid-pale greyish brown silty sand mottled with pale brown silty sand and orange mineralised flecks. Reg med-lrg rnd pebbles. Darker towards base but no clear horizon. Firm. Cut for field drain 0059 seen clear in section in places.
0059	Field drain	Cut	0059	Vertical sided cut for field drain. Circular ceramic pipe at base. Possibly draining into 0061. Clearly seen cutting 0058 in places in section and probably cuts upper fill 0057.
0060	Field drain	Fill	0059	Mid-dark brown silty sand mottled with patches of pale brown silty sand. Mineralized orange sand flecks and reg sml-med rnd pebbles. Stones absent around and below pipe where fill is a homogenous mid brown silty sand.
0061	Pond?	Cut	0061	Large feature at east end of trench. Has mod sloping concaved sides down to a rounded, flattish base. Land drain pipes in base of cut. May be a feature into which 0056 drains. Field naturally falls away slightly around this point. Possibly a pond associated with 0056, same ceramic pipe going n-s across it.
0062	Pond?	Fill	0061	Mixed fill consisting of mid greyish brown, firm clayey silt with bands and stripes of yellow clay and humic dark organic deposits. Moderate amounts of sml and med sized sub/rnd and sub/ang stones. Dark humic layer on south side below ceramic pipe. Upper/surface fill same as 0057

Appendix 2

Context	Period	Fabric	Sherd type	Form	Dec	No	Wt (g)	Rim Eve	ENV	Abr	Comments	Spotdate	Trench No	Feature
0003	ROM	GX	ba	jar		1	16			*	abraded base, sandy fabric, some flint & quartz	Rom	1	pit 0002
0005	ROM	GMG	r	6.3?		1	10	3		*	deep bowl with curving rim, poss form 6.3	M1-E/M2C?	1	ditch 0004
0005	ROM	GX	b			3	38			*	greyware, one poss burnt	Rom	1	ditch 0004
0005	ROM	BUF	b			9	45		0	*	SV? Poss a flagon	M1-2/3C	1	ditch 0004
0005	ROM	GX	r	bowl		2	23	20	0		SV greyware	Rom 2-3C?	1	ditch 0004
0005	ROM	GX	ba			1	20		0	*	orange-buff, grey core, sandy, quartz, some ironstone	Rom	1	ditch 0004
0005	ROM	GX	b			4	20		0	*	orange-buff, grey core, sandy, quartz, some flint & ironstone	Rom	1	ditch 0004
0005	ROM	GX	r	4.1?		1	43	13	0	*	jar, shouldered, brown-buff, quartz, some flint & ironstone	M1-E/M2C?	1	ditch 0004
0005	ROM	GX	r			1	6	13	0		slight manufacture or firing defect on rim	Rom	1	ditch 0004
0005	ROM	GX	r	4.1?		1	16	13	0	*	jar, shouldered, brown-buff, sandy, quartz, some flint & ironstone	M1-E/M2C?	1	ditch 0004
0005	PREH	HMS	b			2	65		0	*	thick dk sandy shds, sme quatz & flint, small body groove	M-LIA	1	ditch 0004
0025	MED	MCW	b			1	2		0		sandy w oxidised ext margin	med	11	US
0026	PREH	HMF	b			1	5		0	*	common med-coarse flint-temper	Preh (Neo-LBA)	22/23/24	subsoil
0026	MED	MCW	h			1	24		0		Strap handle, abraded	L12th-14th C	22/23/24	subsoil
0060	PMED	PEW	l			2	85		0		TPW, blue and white lid	1770-1850	62	Field drain

OASIS ID: suffolkc1-151210**Project details**

Project name	LWT 193 Lowestoft Northern Spine Road
Short description of the project	Evaluation of the route of a proposed road scheme
Project dates	Start: 01-05-2013 End: 18-10-2013
Previous/future work	No / Not known
Any associated project reference codes	LWT 193 - HER event no.
Type of project	Field evaluation
Site status	None
Current Land use	Cultivated Land 3 - Operations to a depth more than 0.25m
Monument type	DITCH Uncertain
Monument type	DITCH Roman
Monument type	PIT Uncertain
Significant Finds	CERAMIC Roman
Methods & techniques	"Sample Trenches"
Development type	Road scheme (new and widening)
Prompt	Direction from Local Planning Authority - PPS
Position in the planning process	Not known / Not recorded

Project location

Country	England
Site location	SUFFOLK WAVENEY LOWESTOFT LWT 193 Lowestoft Northern Spine Road
Study area	6.84 Hectares
Site coordinates	TM 5320 9670 52 1 52 30 31 N 001 43 54 E Line
Site coordinates	TM 5300 9560 52 1 52 29 56 N 001 43 40 E Line
Height OD / Depth	Min: 4.00m Max: 20.00m

Project creators

Name of Organisation	Suffolk County Council Archaeological Service
Project brief originator	Local Authority Archaeologist and/or Planning Authority/advisory body
Project design originator	Jess Tipper
Project director/manager	Rhodri Gardner
Project supervisor	Linzi Everett
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