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Rugeley Eastern Bypass,
Staffordshire

An Archaeological Evaluation
2006

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RUGELEY EASTERN BYPASS

AN ARCHAEOLOGICAL EVALUATION 2006

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With a contribution by Stratascan

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Rugeley Eastern Bypass, Staffordshire

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SUMMARY

An archaeological evaluation was undertaken in January 2006 to the northwest of Rugeley, Staffordshire (centred on NGR SK 403080 320164). The evaluation comprised geophysical surveys (undertaken by Stratascan), and trial-trenching by Birmingham Archaeology. The fieldwork was undertaken on behalf of Staffordshire County Council, in advance of the construction of a flood compensation area associated with the proposed Rugeley Eastern Bypass. The evaluation was intended to test the potential of the area to contain archaeological remains, in particular those relating to a cropmarked pit alignment of presumed prehistoric date (Staffordshire HER PRN 04067).

The geophysical survey identified a number of pit-like and ditched anomalies, the former thought to correspond with the cropmarked pit alignment. Other geophysical anomalies were interpreted as representing post-medieval field boundaries, and more recent disturbances.

A total of 26 trial-trenches were excavated to test the recorded cropmarks, the recorded geophysical anomalies, and also areas for which no archaeological information was available. Trial-trenching suggested that the cropmarked pits, also identified as geophysical anomalies were of geological origin. Following the identification of a northwest-southeast aligned ditch, suspected to represent one side of an enclosure, further trenching was concentrated in the adjoining area, although no associated, or possibly associated features could be identified. In addition, a total of ten test-pits were machine-excavated to examine the sequence of alluvial deposits adjoining the River Trent.

Rugeley Eastern Bypass, Staffordshire

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1 INTRODUCTION

1.1 Background

Birmingham Archaeology was commissioned by Staffordshire County Council to undertake a programme of geophysical survey (Stratascan 2006) and trial trenching in advance of proposals for the construction of a flood compensation area associated with the proposed Rugeley Eastern Bypass.

This report outlines the results of trial-trenching undertaken in January 2006. The work was undertaken in accordance with a Brief (Staffordshire County Council 2005), and a Written Scheme of Investigation (Birmingham Archaeology 2005) approved by the Council. The evaluation was undertaken in accordance with the Standard and Guidance for Archaeological Field Evaluations (Institute of Field Archaeologists 2001). This report also summarises the results of the geophysical survey (Appendix 1).

1.2 Location and geology

At the time of the evaluation the site comprised pasture. The site is located to the south of the River Trent, and to the north of the A51 road between Wolseley Bridge and Bower Lane (centred on NGR SK 0321 2011, Fig. 1).

The site lies on River Terrace deposits, towards the river the natural sand and gravel subsoil is overlain by alluvium.

2 ARCHAEOLOGICAL BACKGROUND

A cropmarked site (Staffordshire PRN 04067), thought to represent one or more pit alignments of likely late prehistoric date has been identified within the site.

3 AIMS AND OBJECTIVES

The purpose of the archaeological evaluation was to:

1) Gather sufficient information to generate a reliable predictive model of the extent, character, date, state of preservation and depth of important archaeological remains within the flood compensation area.
2) In particular, to determine the presence/absence of prehistoric features within the site.
3) To propose, as appropriate, recommendations for further archaeological investigation.

4 METHODOLOGY

The first stage of the evaluation comprised geophysical survey (Stratascan 2006), which were undertaken in two stages. Initially, a magnetic susceptibility survey of the entire flood compensation area (approximately 10 ha) was undertaken. This was followed by detailed magnetometer (total 2.5 ha) and resistivity survey (total 2.5 ha) of areas selected in consultation with the Historic Environment Officer (Archaeology) of Staffordshire County Council (Figs. 2-6). Some areas were tested with a combination of resistivity and magnetometer survey, to permit inter-comparison of the results. A summary of the survey results is provided in Appendix 1.

A total area of approximately 3000 square metres was initially identified for investigation by a combination of trial-trenching and test-pitting, amounting to a 3 per cent sample of the site area (approx. 10 ha.). In the event some of the trenches originally proposed for Field 2 were re-located, and a contingency for a further 60m length of trenches was agreed to further test the area surrounding a northwest-southeast aligned ditch.

The trial-trenches were located to test the areas of the cropmarked prehistoric pit alignment, to test the anomalies, or possible geophysical anomalies, and also to examine areas for which no archaeological information was available. Additionally, ten test-pits (numbered 29-38), each measuring 2m square, were dug adjoining the southern bank of the River Trent, to test the sequence of alluvial deposits overlying the natural sand and gravel.

A total of 26 trenches were excavated (numbered 2-28; Trenches 1 and 4 were not excavated by agreement with Staffordshire County Council). Trenches 5-6 (Field 2) and 17-20 (Field 1) located to test the pit-like, or possible pit-like geophysical anomalies were cut to a width of 4m. These trenches were 50m in length, with the exception of Trench 19 (75m long). Subsequently, it was decided to reduce the length of Trenches 21-22 from 50m to 40m. Most of the remaining trenches in Field 1 measured 50m in length. Additional trenches (23-28) were positioned in agreement with the Historic Environment Officer (Archaeology), Staffordshire County Council to further test the area surrounding a northwest-southeast aligned ditch. These additional trenches measured 2m in width, and measured between 10m and 50m in length. The test-pits measured 2m square.

The trench and test-pit locations were surveyed using a Total Station EDM.

All topsoil and modern overburden was removed using a 360 degree tracked mechanical excavator equipped with a toothless ditching bucket, working under direct archaeological supervision, to expose the top of the uppermost archaeological horizon or the natural subsoil. Subsequent cleaning and excavation was by hand. The archaeological, or possible archaeological features and deposits were manually excavated to define their character and to obtain suitable dating evidence. Deposits within the test-pits were machined to a depth of 2m below the modern ground surface, and the sections were cleaned where it was safe to do so, prior to recording.

All stratigraphic sequences were recorded, even where no archaeology was present. Trenches were planned at a scale of 1:50 and sections were drawn through all contexts and significant vertical stratigraphy at a scale of 1:20. A comprehensive written record was maintained using pre-printed pro-formas for contexts and features. Written records and scale plans were supplemented by photographs using monochrome and colour slide photography. Those records comprise part of the site archive which will be deposited with Stoke on Trent Museum, subject to approval from the landowner.

5 RESULTS (FIG 2)

This section of the report describes the results of those trenches which contained features of archaeological, or possible archaeological interest. Details of the trenches which contained no features, or possible features of archaeological interest are tabulated (Appendix 2). The results of test-pitting are also tabulated (Appendix 3).

5.1 Subsoil

The predominant natural subsoil deposit comprised red-brown silt-sand-gravel (Trenches 8-9, 11-12, 14-23 and 27-28). Gravel lenses were recorded in the natural subsoil in Trenches 10, 13 and 24-25). In the remaining trenches the natural subsoil was yellow, or yellow-orange silt-sand.

5.2 Field 1

Trench 12

The trench (Fig. 7) was orientated northeast-southwest. The natural subsoil (12002) was exposed at a depth of 69.80m AOD. Approximately 14m from the northeastern end of the trench the natural sand and gravel (12002) was cut by two ditches (12009, 12005). The earliest feature was a small, northwest-southeast aligned ditch (12009). This ditch was cut to a V-shaped profile, with steeply-sloping sides, and measured 0.96m wide and 0.54m deep. It was backfilled with orange-brown silt sand (12010). This ditch was truncated by the excavation of the southwestern terminal of a northwest-southeast aligned ditch (12005). This ditch measured a maximum of 2.90m wide and 1.20m deep, and was cut to a V-shaped profile, with steeply sloping sides. It was backfilled with three layers (12006, 12007 and 12008). The primary backfill (12008) was a light brownish-orange sand and gravel, overlain by light brown silt sand (12007), which was in turn sealed by light brown sandy silt (12006).

A third ditch (12003) was cut through the natural sand and gravel approximately 18m from the southwestern end of the trench. The ditch was cut on a roughly north-south alignment, and had sloping sides and a slightly rounded base. It measured 0.85m wide and 0.24m deep and was backfilled with clear light yellowish-brown silt sand (12004).

All three features uncovered in this trench, and the natural subsoil (12002) were overlain by orange-brown subsoil (12001) measuring 0.40-0.52m in depth. This deposit was in turn sealed by a mid greyish-brown silt sand topsoil (12000), 0.40m deep.

No finds were recovered from the ditches identified in this trench.

Trench 15

The trench (Fig. 8) was orientated east-west. The natural subsoil was located at a depth of 69.65m AOD. Two intercutting ditches, both roughly aligned northwest-southeast (15009, 15007) were recorded in the west of the trench. The earliest ditch (15007) was cut to a fairly flat base, with a gently-sloping eastern side. It survived later re-cutting for a width of 2.26m wide and depth of 0.48m. It was backfilled with homogenous orange-brown sandy silt (15008). The western side of this ditch was cut by a further ditch (15009), which measured 3.3m wide and 1.0m deep. This was cut to a U-shaped shaped profile with gently sloping sides. It was backfilled with a light brown silt sand (15011), overlain by brownish-orange silt-sand (15010).

Two further ditches were recorded in the east of the trench. One was the southwestern terminal of a northwest-southeast aligned ditch (15003) was cut into the natural sand and gravel (15002). The ditch measured 0.70m wide and 0.38m deep. It was backfilled with orange-brown silt sand (15004). The second ditch (15005) was aligned north-south and

measured 2.10m wide and 0.40m deep. It had gently sloping sides and a slightly rounded base. It was backfilled with clean orange-brown silt sand (15006), with some root disturbance. The ditch probably represented a post-medieval hedge boundary.

The natural subsoil (15002), and the the backfilled features in the trench were overlain by 0.35m of orange-brown subsoil (15001), which was sealed by mid greyish-brown topsoil (15000), also measuring 0.35m in depth.

No finds were recovered from the ditches hand-excavated in this trench.

Trench 19

The trench (not illustrated) was aligned northwest-southeast. The natural subsoil was identified at a depth of 71.89m AOD. A northwest-southeast aligned irregular gully (19004) was recorded towards the northwestern end of the trench. The gully measured 1.0m wide and 0.40m deep and had been backfilled with orange-brown silt-sand (19005). This feature may be interpreted as the remains of a post-medieval field boundary. The other feature which was hand-tested in the trench (19006) was identified as a tree bole. The natural subsoil and the two features identified in the trench were sealed by 0.34m of orange-brown silt sand subsoil (19001), which was overlain by topsoil (19000) measuring 0.26m deep.

Trench 25

The trench (Fig. 9) was aligned roughly east-west. The natural subsoil was uncovered at a depth of 69.98m AOD. The natural subsoil was cut towards the centre of the trench by a broad ditch (25003) aligned northwest-southeast. It was cut to a V-shaped profile with steeply-sloping sides, and measured 2.36m wide and 0.98m deep. It was backfilled with a homogenous orange-brown silt sand (25005), sealed by a compacted orange-brown sandy silt (25004). The backfilled ditch and the natural subsoil were sealed by an orange-brown silt sand subsoil (25001) measuring 0.20m deep, which was overlain by 0.27m of mid-greyish-brown topsoil (25000).

No finds were recovered from the ditch.

Trench 26

The trench (not illustrated) was orientated northeast-southwest. The natural subsoil was recorded at a depth of 69.70m AOD. A narrow northwest-southeast aligned ditch (26003) was recorded towards the northwestern end of the trench. It measured 1.20m wide and 0.25m deep and was backfilled with orange-brown silt sand (26003) containing root fragments. The ditch and the natural subsoil were sealed by orange-brown subsoil (26001), 0.47m deep, in turn overlain by 0.31m of mid grey-brown topsoil (26000).

Trench 27

The trench (not illustrated) was orientated northeast-southwest. The natural subsoil was recorded at a depth of 69.70m AOD. A north-south aligned gully (27003) was located 20m from the southwestern end of the trench. The gully measured 0.45m wide and 0.15m deep. It was backfilled with sterile orange-brown silt sand (27004). The gully and the natural subsoil were sealed by orange-brown subsoil (27001), which measured 0.50m in depth, recorded below the grey-brown topsoil (27000) which measured 0.4m in depth.

No finds were recovered from the trenches excavated within Field 1.

5.3 Field 2

Trench 2

This trench (not illustrated) was aligned approximately north-south. The natural subsoil was recorded at 70.46m AOD. Approximately 10m from the southern end of the trench a ditch (2003) was cut through the subsoil (2001). The ditch (2003) was orientated northeast-southwest and measured 1.75m wide and 0.60m deep. The ditch had gradually sloping sides and a concave base and the lower fill (2004) contained a clay pipe fragment. The ditch followed the line of former post-medieval field boundary, still visible as a surface feature. No other possible features were identified. The natural sand and gravel (2002) and the ditch were overlain by an orange-brown silt sand subsoil (2001) 0.37m deep, in turn sealed by a mid greyish brown silt sand topsoil (2000) which measured 0.30m deep.

Trench 3

This trench (not illustrated) was orientated northwest-southeast. The natural subsoil was recorded at a depth of 70.47m AOD. Three north-south aligned ditches (3003, 3005 and 3007) cutting the natural subsoil (3002) were located in this trench. Each feature was backfilled with orange-brown silt sand. The two adjoining, smaller ditches (3005 and 3007) had gradually sloping sides with fairly flat bases and measured an average of 0.70m wide and 0.40m deep. The larger ditch (3003) had more steeply sloping sides and a slightly rounded base.

No finds were recovered from the trenches excavated in Field 2 with the exception of the clay pipe fragment from Trench 2.

6 DISCUSSION

One of the main aims of the evaluation was to map and interpret the cropmarked pit clusters also located by the geophysical survey. Double-width trenches (5-6, 18-20) were located to test these anomalies. Trenching confirmed that these features comprised no more than concentrations of stony material caused by glacial thawing and freezing (Dr Andrew Howard, pers. comm.). This interpretation is supported by their apparently random distribution, as well as by the lack of finds from their fills.

The main feature of archaeological interest identified by geophysical survey and trial-trenching, but not previously known was the northwest-southeast aligned ditch recorded for a distance of 200m, although possibly not as a single, continuous feature. A length of this ditch may have been 'masked' by a disturbance adjoining a recent field boundary. The northernmost excavated limit of this feature was represented by a V-shaped ditch measuring 2.36m wide and 0.98m deep (Trench 25). Further to the south (Trench 12) the southern terminal of a length of this feature was fortuitously identified within the trench. This terminal was cut into a backfilled smaller ditch, cut following the same approximate alignment, which may be interpreted as an earlier definition of the same ditch, or possibly even a palisade trench cut across an entry-gap in the ditch. The southernmost excavated segment of the same ditch alignment (Trench 15) was represented by two ditches with less steeply-sloping profiles. The ditch backfill sequences suggested that they were backfilled gradually, over an extended period of time. No finds, or flecks of charcoal suitable for scientific dating, could be identified within the ditch backfills. The form of the ditches, and their backfills would suggest an Iron Age or Roman date, although this cannot be proven.

Following identification and testing of this northwest-southeast aligned ditch a number of trenches were excavated in the adjoining areas in an attempt to identify any associated ditches which may have together possibly formed an enclosure. It was not possible to

identify any associated ditches with any certainty, nor are any possibly related features visible on aerial photographs.

If ditches 15007 and 15009 (Trench 15) defined the western side of the enclosure, features 15005 and 15003 could have been located within its interior, assuming that they were contemporary. No associated features could be identified within most of the area to the northeast of the excavated ditch (Trenches 8-10, 14 and 24). A narrow ditch (26003, Trench 26) was located following the same northwest-southeast alignment, approximately 20m to the southwest of the larger ditch. Two north-south ditches (12003, Trench 12; Trench 27, 27003) may have been related. Other north-south aligned ditches (Trench 3, 3003, 3005 and 3007) were located in Field 2, suggesting that this alignment formed part of an episode of landscape division which included both fields evaluated.

Other features in Fields 1 and 2 identified by geophysical survey and trial-trenching may be interpreted as the remains of ridge and furrow earthworks, together with field boundaries of post-medieval origin.

The machine-excavated test-pits revealed the natural subsoil which was masked by relatively recent alluvial deposits (Appendix 3).

7 IMPLICATIONS AND PROPOSALS

The cropmarked pits, thought to form one or more pit alignments were identified. These features were established to be of geological, rather than archaeological interest.

The main feature of archaeological interest identified comprised the northwest-southeast aligned ditch. This feature is likely to have formed one side of an enclosure, although clear evidence of the other sides was not identified by the evaluation.

It is recommended that the area of this ditch, and its surrounds is subject to a strip, map and sample exercise to identify and record the ditch and any associated features revealed during the groundworks. The fieldwork should be followed by an appropriate level of reporting of the results.

8 ACKNOWLEDGEMENTS

The evaluation was sponsored by Staffordshire County Council, and we are grateful to Andy Parrish of the council for his assistance. The geophysical survey was undertaken by Stratascan. The trial-trenching was supervised by Bob Burrows, assisted by Kate Bain, Tim Evans, Sally Radford and Kristina Krawiec. Dr Andrew Howard, Institute of Archaeology and Antiquity, University of Birmingham is thanked for his site visit and interpretative comments concerning the geological formations. The illustrations were prepared by Nigel Dodds. The project was managed by Alex Jones, who also edited this report.

9 REFERENCES

Birmingham Archaeology 2005 *Rugeley Eastern Bypass, Stage 2, Contract 3, Written Scheme of Investigation for an Archaeological Evaluation*.

Staffordshire County Council 2005 *Brief for a geophysical survey and archaeological trial-trenching, Rugeley Eastern Bypass, Stage 2, Contract 3.*

Stratascan 2006 *Geophysical Survey Report, Rugeley Eastern Bypass, Staffordshire,* Stratascan report no J2098.

APPENDIX 1 Summary results of the geophysical survey (Stratascan)

This appendix summarises the results of the geophysical survey. Full details of the survey results and of the methodology may be found in the detailed report (Stratascan 2006).

Magnetic susceptibility (not illustrated)

This reconnaissance technique highlighted two areas of high magnetic susceptibility, both in the southeastern limits of the survey area. The remainder of the survey area showed very little change in magnetic susceptibility.

Detailed magnetometry (Figs. 3-4)

Area 1

Positive linear anomalies are evident to the western edge of this area. Their shape, size and parallel orientation suggest that they are agricultural in origin. Four discrete positive anomalies evident in this area have been interpreted as possible pits. A number of bipolar anomalies are scattered across Area 1 indicating the presence of buried ferrous objects.

Area 2

A number of positive linear anomalies have been identified within the area that may be of archaeological origin. The positive linear anomaly running horizontally across the survey area may be related to a previous field boundary. The same may be said in regard to the north-south orientated positive and negative linear anomalies in the centre of the area. However, a number of other positive linear anomalies within this survey area do not have the characteristics of former field boundaries. As a result further investigation may be required in order to fully understand these features.

A number of large discrete positive anomalies are evident in the southwest of this survey area. The size and quantity of these features may suggest that they are archaeological or possibly geological in origin. Therefore, further investigation is required in order to ascertain the nature of these anomalies. A number of smaller positive discrete anomalies in this area have been interpreted as possible pits and may be of archaeological potential.

It is interesting to note that the area of high magnetic susceptibility partially sampled in the east of this area is not represented within the gradiometer data.

A large area of magnetic debris and disturbance can be noted running north-south through this survey area. This is due to the presence of a modern pipe and trackway. Other evidence for modern activity comes in the form of bipolar anomalies representing buried ferrous objects.

Detailed resistivity (Figs. 5-6)

Area 1

The resistance data here is dominated by area anomalies. Discrete areas of low resistance may be related to possible pits. Discrete areas of high resistance may indicate that some pits have been backfilled with stones or some other material with a greater resistance than average for that area.

High and low resistance linear anomalies may indicate some form of bank and ditch arrangement, possibly representing former field boundaries. However, the ditches in this area measure up to 10m across in places which would seem too large for the purpose of dividing land into fields.

Area 2

High and low resistance linear anomalies within this area represent the banks and ditches of former ridge and furrow. The high resistance anomaly in this area may indicate the presence of compacted ground. The two areas of low resistance may be geological, however, their origin remains unknown.

Conclusion

The detailed survey techniques used at Rugeley were successful in locating a number of anomalies that may be of archaeological potential. The data collected with the resistance meter provided mainly area anomalies, whereas the magnetometer data displayed both linear and discrete area anomalies.

The magnetometer data has located a number of targets of possible archaeological origin. Discrete positive anomalies, interpreted as possible pits, are present in the data from both survey areas. Large discrete positive anomalies in Area 2 may indicate the presence of pits. However, further investigation is required in order to ascertain as to whether these anomalies are of archaeological or geological origin.

A number of positive linear anomalies within the magnetometer data represent former agricultural activity and field boundaries. However, a few positive linear anomalies in Area 2 that do not share the characteristics of agricultural activity may be archaeological origin.

The resistance data in Area 1 has revealed an interesting set of high and low resistance area anomalies. The size of these ditches and banks suggests that they do not represent field boundaries and therefore may warrant further investigation. Within this area of linear anomalies are a number of discrete sub-areas of both high and low resistance. These may represent large pits with different types of backfill material.

There is no real correlation between the magnetometer and the resistance surveys.

APPENDIX 2: Details of trial-trenches containing no archaeological features

Trench no.	*Context type*	*Context number*	*Description*	*Depth (metres)*
5	Topsoil	5000	Mid brownish grey sandy-silt	0.35
5	Subsoil	5001	Orange-brown silt-sand	0.29
5	Natural	5002	Orange-brown sand and gravel	-
6	Topsoil	6000	Mid brownish grey sandy-silt	0.25
6	Subsoil	6001	Orange-brown silty-sand	0.15
6	Natural	6002	Orange-brown sand and gravel	-
6	Tree bole	6004		0.18
6	Fill	6005	Dark grey silt sand with charcoal flecking. Fill of tree-bole.	0.18
7	Topsoil	7000	Mid brownish grey sandy-silt	0.35
7	Subsoil	7001	Orange-brown silt-sand	0.50
7	Natural	7002	Orange-brown sand and gravel	-
8	Topsoil	8000	Mid brownish grey sandy-silt	0.33
8	Subsoil	8001	Orange-brown silt sand	0.46
8	Natural	8002	Orange-brown sand and gravel	-
9	Topsoil	9000	Mid brownish grey sandy-silt	0.33
9	Subsoil	9001	Orange-brown silt sand	0.40
9	Natural	9002	Orange-brown sand and gravel	-
10	Topsoil	10000	Mid brownish grey silt-sand	0.36
10	Subsoil	10001	Orange-brown silt sand	0.40
10	Natural	10002	Orange-brown sand and gravel	-
10	Fill	10003	Mid brown silt sand. Upper fill of tree-bole	0.40
10	Fill	10004	Grey-brown silt. Lower fill of tree-bole	0.40
10	Tree bole	10005	-	0.80
11	Topsoil	11000	Mid brownish grey silty-sand	0.45
11	Subsoil	11001	Orange-brown silty-sand	0.40
11	Natural	1102	Orange-brown sand and gravel	-
13	Topsoil	13000	Mid brownish grey silty-sand	0.30
13	Subsoil	13001	Orange-brown silty-sand	0.65
13	Natural	13002	Orange-brown sand and gravel	-
14	Topsoil	14000	Mid brownish grey silty-sand	0.30
14	Subsoil	14001	Orange-brown silt-sand	0.48
14	Natural	14002	Orange-brown sand and gravel	-
16	Topsoil	16000	Mid brownish grey silt-sand	0.35
16	Subsoil	16001	Orange-brown silt-sand	0.35
16	Natural	16002	Orange-brown sand and gravel	-
17	Topsoil	17000	Mid brownish grey silty-sand	0.30
17	Subsoil	17001	Orange-brown silty-sand	0.65
17	Natural	17002	Orange-brown sand and gravel	-
17	Tree bole	17003		0.65
17	Fill	17004	Grey-brown sandy-silt. Fill of tree bole	0.65
18	Topsoil	18000	Mid brownish grey silty-sand	0.32
18	Subsoil	18001	Orange-brown silty-sand	0.45
18	Natural	18002	Orange-brown silty-sand	-
20	Topsoil	20000	Mid brownish grey silty-sand	0.35

20	Subsoil	20001	Orange-brown silty-sand	0.20
20	Natural	20002	Orange-brown sand and gravel	-
21	Topsoil	21000	Mid brownish grey silty-sand	0.35
21	Subsoil	21001	Orange-brown silty-sand	0.40
21	Natural	21002	Orange-brown sand and gravel	-
22	Topsoil	22000	Mid brownish grey silty-sand	0.30
22	Subsoil	22001	Orange-brown silty-sand	0.33
22	Natural	22002	Orange-brown sand and gravel	-
23	Topsoil	23000	Mid brownish grey silty-sand	0.39
23	Subsoil	23001	Orange-brown silty-sand	0.30
23	Natural	23002	Orange-brown sand and gravel	-
24	Topsoil	24000	Mid brownish grey silty-sand	0.35
24	Subsoil	24001	Orange-brown silt-sand	0.40
24	Natural	24002	Orange-brown sand and gravel	-
24	Tree-bole	24003		0.40
24	Fill	24004	Dark grey charcoal rich sandy-silt. Upper fill of tree-bole	0.10
24	Fill	24005	Grey-orange sand. Lower fill of tree bole	0.30
24	Geological feature	24006		0.25
24	Fill	24007	Sterile light grey silty-sand. Fill of geological feature	0.25
28	Topsoil	28000	Mid greyish brown silty-sand.	0.35
28	Subsoil	28001	Orange-brown silty-sand	0.60
28	Natural	28002	Orange-brown sand and gravel	-

APPENDIX 3: Details of the test-pit results

Test-pit no.	*Context type*	*Context number*	*Description*	*Depth (metres)*
29	Topsoil	29000	Mid greyish brown silty-sand	0.33
29	Subsoil	29001	Orange-brown sandy-silt	0.60
29	Natural	29002	Orange-brown sand and gravel	-
30	Topsoil	30000	Mid greyish brown silty-sand	0.23
30	Subsoil	30001	Orange-brown silty-sand	0.77
31	Natural	30002	Orange-brown sand and gravel	-
31	Topsoil	31000	Mid greyish-brown silty-sand	0.35
31	Subsoil	31001	Orange-brown sand and silt	0.60
31	Natural	31002	Orange-brown sand and gravel	-
32	Topsoil	32000	Mid greyish-brown silty-sand	0.40
32	Subsoil	32001	Orange-brown silty-sand	0.75
32	Natural	32002	Orange brown sand and gravel	-
33	Topsoil	33000	Mid greyish-brown silty-sand	0.40
33	Subsoil	33001	Orange-brown silty-sand	0.82
34	Topsoil	34000	Mid greyish brown silty-sand	0.13
34	Alluvium	34001	Orange-brown sandy-silt	0.79
34	Alluvium	34002	Grey silt sandy-clay	0.40+
35	Topsoil	35000	Mid greyish-brown silty-sand	0.13
35	Alluvium	35001	Orange-brown silt clay and gravel	0.84
35	Alluvium	35002	Grey silt sandy-clay	0.34+
36	Topsoil	36000	Mid greyish-brown silty-sand	0.30
36	Alluvium	36001	Orange-brown silty-clay	0.90
36	Alluvium	36002	Grey silt sandy-clay	0.10+
37	Topsoil	37000	Mid greyish-brown silty-sand	0.40
37	Alluvium	37001	Orange-brown silty-clay	0.90
37	Alluvium	37002	Grey clay	0.15+
38	Topsoil	38000	Mid greyish-brown silty-sand	0.38
38	Alluvium	38001	Orange-brown silty-sand and gravel	1.10

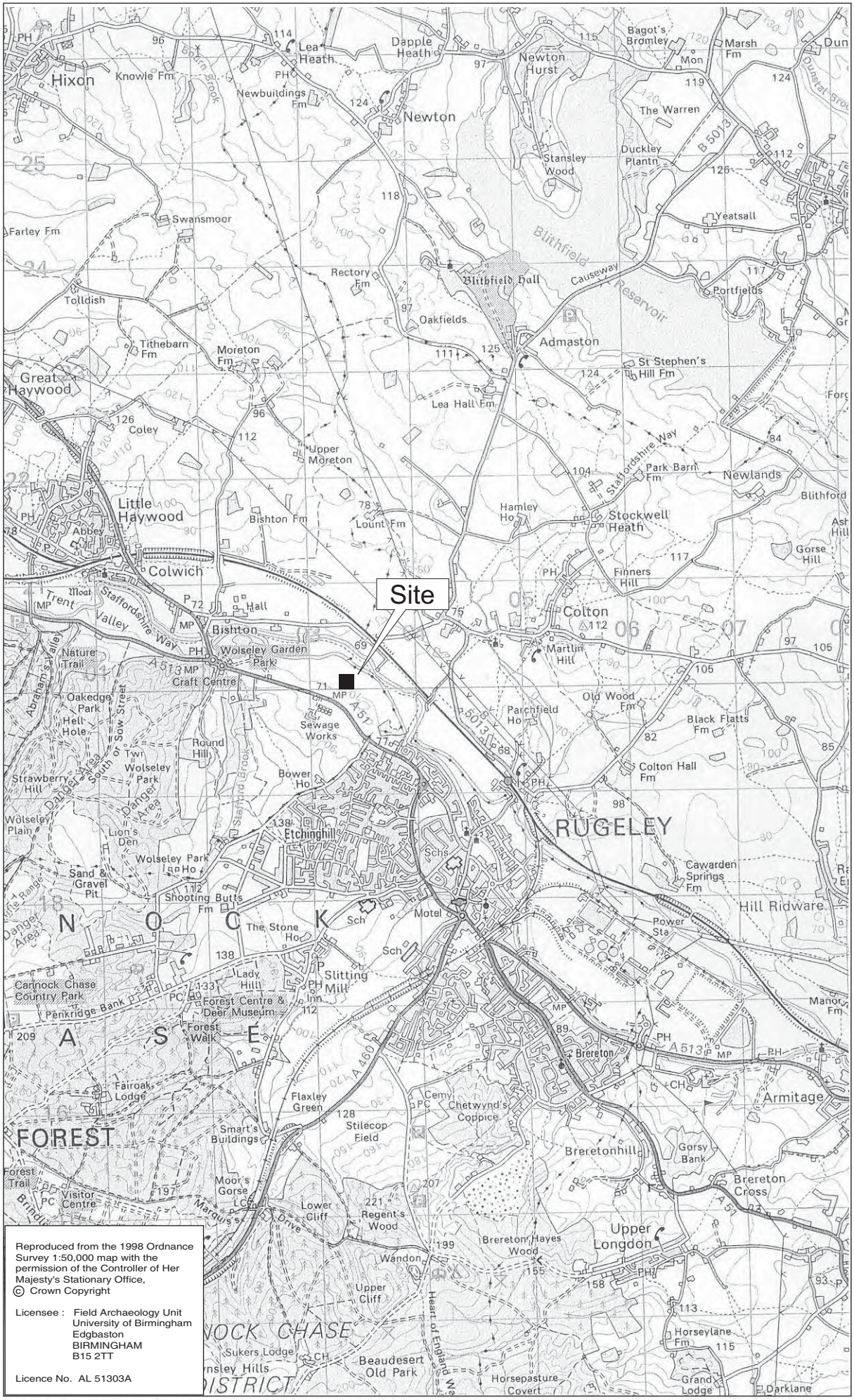

Fig.1


402800
402900
403000
403100
403200
403300
320300
320200
320100
320000
319900
River Trent
29
30
31
32
33
34
35
36
37
38
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
Field 1
Field 2
Areas of Gepphysical Survey
0
100 Metres
N
1:2,000

Fig.2


402800 000000
402900 000000
403000 000000
403100 000000
403200 000000
403300 000000
320300 000000
320200 000000
320100 000000
320000 000000
319900 000000
Area 1
Area 2
0
100 Metres
N
1:2,000

Fig.3


402800
402900
403000
403100
403200
403300
320300
320200
320100
320000
319900
Area 1
Area 2
0
100 Metres
N
1:2,000

Fig.4

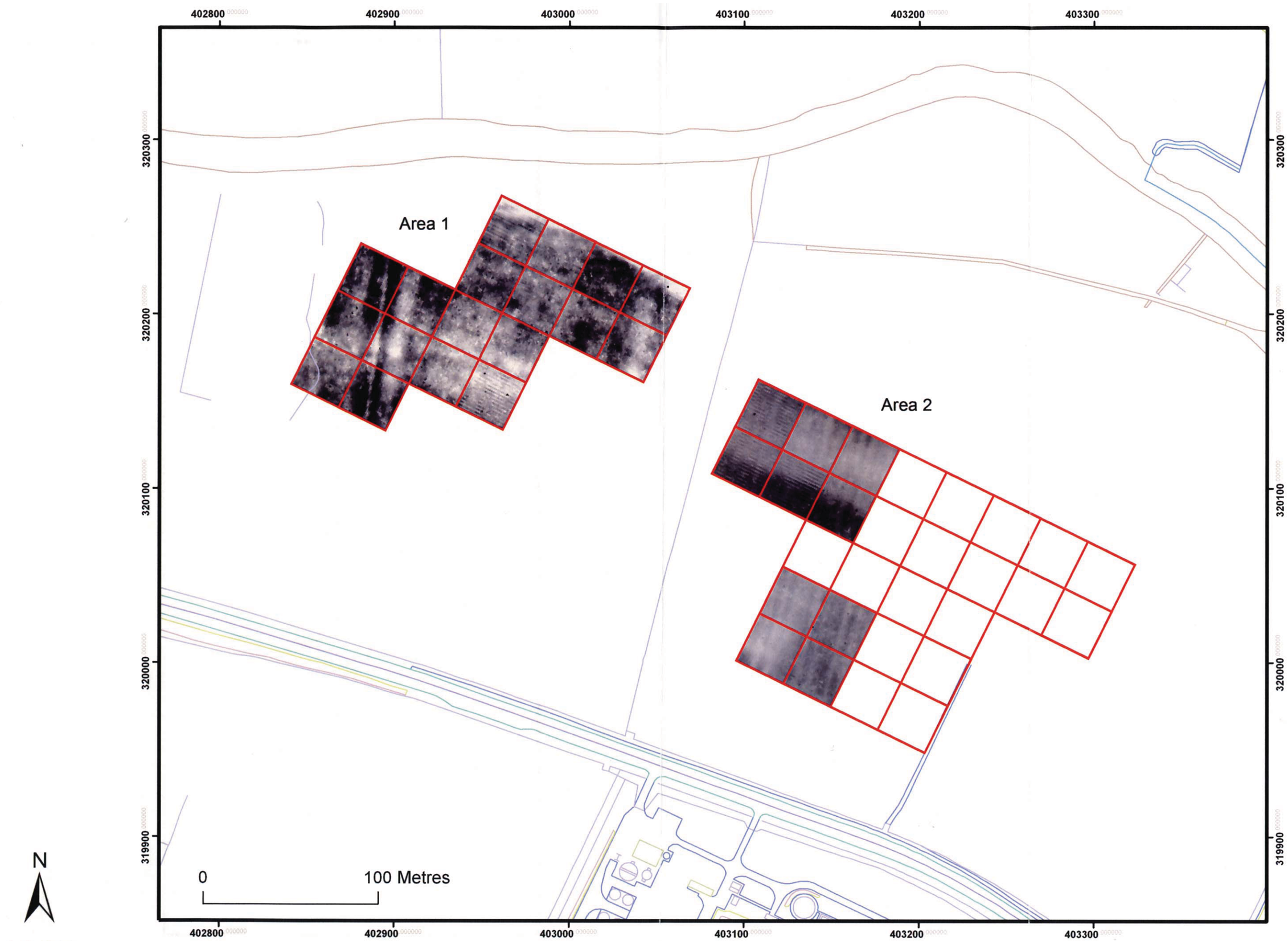
402800
402900
403000
403100
403200
403300
320300
320200
320100
320000
319900
Area 1
Area 2
0
100 Metres
N
1:2,000

Fig.5


402800 000000
402900 000000
403000 000000
403100 000000
403200 000000
403300 000000
320300 000000
320200 000000
320100 000000
320000 000000
319900 000000
Area 1
Area 2
0
100 Metres
N
1:2,000

Fig.6

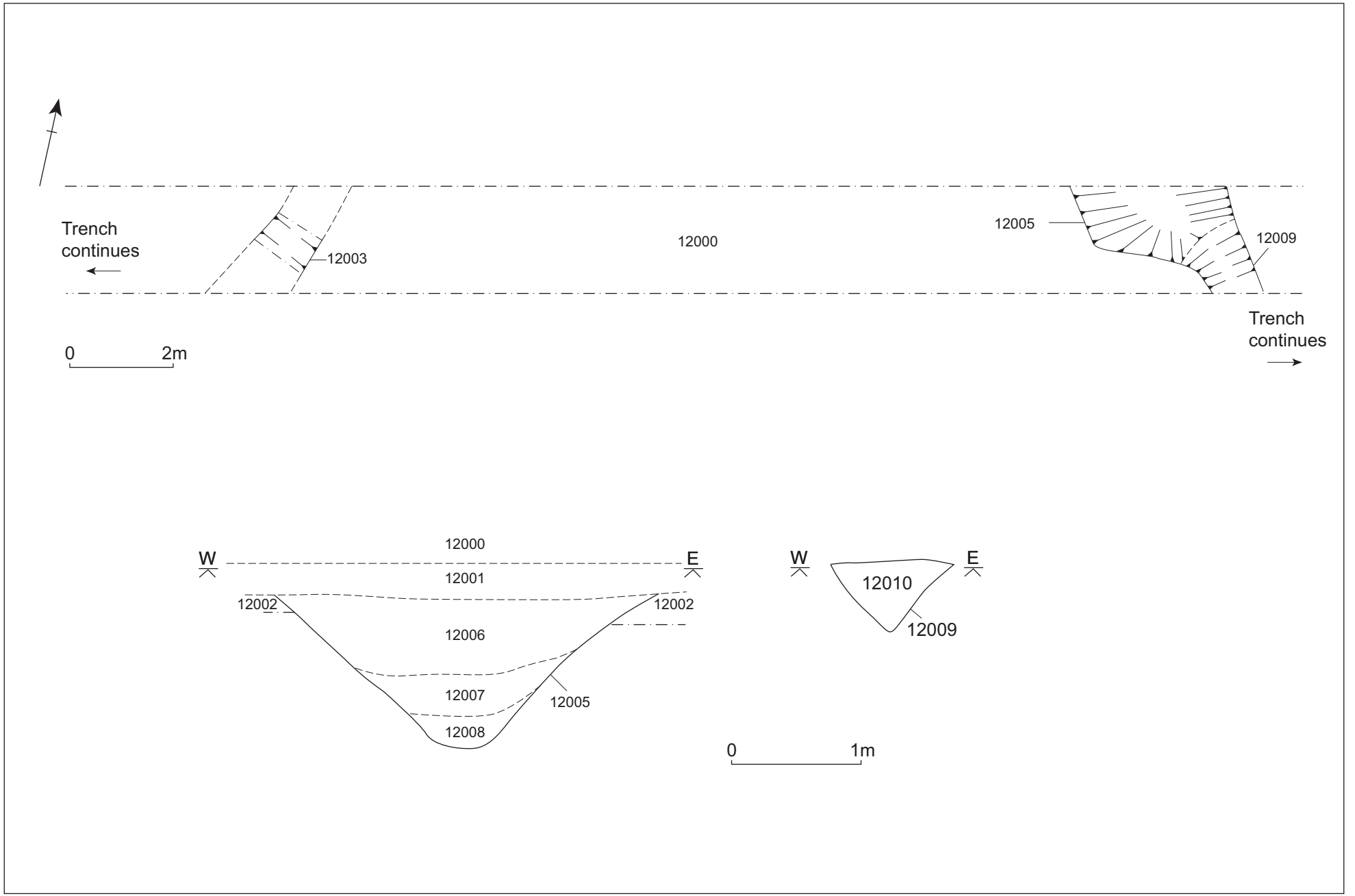
Trench
continues
12003
12000
12005
12009
Trench
continues
0
2m
W
12000
E
12001
12002
12002
12006
12007
12005
12008
0
1m
W
E
12010
12009

Fig.7

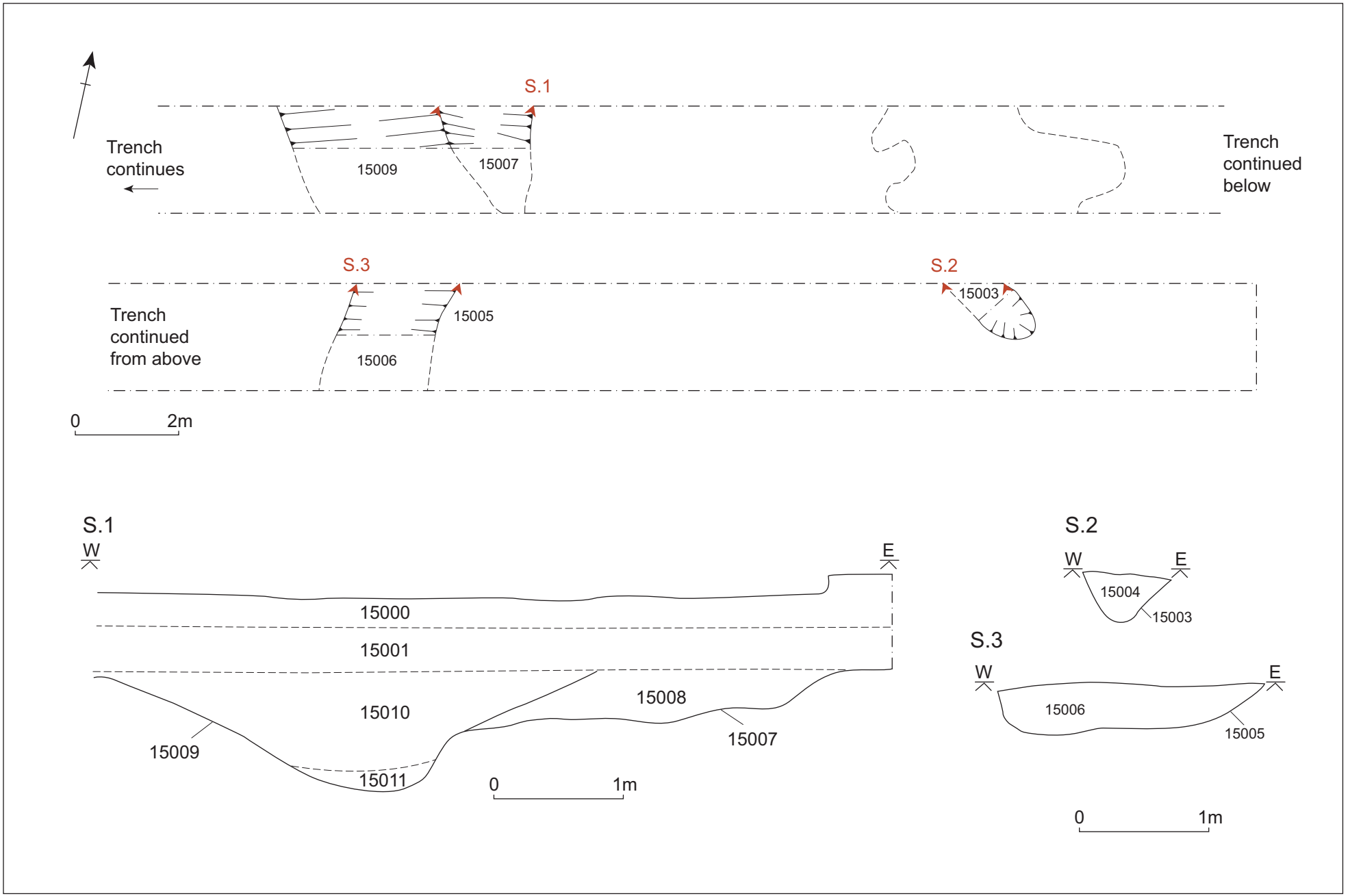
S.1
Trench
continues
15009
15007
Trench
continued
below
S.3
S.2
15003
Trench
continued
from above
15005
15006
0
2m
S.1
W
E
15000
15001
15010
15008
15009
15007
15011
0
1m
S.2
W
E
15004
15003
S.3
W
E
15006
15005
0
1m

Fig.8

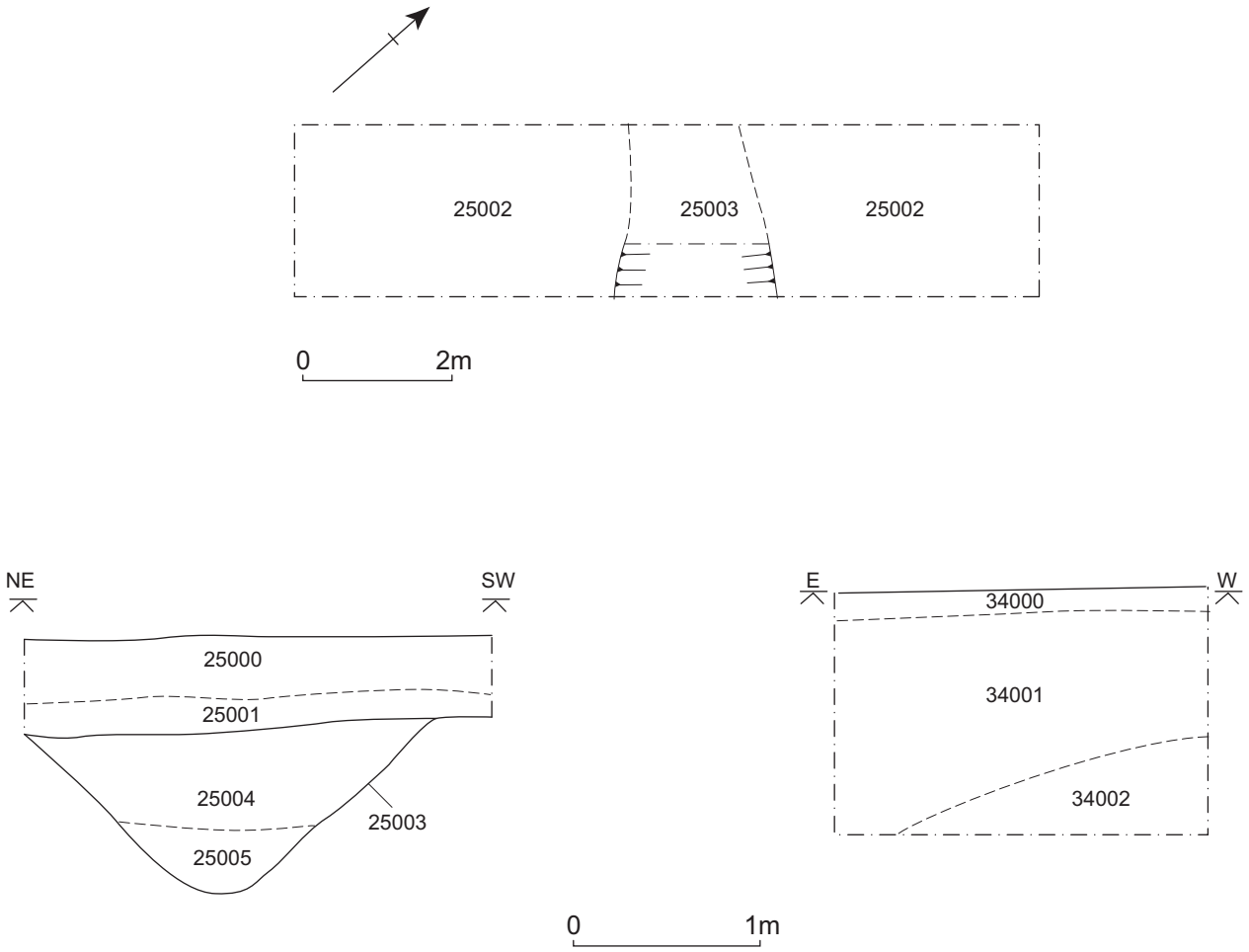
25002
25003
25002
0
2m
NE
SW
25000
25001
25004
25003
25005
0
1m
E
W
34000
34001
34002

Fig.9