Fieldwork Commissioned

by

Anesco Ltd

Fieldwork by

by

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Engineering Archaeological Services Ltd

Registered in England

Nº 2869678

Tai-moelion Solar Farm

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List of Illustrations

Introduction

NGR

Centred on:

TR 1: SH 37689 71977

TR 2: SH 37853 72057

TR 3: SH 38059 72255

TR 4: SH 37953 71550

TR 5: SH 37814 71556

TR 6: SH 37521 72053

TR 7: SH 37292 71971

Location and Topography (Figure 1)

The solar farm is located to the south and east of the farm of Tai-moelion, Ty Croes, Anglesey which is approximately 900 m west of the hamlet of Soar. The solar farm occupies approximately 28 Ha which was originally part of eleven small fields which were defined by *clawddiau* type boundaries. The land is gently rolling and prior to the construction of the solar farm was used for pasture.

The geology of the area of the development consists of till deposits over Cambrian Gwna Group Schists (http://mapapps.bgs.ac.uk/geologyofbritain/home.html).

Archaeological Background

Prior to the construction of solar farm a desk-based assessment was carried out by Thames Valley Archaeology (Preston 2013). This was followed up by an extensive geophysical survey (Dawson and Buczek, 2013) which covered an area larger than the eventual size of the solar farm which was constructed. Neither of these surveys defined any specific archaeological features or sites within the development area, although there were a number of magnetic anomalies recorded in the geophysical survey which were assumed to be the effect of geological variability or relatively modern agricultural activity.

An archaeological watching brief, during the construction phase of the project, was required as part of the planning conditions for the project. Unfortunately this was not carried out, thus the current works were commissioned as mitigation in agreement with Jenny Emmett of the Gwynedd Archaeological Planning Service.

The mitigation works consist of the excavation of seven trenches, each 20 x 2 m in size around the already constructed solar farm. The trenches were positioned such that each of the zones within the solar farm were sampled and, where possible, the results of the geophysical survey could be tested.

SUMMARY

Archaeological features were only recorded in two of the seven trenches excavated. None of these were particularly diagnostic and no dating evidence was recorded. Some of the features recorded appear to relate to the previous geophysical survey and one of the trenches suggests that at least some of the large areas of magnetic variability recorded may be the result of iron panning at the base of the topsoil.

Two chert scrapers were the only finds recovered. Both of these were found in Tr 5.

Methodology

The trenches were positioned such that they sampled each of the zones within the solar farm (Figure 2). In addition Trenches 2, 4, 5 and 6 were positioned so that they could test the results of the geophysical survey carried out by Thames Valley Archaeological Services in 2013 (Dawson and Buczek, 2013).

The topsoil was removed by a back-acting mechanical excavator using a smooth faced ditching bucket under archaeological monitoring. There-after all works were carried out by hand with the trench being cleaned and any features sampled. The trenches were located with reference to the fences and solar arrays already located in Anesco Ltd's drawing 000751_01

Survey Results

Only two of the trenches excavated proved to have any archaeological features, deposits or artefacts within them. It is curious that both of these had a distinctive yellow clay sub-soil (natural till) whilst the other trenches had a yellow/buff silty clay sub-soil, which in one trench (Tr 7) also had natural rock deposits protruding through the silt. The features and deposits discovered by this works are summarised in Appendix 1.

Trench 1

Trench 1 was located within the western sector of Zone E in a clear space between the arrays and the security fence. Two features were revealed by the removal of the topsoil (Contexts 101 and 102) (Figure 3, Plate 1). Only one (Context 104, Figure 5, Plate 2) of these had any depth, however even this feature was only 190 mm deep. The full extent of this feature is unknown as it extends beyond the extent of the trench, however it has an irregular profile and a somewhat mixed fill (Context 105) possibly suggesting it is the result of root damage.

The second feature (Context 106, Figure 5, Plate 3) is a band of mixed deposits, approximately 1.30 m wide crossing the trench. The possible feature is only approximately 130 mm deep with an irregular profile. It would seem likely that this feature may be the result of a vehicle, or piece of agricultural machinery compressing the sub-soil when wet.

Trench 2

Located in the centre of Zone D. This trench was positioned to test a broad band of magnetic disturbance recorded in the geophysical survey, however no features of deposits were located (Plate 4).

Trench 3

This trench was located in the north eastern corner of Zone C. No features were located (Plate 5).

Trench 4

Located on the south eastern side of Zone F and was designed to test a linear anomaly seen on the geophysical survey. This trench did not reveal any archaeological feature (Plate 6).

Trench 5

Located on the northern edge of Zone G, this trench was originally designed to test two parallel anomalies recorded in the geophysical survey. Discussions with the Project Manager for Anesco Ltd (David Wilson) suggested that the northern of the linear anomalies was the result of a water pipe discovered during the construction phase, thus the position of the trench was slightly move to avoid disturbing the water pipe.

The removal of the topsoil (Context 501) by the machine revealed a dark band of soil approximately 1.60 m wide (Context 510, Figure 4) which proved to be very thin. Indeed this layer disappeared when the base of the trench was cleaned by hand, thus it must have been less than 20 mm thick.

Below Context 510 (Figure 4, Plates 7 and 8) two features were located. On the eastern side of the trench, and extending beyond the extent of the trench was Feature 503 (Figure 5, Plate 9). This feature is somewhat irregular in plan with shelving sides to the south and slightly overhanging sides to the north. The form and fill of this feature (Context 504) would suggest it may have been formed through tree root action.

On the western side of the trench was a patch of heat altered clay (Context 506) (Plate 10) extending beyond the extent of the trench. This patch had a firm surface and initially appeared to be the remains of a hearth. However Context 506 proved to be the top of a series of layers filling an irregular feature (Context 505) (Figure 5, Plate 11). This feature had indistinct edges, however the profile had at least one tube running down into the natural subsoil. Below Context 506 was a layer of yellow clay (Context 507) which was notably dry in texture suggesting that, whilst not as heat affected as Context 506 above, it had probably been heated. Below this, Context 508 was a dark grey/brown clayey silt. Despite its dark colour no obvious charcoal was recorded. The base of the feature contained a very pale grey clay (Context 509) which appeared to extend down into the underlying natural clay in at least one point. The pale colour of this context may be the result of the translocation of minerals as a result of root action, thus this layer may be altered natural clay rather than an archaeologically derived deposit.

The combination of the two features and Context 510 above, may suggest the presence of a hedge line which was possibly burnt out, at least in part, giving rise to Context 506. If so this possible hedge line does not appear to relate to the current layout of the fields around these features.

Trench 6

Trench 6 (Plate 12) was located in the north eastern sector of Zone A and was designed to sample a large area of magnetic disturbance recorded in the geophysical survey. No archaeological features were recorded, however there were areas of natural iron panning within the trench (Plate 13) which probably gave rise to the magnetic disturbance.

Trench 7

Located on the western side of Zone B this trench (Plate 14) did not contain any archaeological features. Indeed the removal of the topsoil (Context 701) revealed areas of natural rock protruding through the yellowish buff silty clay (Context 702) of the natural till in this area.

Lithic Artefacts

Two chert artefacts (Plate 15) were found in Tr 5, both of these are were unstratified, but were found in the area of the features recorded in the trench and of Context 510. Both were scrapers made on an opaque chert which is assumed to be of local origins, however the surviving cortex on one of the tools is heavily worn suggesting that a derived (eg. till or gravel) sources were being exploited. Neither artefact is particularly diagnostic, however the small size of the smaller artefact may suggest a possible Early Bronze Age association. These artefacts are detailed below.

1 An end scraper on the mid-section of a thick tertiary blade of a dark grey (N3, Goddard *et al* 1948), opaque, chert. The artefact was made on a previously patinated blade, the distal end of which was re-worked with a series of intermediate, abrupt, scalar removals which are now heavily worn. The dorsal ridge is heavily battered, possibly as an attempt to modify the proximal end making it possible to haft this tool. There is also a removal along the proximal, right side reducing the width of the tool at the proximal end. 54.8 x 18.1 x 13.1 mm.

2 The fragment of a broken proximal end scraper on a fragment of banded, dark grey (N3), opaque, chert. The proximal end is broken, however there are a series of semi-abrupt, short, scalar removals along the proximal, left section which are heavily worn. The distal end has a thin, worn cortex, possibly suggesting a derived pebble source. 17.7 x 23.6 10.5 mm.

Conclusions

Very little archaeology has been recorded from the trenches within the solar farm at Tai-moelion with only two of the seven trenches recording any archaeological features or artefacts. It is somewhat curious that the trenches which did contain any features were on the yellow clay variant of the natural till, whereas the yellow buff variant recorded no features nor artefacts. It was also noticeable that there were few finds at all, even those of nineteenth or twentieth century date as a result of manuring scatters.

The features in Trench 1 are probably the result of relatively modern disturbance with Feature 106 possibly being the result of crossing this area with a heavy machine when the conditions were wet.

Trench 5 in particular appears to be a minor concentration of archaeological activity. The features within this trench are suggestive of a hedge line which may have been burnt out. If so, whilst it is difficult to determine the alignment from the short length exposed, it does not appear to be aligned with the current field boundaries. These features and Context 510 above, appear to relate to one of the linear anomalies shown on the geophysical survey and this would suggest the possible boundary ran approximately NW – SE across the northern sector of Zone G.

The two chert artefacts were also found within this trench and in the area of the Context 510. It is not thought, however that they provide a possible date for the possible hedge line. The artefacts themselves suggest a low level of prehistoric activity in the area. It is assume that both of these scrapers are stray losses as no knapping debris or other artefactual evidence was recovered. The date of these tools is uncertain as they are not diagnostic, however the small size of artefact 2 (Plate 15) and the style of removals along the working edge may suggest a Late Neolithic or Early Bronze Age date. The larger artefact is undatable as similar scrapers occur from the Mesolithic to the Early Bronze Age. It is slightly unusual, however, in that it is possible to suggest this tool may have been hafted.

Regardless of date, however, these artefacts suggest the use of relatively local chert resources for tool manufacture, possibly from derived sources such as tills or gravels.

Acknowledgements

The fieldwork was commissioned by Lily Coles for Anseco Ltd. Thanks are due to David Wilson, the Site Manager for arranging access to the site and for organising the mechanical excavator and driver for the work. The fieldwork was undertaken by the author with help from Mathew Jones of CR Archaeology whose help is gratefully acknowledge. The project was monitored by Jenny Emmett for the Gwynedd Archaeological Planning Service.

References

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Goddard, E.N., Trask, P.D., De Ford, R.K., Rove, O.N., Singewald, J.T. and Overbeck, R.M. 1948. *Rock-color Chart*. Geological Society of America, Boulder, Colorado, USA.

Preston, S. 2013. *Land at Tai-moelion, Ty Croes, Anglesey. Desk-based Heritage Assessment for Bodorgan Environmental Management Ltd.* Thames Valley Archaeological Services Report 13/19

Plate 1: Tr 1, looking NW

Plate 2: Tr 1, Feature 104

Plate 3: Tr 1, Feature 106

Plate 4: Trench 2, looking NW

Plate 5: Trench 3, looking NW

Plate 6: Trench 4, looking NNE

Plate 7: Trench 5, looking north

Plate 8: Features in Trench 5, looking west

Plate 9: Feature 503, looking west

Plate 10: Context 506, looking west

Plate 11: Feature 505, looking west

Plate 12: Trench 6, looking WNW

Plate 13: Area of iron panning within Tr 6, looking east

Plate 14: Trench 7, looking NNE

Plate 15: Chert artefacts

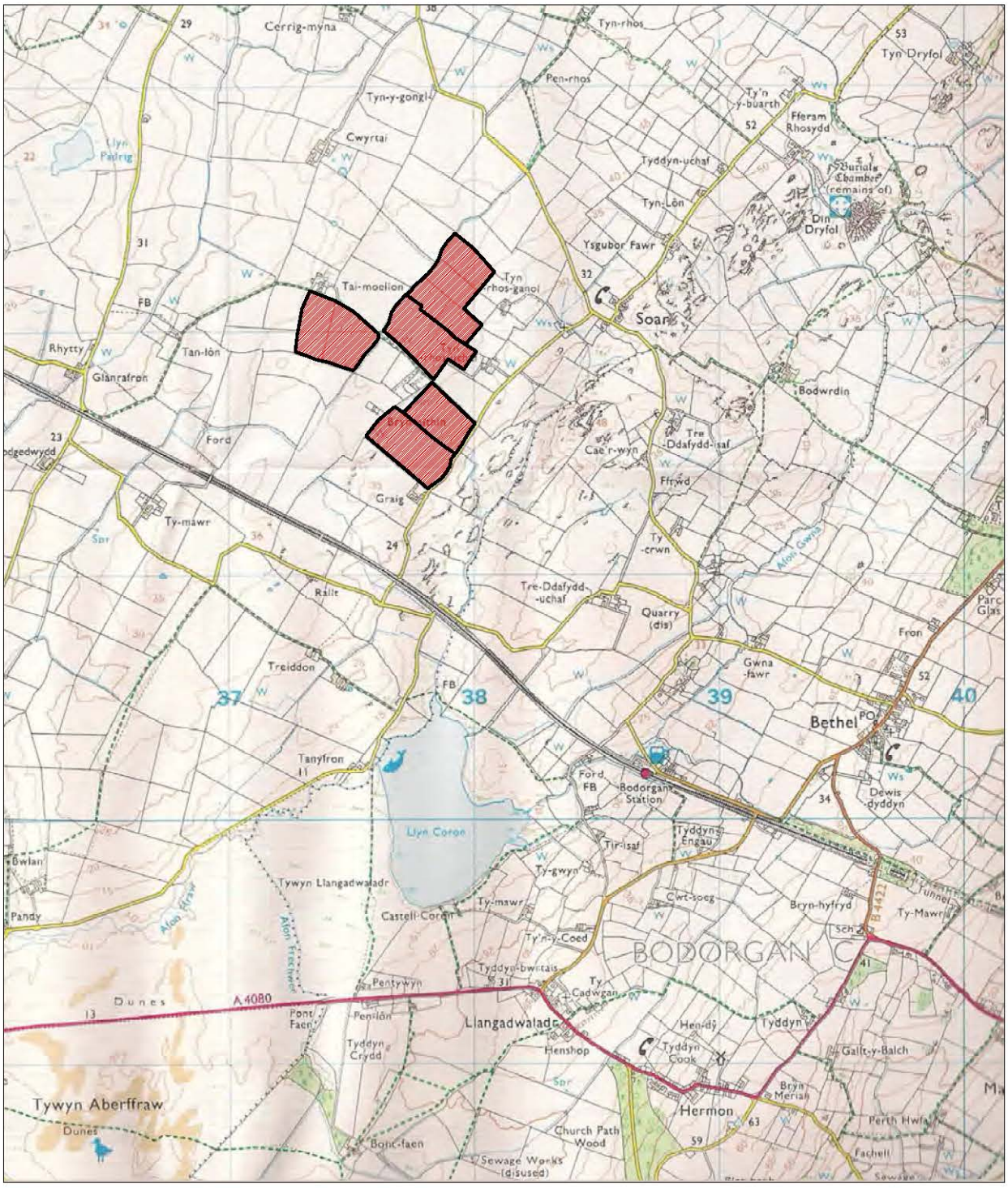

Figure 1: Location

Figure 2: Location of the trenches
Scale 1:3000
Based on Anesco Ltd drawing 000751_01

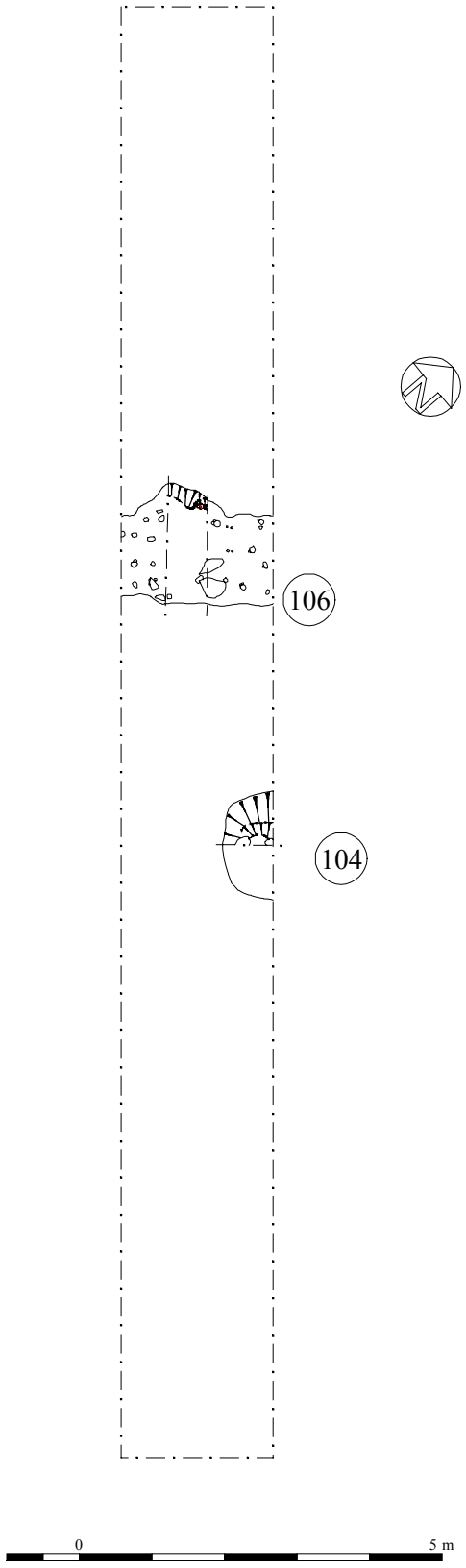

Figure 3: Plan of Trench 1
Scale 1:100

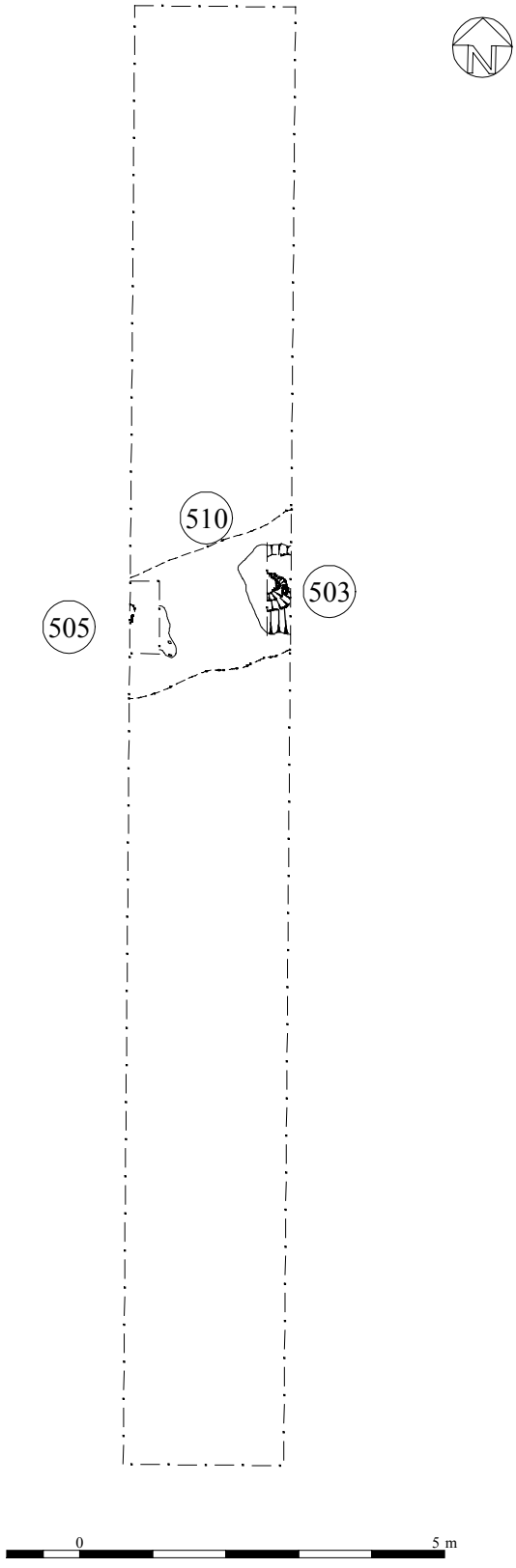

Figure 4: Plan of Trench 5
Scale 1:100

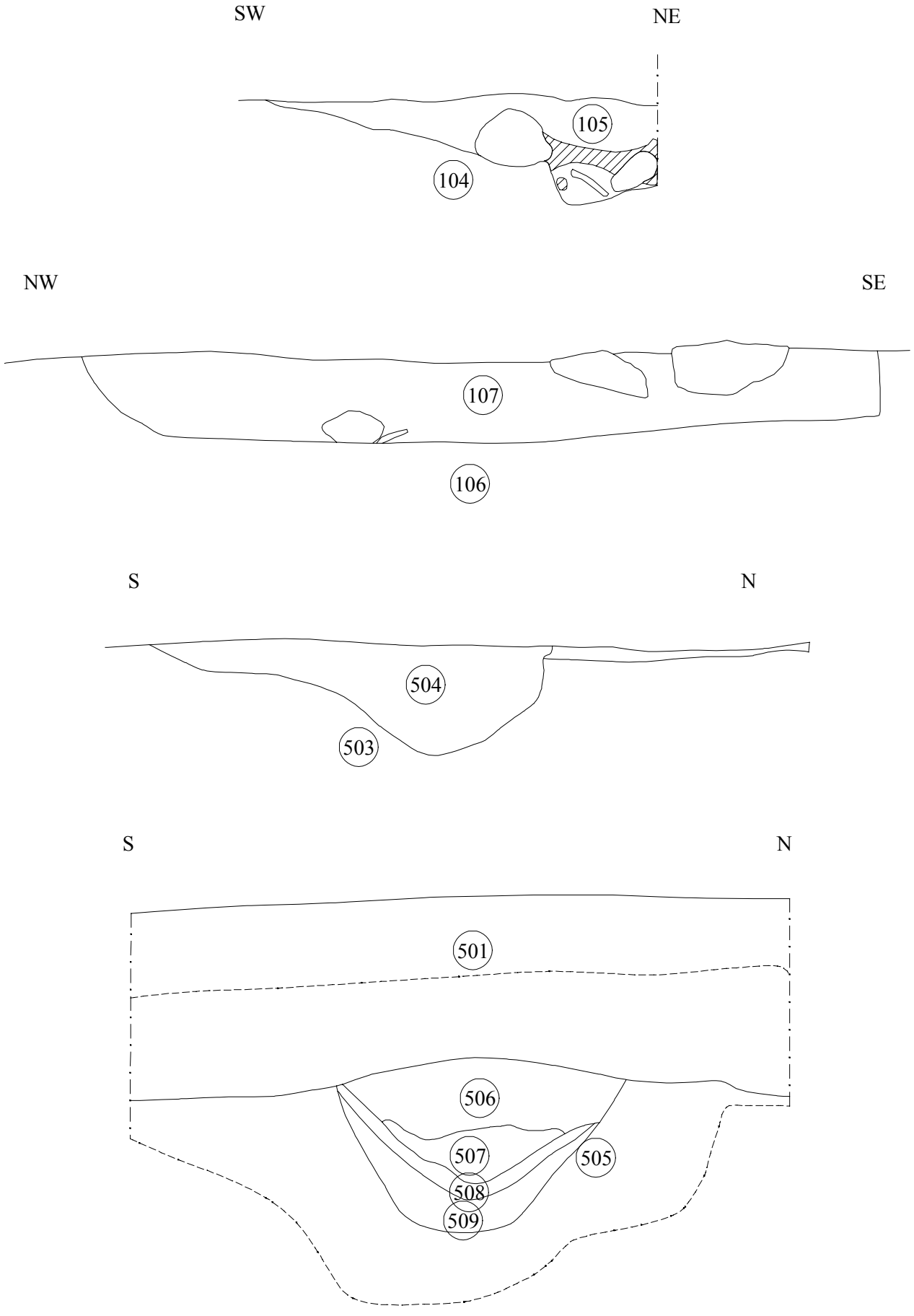

Figure 5: Sections
Scale 1:10

Appendix 1: Context Summary

Context	Location	Relationships	Description
101	Tr 1	Above 102	Mid brown, clay silt, small sub angular stones
102	Tr 1	Below 101 Above 103	Mid brown, clay silt
103	Tr 1	Below 102 Cut by 104 and 106	Orange brown with grey banded and some degraded stone, clay silt occasional small to medium angler stones
104	Tr 1	Below 102 Cuts 103 Filled with 105	Sub rounded feature, with irregular break of slope, staged cut with irregular base with a rounded depression cut with irregular sides and round uneven base
105	Tr 1	Below 102 Within 104	Mid grey clay, with some white and black clay lenses two medium rounded stones with this fill
106	Tr 1	Below 102 Cuts 103 Filled with 107	Irregular in plan with rounded edges convex and straight edges recorded both with sharp break of slope at top and convex and sharp break of slope at base leading to a flat base
107	Tr 1	Below 102 Within 106	Mid grey clay slit with some orange clay natural patches occasional rounded and flat angular stone medium and large
201	Tr 2	Above 202	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick
202	Tr 2	Below 201	Yellowish buff silty clay (top of natural till)
301	Tr 3	Above 302	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick
302	Tr 3	Below 301	Yellowish buff silty clay (top of natural till)
401	Tr 4	Above 402	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick
402	Tr 4	Below 401	Yellowish buff silty clay (top of natural till)
501	Tr 5	Above 502, 510	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick.
502	Tr 5	Below 501, 510 Cut by 503, 505	Orange/yellow stiff clay slightly disturbed on the top. Layer contains a few sub-rounded stones up to 50 mm and the rare large boulder up to 250 mm
503	Tr 5	Below 510 Cuts 502 Filled with 504	200 mm deep and approximately 460 x 500 mm in plan. Possibly related to 505. The feature is possibly part of the linear anomaly seen on the geophysical plot. Possibly the result of tree root damage although the fill contains the occasional fleck of charcoal

Context	Location	Relationships	Description
504	Tr 5	Below 510 Within 503	Dark grey brown clayey silt with the rare fleck of charcoal and the occasional lens of natural yellow clay. The layer fills the cut.
505	Tr 5	Below 510 Cuts 502 Filled with 506, 507, 508 and 509	Irregular blob, approximately 500 mm in diameter running into the western section. The feature is approximately 300 mm deep. It was marked by a hard packed burnt clay layer on its top, although the lower layer give more of an impression of having considerable root damage.
506	Tr 5	Below 510 Within 505 Above 506	Orange/brown burnt clay layer with a hard packed surface giving the impression of a hearth. The layer is 70 mm thick, sealing the feature.
507	Tr 5	Within 505 Below 506 Above 508	Yellow clay, almost dry to the touch, possibly slightly heat affected. Possibly a less heat affected version of 506.layer has a maximum depth of 60 mm, although it tapers to the edge of the feature.
508	Tr 5	Within 505 Below 507 Above 509	Dark grey brown clayey silt with a fine, silty texture.
509	Tr 5	Within 505 Below 508	Pale grey clay in the base if the feature. Very clean clay with some suggestion it might continue down in a very narrow pipe into the natural. Possibly the cast of a root.
510	Tr 5	Below 501 Above 502, 503, 505	A band ok dark greyish brown soil, approximately 1.65 m wide crossing the trench. This layer proved to be very thin (less than 20 mm, disappearing when the base of the trench was cleaned by hand.
601	Tr 6	Above 602	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick
602	Tr 6	Below 601	Yellowish buff silty clay (top of natural till)
701	Tr 7	Above 702	Yellowish brown, slightly clayey topsoil. Very thin turf layer over a consistent layer of yellowish brown clayey silt typically 240 mm thick
702	Tr 7	Below 701	Yellowish buff silty clay (top of natural till)with areas of natural rock protruding through the clay