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Engineering Archaeological Services Ltd.

Cae Capel, Botwnnog
Archaeological Evaluation Report

I.P. Brooks

EAS Client report 2024/03

Cae Capel, Botwnnog

Archaeological Evaluation Report

Commissioned

by

Robat Williams
RWE Ltd.

Fieldwork

by

I.P. Brooks
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and
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CR Archaeology

Cae Capel, Botwnnog
Archaeological Evaluation Interim Report

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CONTENTS

List of Illustrations

Introduction

NGR

Centred on: SH 26127 30907

Location and Topography (Figures 1 and 2)

The evaluation area was located at the south eastern end of the village of Botwnnog, Gwynedd, in a field known as Cae Capel which is adjacent to Ty Capel and opposite the Health Centre, lying between the B4413 and a minor road running past the property known as Rhyd-goch. It consisted of a pasture field which was essentially flat, with a very slight ridge running NW – SE across the middle of the field at approximately 16m OD (Plate 1). The underlying geology is the Dol-cyn-afon Formation, a siltstone formed between 485.4 and 477.7 million years ago during the Ordovician period, with superficial glacial deposits of sand and gravel over. (https://geologyviewer.bgs.ac.uk/).

Background

RWE Ltd. Plan to construct 18, affordable, residential units on a field known as Cae Capel, Botwnnog. In October 2023 they commissioned a Fluxgate Gradiometer survey, of the development area, from Engineering Archaeological Services Ltd (Brooks 2023). A number of magnetic anomalies were defined together with areas of ferromagnetic responses which can be related to modern metal objects like fences and gates. The field appeared to have been divided at some point in its history with a moderately magnetic anomaly crossing the survey area. This division appears to reflect a kink in the western edge of the current field. The easily available historic mapping would suggest this possible boundary pre-dates the Tithe map of 1839. Another linear anomaly is more curvilinear in appearance, and may therefore be earlier; whilst a third linear anomaly runs parallel to the road and may be modern drainage. There were also a series of three areas of magnetic disturbance in the southern half of the survey area and a possible circular anomaly, approximately 7.5 m in diameter in the eastern half of the survey.

On advice from T. Filde, Gwynedd Archaeological Planning Service, RWE Ltd then commissioned this Archaeological Evaluation, the fieldwork for which took place between 20th November and 24th November 2023.

Aims of the Evaluation

To evaluate the results of the geophysical survey and characterise the archaeological record.

SUMMARY

Eight trenches, each approximately 20 x 2 m in size were excavated between 20/11/2023 and 24/11/2023, to evaluate the results of the Fluxgate Gradiometer survey carried out in October 2023. There was a great deal of correspondence between the results of the geophysical survey and the evaluation. The curvilinear anomaly proved to be a ditch crossing the site whilst the areas of magnetic disturbance can be related to a series of features within the trenches. Prehistoric activity was located in two areas of the field, with a scatter of lithic artefacts in the north western part of the field (Trench 1) and two small pits in Trench 7. One of these pits contained a sherd of Grooved Ware. Other features contained no cultural materials, except for a large, stone filled feature in Trench 6 which included part of a cake of smithing slag and a possible tuyere.

Cloddiwyd wyth ffos, pob un ohonynt tua 20 x 2 m o faint rhwng 20/11/2023 a 24/11/2023, i werthuso canlyniadau arolwg Fluxgate Gradiometer a wnaed ym mis Hydref 2023. Roedd llawer iawn o gytundeb rhwng y canlyniadau'r arolwg geoffisegol a'r gwerthusiad. Profodd yr anghysondeb cromliniol i fod yn ffos yn croesi'r safle tra gall yr ardaloedd o aflonyddwch magnetig fod yn gysylltiedig â chyfres o nodweddion o fewn y ffosydd. Roedd gweithgarwch cynhanesyddol wedi'i leoli mewn dwy ran o'r cae, gyda gwasgariad o arteffactau lithig yn rhan ogledd-orllewinol y cae (Ffos 1) a dau bwll bach yn Ffos 7. Roedd un o'r pyllau hyn yn cynnwys lliain o Groove Ware. Nid oedd nodweddion eraill yn cynnwys unrhyw ddefnyddiau diwylliannol, ac eithrio nodwedd fawr wedi'i llenwi â cherrig yn Ffos 6 a oedd yn cynnwys rhan o gacen o slag gof a tuyere posibl.

Methodology

Eight trenches, each approximately 20 x 2 m in size, were laid out to sample both the major anomalies located in the Fluxgate Gradiometer Survey (Brooks 2023) and an area with no known anomalies (Figures 3 and 7). The topsoil from these trenches was removed with a mechanical excavator, using a smoothed faced ditching bucket, under archaeological monitoring. The trenches were then cleaned by hand and the features revealed sampled.

The features were recorded with a written description, a hand-drawn section drawing and, at least one, digital photograph. Photographs were taken with a Nikon V5 Digital Camera at a resolution of 24.2 MP with the photographs recorded in RAW format, which were converted to .TIFF for the archive. Where practical, the photographs included a metric scale. Further photographs were taken with a Akaso Brave 6 Plus, with a resolution of 20.1 MP, on an extendable pole, which were processed with Agisoft Metascape v. 2.0.2 to produce photogrammetric models of the trenches. The site was surveyed with a Leica TS06 total station, with the data processed using NRG Engineering Surveying System V2016.00.

Results

The eight trenches were laid out as in Figure 3 such they sampled both the identified magnetic anomalies and blank areas within the plot (Figure 7). Detail plans of the trenches are shown on Figure 4 and the section of the feature on Figures 5 and 6.

Trench 1 (Figure 4.1)

Trench 1 was 18.27 x 1.7 m in size and was located to sample Anomalies E and F of the Fluxgate Gradiometer survey (Brooks 2023, Figure 7).

Up to 500 mm of topsoil (Context 5) was removed from the trench using a mechanical excavator. Below this were five features cut into the natural subsoil. There was also a noticeable concentration of lithic artefacts recorded from the base of the topsoil in the south western end of the trench. These consist of five flint pebbles which have had some removals suggesting their composition had been tested. At this end of the trench there is a group of four archaeological feature some of which may be related to the lithic artefacts. Two small pits or post-holes extend beyond the extent of the trench (Context 6 and 8). Context 6 (Plate 2, Figure 5.1) was at least 550 mm in diameter and 170 mm deep. It has sloping sides, which merge with a rounded base and was filled with Context 7, whilst Context 8 (Plate 3, Figure 5.2) was a semi-circular feature, extending beyond the western side of Tr1. 650 mm in diameter and 120 m deep. It was filled with Context 9. Neither of these features contained any recovered archaeological material.

Running parallel with the south eastern side of the trench for approximately 4.0 m, Context 10 (Plate 4, Figure 5.3) was a shallow linear feature up to 600 mm wide, but only 60 mm deep. It filled with Context 11 and cuts across the top of Context 23.

Context 23 (Plate 5, Figure 5.4), together with Tr 2 Context 2, Tr 3 Context 28 and Tr 6 Context 41, correspond with Anomaly E of the Fluxgate Gradiometer survey (Brooks 2023, Figure 6). It consists of a ditch which crosses the site in an arc which if continued would be part of a circle approximately 170 m in diameter. Within Trench 1 it is 1.2 m wide and 480 mm deep with steep, slightly stepped sides and a rounded base. The slight stepping may suggest this feature had been re-cut, however no evidence of re-working could be seen in the fill (Context 24).

The only other feature recorded from this trench was a broad, shallow linear feature crossing the middle of the trench. (Context 25, Plate 6, Figure 5.5). It was up to 1.3 m wide, but only 150 mm deep with a steeply sloping northern edge and gentle slope to the south which led to a rounded base. It was filled with Context 26. This is not Anomaly F from the Fluxgate Gradiometer survey (Brooks 2023, Figure 7) which should have crossed the trench approximately 3 m to the north east. No feature was recorded at this point.

Trench 2 (Figure 4.2)

Trench 2 was 19.08 x 1.7 m in size and was designed to sample Anomalies E and F from the Fluxgate Gradiometer survey (Brooks 2023, Figure 6).

Below up to 500 mm of topsoil (Context 1), two archaeological features were recorded from within Trench 2, both of which can be related to the anomalies seen in the Fluxgate Gradiometer survey.

Context 2 (Plate 7, Figure 5.6) was a ditch 1350 mm wide and 330 mm deep which is equivalent to Tr 1 Context 23, Tr 3 Context 28 and Tr 6 Context 41 and Anomaly E from the Fluxgate Gradiometer Survey (Brooks 2023, Figure 7). It was 1350 mm wide and 330 mm deep with a slightly stepped side to the north and sloping side to the south. It contained two

fills, with a general fill (Context 3) containing a distinct lens of charcoal rich material, approximately 120 mm in diameter (Context 4, Plate 8, Figure 5.6)

The other feature (Context 27, Plate 9, Figure 5.7) was a shallow linear feature running approximately south east – north west, parallel to the B4413. It was 1.10 m wide, but only 100 mm deep with gently sloping sides and a rounded base. It was filled with Context 28. This feature can be related to Anomaly F from the Fluxgate Gradiometer survey

Trench 3 (Figure 4.3)

Trench 3 was 18.96 x 1.7 m in size and designed to sample Anomalies E and F from the Fluxgate Gradiometer survey (Brooks 2023, Figure 7).

Below up to 500 mm of topsoil (Context 44) were two archaeological features. Context 28 (Plate 10, Figure 5.8) was a ditch equivalent to Tr 1 Context 23, Tr 2 Context 2 and Tr 6 Context 41, and therefore the equivalent of Anomaly E from the Fluxgate Gradiometer survey. In this trench, it was 700 mm wide and 400 mm deep with steeply angled sides with a slightly rounded base. It was filled with Context 29.

Running across the middle of the trench was a very shallow gully (Context 30, Plate 11, Figure 5.9) which was a linear feature 600 mm wide, but only 50 mm deep with gently sloping sides and a flat base. This feature does not align with Anomaly F, being approximately 1.85 m to the south west. It might, however, be equivalent to Tr 1 Gully 25

Trench 4

Trench 4 was 18.90 x 1.7 m in size and was designed to sample Anomalies G and F from the Fluxgate Gradiometer survey (Brooks 2023, Figure 7). No features were record from this trench after up to 500 mm of topsoil (Context 32) had been removed.

Trench 5

Trench 5 was 18.74 x 1.7 m and was positioned to sample Anomaly D of the Fluxgate Gradiometer survey (Brooks 2023, Figure 7). Unfortunately, no archaeological features were recorded below, up to 400 mm of topsoil (Context 33).

Trench 6 (Figure 4.4)

Trench 6 was 18.27 x 1.7 m in size and was located to sample Anomalies E, D and I from the Fluxgate Gradiometer survey (Brooks 2023, Figure 7)

Up to 500 mm of topsoil (Context 18) was removed to reveal two groups of features within the trench.

Toward the north eastern end of the trench was a group of three archaeological features. Context 17 (Plate 12, Figure 6.2) was a large feature, 1.30 m wide, crossing the trench which was in excess of 600 mm deep. The bottom of this feature was not found as the excavation was stopped because of the depth (the section was alongside the baulk giving a total depth of 1.10m) and unstable nature of the fill. The feature had near vertical sides and was filled by Contexts 19, 20, 21 and 22. Context 20 is of particular note as it contained part of a cake of iron smithing slag and the broken tip of a possible tuyere (Plates 24 and 25). Although the location of this feature corresponds with Anomaly D of the Fluxgate Gradiometer survey, it is

more likely to be part of Anomaly I with its group of discrete, high magnetic values. This may also suggest that there may be further evidence for metal working in this part of the field.

At the other end of the trench is a group of three features, the largest of which was an Irregular cut (Context 36, Plate 13, Figure 6.3) covering an area of, at least, 2.80 m x 1.8 m and extending beyond the extent of the trench. It was up to 400 mm deep, although the base of this feature was highly disturbed by animal burrowing. It was fill by Contexts 37, 38 and 43.

Partly sealed by Context 43 was a probable circular pit (Context 39, Plate 14, Figure 6.4) which was 900 mm in diameter and 200 mm deep. It had steeply sloping sides and a rounded base and was filled with Context 40.

Slightly to the north east of Contexts 36 and 39, a ditch crossed the trench in a north west to south east direction (Context 41, Plate 15, Figure 6.1). It is the same feature as that recorded as Tr 1 Context 23, Tr 2 Context 2 and Tr 3 Context 28. Within Trench 6 it is 1.00 m wide and 360 mm deep with slightly stepped sides and a flat base. It was filled with Context 42.

Trench 7

Trench 7 was 18.87 x 1.7 m in size and was designed to sample Anomaly K from the Fluxgate Gradiometer survey (Brooks 2023, Figure 7).

Below up to 400 mm of topsoil (Context 12) two small, circular pits were recorded (Contexts 13 and 15, Plates 16 – 18, Figure 6.1). Pit 13 was 740 mm in diameter and 120 mm deep with sloping sides and flat base, whilst Pit 15 was 800 mm in diameter and 135 mm deep. The fills of both pits (Contexts 14 and 16) contained charred fragments of hazelnut shells and Context 14 (Pit 13) also contained a single sherd of Grooved Ware (Plate 22).

No sign of the wider disturbance suggested by Anomaly K was recorded.

Trench 8

Trench 8 was 18.79 x 1.7 m in size and was located to sample bot the edge of Anomaly K and a relatively blank area of the Fluxgate Gradiometer survey.

After removing up to 400 mm of topsoil (Context 35), no archaeological features were recorded.

Finds

Lithics

A total of 36 lithic items were recovered during the course of the evaluation from five contexts. However, twenty-three of these were from only two contexts with 11 artefacts being recovered from the base of the topsoil in Trench 1 (Context 5) and 12 from the fill of Pit 13 (Context 14). The assemblage is summarized in Table 1.

In general, the assemblage is split between artefacts made on pebbles of flint (14, 38.9% of the assemblage) and fragments of chert (13, 36.1%). The remaining 9 (25.0% of the total assemblage) were either flakes or cobbles with impact or rubbing damage, on various local

lithologies. It is likely that all of the raw materials used are from derived deposits such as beach gravels or till deposits and have therefore been imported onto the site.

The knapped assemblage is rather small consisting of 31 artefacts, twelve of which were flakes or flake fragments. One large (79.84 x 138.96 x 23.1mm) flake is distinctive both in its size and its lithology. It was struck from a block of indurated sandstone of unknown origins.

Only two core fragments were recovered, one of which was core face rejuvenation flake which may have been reused as an awl (Plate 20). In addition, there are five rough "worked lumps" where a formal knapping strategy could not be determined. There are also six small cobbles of flint which had been tested by removing one or two flakes and had then been abandoned.

Only three, definite, knapped tool was recovered during the course of the excavation, two of these were crudely made scrapers and the third a rod microlith. One of the scrapers (from Tr 7, Context 14), was made on a secondary flake of a pale grey chert (Plate 21). Before detaching the original flake had the platform modified to restrict its size by removing a series of small flakes to produce a "notch" on each side of the platform. The distal end is defined by a series of abrupt, short, stepped removals. The second scraper (from Tr 6, Context 40) was made on a flake from a water worn cobble of local stone with a series of removals along the distal end forming the working edge (Plate 22)

A single "rod" microlith (Plate 23) was recovered from the sieving of the soil from Tr 7, Context 16. This was made on an opaque chert and suggests a level of Late Mesolithic activity on the site.

There are also four cobbles within the assemblage which have been used either as a hammerstone or rubber, or both.

The majority of the lithic assemblage is not diagnostic, but it likely to be of Late Neolithic or Early Bronze Age date. There is also a small, Late Mesolithic component to the assemblage which is probably residual in nature. The clearest example of this is the microlith, however the core face rejuvenation flake from Tr 1, Context 5 appears to have been part of a bladelet core which might also be of Late Mesolithic date.

The main appearance of the assemblage is from the wide range of raw materials that had been used and that none of them were immediately available on the site. The majority, if not all of, the raw materials used appear to have been from water worn pebbles and cobbles from either a riverine or beach gravel. Whilst the distance to the coast is not large it does mean that any raw materials would still have to be brought to the site.

Table 1: Lithic Summary

		Flint				Chert				Other Stone				Total
Trench	Context	Flake	Worked Lump	Chunk/ tested fragmen	Tool	Flake	Worked Lump	Chunk/ tested fragmen	Tool	Flake	Worked Lump	Chunk/ tested fragmen	Tool	
1	5	2	1	3			1	1					3	11
5	33			5										5
6	22					1	2							3

		Flint				Chert				Other Stone				Total
Trench	Context	Flake	Worked Lump	Chunk/ tested fragmen	Tool	Flake	Worked Lump	Chunk/ tested fragmen	Tool	Flake	Worked Lump	Chunk/ tested fragmen	Tool	
6	40												1	1
7	14	2		3		3	1	1	1	1	1		1	14
7	16			1		1		1	1	2			1	7
7	38			2										2
Total		4	1	14	0	5	4	3	2	3	1	0	6	43

Pottery

Two pottery sherds and one possible fragment were recovered during the course of the evaluation; a highly eroded sherd (Plate 25) from Tr 2, Context 3 and a sherd of Grooved Ware from Tr 7 Context 14 (Plate 24).

The eroded sherd from Tr 2, Context 3 is undiagnostic, but may be prehistoric in date (Plate 25).

The Grooved Ware (Plate 25) is a body sherd 62.3 x 47.7 mm in size and 9.2 mm thick. It is moderately well fired, grit tempered, fabric with a smoothed outer surface. There are a series of scored lines running around the pot, between 5.8 and 9.1 mm apart. It is from a vessel with a radius of approximately 80 mm.

The fragment was recovered from the sieving of a soil sample from Tr 6 Context 40 (Plate 26). This was only 12.3 x 7.0 x 5.4 mm in size (Plate 26) and was heavily rolled making it impossible to identify, however given the C14 date from this context it is likely to be Late Iron Age in date

Slag

Part of a cake of smithing slag (Plate 27) 104.8 x 92.3 x 35.5 mm in size, weighing 227.2g. The size of this cake is relatively small and may represent a single, *ad hoc*, smithing event. The concaved edge probably marks the edge of the hot zone of the forge (P. Crew *pers. comm*.)

Other Ceramics

Part of a fired, ceramic, tube approximately 33 mm in diameter with an internal diameter of 24 mm (Plate 28) was found in Tr 6, Context 21. The tube is 6.4 mm thick at open end, and 10.7 mm thick at broken end. Although rather small this might be the tip of a tuyere (P. Crew *pers. comm*.)

Samples

M. Jones (CR Archaeology)

Introduction

Seven bulk samples were received from Archaeological Engineering Services Ltd (Project Code CCB 23). The purpose of the samples was to identify any organic material (charcoal) which could be used for dating purposes, and for the recovery of artefactual material. The results are listed in table form below.

Methodology

The samples were broken down in a floatation tank and then passed through four sieves 10mm, 5mm, 2mm and a flot (fine mesh). The residue was dried, and hand sorted. The 5mm, 2mm and residues were tested with a magnet.

Results

Sample 01 Context (04)
Weight before Processing: 1280g

Sieve Size	Weight	Description
10 mm	74g	Small to medium rounded and angular stone, iron pan, quartz
5 mm	-	-
2 mm	29g	Irregular small and gravel stone fragments
Flot	45g	Charcoal
Total Weight after processing	148g	-

Sample 02 Context (07)
Weight before Processing: 358g

Sieve Size	Weight	Description
10 mm	97g	Small to medium rounded and angular stone
0.5 mm	-	-
0.2 mm	33g	Irregular small and gravel stone fragments
Flot	14g	Charcoal
Total Weight after processing	144g	-

Sample 03 Context (09)
Weight before Processing 524g

Sieve Size	Weight	Description
10 mm	256g	Small to medium rounded and angular stone
5 mm	-	-
2 mm	35g	Irregular small and gravel stone fragments

Sieve Size	Weight	Description
Flot	4g	Charcoal
Total Weight after processing	295g	-

Sample 04 Context (14)
Weight before Processing 9576g

Sieve Size	Weight	Description
10 mm	8000g	Small to medium rounded and angular stone
5 mm	-	-
2 mm	746g	Irregular small and gravel stone fragments
Flot	39g	Charcoal and hazel nut shells bagged separately
Total Weight after processing	8785g	-

Note - Small quantity of possible worked/chipped stone.

Sample 05 Context (16)
Weight before Processing 2408g

Sieve Size	Weight	Description
10 mm	1674g	Small to medium rounded and angular stone
5 mm	687g	Small rounded and angular stones, rare quartz stone
2 mm	-	-
Flot	45g	Charcoal and hazel nut shells
Total Weight after processing	2406g	-

Note - Fragments of flint pebbles and a possible chert microlith.

Sample 6 Context (38)
Weight before Processing 4562g

Sieve Size	Weight	Description
10 mm	1563g	Small to medium rounded and angular stone
5 mm		
2 mm	1400g	Irregular small and gravel stone fragments
Flot	64g	Charcoal
Total Weight after processing	2027g	

Note - Three small flint pebble fragments.

Sample 7 Context (40)
Weight before Processing 8900g

Sieve Size	Weight	Description
10 mm	4000g	Small to medium rounded and angular stone
5 mm	181 g	Small irregular stone, rare charcoal fragments
2 mm	627g	Irregular small and gravel stone
Flot	9 g	Charcoal fragment, possible seed, hazel nut fragments (bagged separately)
Total Weight after processing	4817g	

Note - Small fragments of abraded pottery and stone chips. Stone scraper.

Conclusion

All samples processed contained sufficient charcoal for dating. There is sufficient material for obtaining dates on short life, single entity samples.

Contexts (14), (16) and (40) contained burnt hazel nut shells with (40) containing a possibly seed.

Contexts (14) and (16) are from two separate prehistoric pits. A sherd of late Neolithic pottery was recovered from context (14) and a small quantity of worked stone came from both pits. Contexts (38) and (40) also contained a small quantity of worked stone, with possible abraded pottery fragments from context (40). Unstratified prehistoric lithics (flint pebbles and chert) were recovered from a number of trenches.

Radiocarbon Dating

Three samples were selected for radiocarbon dating and were submitted to the SUERC Radiocarbon Laboratory. These consist of charred hazelnut shell fragments from Tr 7, Context 14 and Tr 6, Context 40 and charcoal from Tr 2, Context 4. Tr 7 Context 14 was selected as this fill also contained a sherd of Late Neolithic Grooved Ware. Tr 6 Context 40 also contained a fragment of pottery and a stone scraper; and Tr 2, Context 4 was a lens within the major ditch which crosses the site. The dates are summarised below and the full reports are in Appendix 6.

- Tr 2, Context 4: 2393 ± 26 BP (710-543 cal BC at 95.4%) (SUERC-124594)
- Tr 7, Context 14: 4130 ± 26 BP (2870 – 2607 cal BC at 95.4%) (SUERC-124595)
- Tr 6, Context 40: 2102 ± 21 BP (174 – 49 cal BC at 95.4%) (SUERC-124596)

Conclusions

The evaluation at Cae Chapel, Botwnnog has shown a good corelation between the magnetic anomalies recorded in the Fluxgate Gradiometer survey (Brooks 2023) and the archaeological features recorded in the evaluation (Figure 7). There is particularly close corelation between Anomaly E and the ditch sampled in Trenches 1, 2 3 and 6. The corelation to the other linear anomalies is less good with only slight features corresponding to Anomaly F and, although it was a strong magnetic anomaly, no features along the line of Anomaly D. On re-examining

the grey scale plot the smithing slag can be seen as a high reading. The reprocessing of the data, to show the survey as a colour contour plot (Figure 8), with a non-linear scale, shows the high readings of the smithing slag particularly well and suggests the possibility of more iron working deposits slightly to the north of that recovered.

At least three phases of prehistoric activity are documented by the evaluation with a low level Late Mesolithic activity shown by the presence of a rod microlith and possibly other elements within the knapped stone assemblage. Better evidence exists for a Late Neolithic phase shown by the presence of Grooved Ware on the site from one of the small pits within Tr 7 (Context 15). This was confirmed by the C14 date obtained from charred hazelnut shell from Context 14 which gave a date of 4130 ± 26 BP which calibrates to 2870 – 2607 cal BC at 95.4% probability (SUERC-124595). Given the similarity in form and the presence of material from the other small pit (Tr 7, Context 13) it is likely that this feature has a similar date.

The C14 date of 2393 ± 26 BP (543 – 398 cal BC at 93.4% probability, SUERC-124594) suggest that the main ditch (Tr 1 Context 23, Tr 2 Context 2, Tr 3 Context 28 and Tr 6 Context 41) crossing the site is of Early Iron Age or Late Bronze Age date. The lens of charcoal rich material (Tr 2 Context 4), which was dated, was partway down the profile of the ditch and will date the filling of the ditch rather than its cutting. All of the sections have slightly stepped profiles which might suggest that it had been re-cut, at least once, however no differences were seen in the fills to confirm this assumption.

A C14 date of 2102 ± 21 BP (174 – 48 cal BC at 95.4% probability SUERC-124596) suggests a late Iron Age phase of activity from at least the small pit (Context 39) in Tr 6. It is not certain as to the extent of this activity as no other features were dated. It is possible that the presence of smithing slag and a possible tuyere fragment may date from this phase, although there was no definitive proof. It does, however, suggests a level of iron working on, or near, the site. Peter Crew has said that the smithing cake is rather small, as is the possible tuyere, suggesting this may be a single, ad hoc, smithing event. It is possible that it is not a tuyere, *sensu stricto*, but the baked inside of a blowing hole similar to that excavated at Crawcwellt (Crew *pers. comm*.)

There is also some evidence for animal activity within the field, particularly in Tr 6 where an area of at least 2.80 m x 1.8 m and up to 400 mm deep appears to have been disturbed.

Of particular interest is the recovery of a sherd of Grooved Ware from the site. As late as 1999 there were only two known occurrences of Grooved Ware from North Wales, both of which were on Anglesey (Longworth and Cleal 1999, 204). However, particularly recent development lead archaeology has vastly increased the number of occurrences of the pottery type (Lynch 2024, 93) with ten sites on Anglesey alone. That being said, it is still not a common occurrence on sites and often occurs in small, shallow pits (Cleal 1999, 5) similar to the features encountered within the assemblage. The C14 date associated with charred hazelnut shells from the same feature, suggests the Late Neolithic activity is broadly contemporary with that at Parc Cybi, Holyhead, but later than Llanfaethlu, Anglesey, and earlier than Clynnog, Gwynedd (Lynch 2024, 108-109), the other North West Wales sites with dated activity associated with Grooved Ware. More generally sites with Grooved Ware have a riverine and coastal bias to their locations (Cleal 1999, 5). The use of Grooved ware remains uncertain, however, Dineley and Dineley (2000) have demonstrated the suitability of

Late Neolithic Grooved Ware vessels for making ale (Schulting, R. 2008, 103) and Lipid analysis have shown evidence ruminant and porcine fat and milk (104) from the vessels. More recently (Olet, Evershed and Smyth 2024, 127) the Grooved Ware from Parc Cybi has been analysed suggesting a focus on dairy products, although this is exceptional for North Wales.

Acknowledgements

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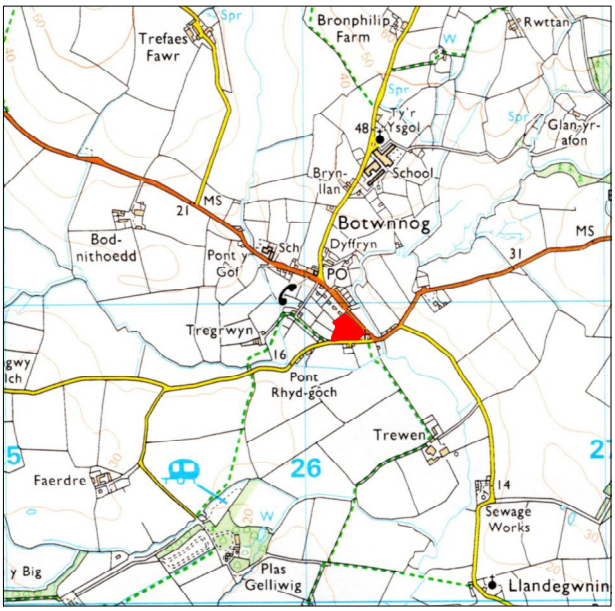


Figure 1: Location
Scale 1:25,000

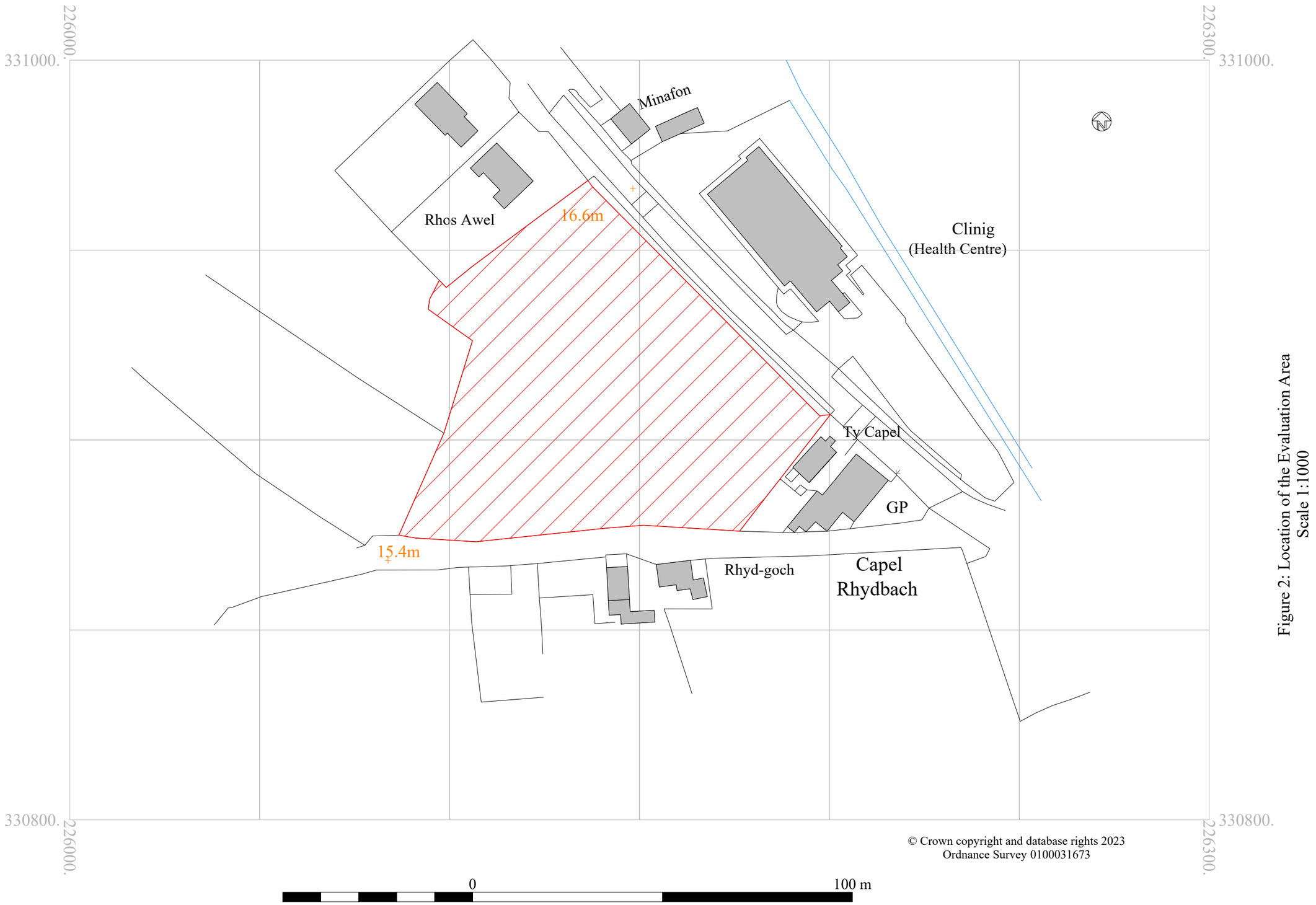


Figure 2: Location of the Evaluation Area
Scale 1:1000

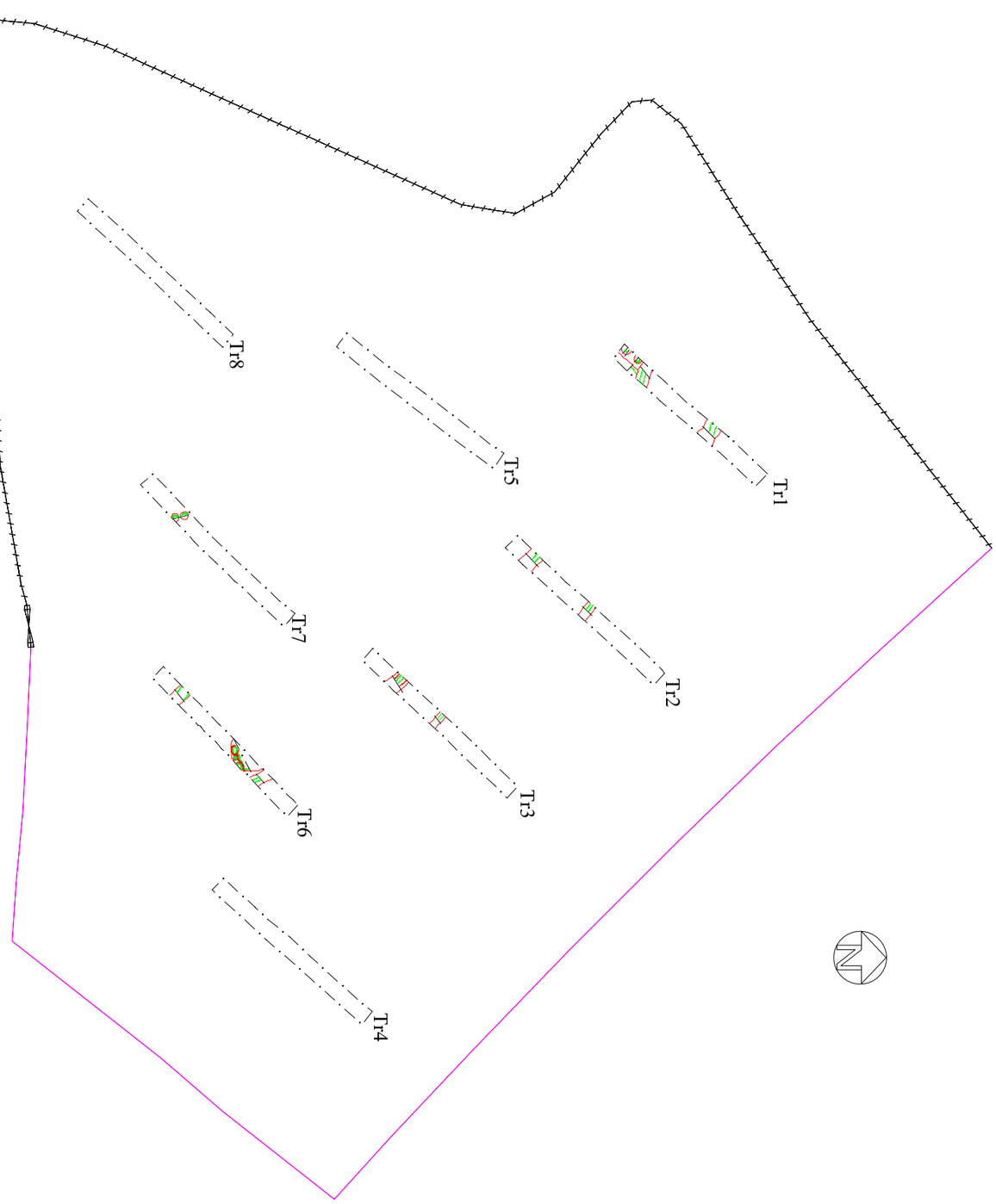


Figure 3: Location of the Trenches
Scale 1:500

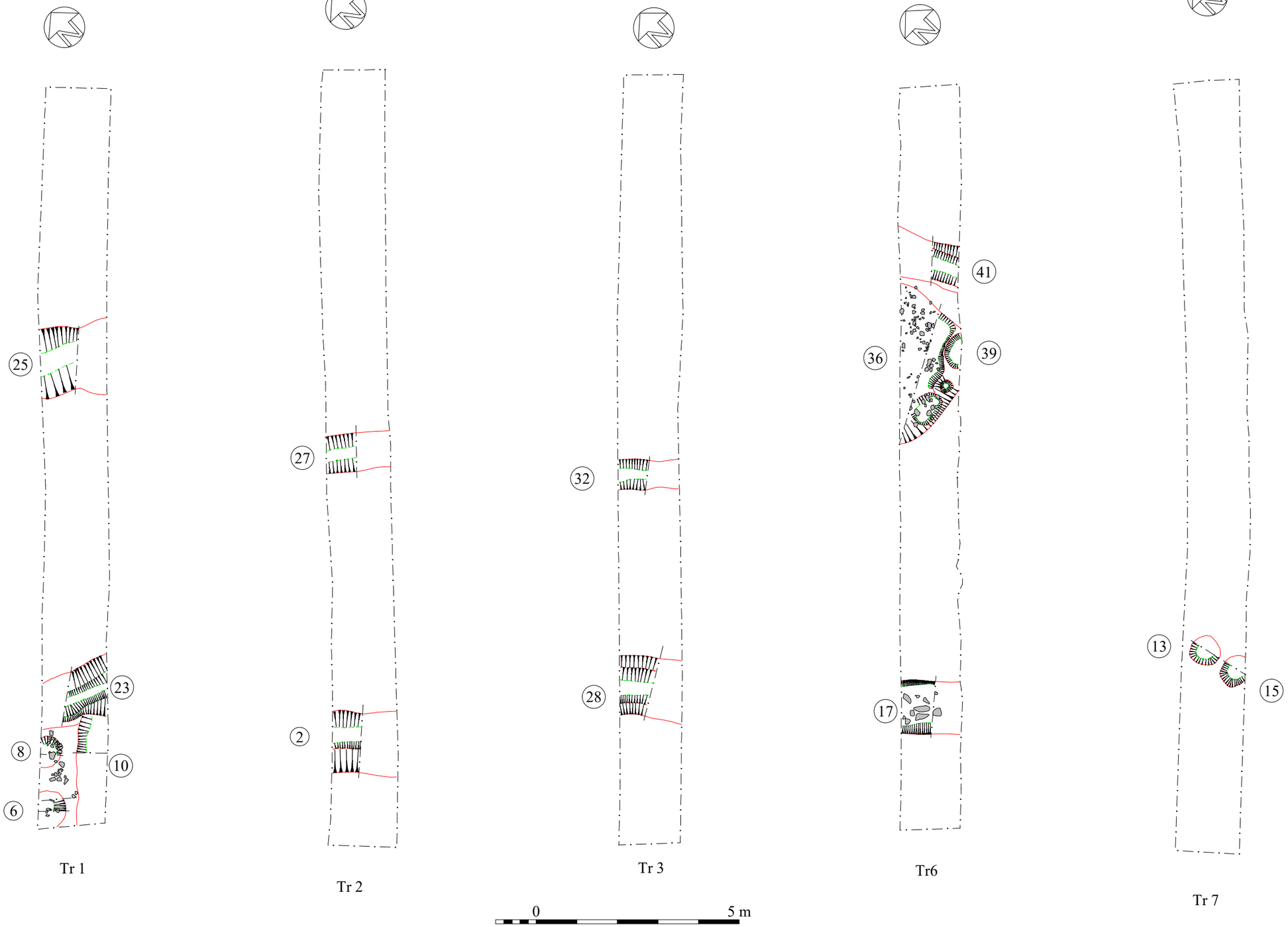


Figure 4: Trench Plans
Scale 1:100

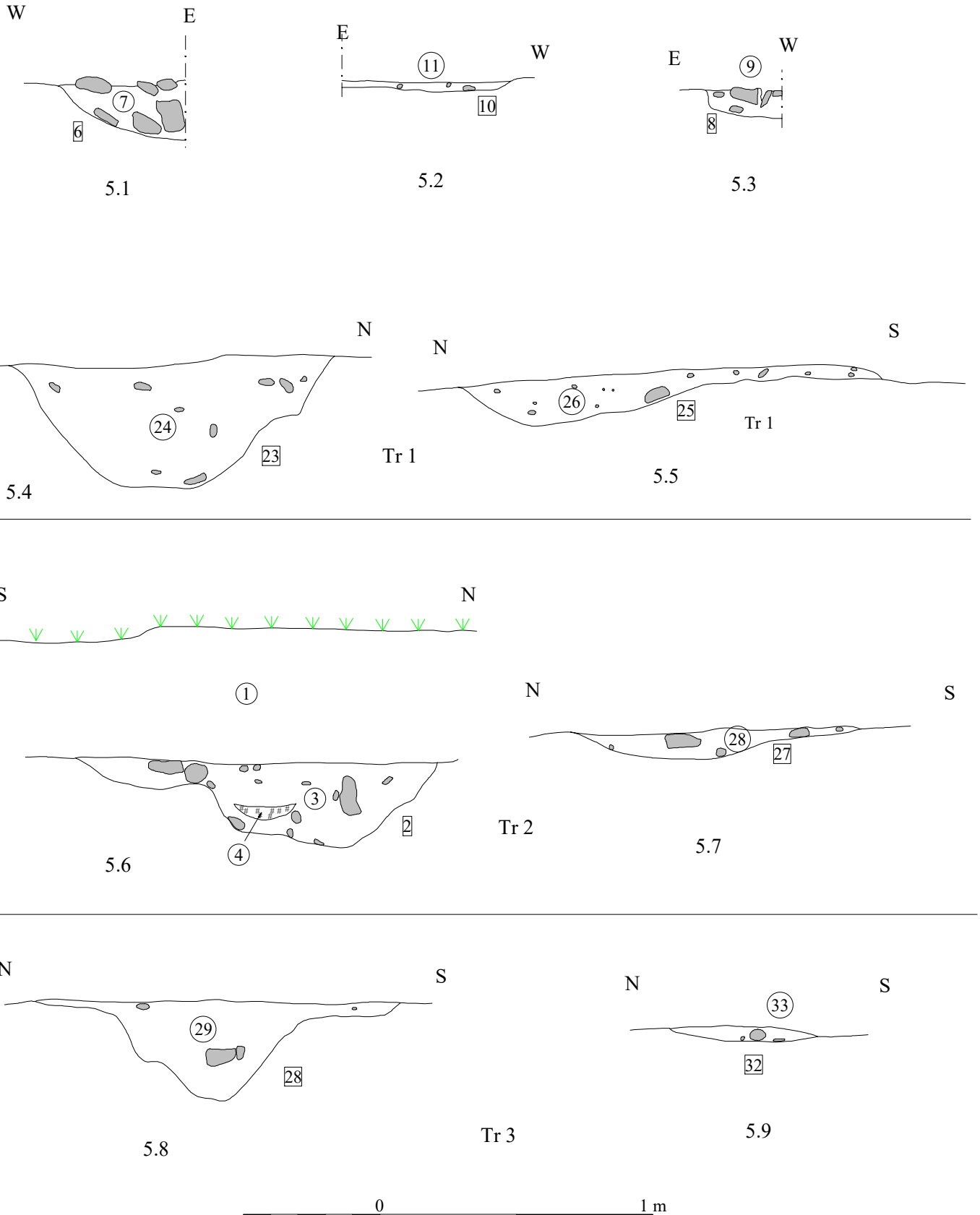
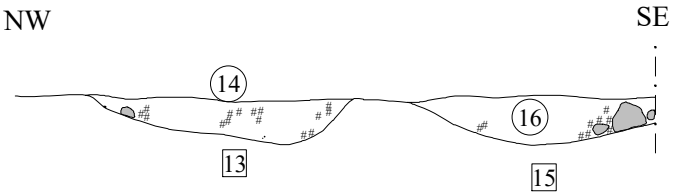
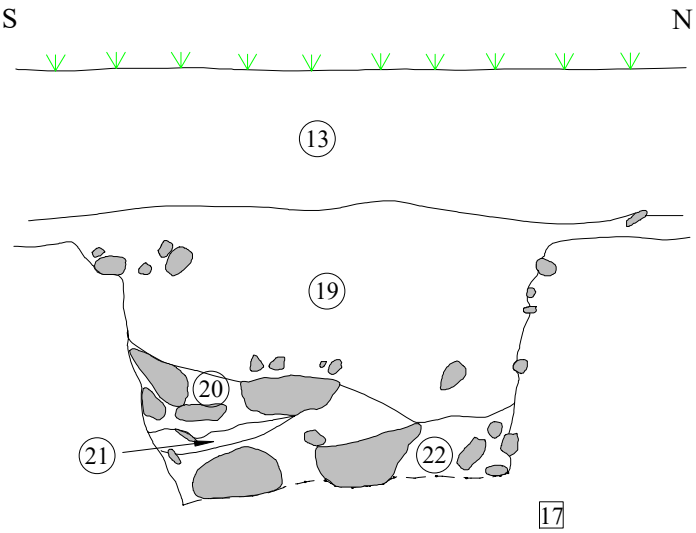


Figure 5: Section
Scale 1:20



6.1



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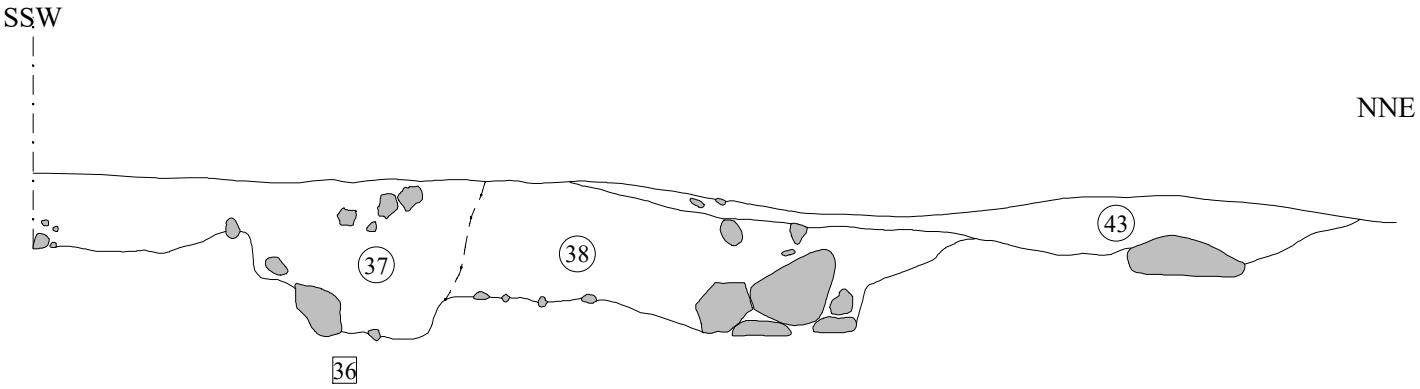

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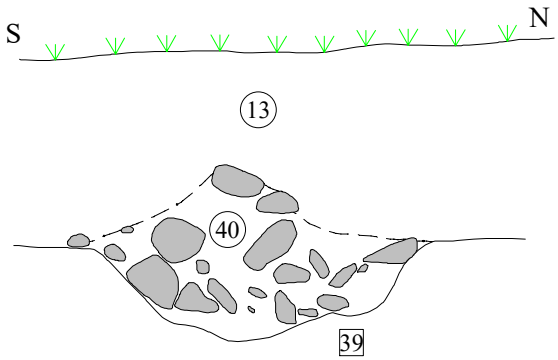

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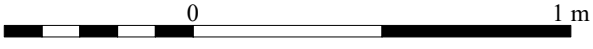


Tr 6

Figure 6: Sections
Scale 1:20

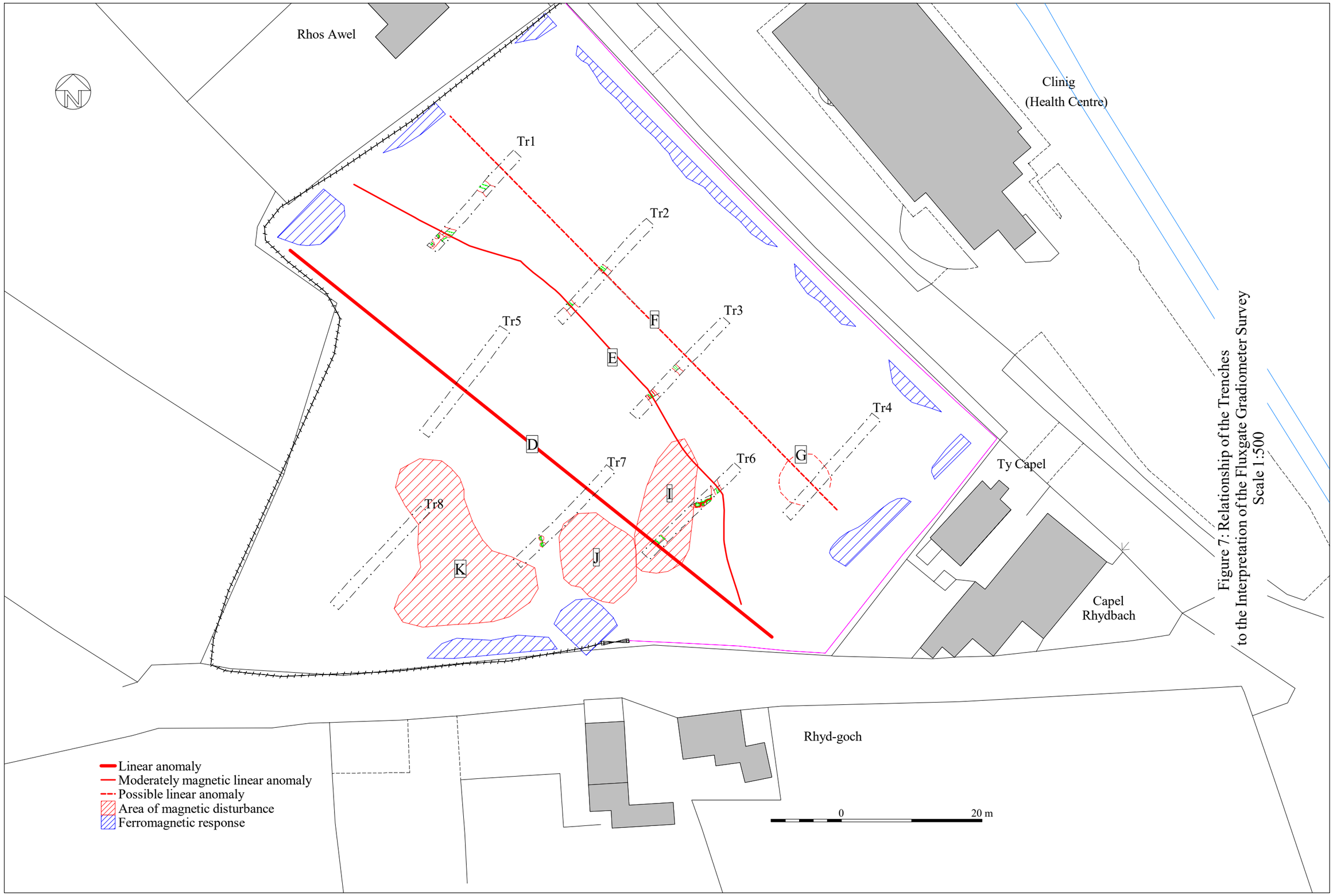


Figure 7: Relationship of the Trenches
to the Interpretation of the Fluxgate Gradiometer Survey
Scale 1:500

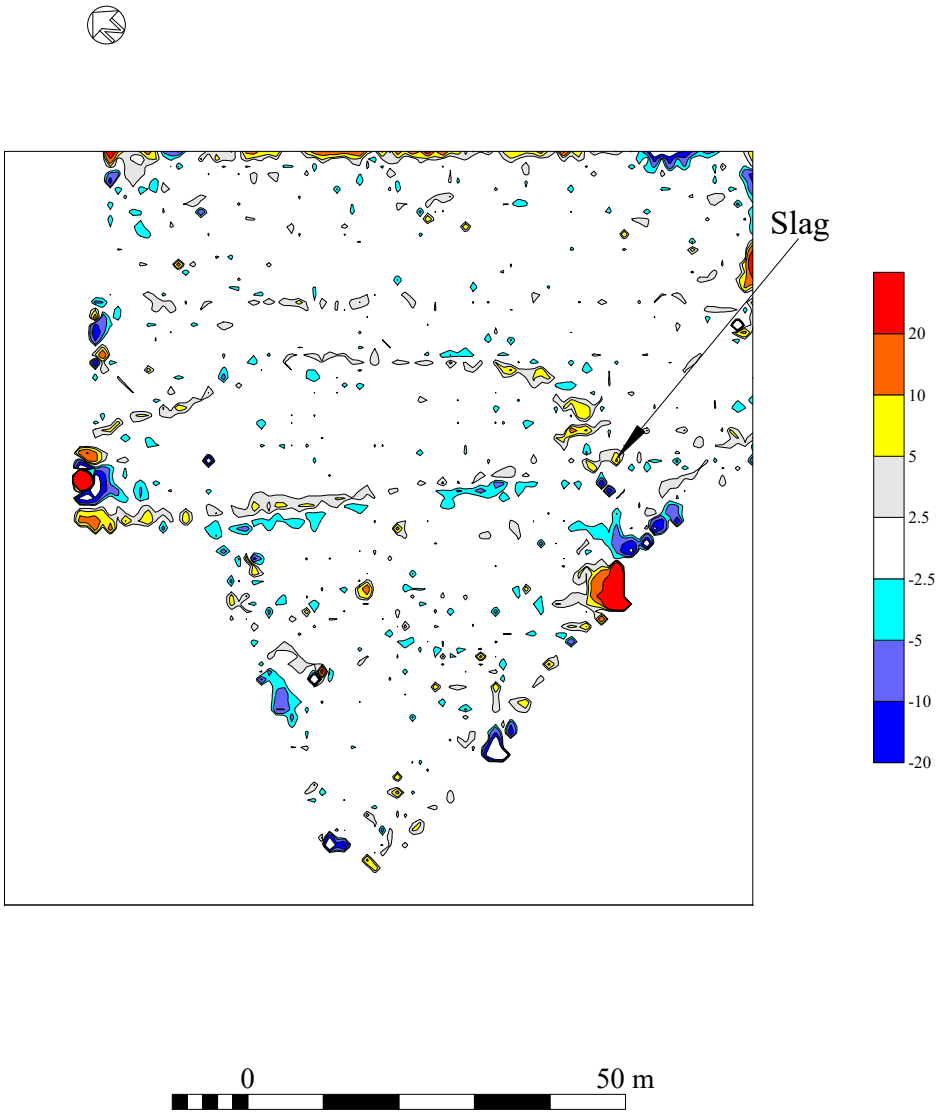


Figure 8: Fluxgate Gradiometer Survey
Reprocessed as a Colour Contour Plot
Scale 1:1000

Plate 1: Field before the evaluation, looking SE

Plate 2: Trench 1, Feature 6

Plate 3: Trench 1, Feature 8

Plate 4: Trench 1, Gully 10

Plate 5: Trench 1, Ditch 23

Plate 6: Trench 1, Gully 25

Plate 7: Trench 2, Ditch 2

Plate 8: Trench 2, Lens of charcoal rich material (Context 4) in Ditch 2.

Plate 9: Trench 2, Gully 27

Plate 10: Trench 3, Ditch 28

Plate 11: Trench 3, Gully 30.

Plate 12: Trench 6, Context 17

Plate 13: Trench 6, Context 36

Plate 14: Trench 6, Context 39

Plate 15: Trench 6: Context 41

Plate 16: Trench 7, Context 13

Plate 17: Trench 7, Context 15

Plate 18: Trench 7, Pits 13 and 15 after excavation

Plate 19: Flint and chert flakes from Tr 7, Context 14

Plate 20: Flint artefacts from Tr 1, Context 5

Plate 21: Chert scraper from Tr 7, Context 14

Plate 22: Stone scraper from Tr 6, Context 40

Plate 23: Chert microlith from Tr 7, Context 16

Plate 24: Grooved Ware from Tr7, Context 14

Plate 25: Ceramic sherd from Tr2, Context 3

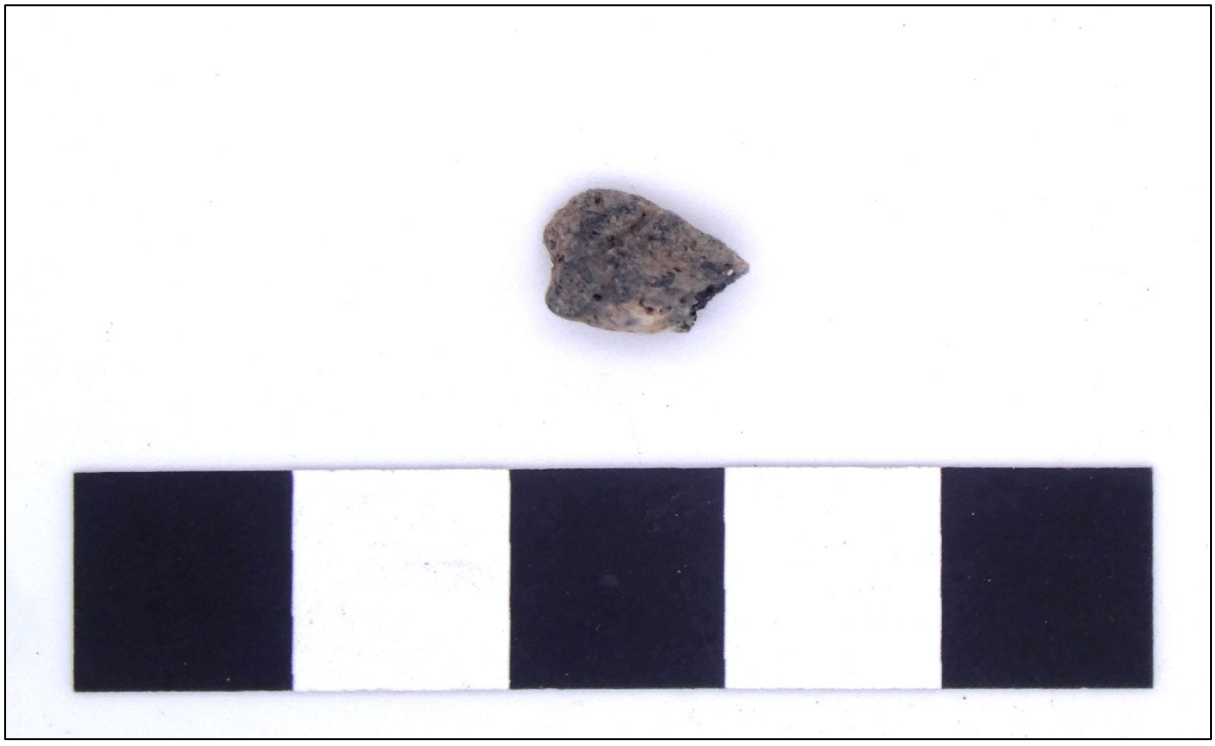


Plate 26: Eroded pottery sherd from TR 6, Context 40

Plate 27: Iron smithing cake from Tr 6, Context 21

Plate 28: Possible Tuyere from Tr 6, Context 21

Appendix 1: Specification

Specification for an Archaeological Evaluation at Cae Capel, Botwnnog, Gwynedd LL53 8RE

Compiled by I.P. Brooks 13/11/2023

1. Non-Technical Summary

1.1. 1.1.RWE Ltd. Plan to construct 18 residential units on a field known as Cae Capel, Botwnnog (Figure 1).

1.2. After commissioning a Fluxgate Gradiometer survey of the proposed development area RWE Ltd have been advised that to carryout an archaeological evaluation to test the magnetic anomalies recorded.

2. Background

2.1. It is intended to construct 18 residential units on a field known as Cae Capel, Botwnnog, Gwynedd LL53 8RE.

2.2. RWE Ltd have previously commissioned a Fluxgate Gradiometer survey of the development area (Brooks 2023) which showed at three linear anomalies crossing the field together with a possible circular anomaly and three areas of magnetic disturbance which might be archaeological in origins

2.3. As a result of the geophysical survey, T. Fildes (Development Control Archaeologist from the Gwynedd Archaeological Service) has recommended a programme of evaluation

3. Objectives

3.1. The principal objectives of the proposed evaluation are as follows:

3.1.1. To evaluate the results of the geophysical survey and characterise the archaeological record.

4. Fieldwork Program

4.1. A program of field work is proposed for this area that will include:

4.1.1. The excavation of eight 20 x 1.8 m trenches

4.1.2. Analysis

4.1.3. Archive preparation

4.1.4. Report preparation

5. Methodology

5.1. Fieldwork

5.1.1. The trenches will be laid out as in Figure 2

5.1.2. All topsoil and superficial deposits will be removed using a smooth faced bucket under constant archaeological supervision and monitoring.

5.1.3. The trench will be cleaned by hand and any subsequent excavation will also be carry out by hand.

5.1.4. All features or archaeologically significant deposits revealed will be fully recorded including:

5.1.4.1. A written description of deposit: type, components etc.

5.1.4.2. Hand drawn plans and sections at suitable scales. Typically plans will be drawn at a scale of 1:20 or greater and sections at a scale of 1:10.

5.1.4.3. Photographs will be taken with Nikon V5 Digital Camera at a resolution of 24.2 MP

5.1.4.4. If appropriate photographs will be taken with a Akaso Brave 6 Plus camera, with a resolution of 20.1 MP, on an extendable pole. These photographs will be processed with Agisoft Metashape v. 1.6.3 to produce photogrammetric images of the trenches.

5.1.4.5. Plan drawings showing the extent and nature of any archaeological deposits or features encountered.

5.1.4.6. Section drawings of any features recorded to record vertical stratigraphy.

5.1.5. The Gwynedd Archaeological Planning service will be notified immediately if significant archaeological deposits, features or artefacts are located.

5.1.6. The photographs will include metric scales

5.1.7. All artefacts and ecofacts will be recorded by context.

5.1.8. Each deposit, feature or layer will be identified by a unique context number to which all other records will be related

5.1.9. Where possible, features will be sampled to obtain dating and functional evidence.

5.1.10. All discrete features will be excavated by hand, whilst a minimum of 10 % of the length of linear features will be sampled. The approach to spreads will be assessed on site with the intension of excavating approximately 50% of spreads being sampled.

5.1.11. Where possible, elevation drawings of feature half sections to record vertical stratigraphy.

5.1.12. Where appropriate, deposits will be sampled for environmental, dating or technological evidence. Samples will be fully recorded and packed appropriately for future analysis.

5.1.12.1. Sampling will be carried out in accordance with the procedures outlined in English Heritage. 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation.

5.1.12.2. Bulk samples are likely to be in the range of 10 – 40l depending on the reason for the sample and the availability of suitable material.

5.1.13. If human remains are encountered all works will stop until the appropriate permissions have been obtained. A further specification will be submitted to detail the excavation of any human remains and the subsequent specialist reports.

5.2. Post Excavation Analysis

5.2.1. If there is little, or no, archaeological deposits/features or remains recorded during the evaluation will progress immediately on to the archive report.

5.2.2. If significant archaeological remains/features/deposits are encountered. On completion of the fieldwork an assessment of the archaeological record from the site, will be made and the project design updated. Including an estimate on the cost of the post-excavation process.

5.2.3. On approval of the updated project design the full archaeological report will be undertaken to including the commissioning of all specialist reports recommended by the revised project design.

5.3. Finds

5.3.1. The intension is to archive any suitable finds with a suitable museum.

5.3.2. Any flint artefacts will be studied by I.P. Brooks for Engineering Archaeological Services Ltd.

5.3.3. Any pottery will be studied by an appropriate specialist to be agreed in consultation with the Curatorial Archaeologist

5.3.4. Any metal or other special finds will be studied by an appropriate specialist to be agreed in consultation with the Curatorial Archaeologist

5.3.5. All ceramic, bone and stone artefacts will be cleaned and processed immediately following the watching brief.

5.3.6. Metal artefacts will be stored and managed on site according to the UK Institute of Conservation Guidelines.

5.3.7. Any samples taken for environmental analysis will be assessed and studied by an appropriate specialist to be agreed in consultation with the Curatorial Archaeologist

5.3.8. All finds will be bagged by context with the exception of closely datable or "special" finds which will be recorded with a 3 D position and will be bagged separately

5.3.9. The requirement for specialist archaeological reports will be discussed with the Curatorial Archaeologist. The extent and cost of any such report will be discussed with the client and a suitable level of response formulated in discussion between the Archaeologist and the Curatorial Archaeologist.

5.3.10. The initial report will include an assessment of the finds from the work and a recommendation for further study if require.

5.4. Archive Preparation and Report Preparation

5.4.1. The regional Historic Environment Record will be consulted in order to place any archaeological features in their regional perspective.

5.4.2. On competition of fieldwork an archive of the results will be prepared.

5.4.3. The digital records will be archived with the Royal Commission on Ancient and Historic Monuments of Wales

5.4.4. The digital archive will be prepared in line with Royal Commission on Ancient and Historic Monuments of Wales. 2015. Guidelines for digital archives

5.4.5. The deposition of any find with a local museum will be discussed with the owner and the development control archaeologist with a strong recommendation that any finds are deposited in a suitable local museum.

5.4.6. A summary report on the findings of the investigations will be prepared and completed within four weeks from completion of the project. This will summarise the results of the project including;

5.4.6.1. A site location plan

5.4.6.2. A plan of the site locating any features or archaeological deposits located.

5.4.6.3. An outline methodology

5.4.6.4. The results of the Evaluation.

5.4.6.5. A full bibliography

5.4.6.6. A copy the agreed specification

5.4.6.7. An assessment of the potential for further archaeological investigation

5.4.6.8. Up to five copies of the report will be provided.

5.4.6.9. A digital copy of the report will also be provided.

5.4.6.10. A digital copy of the report will be supplied to the Gwynedd Historic Environment Record

5.4.6.11. A digital copy of the report will be supplied to Gwynedd Archaeological Planning Service

5.4.6.12. The preparation of the report will conform to the Welsh Archaeological Trusts 2018 "Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)"

6. Staff

6.1. The project will be carried out by Ian Brooks, PhD, BA, MCIfA., FSA

6.2. The staff will include M. Jones (CR Archaeology)

7. Timetable

7.1. It is intended to start the fieldwork on 20th November 2023.

7.2. The trenches will be marked out with a series of flags

7.3. The following are estimates of the time required:

7.3.1. Marking out: 2-man days (two people for one day).

7.3.2. Removal of topsoil with the machine: 1 -2 days

7.3.3. Fieldwork: 10-man days (two people for five days)

7.3.4. Assessment and report: 4 days

8. General

8.1. CIfA Code of Conduct

8.1.1. All staff will abide by, and all procedures be carried out in accordance with the Chartered Institute for Archaeologists' Code of Conduct

8.2. Health and Safety

8.2.1. EAS Ltd adopt and adhere to safe working practices at all times.

8.2.2. A copy of the company's general statement of policy is available on request.

8.3. Staff

8.3.1. The project will be directed by Dr I.P. Brooks MCIfA FSA

8.3.2. Project Staff will include Dr I.P. Brooks MCIfA FSA and M. Jones BA.

8.4. Curatorial Monitoring

8.4.1. The Gwynedd Archaeological Planning Service will be informed as to the start date and progress of the fieldwork.

8.5. Insurance

8.5.1. EAS Ltd carries all necessary Public and Employee Liability Insurances.

8.5.2. EAS Ltd carries Professional Indemnity Insurance

9. Data Management

9.1. Photographs will be taken in Nikon NEF (Raw) format

9.1.1. These will be converted to TIFF for archiving and JPEG for illustrations and general use.

9.1.2. Photographs for photogrammetry will be taken in JPEG format and processed using Agisoft Metascape v. 1.6.3. Orthographically corrected elevations photos will be produced in JPEG format and converted to TIFF for archiving.

9.2. Any topographic survey will be carried out using a Leica TS06 total station with the data processed using NRG Engineering Surveying System V2016.00.

9.2.1. Survey files will be converted to DXF format.

9.3. Initial written notes will be made on an "i Pad" using the "Pages" app. These will be converted to WORD format (.docx) format on downloading

9.4. The text for the report will be produced in Word (.docx) format

9.5. Drawing will be made in TurboCad 2021 v. 28.0 and stored in .TCW format. These will be converted into .DXF or .DWG format for archiving.

9.6. The report will converted to .PDF format using Expert PDF 15.

9.7. All files will be stored on the company laptop computer and backed up onto a suitable storage device.

11. Copyright

11.1. EAS Ltd shall retain full copyright of any commissioned reports, tender documents or other project documentation, under the Copyrights, Designs and Patents Act 1988 with all rights reserved: excepting that it hereby provides an exclusive licence to the client for the use of such documents by the client in all matters directly relating to the project as described in the Project Specification.

11.2. EAS Ltd is prepared to assign a licence to the client for the use of the report and any associated data.

12. References

Brooks, I.P. 2023 *Cae Capel, Botwnnog, Gwyneddd:Geophysical Survey*. EAS Client Report 2023/11

Appendix 2: Context summary

Context	***Type***	***Location***	***Description***	***Relationships***
1	Layer	Tr2	Topsoil up to 500 mm thick	Above 2, 3
2	Cut	Tr2	Part of the curvilinear feature crossing the field. 1350 mm wide with shallow sloping sides to the south and steep sides to the north	Below 1 Contains 3 and 4
3	Fill	Tr2	Yellowish brown clayey silt with a moderate number of large (up to 200 mm, rounded or sub rounded cobbles.	Below 1 Within 2 Contains 4
4	Fill	Tr2	Circular patch of charcoal 120 mm in diameter cut through Context 3.	Within 2 Surrounded by 3
5	Layer	Tr1	Topsoil	Above 6, 8, 10, 23, 25
6	Cut	Tr1	Possible pit in the SW corner of Tr1. At least 550 mm in diameter and 170 mm deep. It has sloping sides, which merge with a rounded base.	Below 5 Contains 7
7	Fill	Tr1	Fill of 6. Yellowish brown clayey silt with a series of moderate sized cobbles (up to 120 mm in size) which are a mixture of rounded beach cobbles and angular fragment. The full extent of this layer was not determined as it extends beyond the trench.	Below 5 Within 6
8	Cut	Tr1	Semi-circular feature, extending beyond the western side of Tr1. 650 mm in diameter and 120 m deep	Below 5 Contains 9
9	Fill	Tr1	Fill of 8. Mid yellowish brown clayey silt with large cobbles up to 200 mm in size.	Below 5 Within 9
10	Cut	Tr1	Linear cut along the eastern side of Tr1 at the south end. Up to 600 mm wide, but only 60 mm deep	Below 5 Contains 11
11	Fill	Tr1	Fill of 10. Yellowish brown gravely silt with a moderate density of medium/small rounded pebbles up to 100 mm in size.	Below 5 Within 10
12	Layer	Tr7	Topsoil	Above 13, 15,
13	Cut	Tr7	Small pit with grooved ware. Circular pit 740 mm in diameter and 120 mm deep with sloping sides and flat base.	Below 12 Contains 14
14	Fill	Tr7	Fill of 13 contains sherd of grooved ware. Yellowish brown clayey silt with a moderate density of small, rounded pebbles and fleck of charcoal. Finds include a single sherd of Grooved Ware and a few flint waste artefacts	Below 12 Within 13

Context	*Type*	*Location*	*Description*	*Relationships*
15	Cut	Tr7	Small pit 600 mm in diameter and 120 mm deep with sloping sides and a rounded base.	Below 12 Contains 16
16	Fill	Tr7	Fill of 15. Mid yellowish brown clayey silt with occasional small rounded stone and rare larger cobble. The layer also contains a few flecks of charcoal	Below 12 Within 15
17	Cut	Tr6	Large feature, 1.30 m wide and in excess of 600 mm deep. Not bottomed because depth to topsoil 1.1 m with a section containing loosely packed large stones. The feature has near vertical sides to the north and south, unknown extent elsewhere.	Below 18 Contains 19, 20, 21, 22
18	Layer	Tr6	Topsoil up to 500 mm thick	Above 17, 36, 39, 41
19	Fill	Tr6	Mid brown clayey silt with many cobbles and boulders up to 200 mm in size with both rounded cobbles and angular fragments. Layer approximately 300 mm thick in the top of Feature 17.	Below 18 Within 17 Above 20
20	Fill	Tr6	Lens of yellow gravel tipping in from the southern side of the feature.	Below 19 Within 17 Above 21
21	Fill	Tr6	Thin lens of charcoal rich material having been tipped in from the south side. The layer contained a large fragment of iron slag (probably smithing slag) and a ceramic fragment with a curved surface, possibly a tuyere. Lens separates context 19 from context 22	Below 20 Within 17 Above 22
22	Fill	Tr6	Very similar to 19, but tends to be wetter and contain larger stones, up to 300 mm in size. This layer was not bottomed because of the adjacent section which was in excess of 1m high and contained loose cobbles and boulders	Below 21 Within 17
23	Cut	Tr1	Part of the curvilinear ditch running along the length of the site. Ditch, 1.2 m wide and 480 mm deep with steep, slightly stepped sides and a rounded base.	Below 5 Contains 24
24	Fill	Tr1	Fill of Context 23. Yellowish brown clayey silt with a moderate to low density of medium/small rounded beach pebbles up to 100 mm in size. Rare fleck of charcoal.	Below 5 Within 23

Context	*Type*	*Location*	*Description*	*Relationships*
25	Cut	Tr1	Linear feature running parallel to the main road. Up to 1.3 m wide and 150 mm deep this feature has a steeply sloping northern edge and gentle slope to the south. It has a rounded base.	Below 5 Contains 26
26	Fill	Tr1	Fill of Context 25. Mid yellowish brown clayey silt with a moderate to low density of small (up to 20 mm) rounded pebbles and the rare larger stone up to 150mm in size	Below 5 Within 26
27	Cut	Tr2	Cut for feature parallel to the main road in Tr2. Shallow linear feature running east - west 1.10 m wide and 100 mm deep with gently sloping sides and a rounded base.	Below 1 Contains 28
28	Cut	Tr3	Section of the Curvilinear feature in Tr3. Steeply angled sides with a slightly rounded base. Feature is 700 mm wide and 400 mm deep.	Below 44 Within 27
29	Fill	Tr3	Fill of Context 30. Mid yellowish brown clayey silt with the occasional rounded cobble up to 100 mm in size.	Below 44 Above 31 Within 30
30	Cut	Tr3	Cut for linear feature running parallel to the main road. 600 mm wide, but only 50 mm deep with gently sloping sides and a flat bas	Below 44 Contains 29, 31
31	Fill	Tr3	Fill of 32. Yellowish brown clayey silt with occasional rounded cobble up to 100 mm in size.	Below 44 Within 30
32	Layer	Tr4	Topsoil up to 500 mm thick	
33	Layer	Tr5	Topsoil up to 400 mm thick	
34	Layer	Tr7	Topsoil up to 500 mm thick	
35	Layer	Tr8	Topsoil up to 400 mm deep	
36	Cut	Tr6	Irregular cut covering at least 2.80 m x 1.8 m extending beyond the extent of Tr6. A series of intercutting lobe shaped feature filled with an identical fill and highly disturbed by animal activity.	Below 13 Contains 37, 38, 43
37	Fill	Tr6	Mid brown silty clay with a series of large cobbles up to 250 mm in size, particularly around the edges of the lobes.	Below 13 Within 36 Possibly cuts 38
38	Fill	Tr6	Area of darker brown fill within 36. Area of the section 360 mm x 200 mm of dark yellowish brown clayey silt with many flecks of charcoal.	Below 43 Within 36 Possibly cut by 37

Context	*Type*	*Location*	*Description*	*Relationships*
39	Cut	Tr6	Probably a circular pit, but extends beyond the eastern edge of Tr6. 900 mm in diameter and 200 mm deep it has steeply sloping sides and a rounded base.	Below 13 Contains 40
40	Fill	Tr6	Many rounded cobbles up to 150 mm in size in a matrix of mid yellowish-brown silt.	Below 13 Within 36
41	Cut	Tr6	Length of the curvilinear feature in Tr6. It is 1.00 m wide and 360 mm deep with slightly stepped sides and a flat base.	Below 13 Contains 42
42	Fill	Tr6	Mid yellowish brown clayey silt fill of 41. Contains the occasional cobble up to 150 mm in size.	Below 13 Within 41
43	Fill	Tr6	Layer of cobbles, typically up to 150 mm in size, across the north eastern end of Context 36. The matrix is a mid, yellowish-brown clayey silt.	Below 13 Above 38 Within 36
44	Layer	Tr3	Topsoil up to 500 mm thick	

Appendix 3: List of Photographs in the Archive

File	Scale	Description
CCB23.001.TIF	none	Field before the evaluation, looking NNW
CCB23.002.TIF	none	Field before the evaluation, looking N
CCB23.003.TIF	none	Field before the evaluation, looking W
CCB23.004.TIF	none	Field before the evaluation, looking NW
CCB23.005.TIF	none	Field before the evaluation, looking ESE
CCB23.006.TIF	none	Field before the evaluation, looking WSW
CCB23.007.TIF	none	Field before the evaluation, looking SE
CCB23.008.TIF	none	Pen in the corner of the field, looking SW
CCB23.009.TIF	none	Field before the evaluation, looking NW
CCB23.010.TIF	none	Field before the evaluation, looking NW
CCB23.011.TIF	100 mm	Tr 2, Context 4 from above
CCB23.012.TIF	100 mm	Tr 2, Context 4 from above
CCB23.013.TIF	100 mm	Detail of Tr 2, Context 4 from above
CCB23.014.TIF	100 mm	Detail of Tr 2, Context 4 from above
CCB23.015.TIF	100 mm	Tr 2, Context 4 after excavation, from above
CCB23.016.TIF	100 mm	Tr 2, Context 4 after excavation, from above
CCB23.017.TIF	100 mm	Tr 2, Context 4 after excavation, from above
CCB23.018.TIF	100 mm	Detail of Tr 2, Context 4 after excavation, from above
CCB23.019.TIF	100 mm	Detail of Tr 2, Context 4 after excavation, from above
CCB23.020.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.021.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.022.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.023.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.024.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.025.TIF	1 m	Tr 2, Context 2, looking NW
CCB23.026.TIF	Human	Matt digging features in Tr 7
CCB23.027.TIF	Human	Matt digging features in Tr 7
CCB23.028.TIF	none	Field during the evaluation, looking NW
CCB23.029.TIF	none	Field during the evaluation, looking NNW
CCB23.030.TIF	none	Field during the evaluation, looking NNW
CCB23.031.TIF	none	Field during the evaluation, looking SSE
CCB23.032.TIF	none	Field during the evaluation, looking SE
CCB23.033.TIF	none	Field during the evaluation, looking SSE
CCB23.034.TIF	Human	Field during the evaluation, looking SSE
CCB23.035.TIF	none	Southern end of Tr 1, looking SW
CCB23.036.TIF	none	Southern end of Tr 1, looking SW
CCB23.037.TIF	none	Southern end of Tr 2, looking N
CCB23.038.TIF	none	Southern end of Tr 2, looking W
CCB23.039.TIF	none	Southern end of Tr 3, looking W
CCB23.040.TIF	none	Southern end of Tr 3, looking W
CCB23.041.TIF	200 mm	Tr 1, Context 6, looking SW
CCB23.042.TIF	200 mm	Detail of Tr 1, Context 6, looking SW
CCB23.043.TIF	200 mm	Tr 1, Context 8, looking SW
CCB23.044.TIF	200 mm	Tr 1, Context 8, looking SW
CCB23.045.TIF	200 mm	Tr 1, Context 10, looking SW
CCB23.046.TIF	200 mm	Tr 1, Context 10, looking SW
CCB23.047.TIF	200 mm	Detail of Tr 1, Context 10, looking SW
CCB23.048.TIF	1 m	Tr 1, Context 23, looking NW
CCB23.049.TIF	1 m	Tr 1, Context 23, looking NW
CCB23.050.TIF	1 m	Tr 1, Context 25, looking NW

File	Scale	Description
CCB23.051.TIF	1 m	Tr 1, Context 25, looking NW
CCB23.052.TIF	1 m	Tr 2, Context 2, looking SE
CCB23.053.TIF	1 m	Tr 2, Context 2, looking SE
CCB23.054.TIF	1 m	Tr 2 Context 27, looking SE
CCB23.055.TIF	1 m	Tr 2 Context 27, looking SE
CCB23.056.TIF	1 m	Tr 2 Context 27, looking SE
CCB23.057.TIF	1 m	Tr 3, Context 30, looking SE
CCB23.058.TIF	1 m	Tr 3, Context 30, looking SE
CCB23.059.TIF	1 m	Tr 3, Context 30, looking SE
CCB23.060.TIF	1 m	Tr 3, Context 32, looking SE
CCB23.061.TIF	1 m	Tr 3, Context 32, looking SE
CCB23.062.TIF	200 mm	Tr 7, Context 13, looking NE
CCB23.063.TIF	200 mm	Tr 7, Context 13, looking NE
CCB23.064.TIF	200 mm	Tr 7, Context 15, looking NE
CCB23.065.TIF	200 mm	Tr 7, Context 15, looking NE
CCB23.066.TIF	1 m	Tr 6, Context 36, looking N
CCB23.067.TIF	1 m	Tr 6, Context 36, looking N
CCB23.068.TIF	1 m	Tr 6, Context 36, looking N
CCB23.069.TIF	1 m	Tr 6, Context 39, looking SE
CCB23.070.TIF	1 m	Tr 6, Context 39, looking SE
CCB23.071.TIF	1 m	Tr 6, Context 39, looking SE
CCB23.072.TIF	1 m	Tr 6, Context 41, looking SE
CCB23.073.TIF	1 m	Tr 6, Context 41, looking SE
CCB23.074.TIF	1 m	Tr 6, Context 41, looking SE
CCB23.075.TIF	1 m	Tr 7, Contexts 13 and 15 after excavation, looking NE
CCB23.076.TIF	1 m	Tr 7, Contexts 13 and 15 after excavation, looking NE
CCB23.077.TIF	50 mm	Grooved Ware sherd from Tr 7, Context 14
CCB23.078.TIF	50 mm	Grooved Ware sherd from Tr 7, Context 14
CCB23.079.TIF	50 mm	Smithing slag from Tr 6, Context 21
CCB23.080.TIF	50 mm	Smithing slag from Tr 6, Context 21
CCB23.081.TIF	50 mm	Possible tuyere from Tr 6, Context 21
CCB23.082.TIF	50 mm	Possible tuyere from Tr 6, Context 21
CCB23.083.TIF	50 mm	Pottery sherd from Tr 2, Context 3
CCB23.084.TIF	50 mm	Pottery sherd from Tr 2, Context 3
CCB23.085.TIF	50 mm	Flint and chert artefacts from Tr 7, Context 14
CCB23.086.TIF	50 mm	Flint and chert artefacts from Tr 7, Context 14
CCB23.087.TIF	50 mm	Grooved Ware sherd from Tr 7, Context 14
CCB23.088.TIF	50 mm	Grooved Ware sherd from Tr 7, Context 14
CCB23.089.TIF	50 mm	Grooved Ware sherd from Tr 7, Context 14
CCB23.090.TIF	50 mm	Flint artefacts from Tr 1, Context 5
CCB23.091.TIF	50 mm	Flint artefacts from Tr 1, Context 5
CCB23.092.TIF	50 mm	Flint artefacts from Tr 1, Context 5
CCB23.093.TIF	50 mm	Flint artefacts from Tr 1, Context 5
CCB23.094.TIF	50 mm	Cobble tool from Tr 1, Context 5
CCB23.095.TIF	50 mm	Cobble tool from Tr 1, Context 5
CCB23.096.TIF	50 mm	Stone flake from Tr 7, Context 14
CCB23.097.TIF	50 mm	Chert flake from Tr 7, Context 14
CCB23.098.TIF	50 mm	Chert scraper from Tr 7, Context 14
CCB23.099.TIF	50 mm	Chert scraper from Tr 7, Context 14

Appendix 4: Feature Summary

Location		Grid Reference		Class			Date/ Period
Context	**Trench**	**Eastings**	**Northings**	**Type**	**Welsh**	**Description**	
6	1	226120	330934	Pit/post-hole	Pydewau/twl postyn	Possible pit in the SW corner of Tr1. At least 550 mm in diameter and 170 mm deep. It has sloping sides, which merge with a rounded base.	
8	1	226121	330935	Pit/post-hole	Pydewau/twl postyn	Semi-circular feature, extending beyond the western side of Tr1. 650 mm in diameter and 120 m deep	
10	1	226121	330934	Gully	Rhigol	Linear cut along the eastern side of Tr1 at the south end. Up to 600 mm wide, but only 60 mm deep	
23	1	226122	330936	Ditch	Ffos	Part of the curvilinear ditch running along the length of the site. Ditch, 1.2 m wide and 480 mm deep with steep, slightly stepped sides and a rounded base. Equivalent to 2, 28 and 41	
25	1	226128	330942	Gully	Rhigol	Linear feature running parallel to the main road. Up to 1.3 m wide and 150 mm deep this feature has a steeply sloping northern edge and gentle slope to the south. It has a rounded base.	
2	2	226140	330925	Ditch	Ffos	Part of the curvilinear feature crossing the field. 1350 mm wide with shallow sloping sides to the south and steep sides to the north. Equivalent to 23, 28, and 41	
27	2	226144	330931	Gully	Rhigol	Cut for a feature parallel to the main road in Tr2. Shallow linear feature running east - west 1.10 m wide and 100 mm deep with gently sloping sides and a rounded base.	
28	3	226151	330912	Ditch	Ffos	Section of the Curvilinear feature in Tr3. Steeply angled sides with a slightly rounded base. Feature is 700 mm wide and 400 mm deep. Equivalent to 23, 2 and 41	
32	3	226155	330916	Gully	Rhigol	Cut for a linear feature running parallel to the main road. 600 mm wide, but only 50 mm deep with gently sloping sides and a flat base	
17	6	226152	330892	Feature	Nodwedd	Large feature, 1.30 m wide and in excess of 600 mm deep. Not bottomed because depth to topsoil 1.1 m with a section containing loosely packed large stones. The feature has near vertical sides to the north and south, unknown extent elsewhere.	

Location		Grid Reference		Class			Date/ Period
Context	**Trench**	**Eastings**	**Northings**	**Type**	**Welsh**	**Description**	
36	6	226158	330898	Hollow	Pant	Irregular cut covering at least 2.80 m x 1.8 m extending beyond the extent of Tr6. A series of intercutting lobe shaped feature filled with an identical fill and highly disturbed by animal activity.	
39	6	226159	330898	Pit/post-hole	Pydewau/twl postyn	Probably a circular pit, but extends beyond the eastern edge of Tr6. 900 mm in diameter and 200 mm deep it has steeply sloping sides and a rounded base.	
41	6	226160	330900	Ditch	Ffos	Length of the curvilinear feature in Tr6. It is 1.00 m wide and 360 mm deep with slightly stepped sides and a flat base. Equivalent to 23, 2 and 28	
13	7	226135	330892	Pit	Pydew	Small pit with grooved ware. Circular pit 740 mm in diameter and 120 mm deep with sloping sides and flat base.	Late Neolithic
15	7	226136	330892	Pit	Pydew	Small pit 600 mm in diameter and 120 mm deep with sloping sides and a rounded base.	Late Neolithic

Appendix 5: List of Samples

Sample	Trench	Context	Weight (g)
1	2	4	1280
2	1	7	358
3	1	9	524
4	7	14	9576
5	7	16	2408
6	6	38	4562
7	6	40	8900

Appendix 6: Radiocarbon Reports

SUERC | RADIOCARBON LABORATORY

Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE
20 February 2024

Laboratory Code	SUERC-124594 (GU67368)
Submitter	Ian Brooks Engineering Archaeological Services Ltd Unit 2 Glanypwll Workshops Ffordd Tanygrisiau Blaenau Ffestiniog, Gwynedd LL41 3NW
Site Reference	Cae Capel, Botwnnog
Context Reference	CCB23 Tr2 Context 4
Sample Reference	1
Material	charcoal
$\delta^{13}C$ relative to VPDB	-26.9 ‰
Radiocarbon Age BP	2393 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

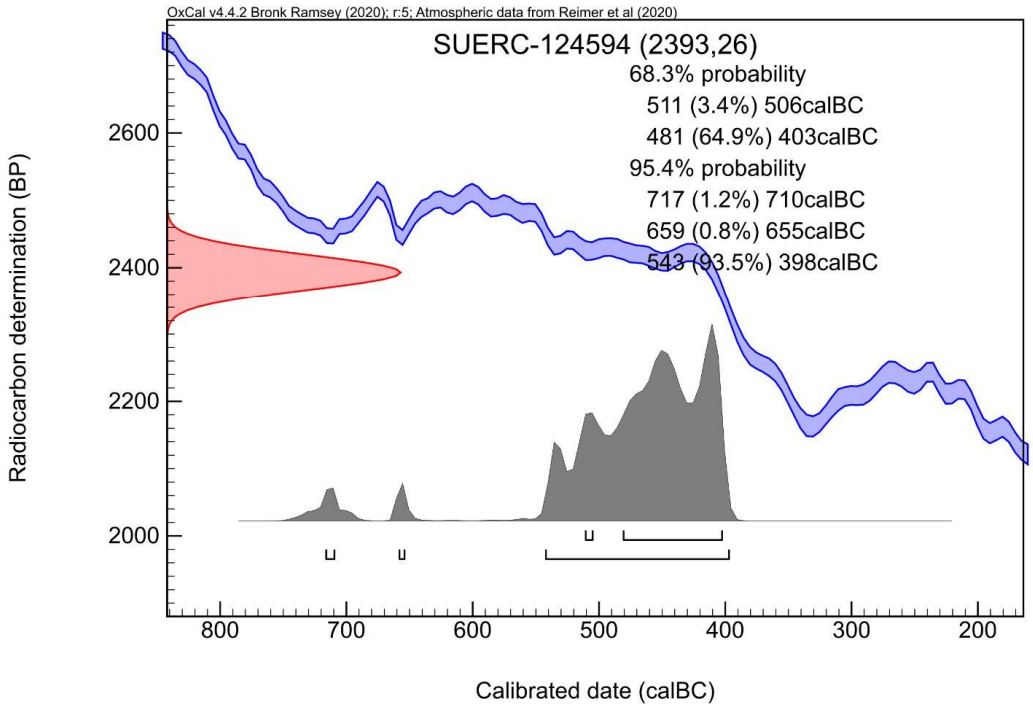
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE
20 February 2024

Laboratory Code	SUERC-124595 (GU67369)
Submitter	Ian Brooks Engineering Archaeological Services Ltd Unit 2 Glanypwll Workshops Ffordd Tanygrisiau Blaenau Ffestiniog, Gwynedd LL41 3NW
Site Reference	Cae Capel, Botwnnog
Context Reference	CCB23 Tr7 Context 14
Sample Reference	4
Material	charred nut shell
$\delta^{13}C$ relative to VPDB	-24.1 ‰
Radiocarbon Age BP	4130 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

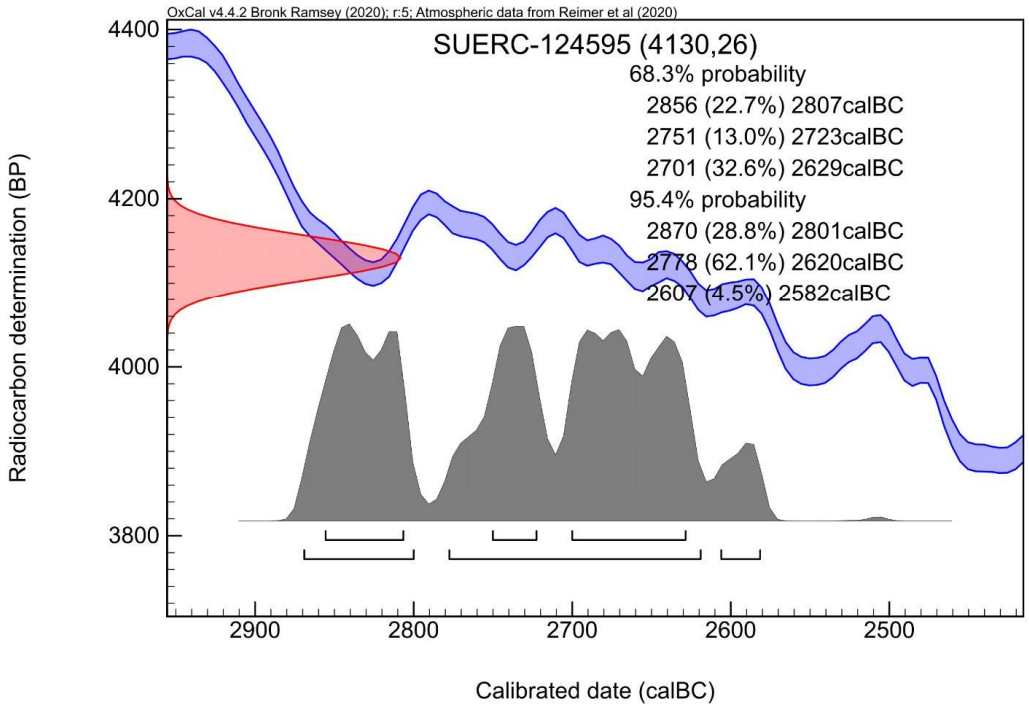
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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RADIOCARBON DATING CERTIFICATE
20 February 2024

Laboratory Code	SUERC-124596 (GU67370)
Submitter	Ian Brooks Engineering Archaeological Services Ltd Unit 2 Glanypwll Workshops Ffordd Tanygrisiau Blaenau Ffestiniog, Gwynedd LL41 3NW
Site Reference	Cae Capel, Botwnnog
Context Reference	CCB23 Tr6 Context 40
Sample Reference	7
Material	charred nut shell
$\delta^{13}C$ relative to VPDB	-25.0 ‰
Radiocarbon Age BP	2102 ± 21

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD) and requires calibration to the calendar timescale. The error, expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

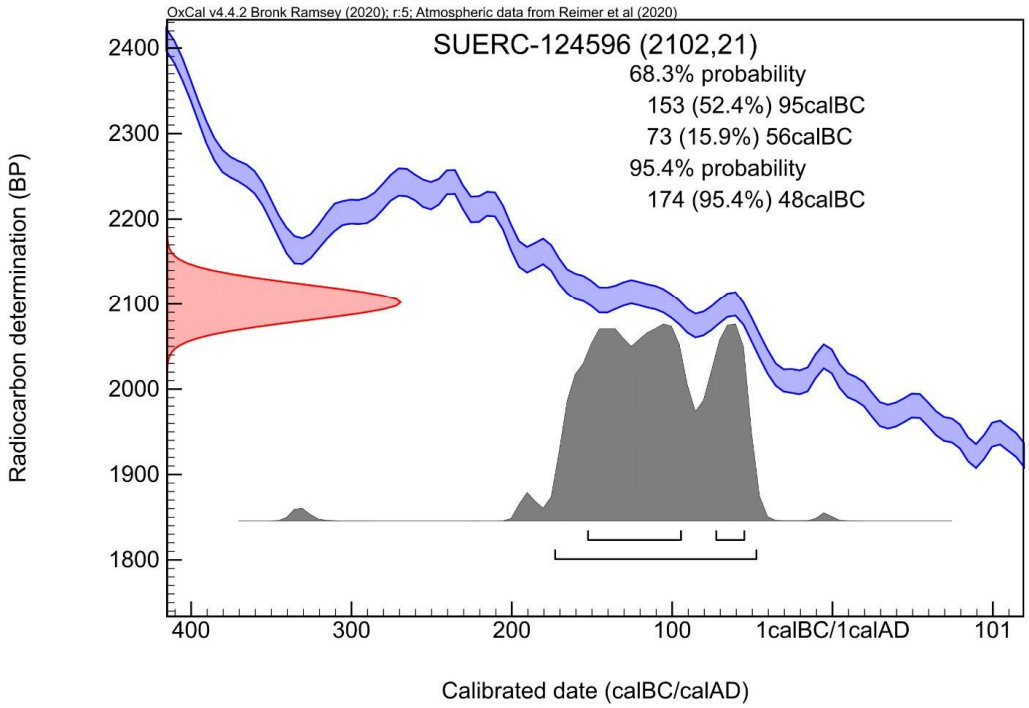
Samples with a SUERC coding are measured at the SUERC AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

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