Land to the NW of Tremadog (Llidiart Yspytty)

Assessment of Potential for Post-excavation Analysis

GAT Project No. 1736
Report No. 568
February 2005

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust
Craig Beuno, Ffordd y Garth, Bangor, Gwynedd, LL57 2RT

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Prepared for North West Wales NHS Trust

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By

Jane Kenney

Illustrations by Tanya Berks

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CONTENTS

List of illustrations

List of plates

LAND TO THE NW OF TREMADOG (LLIDIART YSPYTTY): ASSESSMENT OF POTENTIAL FOR POST-EXCAVATION ANALYSIS (G1736)

INTRODUCTION

The North West Wales NHS Trust commissioned Gwynedd Archaeological Trust to undertake an archaeological excavation in advance of a development at Tremadog, Gwynedd. The proposed development is centred on SH 557402 and the affected area is indicated on the site plan (Figure 1). The development area contains remains of 19th century ironstone mining, with associated tramways and a toll road. Adjacent to the site is a Roman bathhouse (now buried beneath the garden of the adjoining house), and finds of Mesolithic/Neolithic date were recovered west of the A487 during trial excavations in 1995.

An archaeological assessment was undertaken in May 2002 (GAT Report no. 455), and updated to take into account a revised layout in February 2004 Service (Hopewell and Gwyn 2004, GAT Report no. 519). Recommendations were made for evaluation and recording, which were undertaken in May and June 2004 (GAT Report no. 546). Recommendations for mitigation following the evaluation work included excavation at two sites, and detailed recording of other features. This work took place between 4th January and 1st February 2005, inclusive.

The current report assesses the potential for post-excavation analysis of the results of the excavation as recommended in 'Management of Archaeological Projects' (MAP 2) prepared by English Heritage (1991). This report includes illustrated site narratives summarising the results from each trench, a quantification of the data collected during the excavation and a statement of potential for each class of data.

EXCAVATION AND SURVEY RESULTS

Methodology

Excavation
(The trench numbering system is continuous from the evaluation.)
During the evaluation phase the foundations of a stone structure were discovered in an exploratory trench (trench 3). The trench was extended at the time but the full extent of the feature was not established, nor could its date and function be determined. One of the main aims of the excavation was to fully investigate this structure and to adequately record it. Trench 3 was extended to 9m by 9m to establish the limits of the structure. The topsoil and old backfill was stripped mechanically, then the trench was cleaned by hand and all further investigation was carried out by hand. In order to investigate whether there were any other structures related to those in trench 3 a long narrow trench measuring 52.5m by 1.5m (trench 11), was dug along the natural terrace south-east from trench 3 to the development site boundary.

Evaluation trench 4 cut across a tramway but this needed investigating in plan to fully understand its construction and to search for any remaining track furniture. It was hoped that the exploration of a wider area would reveal any earlier phases of tramway construction. A 21m by 10m trench (trench 9) was opened along the presumed line of the tramway, either side of the evaluation trench 4. The topsoil was stripped mechanically from the full width of a narrow terrace initially identified as the tramway. As features were identified in this area they were cleaned and investigated by hand. At the western end of the stripped area a slot was dug mechanically across the whole width of the terrace to allow the section to be recorded. At the eastern end of the stripped area a slot was dug mechanically across the tramway alone to further investigate its structure in plan and section.

The tramway extended to the north-west through a rock cutting to serve the Gorseddau Slate Quarry. In order to compare this tramway to that found in trench 4 an 11m by 3m trench (trench 7) was dug along the tramway (feature 17) within the rock cutting. The topsoil was stripped by machine, and two slots were dug through the trackbed material to determine its depth. The trench was then cleaned by hand.

A trench (trench 8) measuring 7m by 2m was dug perpendicularly across the open area were the tramway and toll road ran beside each other (feature 11). This was intended to provide another view of the tramway, and also to investigate the relationship between the tramway and the road. The topsoil and hard core was stripped mechanically. The tramway was then investigated by hand.

On the southern boundary of the development site was an agricultural building (feature 14). The superstructure of the building was recorded and surveyed, and trench 10 (measuring 7.0m by 1.7m) was dug inside to investigate its foundations and search for any earlier phases to the structure. Rubble was also cleared from the eastern end of the building.

A 3CX JCB mechanical excavator with a 1.80m toothless ditching bucket was used for most of the work, but a 4 tonne tracked excavator was also used due to the site becoming increasingly wet and slippery. All machining was undertaken under archaeological supervision. All trenches were planned, at 1:20 where significant features were present, and the trenches were located using a total station theodolite. Sections were drawn where necessary at either 1:10 or 1:20. All relationships between features or deposits were investigated and recorded. All artefacts from hand dug or cleaned contexts were retained.

Photographic surveys
Much of the area had been photographed during the assessment phase of the project, but some additional photography was necessary. Basic photographic surveys were carried out of the open workings (feature 7) and the area of industrial remains (feature 8). A photographic record was also made of the eastern part of the turnpike road (feature 9), the earthworks of the tramway (feature 10), the railway siding area (feature 11) and the rock cutting for the Gorseddau tramway (feature 17). A detailed photographic record was made of the agricultural building (feature 14). Colour slide and print film was used and the photographs have been catalogued and archived.

Measured surveys
The western part of the toll road (feature 12) and adjacent leat (feature 13) had previously been surveyed. A contour survey carried out for the Hospital Trust also provided detail of much of the site, especially the embankment for the Gorseddau tramway (feature 17), but further detail was required in places. A detailed survey was carried out using a total station theodolite to record the rock cutting and other surface traces of the tramways. The possible remains of a wall relating to the site of a building (feature 18) were located and notes made on them. A slate slab containing various holes was noticed by the tramway and its location recorded. The slab was described as feature 21. A measured survey of the agricultural building (feature 14) was carried out, including plans and elevations drawn at appropriate scales.

Summary site narrative by trench

Trench 3
(Figure 2, plates 1 and 2)
This trench was excavated on a natural terrace, probably enhanced by ploughing, where the remains of a stone structure had been identified during the evaluation phase. The evaluation trench was extended to locate the limits of the structure and the remains were thoroughly investigated.

Traces of a possible old ground surface (363) survived under some of the stone features built on the terrace. Two features [333] and [361] could hint at early activity on the site, but alternatively may be animal burrows. The first clear activity was the construction of a path of large slabs (323) with a small timber structure (362) at its southern end. The latter was defined by well-constructed stone post sockets. Probably associated with these was a shallow T-shaped stone drain (336/325). The main construction phase overlay these features. A rectangular structure with a T-shaped flue (366) was built comprising two parallel stone platforms (306 and 317) c. 0.5m apart, with stone facing (312) forming the top of the T. The latter was built up against a very broad wall composed of large blocks (305). This wall was curved round the western end of structure (366) and headed northwards up the slope. Structure (366) has been interpreted as a T-shaped corn-drying kiln and the large wall (305) was a windbreak. The corn-drying kiln seems to have been extended in width to the north by the addition of stone core material (358) with a fairly rough external face (357).

At the north-eastern corner of (366), and probably roughly contemporary with it, was a small circular structure built of stone and clay (359), which is interpreted as an oven. This seems to have been demolished and replaced by a similar, rather larger oven built up against the eastern end of (366). The corn-drying kiln seems to have continued in use throughout the use of both ovens.

After the abandonment of the site the large protective wall (305) and to some extent the corn-drying kiln were partially robbed of stones [329]. The stone robbing removed the ends of wall (305) so its original length and the extent to which it enclosed (366) cannot be determined. A rather poorly defined linear feature [354] ran north-south across the eastern side of the trench. This was interpreted as the remains of levelling for a field boundary, probably of 19th century date. This was cut by a modern drainage pipe trench [307].

Trench 7
(figure 3, plate 3)
A tramway is visible as an embankment running across the western end of the development area, this passes through the middle of the site in a rock cutting and its route across the south-eastern part of the site is defined by a scarp in the hill slope. The earliest tramway, constructed in 1841, reached only as far as the iron mines, but was extended to the north-west in 1855-57 to serve the Gorseddau slate quarry. The rock cutting was investigated by trench 7. Here the cutting into the slate bedrock [703] had a flat base on which was deposited a compact layer of shale (702) to create a more flexible trackbed that would have been provided by the shale bedrock.

Trench 8
(figure 4, plate 4)
At the south-eastern end the cutting becomes a terrace with only the northern side cut into the rock. This broader, flat area (feature 11) is where the toll road ran closest to the tramway. Trench 8 was opened to investigate this area. This showed the vertical wall of the cutting to be one side of a trench [808] to take the trackbed for the tramway. The trackbed is a compact layer of shale (814) as in trench 7, but the shadow of a timber sleeper (810) survived in trench 8. When the tramway was abandoned it was backfilled with a deposit composed largely of clinker and cinders (804) covered by a brown silty loam (802) which contained a modern, plastic capped bottle.

Trench 8 also revealed the remains of the toll road where it came closest to the tramway. This showed that the Gorseddau phase of the tramway did not cross or interfere with the road, although the latter had been down graded to a farm track when the tramway was built. A shallow cut [812] aligned roughly east-west with gently sloping northern side and flat base was made for the road, which was surfaced with shale and black iron stone fragments (811).

Trench 9
(figure 5, plates 5, 6 and 7)
Trench 9 was opened across the full width of a terrace visible on the surface as an earthwork. It was demonstrated that this terrace was essentially an original feature reused by the tramways. The flat area of the terrace was created by a level deposit of colluvium (907), which probably indicates that the site had been ploughed in the past. This terrace and that higher up the slope, on which trench 3 was opened, are probably partly the result of the underlying bedrock and partly derived from ploughing forming rough lynchettes.

Running east-west across the southern part of this terrace and heading directly for the open cast iron mine workings was the bed of a tramway. The trackbed was created from a compact deposit composed mainly of shale fragments (904) laid in a trench or terracing cut [905]. The southern edge of this has been severely eroded. Towards the eastern end eroded material (908) had been deposited obscuring the southern side of the trackbed, towards the western end much of the trackbed has been eroded away entirely.

A collection of stones in a deposit (906) similar to the colluvium was noticed. On investigation these appeared to be contained in a poorly defined cut [909] and this feature was cut by the tramway, but it is likely that this feature is just a hollow in the colluvium and of little significance.

Cutting across the eastern end of (904) was the trench [903] of a later tramway. This was aligned north-west to south-east, 3.75m wide with steep parallel sides and a flat base. A compact deposit of shale

fragments (916) covered the base of (903), and formed the trackbed. The surface of this was very flat, except against the north-eastern side of the cut where there was a narrow gully. The trackbed did not extend across the full width of the trench; a gap on the south-western side of [903] created a broader gully, which was filled a soft dark grey organic silt (911), suggesting that the gully functioned as a drain. On the flat surface of the trackbed were parallel lines (912) up to 0.14m wide and between 0.33m and 0.38m apart. These had no depth and were caused by staining of the trackbed material where timbers had been present. Some of the timber still survived. The surviving timber was thin and fragile but it seems probable that these lines represent the position of timber sleepers for the tramway running in the base of the trench. Some erosion of the north-eastern side of the trench had occurred (910); then, when the tramway was abandoned the trench was backfilled with brown loam and large boulders (902). A fairly modern ceramic drain pipe was laid along part of the tramway cutting and buried under (902) to provide land drainage in this wet area.

Trench 10
(figure 6, plate 8)
Trench 10 was dug inside the agricultural building (feature 14) to investigate both the original building and its extension. This showed that both parts were constructed directly on the shale bedrock (1004), which here is rather weathered. No earlier activity was revealed. One posthole [1006] was found, but this probably related to a stall on the south-western side of the building.

Trench 11
(figure 1)
Trench 11 was aligned north-west to south-east along the terrace south-east of trench 3. It was dug down to the grey shaley sub-soil along its length. The modern drain [307] was located in its north-western end. A steep sided sub-circular hollow was investigated [1105] but this was considered most likely to be of periglacial origin. Towards the south-eastern end of the trench was a broad shallow cut [1107], which continued a slight earthwork feature visible on the ground surface. This was probably the remains of a 19th century field boundary.

Photographic and measured surveys

Building F14 is located immediately east of the track that was formerly the pre-1845 turnpike road (figure 1). Its overall dimensions are 22.0m by 6.8m (figure 6, plates 9 and 10), and the walls survive to eave level (2.2m high). The building, orientated west-north-west to east-south-east, is constructed from local materials, i.e. ironstone, shale, granite and slate, and has been extended to the west. Study of the structural remains showed that although it has had quite a complex history of alteration and extension. The evidence suggests that the building was originally constructed as a cow shed and was not a reused mine building.

The total station theodolite survey of the surface remains of the Gorseddau tramway recorded the exact line of the tramway across the eastern part of the site and clarified the fine detail of surviving earthworks (figure 1).

Summary of archive

Contexts: 414
Trench sheets: 6
Plans: 42 drawings on 27 sheets
Feature record forms: 3

Photographs
Colour slide films: 5
Colour print films: 5

Statement of potential

The complex of features in trench 3 is generally well preserved, despite some stone robbing. Information from the soil samples and artefacts may enable the function of different elements to be established and the stratigraphic relationships show which functioned together. On its own this complex appears to be a fairly minor element of the Roman rural landscape. However, its implications are locally important and nationally significant. These features reinforce the evidence from the possible bathhouse excavated in 1908, by concurring that there was Roman activity here of some importance. Both bath house and corn-drying kiln could be associated with either civilian or military settlement, and the likelihood is that the settlement focus lay somewhere between trench 3 and the bath house. This may have already been destroyed by the outskirts of Tremadog, but its possible presence should be considered if other development occurs in this area.

The presence of some sort of settlement here reinforces the probability that the Roman road to Caernarfon ran close to the present site. The discovery of a corn-drying kiln demonstrates that there was arable agriculture in the area in the Roman period, although almost certainly as part of a mixed farming system.

The industrial remains are of regional interest as they contribute significantly to the understanding of the infrastructure of the iron mine. The earliest tramway has been identified and its route has been established to diverge from that of the later tramway at its north-western end. The type of construction used has been established in both cases and no evidence has been found for extensive reconstruction of the tramway in the 1870s when it was adapted for the use of a locomotive running to Cwm Pennant.

Further work recommended

The field records have already been checked and cross referenced and matrices produced but full site narratives need to be written. The features need to be interpreted in the light of specialist reports, map evidence and parallels from other excavations. A literature search is necessary to find parallels for the structures in trench 3. Selected plans and sections will be converted into drawings for a final report. The agricultural building and other surface features recorded need full descriptions and discussions with appropriate illustrations and photographs to be included in the report. The results justify publication in a relevant academic journal.

ARTEFACTS

Summary of artefacts

Trench	Context	Artefact type	Number	Period
T3	Unstratified	Coarse ceramic with one side vitrified	9 fragments	?
		Pottery, rim sherd	1 sherd	Roman?
		Pottery	7 sherds	Post-medieval
		Clay pipe stem	1 fragment	Post-medieval
		Slag	2 pieces	?
		Brick/tile	3 pieces	?
	304	Pottery	1 sherd	Roman
		Pottery	1 sherd	Post-medieval
	315	Iron objects (1 very heavily corroded)	3	?
	317	Part of rotary quern	1	Roman
	318	Heavily corroded iron objects	2	Roman?
	319	Partially vitrified ceramics	16 fragments	Roman?
		Slag	5 pieces	Roman?

		Iron concretions and miscellaneous vitrified pieces	8	Roman?
	322	Heavily corroded iron objects	4	Roman?
		Iron concretions	4	Roman?
	326	Pot, base sherd	1	Roman
	332	Partially vitrified ceramics	14 pieces	Roman?
T7	701	Pottery	1 sherd	Post-medieval
		Iron object (hook?)	1	Post-medieval
		Clay pipe stem	1 piece	Post-medieval
T8	802	Pottery	1 sherd	Post-medieval
		Glass bottle with plastic cap, possible port or sherry bottle	1	Modern (discarded)
	803	Pottery	4 sherds	Post-medieval
		Decorated window glass	1 piece	Modern?
	804	Pottery	13 sherds	Post-medieval
		Bottle glass	1 piece	Post-medieval
		Core of hole drilled to split slate	1	Post-medieval
T9	Unstratified	Large iron nails	2	Post-medieval
		Iron objects	3	Post-medieval
		Pottery	12 sherds	Post-medieval
		Vessel glass	1 sherd	Post-medieval
		Iron objects (wire?)	2	Post-medieval
		Leather (shoe uppers ?)	2 pieces	Post-medieval/modern?
		Brick/tile	3 pieces	?
		Coin (1860 half penny)	1	1860
	904	Pottery	2 sherds	Medieval/Roman?
	906	Pottery	1 sherd	Medieval/Roman?
	911	Pottery	1 sherd	Post-medieval
		Vessel glass	1 sherd	Post-medieval
	912	Timber	2 pieces	Post-medieval
F14	Interior of SW wall	Glass asafoetida? bottle	1	Modern

Statement of potential

The finds assemblage is small and much of it unstratified, so the general potential is not great. However, the Roman pottery recovered from trench 3 may aid in clarifying the date of the activity here. The iron objects from contexts 318 and 322 and the partially vitrified ceramics, slag and other material from 319 and 332 could be very important in elucidating the function of the structures.

Most of the pottery from the trenches investigating the tramways is from later infill, and so will not inform an understanding of the use of the tramways themselves, which are well dated from documentary sources. However, it is possible that some rare or imported pieces may be included that can contribute to the general social history of the area.

Further Work

The 3 sherds of Roman pottery from trench 3 with those recovered during the evaluation should be sent for specialist analysis to identify their date and function. The vitrified ceramic pieces, slag, iron objects and other possible industrial remains also need study to establish whether they can contribute to the interpretation of the structure and the activities carried out their. The corroded iron objects from contexts 318 and 322 should be X-rayed to identify them. The full extent of this analysis can only be established after the artefacts have been inspected by the appropriate specialists.

The piece of rotary quern from (317) and the Roman pot sherds should be drawn.

Initial assessment of the pottery should be undertaken to check whether there are any particularly rare or unusual pieces that may contribute to the social background of the site.

Storage and curation

The only curation problems are posed by the leather and timber from trench 9. The former was unstratified and probably recent and does not justify curation and long term storage. The timber pieces are presumably part of a sleeper on the trackway, but are probably adequately preserved by record and photograph rather than long term storage. It is recommended that after specialist analysis unstratified post-medieval artefacts and modern artefacts are discarded. All other finds will be held by Gwynedd Archaeological Trust pending transferral to the appropriate museum.

SOIL SAMPLES

Summary of samples

Sample No.	Context	Description of context	Volume (litres)
1	504	Fill of small pit or root hollow	2
2	318	Upper SE part of deposit representing firing of corn drying kiln.	10
3	321	Upper NW part of deposit representing firing of corn drying kiln.	6
4	322	Lower part of deposit representing firing of corn drying kiln.	28
5	324	Deposit representing use of oven (330).	28
6	326	Charcoal rich deposit around and over oven (359)	9
7	332	Charcoal rich deposit within area of timber structure (362)	13
8	335	Fill of drain (336)	12.5
9	358	Lens of charcoal from base of wall core (358)	2

Potential of samples

Sample No.	Context	Potential for analysis
1	504	Very low potential
2	318	Possible charred remains of fuel used for firing and possible charred grains and other macro fossils.
3	321	Possible charred remains of fuel used for firing and possible charred grains and other macro fossils.
4	322	Possible charred remains of fuel used for firing and possible charred grains and other macro fossils. Well sealed and good sample for radiocarbon dating.

5	324	Possible charred remains of fuel used for firing other macro fossils. Well sealed and good sample for radiocarbon dating.
6	326	Possible charred macro fossils, deposit mixed during excavation and upper part disturbed by roots so not ideal for radiocarbon dating.
7	332	Charred macro fossils, fragments of ceramics and possibly other traces of use of structure (366). Deposit close to ground surface and therefore potentially contaminated and poor for dating.
8	335	Well sealed, could date use of drain but exact origin or charcoal unknown so not ideal for dating.
9	358	Terminus *ante quem* date for extension of corn drying kiln

All samples should be subjected to flotation using a 0.5mm sieve and the residue should be wet sieved through a 1mm sieve. The charred remains from all these samples should be studied by a specialist to identify the species of timber used and any other plant remains surviving. After identification appropriate parts of at least 3 samples should be sent for radiocarbon dating. In addition if charred cereal grains are found a high precision AMS date should be produced from them as this could give the most accurate date on the activity carried out on the site.

Sample 7 should be checked for the presence of hammer scale and other potential industrial residues. All ceramic fragments should be removed from the residue and sent for study with the hand collected pieces.

Storage

It is recommended that all wet sieving residues that have had all macro fossils and artefacts removed are kept only until the specialist reports are received. If these give no reason for retaining the residues these should be discarded. Charred macro fossils are to be kept with the artefacts assemblage to be held at Gwynedd Archaeological Trust pending transferral to an appropriate museum.

BIBLIOGRAPHY

Davidson, A and Roberts, J, 2004, *Land to the north-west of Tremadog (Llidiart Yspytty): Archaeological evaluation*. Gwynedd Archaeological Trust Report No. **546**

English Heritage, 1991, *Management of Archaeological Projects*

Hopewell, D and Gwyn, D Rh, 2004, *Land to the north-west of Tremadog (Llidiart Yspytty): Archaeological assessment*. Gwynedd Archaeological Trust Report No. **519**

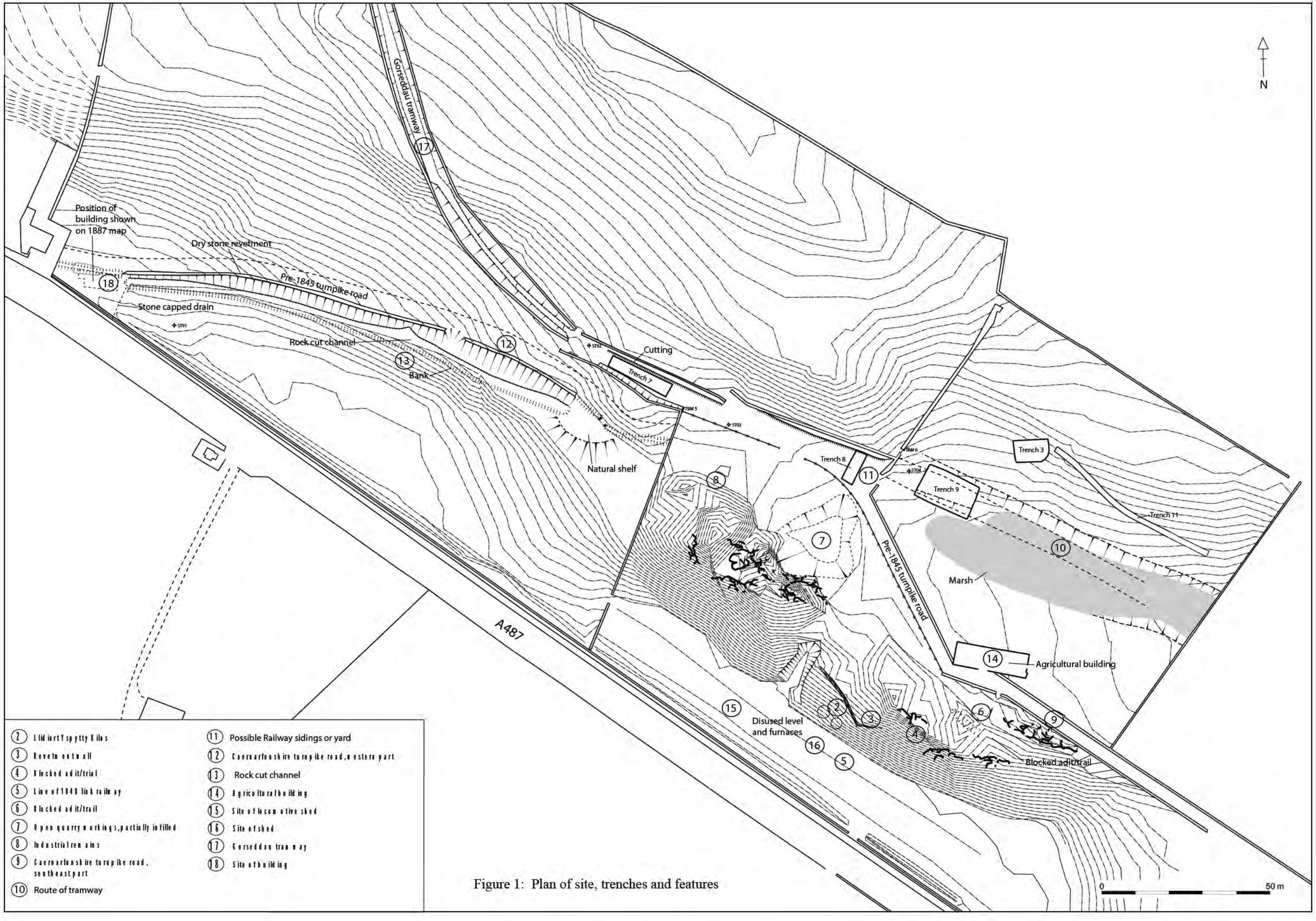

Figure 1: Plan of site, trenches and features

Figure 2: Plan of trench 3

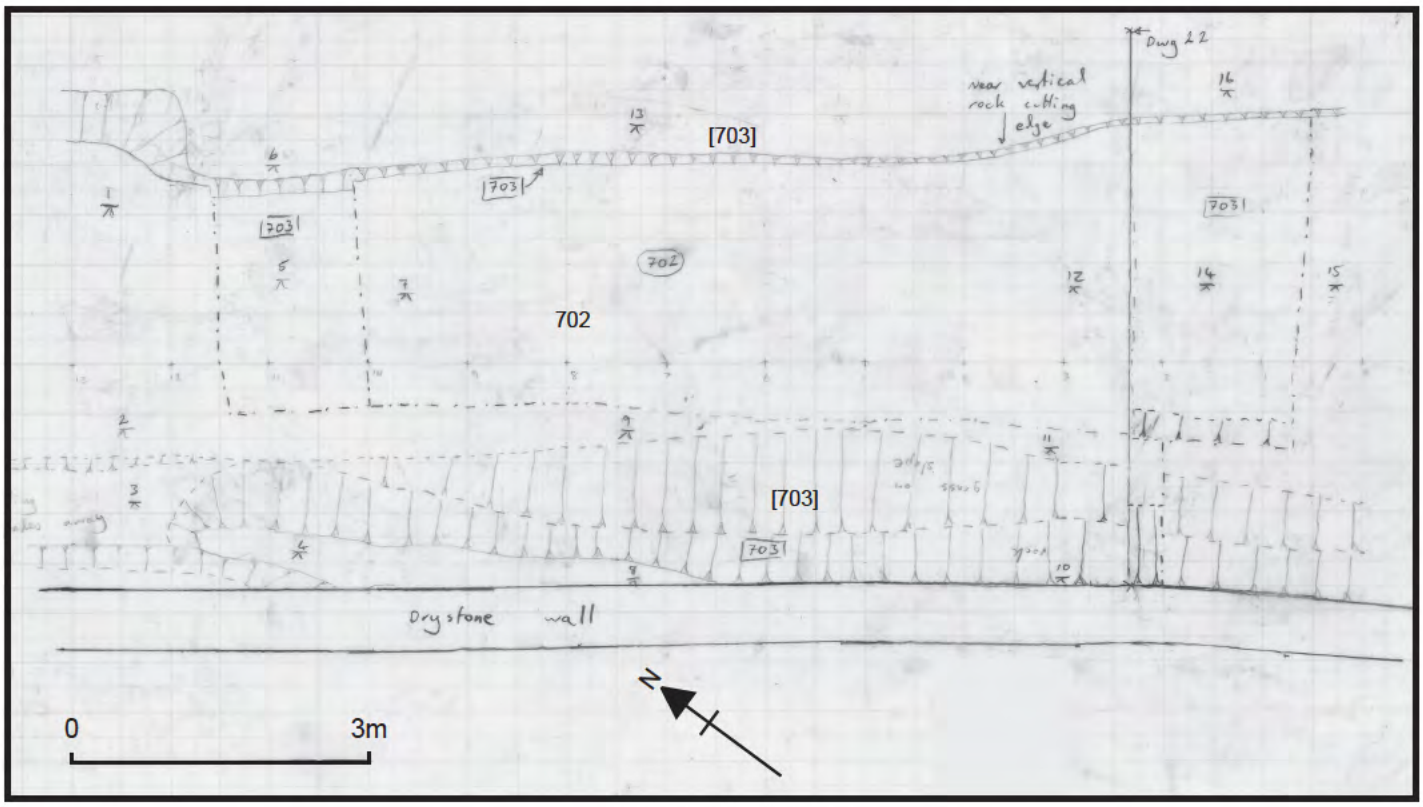

Figure 3: Plan of trench 7

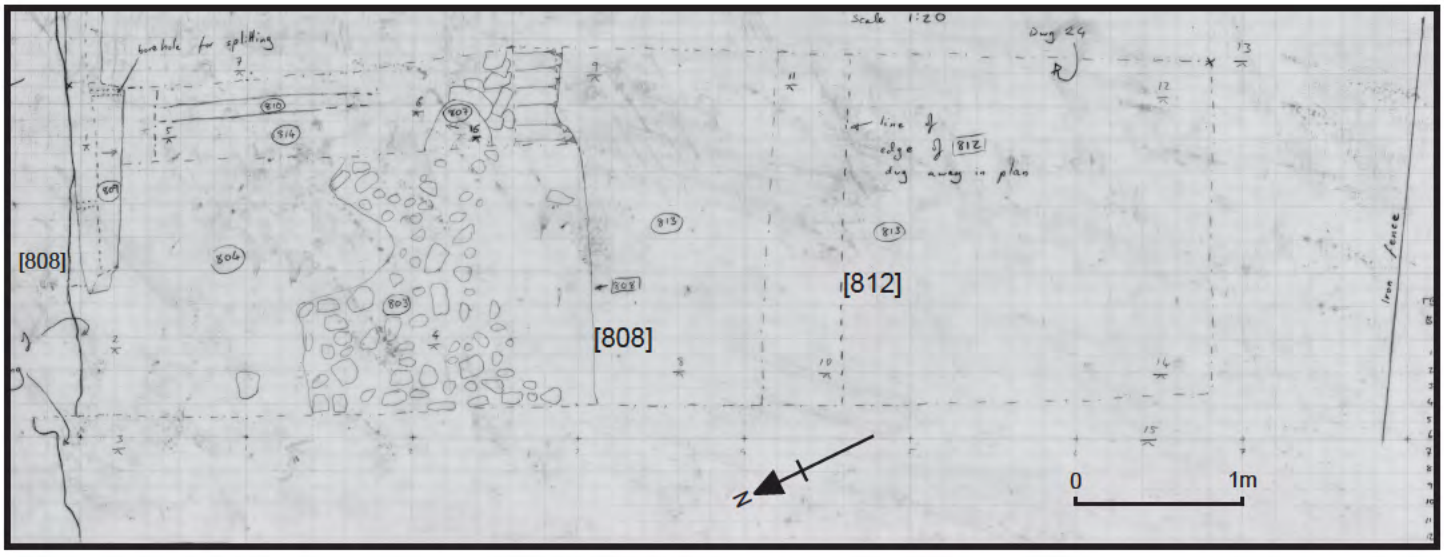

Figure 4: Plan of trench 8

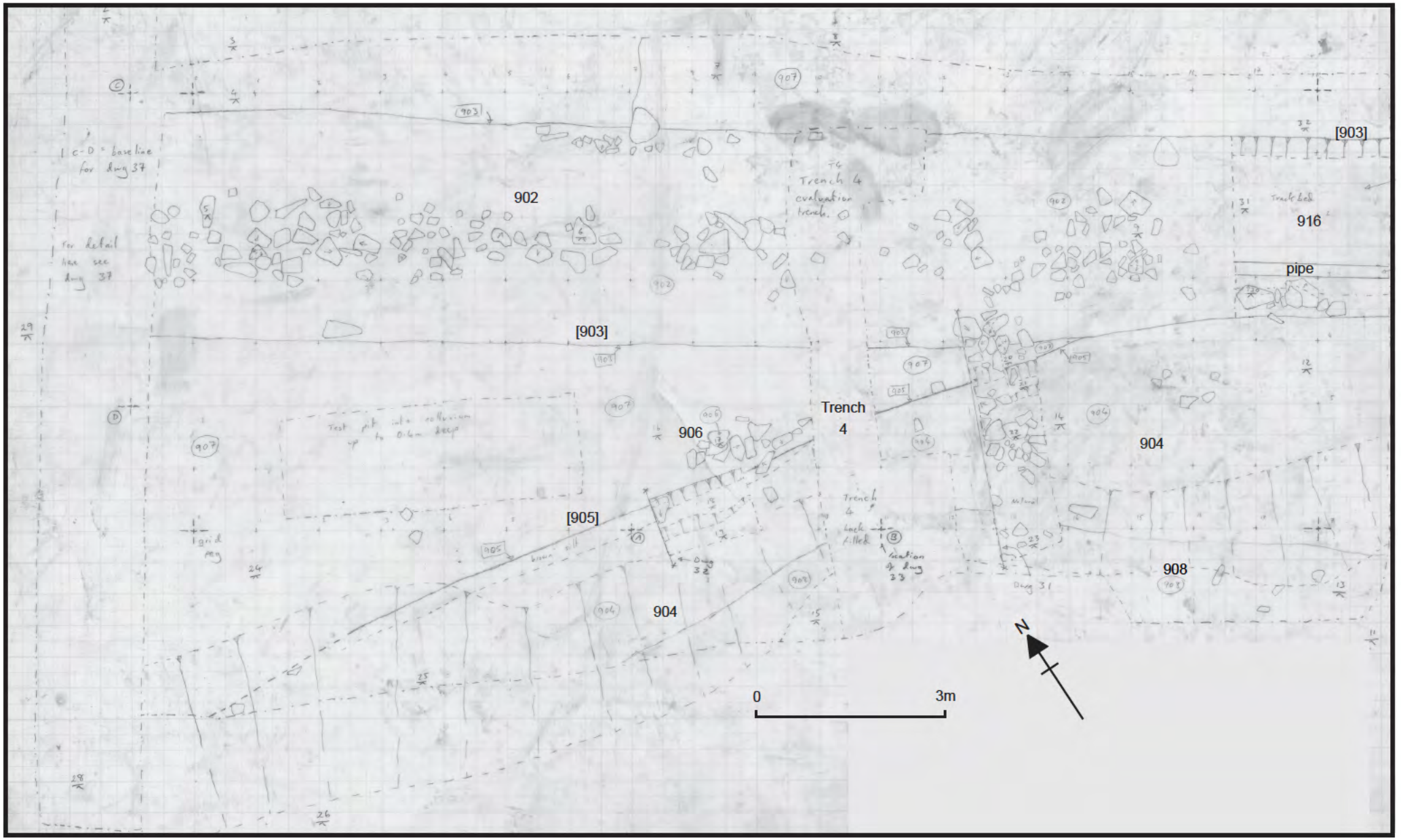

Figure 5: Plan of trench 9

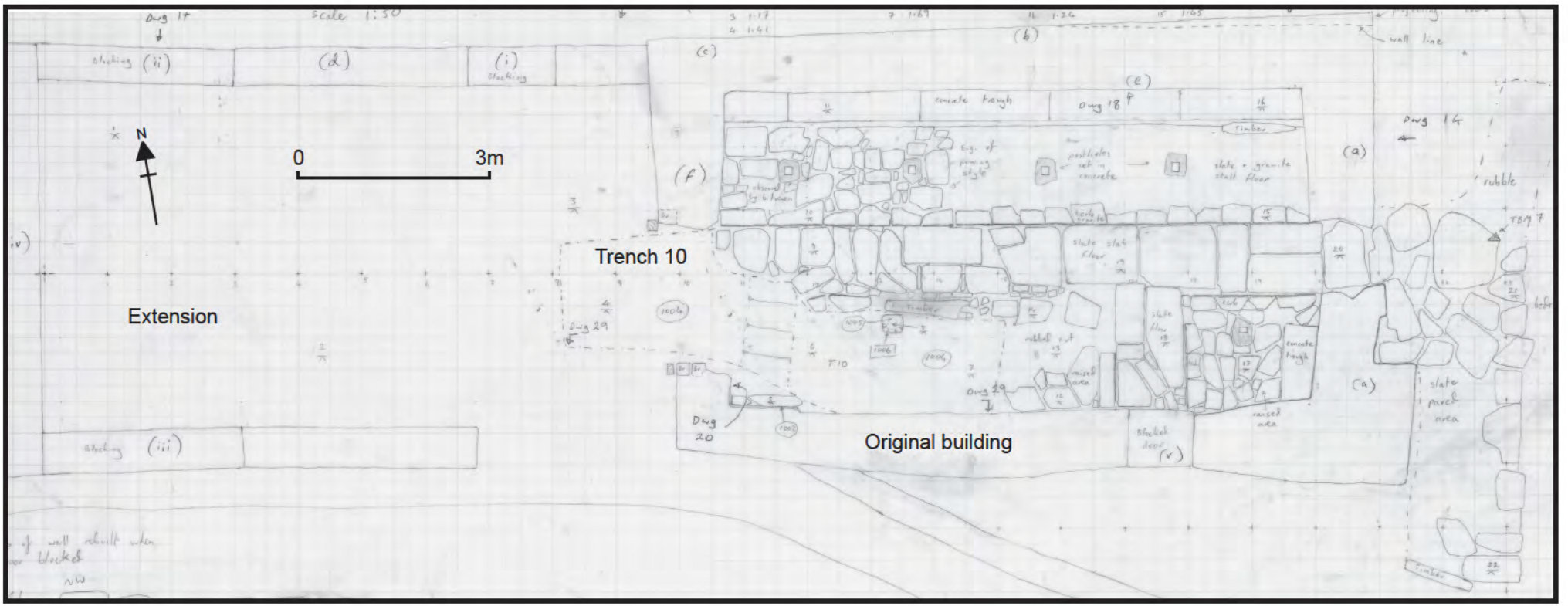

Figure 6: Plan of feature 14 and trench 10

Plate 1: Structures in trench 3 from east

Plate 2: Structures in trench 3 from west

Plate 3: Trench 7 from north-west

Plate 4: Trench 8 from south-west

Plate 5: Tramway [903] from north-west

Plate 6: Section showing northern side of tramway cut [905]

Plate 7: Tramway [905] from east

Plate 8: Trench 10 from west

Plate 9: Feature 14 from south-east

Plate 10: Feature 14 from north-west

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Craig Beuno, Ffordd y Garth, Bangor, Gwynedd. LL57 2RT
Ffon: 01248 352535. Ffacs: 01248 370925. email:gat@heneb.co.uk