
PROPOSED QUARRY REALIGNMENT, PENRHYN QUARRY, BETHESDA

Archaeological Survey



GAT Project No. 2098

Report No. 880

July 2010

G2087 PROPOSED QUARRY REALIGNMENT, PENRHYN QUARRY, BETHESDA

Archaeological Survey

GAT Project No. G2098

Report number: 880

Prepared for

SLR Consulting Ltd

By

Richard Cooke and
Andrew Davidson

July 2010

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

G2098 PROPOSED QUARRY REALIGNMENT, PENRHYN QUARRY, BETHESDA, GWYNEDD

Summary

An archaeological survey has been carried out on land adjacent to Penrhyn Quarry in advance of a proposed quarry realignment. The survey forms part of a wider programme of field evaluation, and was undertaken in order to gain a clearer understanding of the nature of the archaeology. Several new features have been identified, including five possible round houses. It is recommended that the archaeology is preserved in situ, however if this is not possible a programme of trial trenching and test pitting is recommended.

1. INTRODUCTION

Gwynedd Archaeological Trust has been asked by SLR Consulting Limited to carry out an archaeological survey in advance of a proposed quarry realignment project at Penrhyn Quarry, Bethesda. This follows completion of an initial archaeological assessment undertaken in November 2009 (GAT Report 837). The survey of the site is intended to form the first part of a programme of field evaluation, and needs to be read in conjunction with Report 837.

The proposed realignment comprises a c.6.4 ha. extension to the existing Penrhyn Quarry incorporating an area of upland to the south west of the current workings (centred on NGR SH61146396).

Gwynedd Archaeological Planning Service (GAPS) (ref. D1324) is monitoring the work on behalf of the Local Planning Authority.

2. METHODOLOGY

The survey was undertaken with a Total Station, and tied in to the OS grid with stations provided by the client. An initial walk over, in which principal features were noted was followed by survey of all walling, top and bottom of slopes and associated features.

The survey was downloaded, printed out, and checked on site. The resultant survey was edited and drawn up.

New features identified as part of the survey have been described, and are presented in this report in a revised version of the gazetteer from Report 837. The plates from Report 837 are also included here, and supplemented with plates of the additional features.

3. GAZETTEER OF SITES AND RECOMMENDATIONS FOR MITIGATION

This section lists and describes all sites recorded within the proposed realignment along with an assessment of impact and recommendations for mitigation.

1	Multicellular Sheepfold		PRN not allocated 29989
Assessment of Importance	C	Impact: Major	Mitigation: Avoidance or detailed recording
Description: The most obvious site in the area is a large well-preserved multicellular sheepfold (Plate 2). This is 29m in diameter and typically stands to a height of 1.5m. It consists of 18 cells arrayed around a central larger cell. There are entrances running into the central cell from the west and east but access between the cells is often solely by means of sheep creeps (i.e. low entrances c.0.8m high with a lintel carrying the wall over the top). This presumably facilitated dividing up the flocks and the entrances could be closed with a flat stone. Overlies part of PRN 1707			
NGR	SH6089 6385		

2 to 10, 16 to 21	Prehistoric Settlement and Enclosures			PRN 5380 (Individual PRNs Below)
Assessment of Importance	A/B	Impact: Major	Mitigation: Avoidance or detailed recording including a comprehensive programme of excavation	
<p>Description: Prehistoric settlement consisting of several elements:</p> <p>Five enclosures or paddocks (PRNs 60373-7) (Sites 2-6) defined by wandering walls (Plate 3) typical of prehistoric settlement in this area. The walls are no more than 0.3m high and consist of roughly piled small stones linking, probably <i>in situ</i>, natural boulders. The interior of the enclosures are partially cleared of stone.</p> <p>In the eastern corner of enclosure 4 are two linked, roughly built structures (PRN 60387) (Site 21) with dimensions of 9.0 x 5.0m and 2.5m x 2.0m (Plate 4). A narrow passage leads into enclosure 4. These structures could be animal pens, or a hut circle with a small annex enclosure.</p> <p>A small hut circle (PRN 60378) (Site 7) with an overall diameter of 5.5m is built into the north-eastern wall of enclosure 5 (Plate 3). The hut circle is well defined with piled rubble walls 1.0m thick and an entrance on the north-west.</p> <p>Three probable outlying paddocks (PRNs 60379, 60380, and 60386) (Site 8, 9, and 20) to the north-west and south-east are defined by natural scarps. There appears to have some clearance here, with stones piled among the natural boulders on the edge of the scarp. There may also have been some clearance (10) to the north-east although the stone appears to have been dumped among the natural boulders as opposed to have been made into wandering walls.</p> <p>To the northeast of the development area is a small hut circle (PRN 60383) (Site 17, plate 6)) with rough stone built walls on natural glacial boulders. The walls are approximately 0.3m high and the internal diameter measures approximately 3.0m.</p> <p>To the northeast of the area are three suspected Prehistoric structures (PRNs 60382, 60384, and 60385) (Sites 16, 18, 19, plates 7-9). These are roughly circular with stone piling on natural glacial boulders; however the general spread of stone in this area makes identification difficult. The walls are approximately 0.3m high, with internal diameters of approximately 4-5m.</p> <p>The settlement occupies a natural terrace within the boulder fields on the edge of the bogs to the north-west and west. The area is well-drained and sheltered by the higher ground to the south and south-east. The site was presumably partially cleared during the construction of the multicellular sheepfold. The partial remains of straight stone built walls are spread across the site, perhaps being part of the settlement enclosure wall.</p>				
NGR	SH6090 6388C			

11 to 12	Trackways			PRN 12305 and 12328
Assessment of Importance	C	Impact: Major	Mitigation: Avoidance or detailed recording	
<p>Description: A 1.5m wide meandering trackway (PRN 12305) (Site 11) approaches the settlement from the north and runs into enclosure 3 and then passes through the south-eastern wall. It is not clear if this is contemporary with the Prehistoric settlement or a later path. A 1.5m wide trackway meanders around natural boulders and up the natural scarps (PRN 12328) (Site 12). It has been cleared of stones which are piled on either side.</p>				
NGR	SH 6091 6395C and SH 60986398C			

13	Possible Hafod			PRN 12327
Assessment of Importance	E	Impact: Major	Mitigation: Avoidance or detailed recording including a comprehensive programme of excavation	
<p>Description: The remains of a rectangular enclosure or building (Plate 5) lie in stony ground just to the west of trackway 11. The structure is defined by spread rubble walls and has external dimensions of 6.0m x 2.5m. The eastern wall is almost destroyed. The interior is on two levels with the north end about 0.5m lower than the south. The original form of the structure is unclear. It could be a long hut or hafod but could also be interpreted as a simple shelter or animal pen.</p>				
NGR	SH60976398			

14	Sub-rectangular Enclosure		PRN 12349
<i>Assessment of Importance</i>	C	<i>Impact: Major</i>	<i>Mitigation:</i> Avoidance or detailed recording
<i>Description:</i> A sub-rectangular enclosure with dimensions of 5.0m x 2.5m. Built from roughly coursed walling 1.0m high and 0.7m thick against natural boulders to the east. Probably a sheep pen.			
<i>NGR</i>	SH61066404		

15	Stone Pile		PRN 12348
<i>Assessment of Importance</i>	E	<i>Impact:</i>	<i>Mitigation:</i> Avoidance or detailed recording
<i>Description:</i> An oval grassed-over pile of stones with dimensions of 6.0m x 5.0m and about 0.3m high. It stands on a natural terrace between a boulder field and the quarry. The upland survey (in 1989) recorded “apparently more recently dumped stones on top”. It is now fairly uniform. The site may be simple field clearance but could also be interpreted as a Bronze Age burial cairn. It therefore needs further assessment.			
<i>NGR</i>	SH61066397		

4. DISCUSSION AND MITIGATION

4.1 Discussion of survey (see fig 1)

The survey has added considerable detail to the previous plan, though our interpretation of the site remains similar. The study area contains a considerable quantity of boulders and smaller stone thought to be derived from glacial activity at the end of the last ice age. This lies along a raised terrace, with a large expanse of unenclosed peat bog to the north and west, and rising mountain to the south and east.

The natural boulder scree has been partly cleared to make enclosures for stock and arable cultivation. Some of the cleared areas are bounded by remains of stone walls, and associated with these stone walls are two or more small round houses. Upland settlements characterised by round houses and stone walled enclosures date from the late Bronze Age and Iron Age. Some continue in use into the Roman period.

The settlement located within the study area contains some six round houses, and a number of clearly defined enclosures. Other areas appear cleared but are not bounded by stone walls. Of the six identified round houses, four can be defined with some certainty (features 5, 17, 18, 21), whereas two (features 16 and 19) are less easy to define, and may not be former structures.

Features 13 and 14 may be associated with the same prehistoric period of occupation, however these are more characteristic of later occupation, and from surface evidence alone they are best interpreted as stock pens and, in the case of 13, a possible house and adjoining pen dating from the medieval period.

Lying within the prehistoric field system is a multi-cellular sheepfold dating from the last part of the 18th century. Multi-cellular sheep folds of this type are peculiar to Snowdonia, and were used to sort the sheep gathered from upland grazing areas and open mountain by farm ownership.

4.2 Discussion of archaeological potential

The area of the proposed realignment contains a well-preserved prehistoric settlement containing four to six round houses and associated enclosures and cleared areas. The site is in unimproved uplands and has probably had some stone cleared from it in order to construct the later sheepfold. There has however been no widespread clearance or ploughing and below ground survival is probably good. Also nearby peat bogs have a good potential for the preservation of environmental remains. This type of site has rarely been excavated in Wales and therefore has a high potential for enhancing our understanding of prehistoric upland settlement in the area.

A trackway and possible hafod are probably medieval but require further assessment. Below ground preservation is again likely to be good.

The multicellular sheepfold is a good example of a monument that is a characteristic part of the uplands in Gwynedd. It is well preserved and retains most of its original features.

A pile of stones towards the north-east end of the area is mostly overgrown and requires further assessment. It is most likely to be field clearance but could be a Bronze Age burial cairn. Its position on a natural terrace that is visible across much of Gwaen Gynfi would support the latter interpretation.

An undated stone enclosure is probably one of many temporary enclosures and shelters relating to the area's traditional use as a sheepwalk.

The sites are concentrated on a natural, well-drained terrace that is partially sheltered by the scarp to the south-east. No sites were discovered on the terrace above the scarp. Given the lack of clearance and apparently shallow soils without substantial peat build-up here, the potential for undetected further archaeology is fairly low.

4.3 Scheme evaluation and mitigation

The preferred mitigation for the scheme is avoidance of the archaeological remains and their preservation *in situ*. The upper terrace, though it may have been cleared in prehistoric times, appears to contain little or no archaeology and the realignment could extend into this area without producing a major negative impact on the archaeology. The realignment should only extend as far as the top of the natural scarp in order to preserve the settlement within its setting in the landscape. Given the area's proximity to the settlement a watching brief would be recommended during topsoil stripping.

If the realignment is to affect the lower terrace then preservation by record is the recommended mitigation. However in order to inform this process it will be necessary to undertake a programme of intrusive field evaluation to enhance our current understanding of the site, and to identify more clearly the methodology required to preserve the site by record.

The programme of intrusive field evaluation would take the form of trial trenches located at strategic locations in the settlement, combined with a series of smaller test pits to identify the depth and nature of the soils. A suggested trench location is given in fig 2, where trenches are positioned across the principal features, including features 5, 15, 17, 18, 21, 14 and 15.

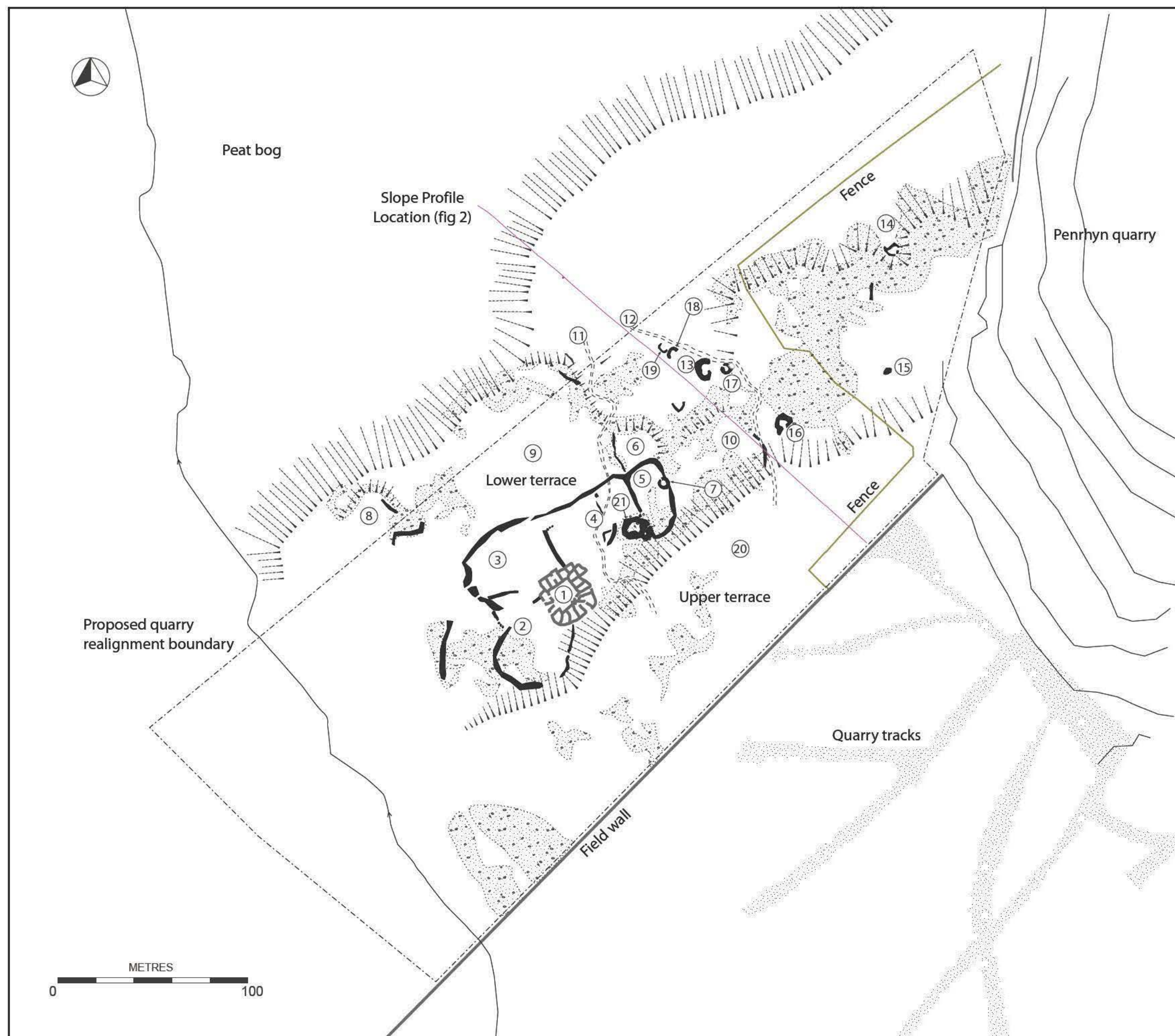
Outline mitigation requirements

The realignment could remove most of the upper terrace without producing a major impact on the known archaeology. The scarp above the prehistoric settlement should be retained in order to retain the site in its original context i.e. on a naturally sheltered terrace. Given its proximity to the settlement there may be archaeology that is not visible on the surface. A watching brief should therefore be carried out during topsoil stripping.

Mitigation of the lower terrace would be informed by the results of the evaluation. However based on present information the appropriate mitigation would be *preservation by record* which would involve detailed recording of all upstanding features and full excavation of the buried archaeology.

5. ARCHIVE

The digital and paper archive will be added to the existing project archive, and stored at GAT under project G2098.



Key



Multicellular Sheepfold



Enclosures/Paddocks

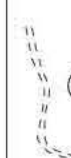
② to ⑥

⑦, ⑬, ⑰, ⑱, ⑲, ⑳

Suspected Prehistoric Structures

⑧, ⑨, ⑩, ⑳

Paddocks, Cleared Areas.



⑪, ⑫ Trackways.



Possible Hafod/Long Hut.



Possible Ruined Hut Circle with Sheepfold Rebuild.



Possible Burial Cairn.

Penrhyn Quarry 15.07.2010

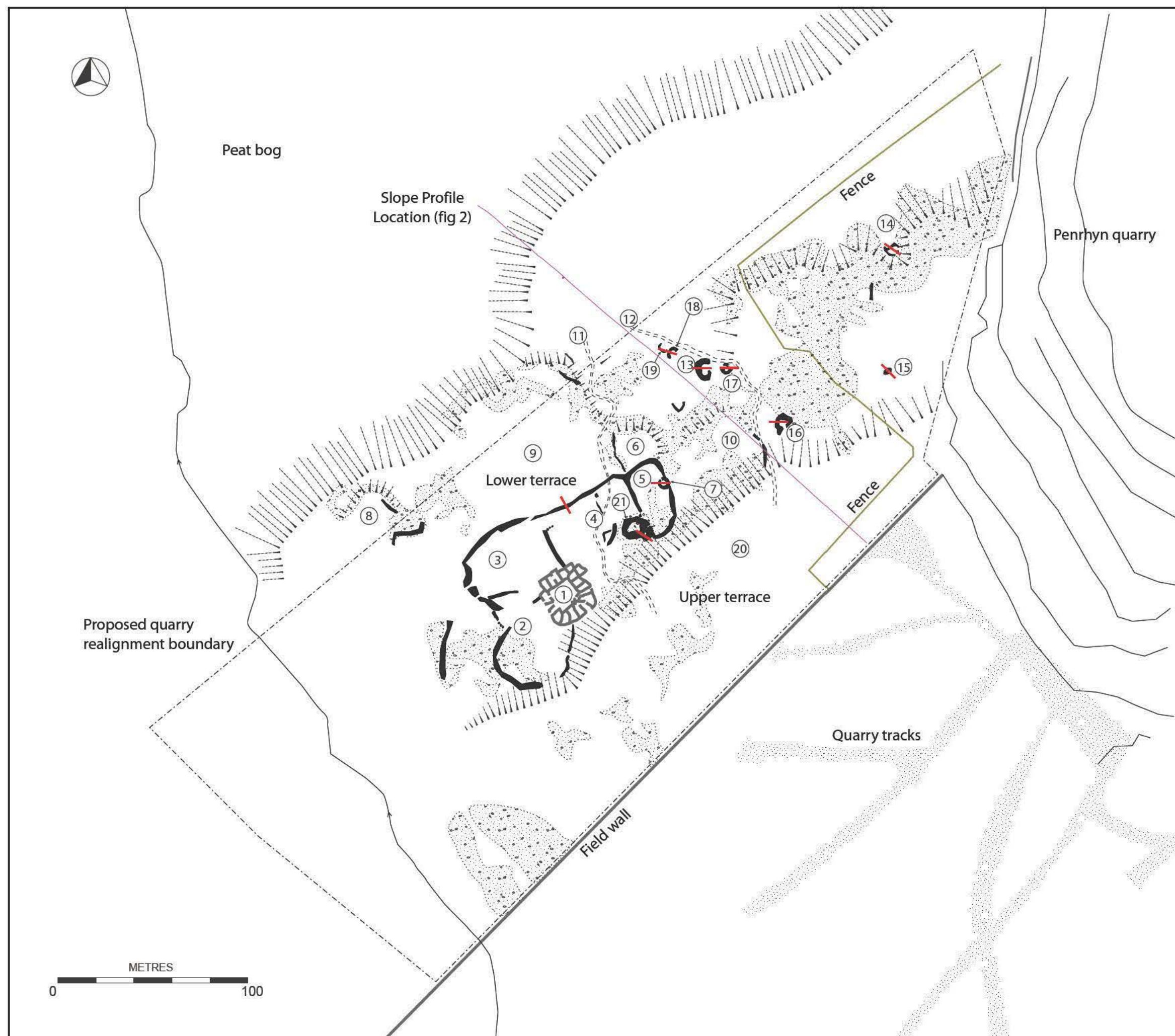
YMDDEIRIEDOLAETH
ARCHAEOLOGOL
GWYNEDD



GWYNEDD
ARCHAEOLOGICAL
TRUST

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

Fig. 1 Proposed Quarry Realignment.



Key



Multicellular Sheepfold



Enclosures/Paddocks

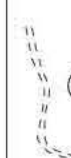
② to ⑥

⑦, ⑬, ⑭, ⑮, ⑯, ⑰, ⑱

Suspected Prehistoric Structures

⑧, ⑨, ⑩, ⑲

Paddocks, Cleared Areas.



⑪, ⑫ Trackways.



Possible Hafod/Long Hut.



Possible Ruined Hut Circle with Sheepfold Rebuild.



Possible Burial Cairn.

Penrhyn Quarry 15.07.2010

YMDDEIRIEDOLAETH
ARCHAEOLOGOL
GWYNEDD



GWYNEDD
ARCHAEOLOGICAL
TRUST

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

Fig. 2 Proposed Trial Trench Location

The proposed quarry realignment showing archaeological sites. Detailed plan from site survey.



Plate 1 Aerial photograph of the proposed realignment area (© GeoPerspectives and COWI A/S 2006)



Plate 2 Multicellular sheepfold (Site 1)



Plate 3 Roundhouse (Site 7) and meandering walls of enclosure 5



Plate 4 Pens in enclosure 4



Plate 5 Possible Hafod (Site 13)



Plate 6 Small Hut Circle (Site 17)



Plate 7 Possible Hut Circle (Site 16)



Plate 8 Possible Hut Circle (Site 18)



Plate 9 Possible Hut Circle (Site 19)



Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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

