

Proposed Quarry Realingment Project, Penrhyn Quarry, Bethesda

Archaeological Excavation of a Suspected Bronze Age Cairn (Feature 15) Mitigation Report



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Proposed Quarry Realingment Project, Penrhyn Quarry, Bethesda

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SUMMARY

This report sets out the results of an archaeological excavation of a suspected Bronze Age cairn (Feature 15) undertaken by Gwynedd Archaeological Trust (GAT) in advance of a proposed quarry realignment project at Penrhyn Quarry, Bethesda (centred on SH 6106 6397) on behalf of SLR Consulting Limited.

The excavation revealed a roughly rectangular stone structure, measuring approximately 7m by 5m, and aligned east-west. The date and function of this structure is uncertain. However, given its shape and size, it is most likely the remains of a peat and/ or hay drying platform, which were common throughout the UK up until the post-medieval period.

1 INTRODUCTION

This report was commissioned by SLR Consulting Limited and forms the report for the Archaeological Excavation of the suspected Bronze Age cairn (PRN 12348) (Feature 15) carried out prior to the proposed quarry realignment project at Penrhyn Quarry, Bethesda (centred on SH 6106 6397) (hereafter referred to as 'the site'). See Figure 1.

A Project Design was prepared (GAT 2012, Appendix I) which sets out the legislation framework and planning background in detail. The work was carried out in response to a staged programme of archaeological assessment and evaluation undertaken by GAT on the site (2010a, 2010b), which recommended the full excavation of Feature 15, the suspected Bronze Age cairn (PRN 12348).

This report has been prepared in accordance with the *Standards and guidance for the collection, documentation, conservation, and research of archaeological materials* specified by the Institute of Field Archaeologists (IFA 2001), as well as the *standard and guidance for Archaeological Excavation* specified by the Institute for Archaeologists (IfA 2008).

2 SITE LOCATION

Penrhyn Quarry lies within the Dyffryn Ogwen Landscape of Outstanding Historic Interest: 28 (CCW, Cadw, ICOMOS 1998), and forms one of the most important elements of this landscape. The cairn measures approximately 7m x 5m, with a height of 0.3m, and is located at the southeastern end of the quarry within a natural terrace between a boulder field and the quarry (Figure 2). The land is currently rough pastureland.

3 ARCHAEOLOGICAL BACKGROUND

Penrhyn Quarry was formalised during the 18th century when Richard Pennant acquired a number of small local workings, although slate is thought to have been extracted in this area from as early as the 13th century. Infrastructure including railways, quarrymen's cottages and a quay at Porth Penrhyn were constructed at the end of the 18th and start of the 19th centuries. The quarry dominated both the slate industry and the surrounding landscape throughout the 19th century. Today the quarry continues to be run as a commercial venture and markets a variety of slate products.

As well as the extensive industrial archaeological remains that exist within the locality, mainly associated with the extraction of slate, the uplands around Bethesda and Nant Ffrancon contain extensive and very well-preserved, relict remains of prehistoric and later land use. These include a prehistoric hut circle settlement (Primary Record Number (PRN) 5380), trackways (PRN 12305 & 12328), cairns (PRN 12348), potential prehistoric (PRN 12349) and post-medieval enclosures (PRN 12288) and other unidentified remains.

An archaeological assessment of the proposed realignment zone was undertaken by GAT in November 2009 (GAT 2009). The assessment identified a number of sites, the majority relating to a late prehistoric settlement and a post-medieval multi-cellular sheepfold. In order to better identify the significance of the archaeological remains and identify appropriate mitigation an archaeological survey and a phase of field evaluation was undertaken in July and September 2010 respectively (GAT 2010a, 2010b).

The programme of field evaluation examined four sites identified during the desk based assessment and archaeological survey:

- a cleared terraced area (Feature 20) (PRN 60386);
- a suspected prehistoric structure (Feature 16) (PRN 60382);

- a possible burial cairn (Feature 15) (PRN 12348) (Figure 2);
- a possible ruined hut circle with sheepfold rebuild (Feature 14) (PRN 12349) (Figure 2).

The archaeological evaluation confirmed that Feature 16 (PRN 60382) was of natural origin; Feature 14 (PRN 12349) contained no evidence that the sheepfold utilised an earlier hut circle and there were no suspected buried remains at the location of Feature 20 (PRN 60386).

The archaeological evaluation of Feature 15 (PRN 12348) involved the removal of a thin deposit of topsoil and turf from the south-western quadrant of site revealing a large, though not very high cairn with a radius of 3.5m. The feature appeared to consist of a single deposit, made up of jumbled, poorly sorted sub-rounded and angular stones. The stones rose up in the middle to a slight point, approximately 0.3m high, and there was a slight hint of curb stones at the outer limits, but in general no coherent structure.

4 AIMS AND OBJECTIVES

As specified in the Project Design (GAT 2012, Appendix I), the principal objective of the archaeological excavation was to confirm the nature and character of the possible burial cairn (Feature 15) (PRN 12348) through excavation and preservation by record.

The specific objectives were:

- to determine the extent, date, character, condition, significance and quality of the cairn;
- to consider any artefactual and environmental information and provide an assessment of the viability (for further study) of such information as part of a post-excavation strategy.

5 METHODOLOGY

All works were carried out in accordance with the Project Design for the works (GAT 2012, Appendix I) and the GAT standard operating procedures as set out in the GAT fieldwork Manual (*in prep*)).

All excavation was undertaken manually, with the modern overburden and non-archaeological subsoils removed first, down to the level of the first recognisable archaeological horizon. All archaeological contexts were recorded in order to define their function, date, and relationship to adjacent features.

- A buffer zone of approximately 1.5m around the outside edge of the possible burial cairn was excavated
- The SW quadrant of the possible burial cairn was previously excavated down to a possible structural layer in 2010. The opposite quadrant to this (the NE) was excavated down to the same layer, and sections drawn at a scale of 1:10 along both axis.
- The remaining quadrants were then excavated down to the same layer.
- The possible structural layer and subsequent layers were then fully excavated and planned in order to define their function, date, and relationships.
- A 3m by 1m slot was excavated down to the natural geology in order to fully define the relationship between the feature and the natural geology.
- The site was planned to scale and a digital survey completed using a *Leica Total Station* and a *Trimble GPS*, with the results tied into the National Grid.
- A written record of the archaeological content and all identified features was completed via GAT pro-formas.
- All subsurface features were recorded photographically using a Nikon digital SLR set to maximum resolution.

6 ARCHAEOLOGICAL RESULTS

A thin layer of turf (**001**), 0.05m thick, was removed across the entire site. This revealed an on average 0.15m thick layer of subsoil, consisting of a dark brownish black peaty soil (**002**) which sealed a deposit of stones (**004**). Deposit **004** (Plate 01) measured approximately 7m by 5m, and was aligned roughly east-west. It consisted of between one and three layers of poorly sorted sub-angular and sub-rounded stones, measuring between 0.1m x 0.05m x 0.05m and 0.8m x 0.2m x 0.15m (average 0.25m x 0.2m x 0.15m). These stones were loosely placed throughout the deposit, with large gaps located between the stones. The random placing of the stones meant that some of the stones were placed on their edge, while some were placed flat, with no apparent pattern to these placements. Stone layer **007** and a line of stones (**008**) were both sealed by this layer.

Layer **007** (Plate 02) consisted of a single layer of poorly sorted sub-angular and sub-rounded stones set into the natural geology, a light grey sandy clay (**003**). It measured approximately 7m by 5m, and was aligned east-west. The stones measured between 0.1m x 0.05m x 0.05m and 0.6m x 0.3m x 0.2m (average 0.25m x 0.2m x 0.15m), and were placed randomly both on their edge as well as flat throughout the layer. Small clusters of stones appeared to be laid either on their edge or flat adjacent to each other. However, no pattern was visible to these placements and it appears that they purely the result of a haphazard construction. A number of larger (1.2m x 0.7m x 0.5m on average) stones were located along the northeastern edge of the layer, most likely naturally occurring in this area.

Along the southern and southeastern limits of layer **007** a line of stones (**008**) (Plate 03) was uncovered aligned roughly east-west, and turning to the north at the eastern end. This line of stones measured approximately 7.5m by 0.3m, and had a maximum height of 0.2m. There was only a single layer of stones within this line, which were mostly orientated lengthways (east-west or north-south) and measured between 0.1m x 0.05m x 0.05m and 0.65m x 0.15m x 0.1m (average 0.3m x 0.25m x 0.15m). The stones were placed both flat and on their edge, with no visible pattern to these placements, other than their orientation. Both **008** and layer **007** were set into the natural geology (Plate 04), and since they both consisted of only a single layer of stones with no overlapping stones, then no relationship between the two was visible.

No other features were revealed within the 1.5m buffer zone around the edge of the stone layers, or underneath layers **007** and **008**, where excavated. No artefacts or contexts suitable for environmental sampling were uncovered during the excavation.

7 CONCLUSIONS AND RECOMMENDATIONS

The natural topography of the site was fairly close to the surface, lying on average only 0.3m below ground level and consisting of a light brownish grey sandy clay (**003**). It sloped down gradually from 371.54m AOD in the south to 370.71m AOD in the north.

The stones within layer **007** are all located deliberately set into the natural geology, forming a roughly rectangular structure measuring 7m by 5m, and aligned east-west. The unsorted placement of the stones, along with the large gaps between some of them, indicate that this was a crudely made structure, and unlikely to be used for any sort of occupation. The large stones located along the northeastern edge of the structure were most likely used as a natural edge, with stone layer **008** possibly constructed as a rough edge along its southern and southeastern side. The line of stones within layer **008** is fairly ephemeral, with only a small number aligned parallel to the edge of the structure, and a similarly small number consisting of stones larger than the stones used to construct layer **007**. This would suggest a fairly basic construction technique, with the use of any stones that came to hand, rather than a more planned edge. The presence of stone layer **007** located outside of this edging (**008**), on the southwestern corner of the structure would also seem to suggest that the perceived edge in this area is not an actual edge, but rather a result of the haphazard construction, which has caused the stones to appear to form an edge. The lack of any edging around the northwestern, western, and eastern sides would also suggest that no deliberate edge was constructed to this structure.

No dating evidence was uncovered from this structure, however its close proximity to a Post-medieval sheepfold (Site 14) (PRN 12349), and a possible Prehistoric settlement (PRN 5380) (Figure 2), may suggest that it is contemporary with one of them. The function of the platform is unclear, although given its small size and basic construction it may have been used for drying and/ or storing of peat or hay. Peat drying was a common practice in the UK up until the post-medieval period, where rough stone platforms, some as small as 1m by 2m, were constructed and the fresh cut peat placed on top and allowed to dry in the wind, with excess water draining through the stones. This structure was positioned on a slight slope which would have allowed any excess water to drain away easily, which would lend credence to it being used for this function.

The upper layer of stones (**004**) were very loosely located on top of layers **007** and **008**, and may have been placed there so as to increase the height of the platform to allow better drainage. Alternatively they may represent clearance stones, placed there once the platform had stopped being utilised for its original purpose.

Given the uncertainty of the structure's date and function, it is difficult to place it within the wider context of the local area. If the structure does relate to the peat drying process then this would suggest that at least small scale peat cutting was being carried out in the area and that there may be more evidence of this nearby. It would also suggest that a farming settlement was located within the vicinity, and that if this feature is not contemporary with the nearby possible Prehistoric settlement (PRN 5380), then there should be evidence of this settlement with the local area.

No further work is recommended on this structure. However, any groundworks in the area should be subject to a watching brief and if any features are uncovered then further work may be required to determine their full nature and date, so as to further aid our understanding of this area and the features located within. The final decision as to the requirement for further work on the site rests with the Local Authority's designated Planning Archaeologist.

8 ACKNOWLEDGEMENTS

The author would like to thank SLR Consulting Limited for commissioning the work. Thank you also to Mark Wayne Jones, the HSE&Q Manager for Welsh Slate and Jenny Emmett the Planning Archaeologist for Gwynedd Archaeological Planning Service for all their help and co-operation on site. The work on site was carried out by David McNicol, Jess Davidson, and Ken Owen.

9 BIBLIOGRAPHY

CCW/ Cadw/ ICOMOS UK 1998 *Register of landscapes of outstanding historic interest in Wales*, Cardiff

GAT 2009 *Proposed Quarry Realignment, Penrhyn Quarry, Bethesda: Archaeological Assessment*, GAT unpub report # 837

GAT 2010a *Proposed Quarry Realignment, Penrhyn Quarry, Bethesda: Archaeological Survey*, GAT unpub report # 880

GAT 2010b *Proposed Quarry Realignment, Penrhyn Quarry, Bethesda: Archaeological Evaluation*, GAT unpub report # 899

GAT 2012 *Proposed Quarry Realignment, Penrhyn Quarry, Bethesda: Project Design for Archaeological Excavation of suspected Bronze Age Cairn (Feature 15)*, GAT unpub report

GAT in prep *Archaeological Site Manual*

Institute of Field Archaeologists (IFA), supplement 2001, *By-Laws, Standards and Policy Statements of the Institute of Field Archaeologists: Standards and guidance for the collection, documentation conservation and research of archaeological materials*

Institute for Archaeologists (IfA) 2008, *Standard and Guidance for the Archaeological Excavation*

APPENDIX I: PROJECT DESIGN

PROPOSED QUARRY REALIGNMENT PROJECT, PENRHYN QUARRY, BETHESDA

PROJECT DESIGN FOR ARCHAEOLOGICAL EXCAVATION OF SUSPECTED BRONZE AGE CAIRN (FEATURE 15)

Prepared for
SLR CONSULTING LIMITED
September 2012

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

PROPOSED QUARRY REALIGNMENT PROJECT, BETHESDA, GWYNEDD**PROJECT DESIGN FOR ARCHAEOLOGICAL EXCAVATION OF SUSPECTED
BRONZE AGE CAIRN (FEATURE 15) (G2098)**

Prepared for *SLR Consulting Limited*, September 2012

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1.0 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *SLR Consulting Limited* to provide a cost and project design for completing an archaeological excavation in advance of a proposed quarry realignment project at Penrhyn Quarry, Bethesda. 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**; figure 01).

GAT has undertaken a staged programme of archaeological assessment and evaluation at the location of the proposed realignment zone. In response to these results, a mitigation stage has been recommended by GAT at the location of a suspected burial cairn, designated by GAT as **Feature 15** (NGR **SH61066397**; PRN **12348**). The site is extant as 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 current design has been produced in response to results of the archaeological evaluation stage, which has recommended the full excavation of **Feature 15** (cf. [para. 2.0](#) for project background and [para. 3.0](#) for excavation methodology).

Gwynedd Archaeological Planning Service (GAPS), on behalf of the Local Planning Authority, have agreed to the requirement for a full excavation of **Feature 15**. It is recommended that the content of this project design is approved by GAPS prior to the commencement of works.

Reference will also be made to the guidelines specified in Standard and Guidance for Archaeological Excavation (*Institute for Archaeologists*, 1994, rev. 2001 & 2008).

The current project design has been written exclusively for **Feature 15** and does not incorporate mitigation for the realignment scheme as a whole. If further mitigation is required in response to the current design or within the realignment scheme as a whole, this will be discussed in a future project design(s).

2. ARCHAEOLOGICAL BACKGROUND

Penrhyn Quarry lies within the Dyffryn Ogwen Landscape of Outstanding Historic Interest: **28** (CCW, Cadw, ICOMOS 1998) and forms one of the most important elements of this landscape. Penrhyn Quarry was formalised during the 18th century when Richard Pennant acquired a number of small local workings but slate is thought to have been extracted in this area as early as the 13th century. Infrastructure including railways, quarrymen's cottages and a quay at Porth Penrhyn were constructed at the end of the 18th and start of the 19th centuries. The quarry dominated both the slate industry and the surrounding landscape throughout the 19th century. Today the quarry continues to be run as a commercial venture and markets a variety of slate products.

As well as the extensive industrial archaeological remains that exist within the locality, mainly associated with the extraction of slate, the uplands around Bethesda and Nant Ffrancon contain extensive and very well-preserved, relict remains of prehistoric and later landuse. These include within the study area a prehistoric hut circle settlement (Primary Record Number (PRN) 5380), trackways (PRN 12305 & 12328), cairns (PRN 12348), potential prehistoric (PRN 12349) and post-medieval enclosures (PRN 12288) and other unidentified remains.

An archaeological assessment of the proposed realignment zone was undertaken by GAT in November 2009 (GAT report **837**). The assessment identified a number of sites, the majority relating to a late prehistoric settlement and a post-medieval multi-cellular sheepfold. In order to better identify the significance of the archaeological remains and identify appropriate mitigation an archaeological survey and a phase of field evaluation was undertaken (GAT reports **880** and **899**) in July and September 2010 respectively.

The programme of field evaluation examined four sites identified during the desk based assessment and archaeological survey:

- a cleared terraced area (**Feature 20**);
- a suspected prehistoric structure (**Feature 16**);
- a possible burial cairn (**Feature 15**);
- a possible ruined hut circle with sheepfold rebuild (**Feature 14**)

The archaeological evaluation programme confirmed that **Feature 16** was of natural origin; **Feature 14** contained no evidence that the sheepfold utilised an earlier hut circle and there no suspected buried remains at the location of **Feature 20**.

The archaeological evaluation of **Feature 15** involved the removal of a thin deposit of topsoil and turf from the south-western quadrant of site revealing a large, though not very high cairn with a radius of 3.5m. The feature appeared to consist of a single deposit (Context 004), made up of jumbled, poorly sorted sub-rounded and angular stones. The stones rose up in the middle to a slight point, approximately 0.5m high, and there was a slight hint of curb stones at the outer limits, but in general no coherent structure. There was no evidence of separate phases within in this deposit, as suggested in the GAT 1989 Upland Survey GAT Report **022**); however, as there was little matrix surrounding the stones, it was thought

possible that the cairn has been added to in the fairly recent past. No datable evidence was recovered.

Following the removal of Context 004, a more complex structured layer of activity was revealed. The exact nature of this was unclear, but it appeared to consist of three main elements: a fairly even, level surface made up of generally large stones (Context 007); a linear arrangement of stones running east-west (Context 008); and an area containing stones of various sizes (Context 009), apparently deliberately positioned, some set on end, but the purpose of which was unclear. Surface (Context 007) covered an area of approximately 3m x 1.6m, however it appeared to continue to the north and east. Linear (Context 008) was roughly 3m long and 0.4m wide, and again appeared to continue out of the area of excavation, to the east. Feature (Context 009) also appeared to continue eastwards, and was approximately 3m x 1.4m in area. There did not appear to be a direct link between the apex in the upper deposit of stones, (Context 004) and the features lying beneath. No datable evidence was found.

3.0 METHOD STATEMENT

3.1 TARGETED EXCAVATION

Before excavation commences an agreed programme of excavation timing, siting, duration and health & safety protection measures will be agreed with the SLR Consulting and Welsh Slate.

NB. This design does not include a methodology or cost for examination of, conservation of, or archiving of finds discovered during the excavation, nor of any radiocarbon dates required. The need for these will be identified in the post-fieldwork programme (if required; cf. [para. 3.6](#)), and a new design will be issued for approval by the GAPS Archaeologist.

The purpose of this programme of archaeological mitigation is to confirm the nature and character of the archaeological of the possible burial cairn (**Feature 15**) through excavation and preservation by record.

The mitigation should aim to determine the location, extent, date, character, condition, significance and quality of any surviving archaeological remains. The mitigation should carefully consider any artefactual and environmental information and provide an assessment of the viability (for further study) of such information as part of a post excavation strategy.

All identified archaeological contexts will be excavated manually. All modern overburden and non-archaeological subsoils will be removed down to the level of the first recognisable archaeological horizon. All archaeological contexts subsequently located must be adequately recorded in order to define their function, date, and relationship to adjacent features.

- A buffer zone of 1.5m around the outside edge of the possible burial cairn will also be excavated
- The site will be planned to scale after removal of modern overburden and non-archaeological subsoils.
- The SW quadrant of the possible burial cairn was previously excavated down to a possible structural layer. The opposite quadrant to this (the NE) will be excavated down to the same layer, and sections drawn to scale along both axis.
- The remaining quadrants will then be excavated down to the same layer and the whole area planned to scale.
- The possible structural layer and subsequent layers will then be fully excavated, planned, and sampled in order to define their function, date, and relationships.
- The site will be planned to scale and a digital survey completed using a *Leica Total Station* and/or a *Trimble GPS*, with the results tied into the National Grid.
- A written record of the archaeological content and all identified features will be completed via GAT pro-formas.
- All subsurface features will be recorded photographically using a Nikon digital SLR set to maximum resolution.

The excavation programme will last for 15 site days, starting on the 20/11/12.

3.2 ENVIRONMENTAL SAMPLES

If necessary, relevant archaeological deposits will be sampled by taking bulk samples (a minimum of 10.0 litres and maximum of 30.0 litres) for flotation of charred plant remains. Bulk samples will be taken from waterlogged deposits for macroscopic plant remains. Other bulk samples, for example from middens, may be taken for small animal bones and small artefacts.

3.3 HUMAN REMAINS

Any finds of human remains will be left *in-situ*, covered and protected, and both the coroner and the GAPS Archaeologist informed. If removal is necessary it will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a licence is required under Section 25 of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. This will be applied for should human remains need to be investigated or moved.

3.4 SMALL FINDS

The vast majority of finds recovered from archaeological excavations comprise pottery fragments, bone, environmental and charcoal samples, and non-valuable metal items such as nails. Often many of these finds become unstable (i.e. they begin to disintegrate) when removed from the ground. All finds are the property of the landowner, however, it is Trust policy to recommend that all finds are donated to an appropriate museum where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. All finds would be treated according to advice provided within *First Aid for Finds* (Rescue 1999). Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust

3.5 MITIGATION REPORT

Following completion of the stages outlined above, a report will be produced incorporating the results from the archaeological mitigation programme and will include:

1. Introduction
2. Project Design
3. Methods and techniques
4. Archaeological Background
5. Results of the excavation
6. Summary and conclusions
7. List of sources consulted.

Provision should also be made for all archaeological work on site, including the post-excavation analysis, conservation of artefacts, any supplementary scientific analysis and for the subsequent publication of results in an appropriate journal. The management of this phase will follow guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2006).

The project will be monitored throughout by the Gwynedd Archaeological Planning Services

- A paper report plus digital report and archive on optical disc will be provided to GAPS;
- A paper report plus digital report and archive on optical disc will be provided to Historic Environment Record, Gwynedd Archaeological Trust; this will be submitted within six months of report completion
- A digital report and archive on optical disc will be provided to Royal Commission on Ancient and Historic Monuments, Wales.
- A paper report(s) plus digital report(s) will be provided to the client

3.6 POST-EXCAVATION STRATEGY

3.6.1 Introduction

Based on the results of the site mitigation a comprehensive post-excavation programme incorporating specialist analysis of recovered artefacts and samples may be required. As stated in [para 3.1](#), the need for this will be identified in a formal post-fieldwork programme and a new design will be issued for approval by the GAPS Archaeologist. The management of this phase will follow guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2006). Five phases are specified:

- **Phase 1: project planning**
- **Phase 2: fieldwork**
- **Phase 3: assessment of potential for analysis**
- **Phase 4: analysis and report preparation**
- **Phase 5: dissemination**

The post-excavation stage for the project will include MAP 2 phases 3 to 5 of.

MAP 2 phase 3 involves an objective assessment of the results of the fieldwork phases (**MAP 2 phases 1 and 2**) in order to ascertain the appropriate level of post-excavation analysis and reporting. This phase culminates in the production of a post-excavation assessment report. The second involves carrying out the work identified within the post-excavation assessment report, and culminates in a final report and project archive (**MAP 2 phases 4 and 5**).

3.6.2 Post-excavation assessment – MAP 2 phase 3

The level of post-excavation analysis and reporting for the purposes of the evaluation will be sufficient to establish the character, scale, date range, artefactual and palaeo-environmental potential and overall significance of the remains.

Style and format of the report will include as a minimum the following:

- A location plan of the fieldwork
- Plans and sections of features located at an appropriate scale
- A section drawing showing depth of deposits including the present ground level with Ordnance Datum, vertical and horizontal scale.
- A summary statement of the results.

- A table summarising the features, classes and numbers of artefacts contained within, spot dating of significant finds and an interpretation.
- An interpretation of the archaeological findings both within the site and within their wider landscape setting.

Artefact analysis will be sufficient to establish date ranges of archaeological deposits, a general assessment of any artefacts to assist in characterising the archaeology, and to establish the potential for all categories of artefacts should further archaeological work be necessary.

3.6.3 Analysis and report preparation – MAP 2 phases 04 and 05

The work undertaken during this phase of the project will be carried out according to the recommendations contained within the post-excavation assessment report.

3.6.4 Production of site archive - MAP 2 phases 04 and 05

A full archive including plans, photographs, written material and any other material resulting from the project will be prepared. All plans, photographs and descriptions will be labelled and cross-referenced, and lodged in an appropriate place (to be decided in consultation with the regional Historic Environment Record: GAT, Craig Beuno, Garth Road, Bangor, Gwynedd LL57 2RT) within six months of the completion of the project. All digital data will be written to CD-ROM and stored with the paper archive.

5.0 STAFF

5.1 Staff

The project will be supervised by John Roberts, Senior Archaeologist. The work will be carried out by fully trained Project Archaeologists (3No) who are experienced in conducting project work and working with contractors and earth moving machinery. (Full CV's are available upon request).

6.0 HEALTH AND SAFETY

The Trust subscribes to the SCAUM (Standing Conference of Archaeological Unit Managers) Health and Safety Policy as defined in **Health and Safety in Field Archaeology** (2007).

Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat.

7.0 INSURANCE

Liability Insurance - Aviva Policy 24765101CHC/00045

- Employers' Liability: Limit of Indemnity £10m in any one occurrence
- Public Liability: Limit of Indemnity £5m in any one occurrence
- Hire-in Plant Insurance: £50,000.00 any one item;
£250,000.00 any one claim

The current period expires 21/06/13

Professional Indemnity Insurance – RSA Insurance Plc P8531NAECE/1028

- Limit of Indemnity £5,000,000 any one claim

The current period expires 22/07/13

8.0 SOURCES CONSULTED

Gwynedd Archaeological Trust. 1993. Report **022**. *The Uplands Survey Project, Archaeological Fieldwork in the Gwynedd Uplands Between 1983 and 1992*.

Gwynedd Archaeological Trust. 2009. Report **837** Proposed Realignment Penrhyn Quarry, Bethesda – Archaeological Assessment

Gwynedd Archaeological Trust. 2010. Report **899** Proposed Realignment Penrhyn Quarry, Bethesda – Archaeological Evaluation

Institute for Archaeologists *Standard and Guidance for Archaeological Excavation* (1994, rev. 2001 & 2008)

APPENDIX II: PHOTOGRAPHIC REGISTER

Frame	Description	View from
1	Pre-ex condition shot	-
2	Pre-ex condition shot	-
3	Pre-ex condition shot	-
4	Pre-ex condition shot	-
5	Pre-ex condition shot	-
6	Pre-ex condition shot	-
7	Pre-ex condition shot	-
8	Stones (004) fully exposed	SSW
9	Stones (004) fully exposed	WSW
10	Stones (004) fully exposed	WSW
11	Stones (004) fully exposed	WSW
12	Stones (004) fully exposed	WSW
13	Stones (004) fully exposed	WSW
14	Stones (004) fully exposed	WSW
15	Stones (004) fully exposed	WSW
16	Stones (004) fully exposed	NNW
17	Stones (004) fully exposed	NNW
18	Stones (004) fully exposed	NNW
19	Stones (004) fully exposed	ENE
20	Stones (004) fully exposed	ENE
21	Stones (004) fully exposed	ENE
22	Stones (004) fully exposed	ENE
23	Stones (004) fully exposed	ENE
24	Stones (004) fully exposed	SSE
25	Stones (004) fully exposed	SSE
26	Stones (004) fully exposed	SSE
27	Stones (004) fully exposed	SSE
28	Stones (004) fully exposed	SSE
29	Stones (004) fully exposed	SSE
30	SSE facing section, SW quad	SSE
31	SW quad (004)	WSW
32	WSW facing section, SW quad	WSW
33	SW quad (004)	SSE
34	SW quad (004)	WSW
35	NNW facing section, NE quad	NNW
36	ENE facing section, NE quad	ENE
37	NE quad (004)	NNW
38	NE quad (004)	ENE
39	NE quad (004)	NE
40	Working Shot	-
41	Working Shot	-
42	Stones (007) + (008) fully exposed	W
43	Stones (007) + (008) fully exposed	N

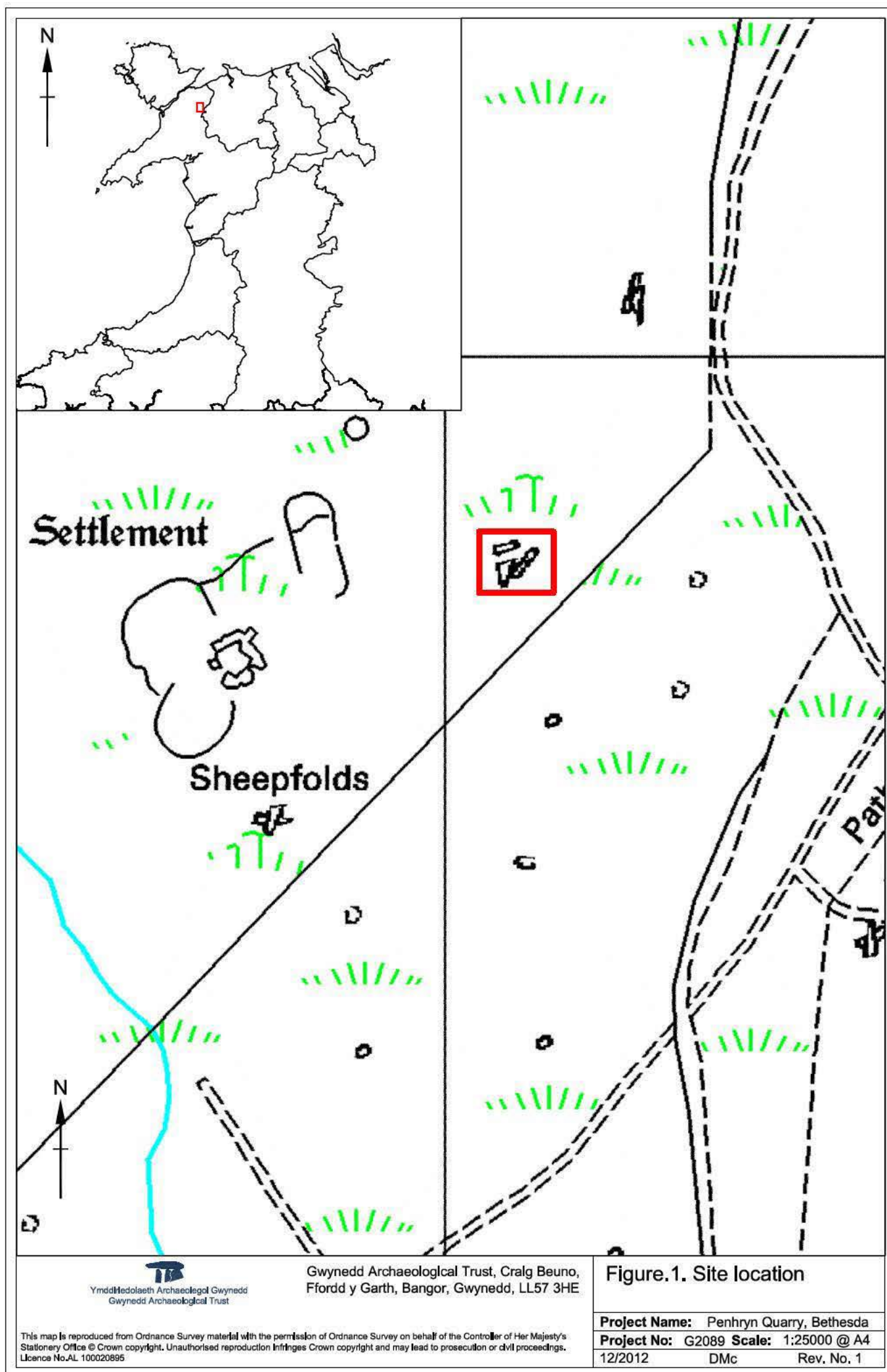
44	Stones (007) + (008) fully exposed	N
45	Stones (007) + (008) fully exposed	N
46	Stones (007) + (008) fully exposed	N
47	Stones (007) + (008) fully exposed	E
48	Stones (007) + (008) fully exposed	E
49	Stones (007) + (008) fully exposed	E
50	Stones (007) + (008) fully exposed	E
51	Stones (007) + (008) fully exposed	W
52	Stones (007) + (008) fully exposed	W
53	Close-up of stones in (007)	N
54	Close-up of stones in (007)	W
55	Possible edging (008)	E
56	Possible edging (008)	E
57	Possible edging (008)	N
58	Possible edging (008)	N
59	Possible edging (008)	W
60	Possible edging (008)	W
61	Close-up of stones in (007)	S
62	Stones (007) + (008) fully exposed	N
63	Stones (007) + (008) fully exposed	N
64	Section through stones (007)/(008) down to natural	S
65	Section through stones (007)/(008) down to natural	W
66	Section through stones (007)/(008) down to natural	W
67	Section through stones (007)/(008) down to natural	N

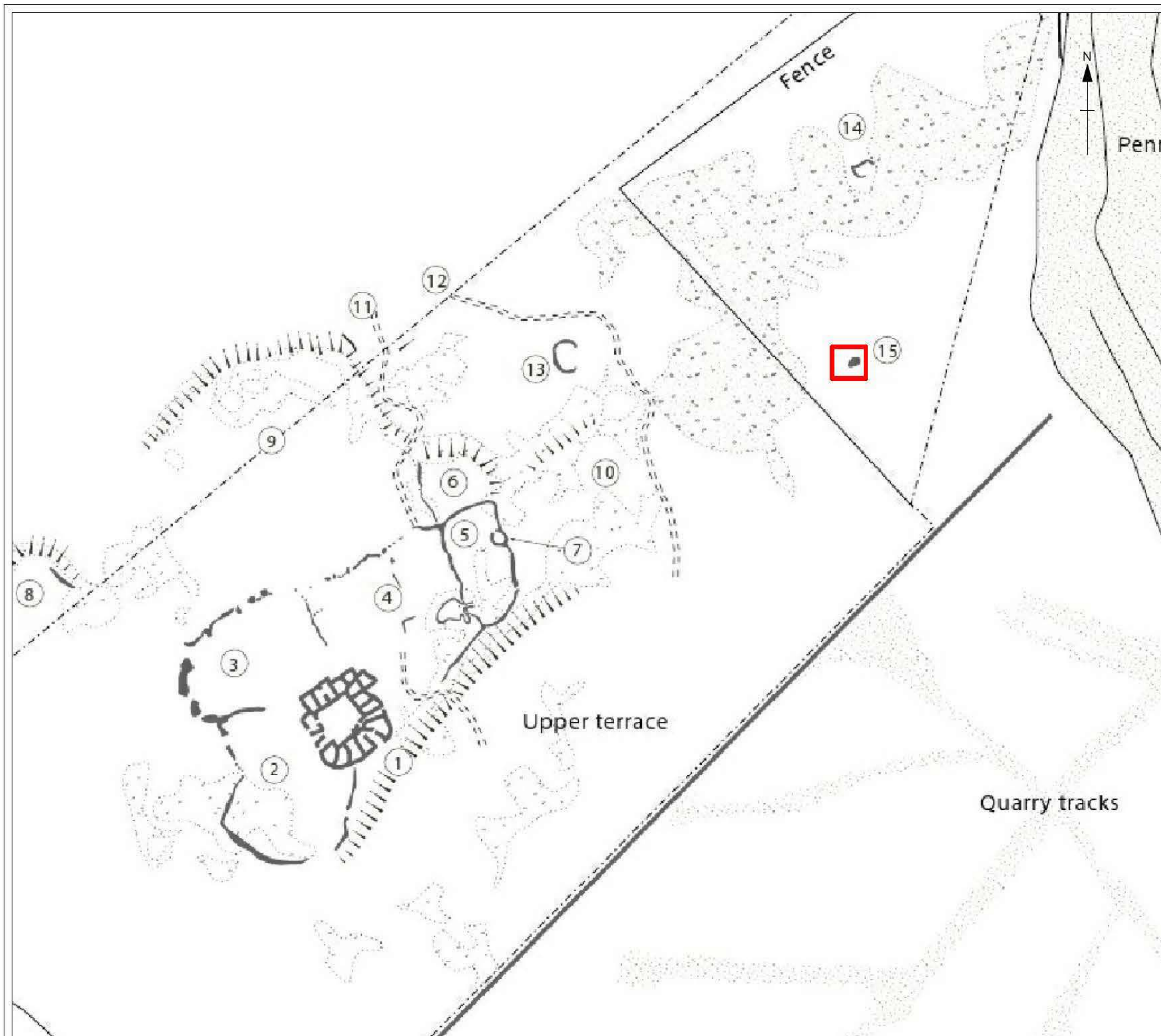
APPENDIX III: CONTEXT REGISTER

Context	Description
001	Topsoil/Turf
002	Subsoil
003	Natural
004	Upper layer of stones
005	Not used
006	Not used
007	Lower stones set in to natural
008	Possible edging stones
009	Same as (007)

APPENDIX IV: DRAWING REGISTER

Drawing	Description	Scale
1	Pre-ex plan showing stones (004) 1 of 3	1:20
2	Pre-ex plan showing stones (004) 2 of 3	1:20
3	Pre-ex plan showing stones (004) 3 of 3	1:20
4	East facing sec, NE quad	1:10
5	West facing sec, SW quad	1:10
6	South facing sec, SW quad	1:10
7	North facing sec, NE quad	1:10
8	Post-ex plan showing stones (007/008) 1 of 2	1:20
9	Post-ex plan showing stones (007/008) 2 of 2	1:20
10	Plan of slot through (007)/(008)	1:20





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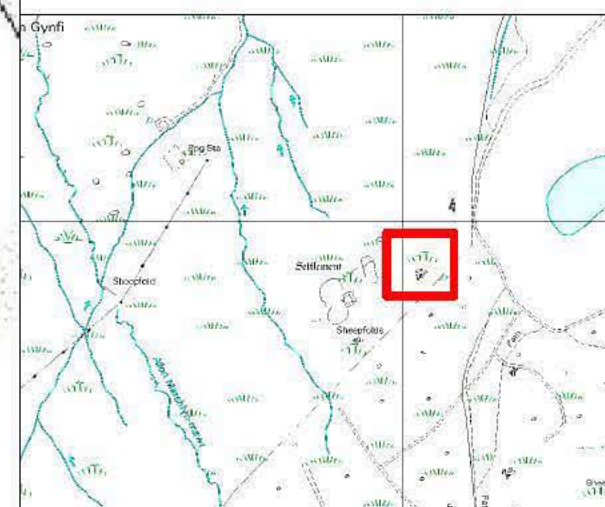


Figure 2: Location of Feature 15

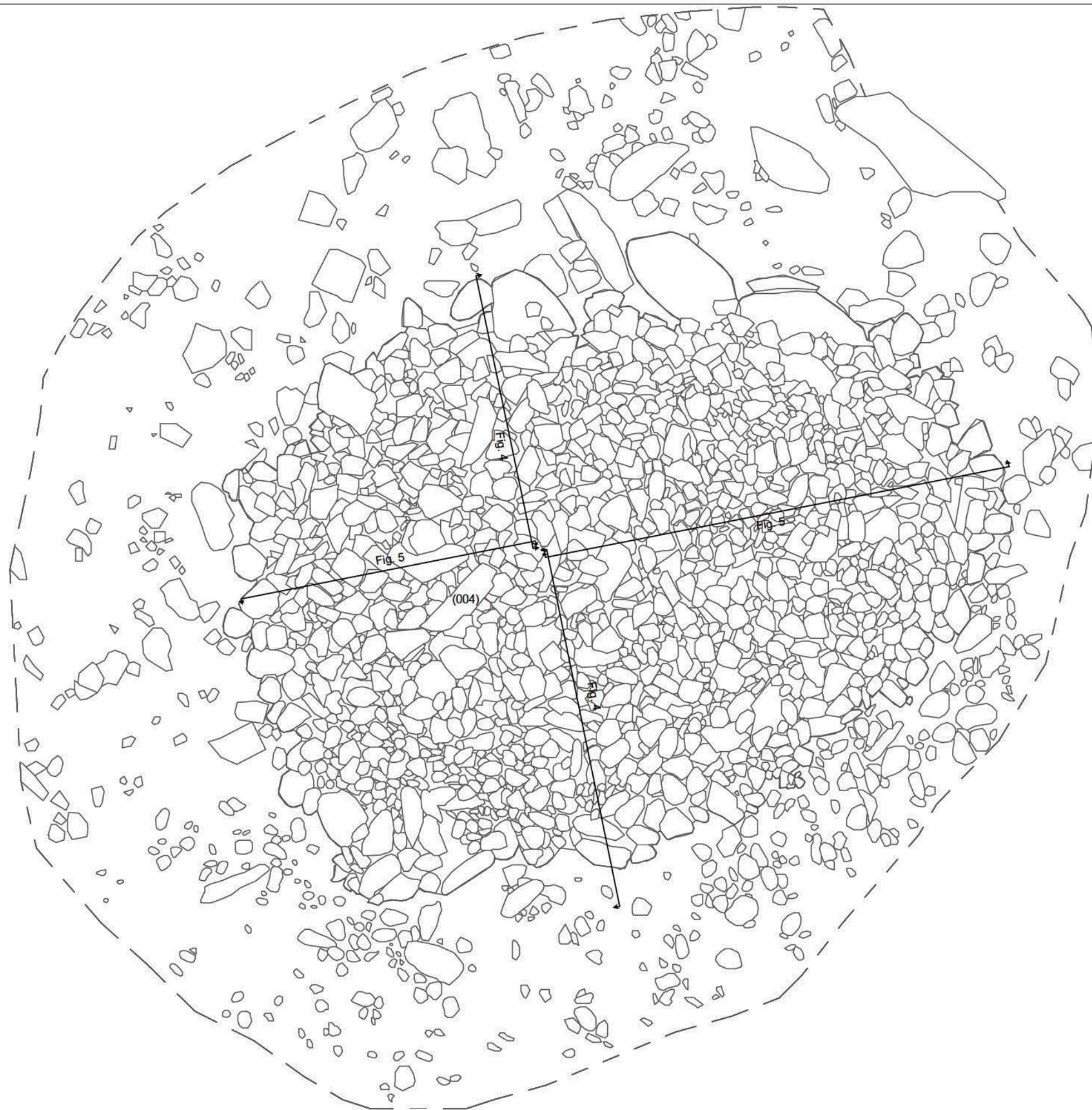
Project Name	Penhryn Quarry, Bethesda
Project No.	G2098
Date	12/2012
Creator	DMc
Scale 1:1250 @ A3	Revision No. 1

Gwynedd Archaeological Trust, Craig Beuno, Ffordd y Garth, Bangor, Gwynedd, LL57 3HE

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261059
363977

261070
363977



- Section Line
- Limit of Excavation
- Stone
- Edge of Layer
- Level

261059
363966

261070
363966

0 2 m

Scale at A3 1:40

Fig. 3: Stone Deposit (004)

NNW
261064
363974
370.60

SSE
261065
363968

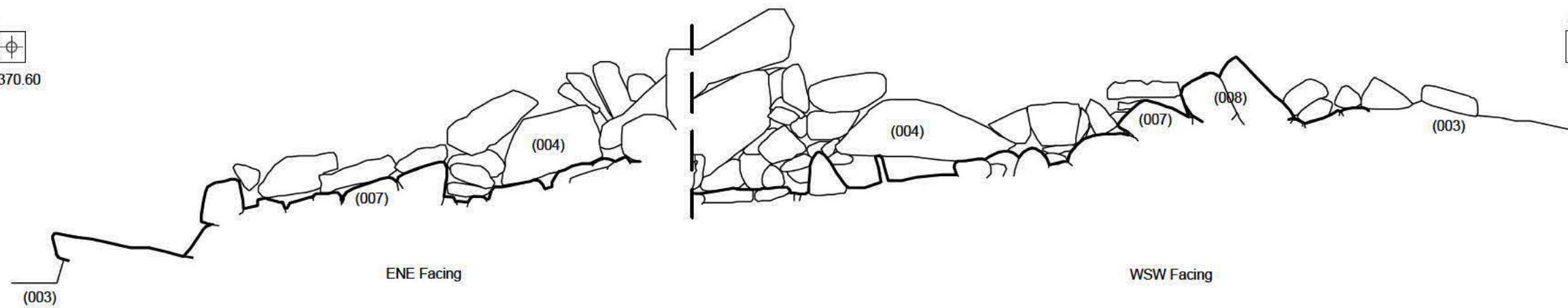
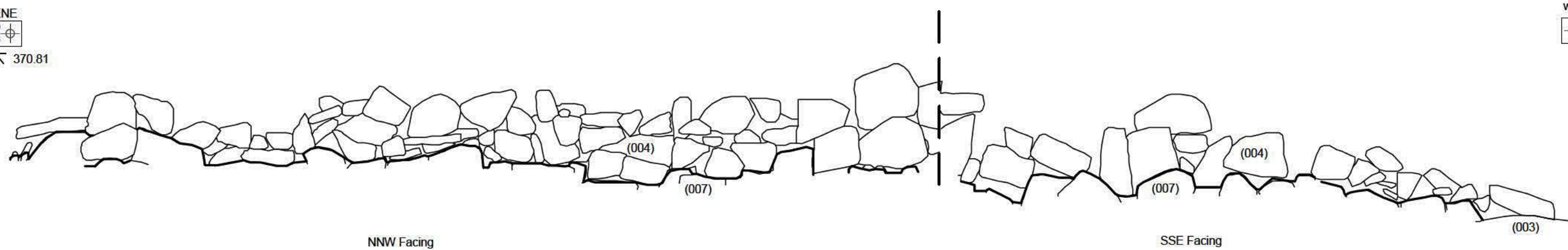


Fig. 4: ENE and WSW Facing Sections Through 004

ENE
261069
363973
370.81

WSW
261061
363971



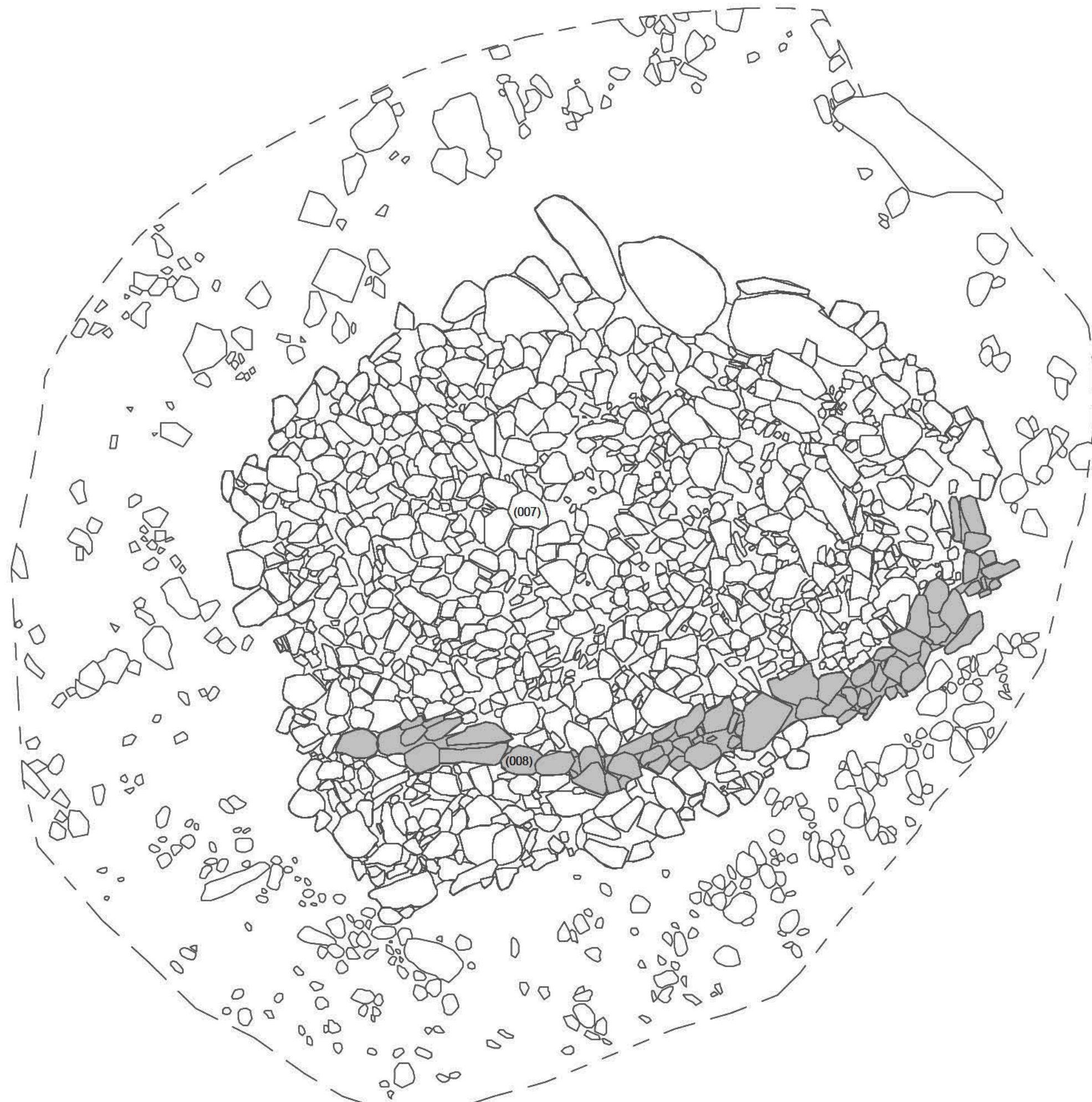
-- Section Edge
— Layer Interface
/ Level
⊕ Section Point

Fig. 5: NNW and SSE Facing Sections Through 004

0 1 m
Scale at A3 1:20

261059
363977

261070
363977



- Stone Line (008)
- Limit of Excavation
- Stone
- Edge of Layer
- Level

261059
363966

261070
363966

0 2 m

Scale at A3 1:40

Fig. 6: Stone Platform (007) and Stone Line (008)

261059
363977

261070
363977



- Stone Line (008)
- - Limit of Excavation
- Stone
- Edge of Layer
- △ Level

261059
363966

261070
363966

0 2 m

Scale at A3 1:40

Fig. 7: Slot Through Stone Platform (007) and Stone Line (008)

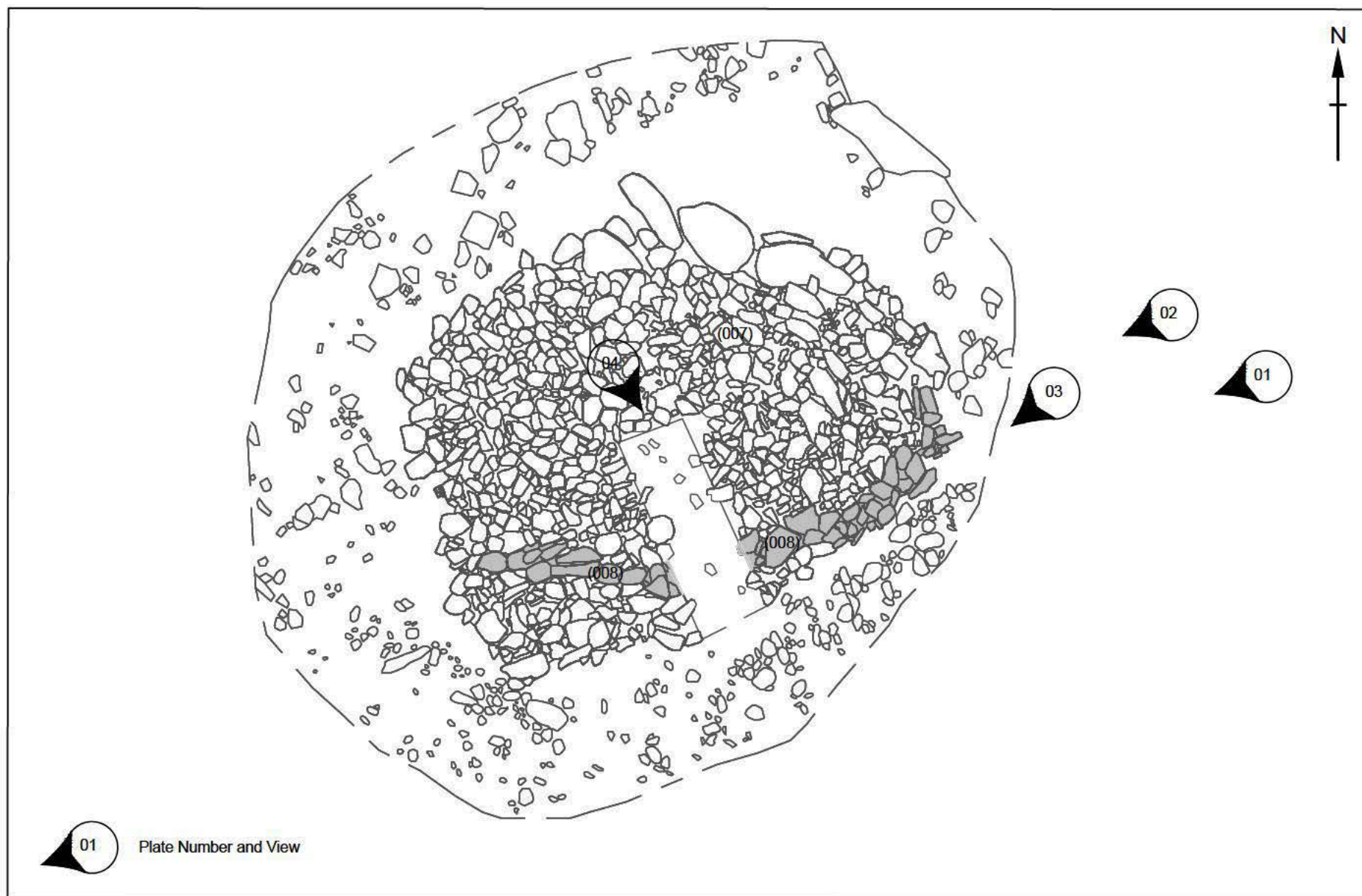




Plate 01: Stone layer 004, view from east



Plate 02: Stone layer 007, view from east



Plate 03: Stone edging 008, view from east



Plate 04: Slot through stone layers 007 and 008, view from north



Gwynedd Archaeological Trust
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