A55(T) Abergwyngregyn to Tai'r Meibion Improvement Advance Works

Mitigation Report

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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Revision History			
Rev No.	**Summary of Changes**	**Ref Section**	**Purpose of Issue**

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FIGURE LIST

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Non-Technical Summary

Gwynedd Archaeological Trust was commissioned by Ymgynghoriaeth Gwynedd Consultancy to undertake archaeological watching brief during advance drainage works between Junctions 12 and 13 of the A55(T) expressway, between Aberwgwyngregyn and Tai'r Meibion, Gwynedd. The watching brief was completed between February 2017 and January 2018 and was followed by post-excavation assessment and analysis of a prehistoric pit identified during the works. The pit contained heat fractured stone and fragments of charcoal; the latter were submitted for radiocarbon dating that produced a date range within the Late Neolithic. The pit appeared to be an earth oven, which used the heated stones for cooking food in the pit and similar examples have been found during archaeological fieldwork at Bryn Cegin, Llandygai (2007) and Penrhyn Castle (2017). The known archaeology within the area prior to the upgrade works included Bronze Age findspots, the Canovium - Segontium Roman road, a medieval field system and post-medieval buildings. The identification of the pit adds a key period and unique feature type to the local archaeological record and provides evidence for prehistoric settlement that may be present in greater quantities across the area. The watching brief also identified slate culverts representing post-medieval drainage that were indicative of large-scale estate management and agricultural improvements.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Ymgynghoriaeth Gwynedd Consultancy (YGC) to undertake archaeological mitigation during advance drainage works associated with the forthcoming upgrade works between Junctions 12 and 13 of the A55(T) expressway. The drainage works extended for 2.2km between NGR SH62977173 and NGR SH65067263 (Figure 01) and were undertaken to improve network resilience to potential flooding; an improved junction for Y Glyn farm was also completed at this stage. The archaeological mitigation included a watching brief during intrusive groundworks that was completed between February 2017 and January 2018, followed by post-excavation assessment and analysis of selected ecofacts from a prehistoric pit.

The current report is for the advance drainage works only. Further archaeological mitigation will be undertaken for the main upgrade works.

The archaeological mitigation was undertaken in accordance with the following guidelines:

- English Heritage, 2015, Management of Research Projects in the Historic Environment (MoRPHE).
- English Heritage, 1991, Management of Archaeological Projects
- English Heritage 2005 New Guidelines for the Treatment of Human Remains Excavated from Christian Burial Grounds in England
- English Heritage, 2011, Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation. English Heritage Publications. Swindon.
- McKinley, Jacqueline I. and Roberts, Charlotte 1993, Excavation and post excavation treatment of cremated and inhumed human remains. CIFA Technical Paper No. 13
- Royal Commission on Ancient and Historic Monuments of Wales 2015 Guidelines for digital archives.
- Standard and Guidance for Archaeological Excavation (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2009 and 2014).
- Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2008 and 2014).

The post-excavation was undertaken in accordance with guidelines specified in Management of Archaeological Projects – MAP2 (English Heritage, 1991), and relevant

guidelines from Management of Research Projects in the Historic Environment (English Heritage 2015). Five project phases are specified in MAP2 (English Heritage, 1991):

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

The current report relates to the assessment analysis, dating and report preparation as specified by MAP2 Phases 3 and 4, and also incorporates the results from the preceding phases. Dissemination (MAP2 Phase 5) will involve the submission of a gazetteer entry in the *Archaeology in Wales* journal, which is published annually by the Council for British Archaeology Cymru/Wales. The gazetteer entry will include a summary of results and supporting figures and plates.

The Historic Environment Record event Primary Reference Number for this project is 45245.

1.1 Aims and Objectives

The key aims of the archaeological watching brief were to:

- establish the extent to which archaeological remains survive at the site;
- establish the date and nature of archaeological remains at the site and assess their implications for understanding the historical development of the area; and
- establish the depth of archaeological remains and the quality, value and level of preservation of any deposits.

The key aim of the post-excavation was to ensure that appropriate assessment and analysis was undertaken and that site records were studied, compiled and a coherent report on the results produced with appropriate illustrations. In addition, the post-excavation was to ensure that site records, both paper and digital, were archived in a format suitable for long term storage.

The results were also considered against the research aims in *The Research Framework for the Archaeology of Wales*.

The project was monitored by Gwynedd Archaeological Planning Service (GAPS). The current phase of works has been undertaken in accordance with an approved project design submitted by GAT (cf. Appendix I)

2 BACKGROUND

2.1 Assessment and Evaluation

GAT completed an Assessment of the Significance of the Impact of Development on Historic Landscape (ASIDOHL2) report (GAT Report 1257) and a heritage desk based assessment report (GAT Report 1258) in 2015, along the route of upgrade works. The desk based assessment report included recommendations for trial trenching, prior to any other work on site at two potential sites within the scheme footprint: the proposed site of a medieval township at Wig (Asset Number 27; GAT PRN 6811) and the proposed route of the Canovium - Segontium Roman Road to the south of Tai'r Meibion (Asset Number 12; RCAHMW NPRN 405340). Four trial trenches were excavated, three at Wig Farm and one at Tai'r-meibion. No evidence for medieval settlement was identified at Wig Farm, whilst Trench 04 at Tai'r Meibion revealed evidence for two modern drains and a stone and earth field boundary bank of unknown date; no evidence for the Roman Road was encountered.

2.2 Watching Brief

The watching brief was undertaken between February 2017 and January 2018 and GAT monitored intrusive groundworks completed by *Jones Bros* (GAT Report 1391). The groundworks were adjacent to the westbound carriageway of the A55 trunk road and involved drainage improvements and an improved junction for Y Glyn farm. The groundworks extended for 2.2km between NGR SH62977173 and NGR SH65067263 (Figure 01) and incorporated nine irregular shaped fields. Seven heritage assets were located within or close to the works (Figure 01). This included four historic building assets and a garden:

- Asset Number 21, Grade II Listed Building at Tai'r-meibion (GAT PRN 30282; CADW LB 22968; SH6312271752)
- Asset Number 22, Grade II Listed Farm Buildings at Tai'r-meibion (CADW LB 22969; SH6313271694
- Asset Number 36, Cottages, Bryn Meddyg, Abergwyngregyn (GAT PRN 30286; SH6458772390);
- Asset Number 39, The Old School, Abergwyngregyn (RCAHMW NPRN 41152; SH 6511972609); and
- Asset Number 23, Tai'r-meibion garden, Abergwyngregyn (RCAHMW NPRN 86479; SH6311671751).

These assets were not affected by the works. The only two known assets within the upgrade route were:

- Asset number 37, Quarry at Bryn Meddyg (GAT PRN 20831; centred on SH6462172406); and
- Asset Number 38, Coed Bryn Meddyg relict field system (RCAHMW NPRN 408179; centred on SH6479072400).

No evidence for the quarry or relict field system was identified within the confines of the upgrade. Archaeological activity was limited to an isolated prehistoric feature and post-medieval land drainage features.

The prehistoric feature was a small pit at located at the northeastern end of the scheme (NGR SH62287225; Figure 01). The pit (Context [004]) contained a single deposit of loose charcoal rich fill (005), which was packed with burnt stone that appeared to have shattered due to prolonged heat exposure. The full extent of the pit could not be determined, but appeared to be semi-circular with a diameter of 1.22m and a depth of 0.25m (Figure 02; Plates 01 and 02). The sides of the pit were steeply sloping with sharp breaks of slope; the base of the pit was flat. There was some staining on the glacial horizon at the base of the pit which would suggest partial in-situ burning. Due to the suspected prehistoric origin of this feature, a palaeoenvironmental bulk sample (ref. <01>) was taken from the charcoal rich deposit of the pit, in order to recover datable ecofacts. The Historic Environment Record Primary Reference Number (PRN) for this feature is 71129.

Slate culverts were identified in fields towards the centre of the scheme and were interpreted as evidence of Penrhyn Estate land improvement works undertaken in the 19th century to help drain the fields of excess water and to make for more productive pastureland.

3 POST-EXCAVATION RESULTS

3.1 Ecofact Assessment

The primary aim of the ecofact assessment was to recover material suitable for radiocarbon dating from the charcoal rich deposit (Context 005) from the suspected prehistoric pit [Context 004].

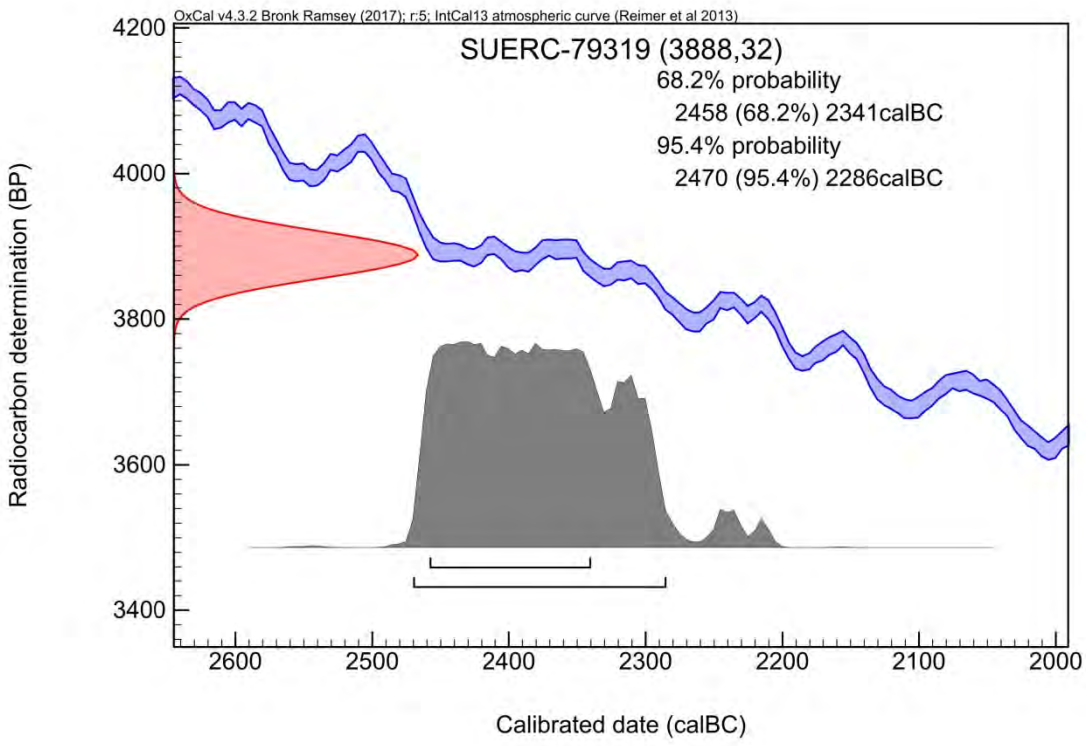
The ecofact assessment was completed as a two stage process.

1. The bulk sample was processed in house by GAT. This consisted of flotation and wet sieving using a 500 micron mesh to collect the residue (which collects more than the 1mm = 1000 micron), with the flot collected in a 250 micron mesh. The sample was subsequently sorted into coarse and fine residue. The fine residue then underwent the flotation process for a second time to maximise charcoal recovery. The coarse residue was sorted by hand to recover non-floating ecofacts, which were then added to the fine residue and collectively weighed and catalogued. The residue was then sent to AOC Archaeology Group for further assessment, including charcoal species identification and datable material selection.
2. The material sent to AOC Archaeology Group was sieved using a 4mm, 2mm and 1mm system of stack sieves and subsequently examined under magnification (x10 and up to x100). Macroplant identifications were completed using modern reference material and seed atlases stored at AOC Edinburgh. Taxonomic and nomenclature for plants was based on Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press. Charcoal fragments 4mm and larger were collected for species identification and recommendations for any subsequent analysis and radiocarbon dating. The assessment identified 20 fragments of charcoal, weighing 114.8g. As stated in the AOC Archaeology Group report (Robertson, 2017; cf. Appendix IV), the predominant species was ash, which accounted for 80%, followed by hazel at 10% and apple/pear/hawthorn/quince/rowan at 10%. The report suggested the presence of mixed remains within a single feature was “usually indicative of fuel debris”, but the large quantity of ash may also have indicated that a post or stake was burnt *in situ.* The absence of domestic food debris within the sample suggested that cooking waste from hearths were not disposed of within this feature (*ibid.*). The report recommended that all charcoal species recovered were suitable for radiocarbon dating; GAT submitted the ash and hazel for radiocarbon dating.

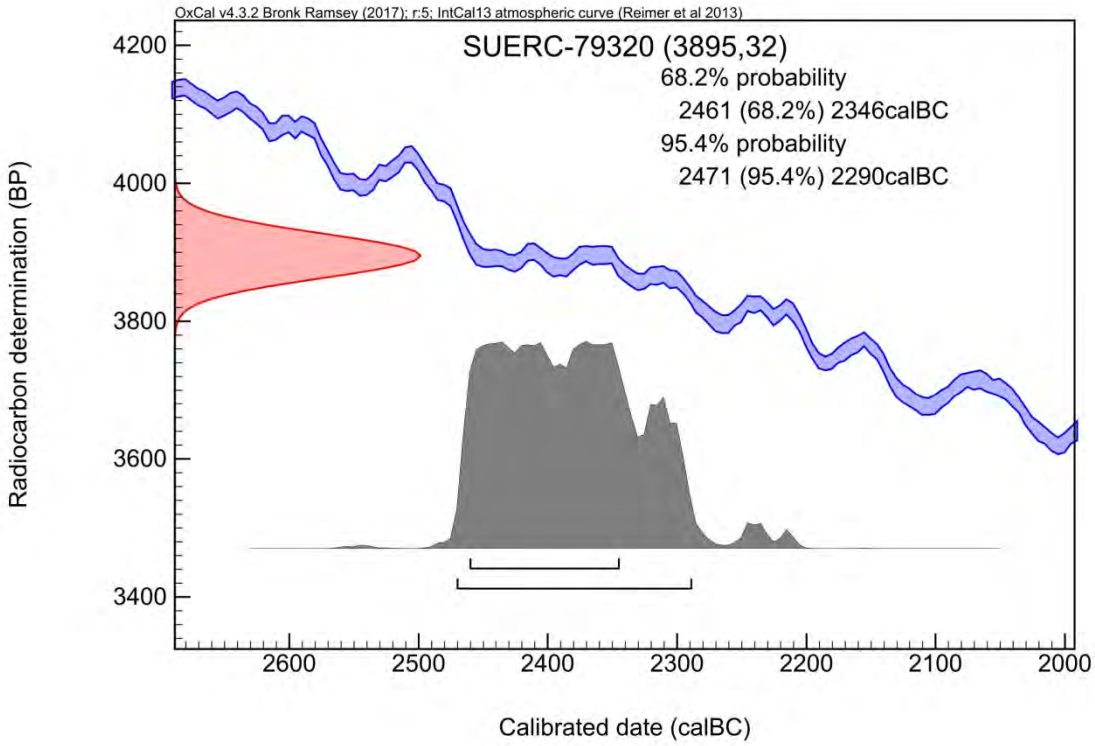
3.2 Ecofact Analysis: Radiocarbon Dating

The ash and hazel charcoal were sent to the Scottish Universities Environmental Research Centre (SUERC) for radiocarbon dating (cf. Appendix V for a copy of the SUERC report). The samples were analysed at the SUERC Accelerator Mass Spectrometry (AMS) Laboratory using its 5 MV and 250kV National Electrostatic Corporation AMS systems to undertake ^{14}C, ^{10}Be, ^{26}Al, ^{36}Cl and ^{129}I analyses. The dates were calibrated following the age ranges determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4). The radiocarbon dates (^{14}C) were quoted in conventional years BP, before 1950 AD.

The hazel (SUERC-79319 (GU47412)) provided a Radiocarbon Age BP of 3888±32, at a 95.4% probability calibrated date of 2470 to 2286calBC, within the Late Neolithic.



The ash (SUERC-79320 (GU47413)) provided a Radiocarbon Age BP of 3895±32, at a 94.7% probability calibrated date range of 2471 to 2290cal BC, within the Late Neolithic.



4 CONCLUSION

The archaeological watching brief has provided useful information on prehistoric activity within the area encompassed by the upgrade works. The known assets within the area prior to the upgrade works included Bronze Age findspots, the Canovium - Segontium Roman road, a medieval field system and post-medieval building activity. The identification of the Late Neolithic pit during the watching brief adds a key period to the known archaeological record and provides evidence for prehistoric settlement that may be present in greater quantities across the area. The watching brief also identified slate culverts representing post-medieval drainage that were indicative of large-scale estate management and agricultural improvements.

Similar pits were found within a Neolithic to Bronze Age settlement at Parc Bryn Cegin, Llandygai (GAT Report 764) and an isolated pit at Penrhyn Castle, Llandygai (GAT Report 1379). At Parc Bryn Cegin several similar small pits were interpreted as earth ovens. These pits were circular or sub-circular in shape and on average 1.5m wide and 0.4m deep; some examples had clay linings and all were filled with heat-cracked stone. The pits ranged from Early Neolithic to Bronze Age in date. There were no direct contemporary parallels with pit [004], but the pit at Penrhyn Castle was of broadly similar date. As stated in the Parc Bryn Cegin report (GAT Report 764: 70), the main characteristics of these pits were similar to other features filled with burnt stone, e.g., burnt mound troughs or hollows filled with burnt stone. However, what distinguished these features were their smaller size, sub-circular shape and steep sided cuts. It is thought the pits were used as ovens by lining them with clay, filling with heated stones on which food would be placed and then sealing with more clay to maintain the cooking process. Similar technology is still used for cooking in Polynesia and Australia, whilst archaeological earth ovens are a “relatively common find” in Europe, particularly in Switzerland, France and Germany, but are less well recognised in Britain (*ibid.*). They were interpreted at Parc Bryn Cegin as evidence of short-term settlement and the pit/oven represented by [004] could be interpreted in a similar way. The prehistoric activity within the local area is characterised mainly by stray finds from the Bronze Age, including an axe at Wig Farm (PRN 6811), a stone axe hammer from College Farm, Abergwyngregyn (PRN 4071), and a burial urn at Pen-y-Bryn, immediately to the east of Abergwyngregyn (PRN 4079; GAT Report 1258), whilst east of Abergwyngregyn a burnt mound was located, along with significant evidence for prehistoric activity in the uplands, including several cairns of Bronze Age type on the hill-tops and ridges as well as remains of settlements and fields (*ibid*.). Seen in this context, pit [004] provides an important addition to the local area and to the key research aims from the *Research Framework for the*

Archaeology of Wales (Version 03, Final Refresh Document February 2017). The research aims of key relevance are:

- What did everyday life in the Neolithic and Early Bronze Age (EBA) look like and how could this influence the types of settlements we are likely to find?
- Why do we find so little settlement evidence for the later Neolithic and EBA? Is the lack of settlement in these periods reflective of the nature of the archaeological resource or are we simply not recognizing it during excavation?
- How does evidence for settlement fit into patterns of landuse and are there clear regional variations?

Pit [004] does not provide direct answers to these research aims, but provides valuable information that can contribute to future research, by adding to our knowledge of settlement activity through a particular feature type. In particular, the pit adds further understanding to the type of settlement patterns in the local area and the presence of a regional variation, represented by the existence of earth ovens both here and in the neighbouring Llandygai area.

5 BIBLIOGRAPHY AND RESOURCES

1. Chartered Institute for Archaeologists 2014 *Standards and Guidance for an Archaeological Watching Brief*.

2. English Heritage 1991 *Management of Archaeological Projects*.

3. English Heritage, 2011. *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation*, 2nd Edition;

4. Evans, R. 2015. *Penrhyn Castle Renewable Heating Scheme Archaeological Assessment*. GAT Report 1286.

5. Historic England, 2004. Human Bones from Archaeological Sites Guidelines for producing assessment documents and analytical reports

6. Historic England, 2015. *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide*

7. Leigh, D. and Watkinson, D. 1998. *First Aid for Finds: Practical Guide for Archaeologists*.

8. Leigh, D. and Watkinson, D. 2001. *UK Institute for Conservation: Excavated Artefacts and Conservation*.

9. McNichol D. 2015. *Abergwyngregyn to Tai'r Meibion Improvement: Desk Based Assessment Report*. GAT Report 1258.

10. Research Framework for the Archaeology of Wales Version 03, Final Refresh Document February 2017

11. Royal Commission on Ancient and Historic Monuments of Wales. 2015. *Guidelines for digital archives.*

12. Ryan-Young, C. 2017 *A55(T) Abergwyngredyn to Tai'r Meibion Improvement of Advanced Works: Archaeological Watching Brief.* GAT Report 1391.

location of pit [004]/
Primary Reference
Number 71129

Gwynedd Archaeological Trust

Figure 1: Scheme extent and the location of assets in proximity to the Advance Works

Scheme footprint

27 Heritage Asset with number

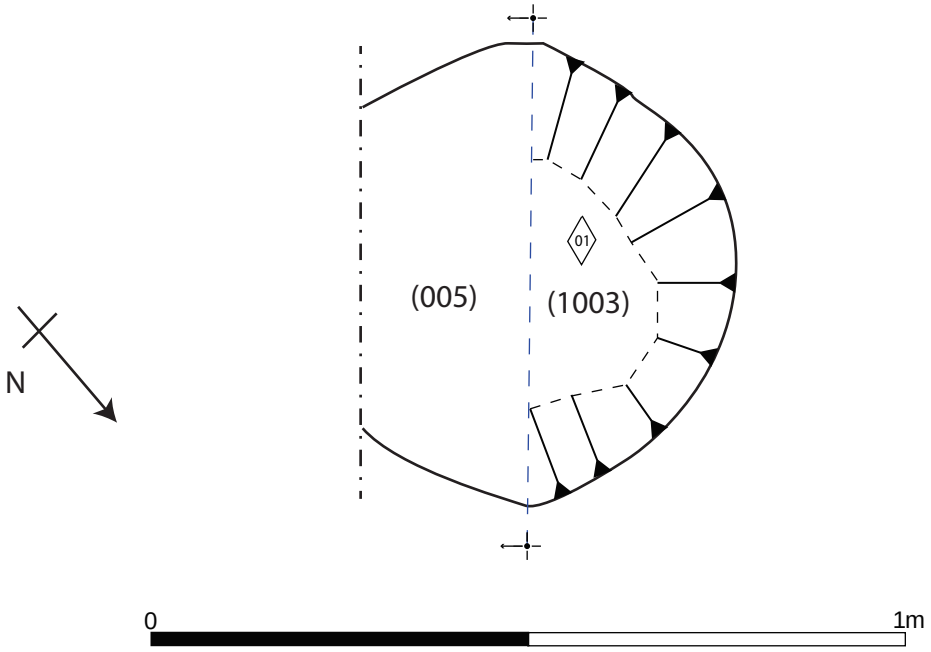
8 Field number

N

Date: 12/10/2016	
Author: NMC	
Office:	
Drawing: G2424/AWPD/F01/R2	
Scale: 1:10,000@A3	© Crown copyright. All rights reserved. License number AL100020895

0 100 200 400 metres

Plan of Pit [004]/Primary Reference Number 71129. Scale 1:20@A4



Northwest facing section through Pit [004]/Primary Reference Number 71129. Scale 1:10@A4

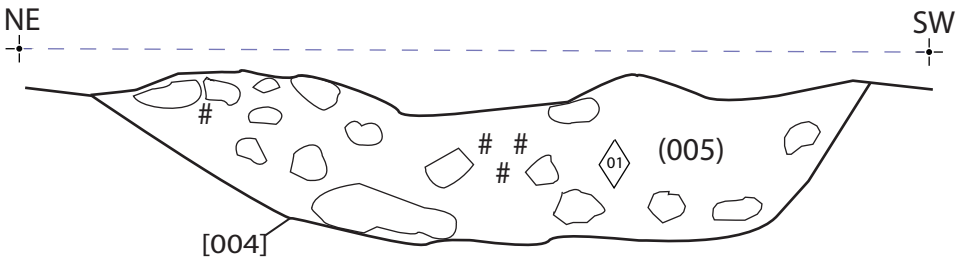


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Figure 02: Field 5 - Plan & section through pit [004]; Primary Reference Number 71129.

Charcoal

Stone

01 Sample number and location

25/05/2017
BMJ
GAT
G2424
1:20 / 1:10@A4

Plate 01: Burnt pit [04]/PRN 71129 in Field 5. View from northeast; scale 1x1m. (G2424_WB_2017_015).

Plate 02: Northwest facing section of burnt pit [04]/PRN 71129; scale 1x1m (G2424_WB_2017_016).

APPENDIX I

Reproduction of Gwynedd Archaeological Trust project design for MAP 2 Phase 3 (January 2018)

A55(T) ABERGWYNGREGYN TO TAI'R MEIBION IMPROVEMENT ADVANCE WORKS (G2424)

PROJECT DESIGN FOR AN ASSESSMENT OF POTENTIAL FOR ANALYSIS: MAP2 PHASE 3

Prepared for

Ymgynghoriaeth Gwynedd Consultancy

May 2017

Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust

A55(T) ABERGWYNGREGYN TO TAI'R MEIBION IMPROVEMENT ADVANCE WORKS

PROJECT DESIGN FOR AN ASSESSMENT OF POTENTIAL FOR ANALYSIS:

MAP2 PHASE 3

Prepared for Ymgynghoriaeth Gwynedd Consultantcy, May 2017

Contents

All GAT staff should sign their copy to confirm the project design is read and understood and retain a copy of the specification for the duration of their involvement in this phase. On completion, the specification should be retained with the project archive:

Name	Signature	Date

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Ymgynghoriaeth Gwynedd Consultancy to complete a post-excavation Assessment of Potential for Analysis (MAP2 Phase 3). This follows a programme of archaeological assessment, evaluation and watching brief undertaken during the A55(T) along a 2.2km road upgrade between Junction 12 (NGR SH62977173) and Junction 13 (NGR SH65067263). The post-excavation Assessment of Potential for Analysis will be undertaken in response to the identification of suspected prehistoric archaeological activity within Field 5 whilst translocating/planting hedges in between Tai'r Meibion an The Old School (Figure 01).

The post-excavation will be undertaken as a phased process in accordance with guidelines specified in *Management of Archaeological Projects – MAP2* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (Historic England 2015). Five project phases are specified in *MAP2* (English Heritage, 1991):

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

The current design specifically relates to the assessment of recovered artefacts and ecofacts (MAP2 Phase 3). The proposed methodology and nominated specialists are noted in Sections 3.1 and 3.2. Subsequent analysis, dating, report preparation and dissemination will be undertaken as part of MAP2 Phases 4 and 5.

Reference has also been made to the following guidelines:

- Campbell, G., Moffett, L. and Straker, V., 2011. *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation* (2nd edition). Historic England.
- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for Archaeological Watching Brief* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2009 and 2014).

- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists, 2008 and 2014).
- *Royal Commission for Ancient and Historic Monumnets Wales Guidelines for Digital Archives Version 1*

1.1 Aims and Objectives

In accordance with the Chartered Institute for Archaeologists *Standards and Guidance*, the archaeological watching brief was undertaken as a formal programme of observation and investigation during groundworks to identify any archaeological remains. The key aims were to:

- establish the extent to which archaeological remains survive at the site;
- establish the date and nature of archaeological remains at the site and assess their implications for understanding the historical development of the area; and
- establish the depth of archaeological remains and the quality, value and level of preservation of any deposits.

The aim of the post-excavation stage is to ensure appropriate assessment and analys is undertaken and that site records are studied, compiled and that a coherent report on the results is produced with appropriate illustrations. It also involves ensuring that site records, both paper and digital are in a format suitable for long term storage.

NB. All phases of this project are being monitored by the Gwynedd Archaeological Planning Services (GAPS). The content of this and any future project designs and reporting must be approved by GAPS.

2 ARCHAEOLOGICAL RESULTS

2.1 Desk Based Assessment

A heritage desk based assessment for the scheme was carried out by GAT in 2015. (McNichol, 2015: GAT Report 1258). Seven heritage assets are located within or close to the area affected by the Advance Works (Figure 1).

Four historic building assets were not directly physically affected by the Advance Works:

- Asset Number 21, Grade II Listed Building at Tai'r-meibion (GAT PRN 30282; CADW LB 22968; SH6312271752)
- Asset Number 22, Grade II Listed Farm Buildings at Tai'r-meibion (CADW LB 22969; SH6313271694
- Asset Number 36, Cottages, Bryn Meddyg, Abergwyngregyn (GAT PRN 30286; SH6458772390); and
- Asset Number 39, The Old School, Abergwyngregyn (RCAHMW NPRN 41152; SH 6511972609).

Two archaeological assets were not directly physically affected by the Advance Works:

- Asset Number 23, Tai'r-meibion garden, Abergwyngregyn (RCAHMW NPRN 86479; SH6311671751);
- Asset number 37, Quarry at Bryn Meddyg (GAT PRN 20831; centred on SH6462172406).

One archaeological asset identified within the assessment may potentially be directly physically affected by the Advance Works:

- Asset Number 38, Coed Bryn Meddyg relict field system (RCAHMW NPRN 408179; centred on SH6479072400).

2.2 Comprehensive Watching Brief

An initial comprehensive watching brief was requested by Gwynedd Archaeological Planning Service for all stages of the Advance Works involving ground disturbance.

The watching brief was undertaken during intrusive groundworks associated with the upgrade, from 14th February 2017 to 25th July 2017.

A section of hedge plantation has still to be completed (Fields 1 to 4); the exact timetable is to be confirmed, but will be scheduled from September 2017. GAT will undertake a watching brief during these works and an additional report will be submitted on completion.

The monitored groundworks included:

- excavation of a drainage channel ditch and construction of an earth bund along the south side of the A55(T);
- site clearance necessary for that work;
- the provision of new fencing between the east side of the Tai'r Meibion cattle creep and the eastern end of the scheme at the boundary with The Old School, Abergwyngregyn;
- translocating/planting a hedge along this same length;
- the construction of the diverge and merge tapers for the new access to Glyn Farm (but not construction of the link to Bryn Meddyg), associated drainage, kerbing and a strip of carriageway construction to link it with the existing carriageway;
- the installation of a new 600mm diameter pipe under the A55(T) for Stream 8;
- the installation of a new 450mm diameter pipe across the field between the A55(T) and Roman Road just west of The Old School, Abergwyngregyn, tying in to the pipe for Stream 8; and
- the lining of Stream 8 downstream for approximately 200m as far as the existing culvert under the main access track to the farm's fields, and installing weirs at the discharge outfall to reduce erosion.

2.3 Watching Brief Results

2.3.1 Field 5

During the translocating of the hedges within Field 5 (NGR SH62287225)~~,~~ suspected prehistoric activity was encountered (Figure 01), comprising a pit with burnt stone (Pit [004]; Figure 02).

The pit had a single deposit of a loose charcoal rich fill (005), which was packed with burnt stone that appeared to have shattered due to prolonged heat exposure. The complete extent of the pit could not be established on the eastern trench edge, but appeared to be semi-circular with a diameter of 1.22m. The sides of the pit were steeply sloping with sharp breaks of slope; the base of the pit was flat. There was some staining on the natural at the base of

the pit which would suggest partial in-situ burning (Plates 1 and 2). Due to the possible prehistoric morphology of this feature, a complete environmental sample <01> was taken from the charcoal rich deposit of the pit, in order to recover possible ecofacts (i.e. datable charred remains, plant microfossils and relict artefacts).

3 METHODOLOGY - ASSESSMENT OF POTENTIAL FOR ANALYSIS: SPECIALIST ASSESSMENT

3.1 Ecofact Assessment

The primary aim of the ecofact assessment will be to recover charred macroplant remains for radiocarbon dating. The ecofact assessment will be limited to the following sample recovered from pit [04]:

Bulk Sample No.	Context No.	Context Description	Purpose of sample	No. of Box/Bag	% of Deposited Sample
<01>	(05)	Charcoal rich fill of pit [04]	Datable material, Plant Macrofossils, Artefacts	4 box	100

The ecofact assessment will be completed as a two stage process, based on the following methodology:

1. The bulk sample will be processed in house by GAT. This will consist of flotation and wet sieving using a 500 micron mesh to collect the residue (which collects more than the 1mm = 1000 micron), with the flot collected in a 250 micron mesh. After the initial process, the sample will be split and sorted into three types, coarse, fine and flot. After the samples dry the fine residue will undergo the flotation process for a second time to acquire as much charcoal as possible for dating purposes. Due to the sample being moist and sometimes wet within its natural environment, this makes any required dating material such as charcoal heavy and will not float on the first attempt requiring it to be processed twice. After this process the residues will be sorted to recover artefacts and non-floating ecofacts. Once sorted the residues will be discarded. The flots will be weighed, catalogued and examined for charred macroplant remains.
2. Recovered charred macroplant will be sent for specialist assessment to AOC Archaeology. The charred macroplant will be sieved using a 4mm, 2mm and 1mm system of stack sieves and subsequently examined under magnification (x10 and up to x100). Macroplant identifications will be completed confirmed using modern reference material and seed atlases stored at AOC Edinburgh. Taxonomic and nomenclature for plants will be based on Stace, C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press. Charcoal fragments 4mm and larger

will be collected for species identification and recommendations will be made for any subsequent analysis and radiocarbon dating.

Any recommendations made for any subsequent analysis and radiocarbon dating will be defined in a MAP2 Phase 4 project design prepared by GAT.

3.2 Artefact Assessment

Artefact assessment will be limited to the artefacts recovered during the bulk sample process taken from sample <1> of the deposit (05) of pit [04] from Field 5 during the hedge translocation.

3.2.1 Field 5: Pit [04], Deposit (05)

Finds No.	Context No.	Material	Description
01	05	Burnt Stone	Heat-cracked stone

The burnt stone will be assessed by George Smith, a sepcilaist working on behalf of GAT, for form function and provenance

If relevant, any recommendation will be made for any further analysis as part if MAP2 Phase 4 project design prepared byn GAT. If any additional artefacts as a result

3.3 Reporting

Following completion of the stages outlined above, a MAP2 Phase 3 report will be produced incorporating the following:

1. Non-technical summary
2. Introduction
3. Background
4. Methodology (including specialist methodology)
5. Results of Ecofact Assessment
6. Results of Artefact Assessment
7. Conclusions and recommendations for further analysis (MAP2 Phase 4)
8. Sources Consulted
9. Appendix I – Approved Project Design
10. Appendix II – Ecofact Assessment Report
11. Appendix III – Artefact Assessment Reports

A full archive will also be prepared. A draft copy of the report will be sent to the regional curatorial archaeologist (GAPS) and to the client for review by **August 2017**. Once approved, a final report will be submitted to all parties as well as the Historic Environment Record; the archive will be sent to the *Royal Commission for Ancient and Historic Monuments Wales (RCAHMW)*.

The following dissemination will apply:

1. A digital report will be provided to GAPS (draft report then final report).

2. A paper report plus a digital report will be provided to the regional Historic Environment Record, Gwynedd Archaeological Trust; this will be submitted within six months of report completion (final report only).

3. A digital report and archive (including photographic and drawn) data will be provided to *RCAHMW* (final report only). Submission of digital information to the Royal Commission on the Ancient and Historical Monuments of Wales shall be undertaken in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. Digital information will include the photographic archive and associated metadata

4. A digital report(s) plus paper report(s) (if requested) will be provided to the client (draft report then final report).

5. It is proposed ultimately to publish a summary of the work in *Archaeology in Wales*, the journal for the Council of British Archaeology Wales. This will be undertaken as part of MAP2 Phase 5.

4 SOURCES CONSULTED

1. Chartered Institute for Archaeologists 2014 *Standards and Guidance for an Archaeological Watching Brief*.

2. English Heritage 1991 *Management of Archaeological Projects*.

3. English Heritage, 2011. *Environmental Archaeology: A guide to the theory and practice of methods, from sampling and recovery to post-excavation*, 2nd Edition;

4. Evans, R. 2015. *Penrhyn Castle Renewable Heating Scheme Archaeological Assessment*. GAT Report 1286.

5. Historic England, 2004. Human Bones from Archaeological Sites Guidelines for producing assessment documents and analytical reports

6. Historic England, 2015. *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide*

7. Leigh, D. and Watkinson, D. 1998. *First Aid for Finds: Practical Guide for Archaeologists*.

8. Leigh, D. and Watkinson, D. 2001. *UK Institute for Conservation: Excavated Artefacts and Conservation*.

9. McNichol D. 2015. *Abergwyngregyn to Tai'r Meibion Improvement: Desk Based Assessment Report*. GAT Report 1258.

10. Royal Commission on Ancient and Historic Monuments of Wales. 2015. *Guidelines for digital archives.*

11. Ryan-Young, C. 2017 *A55(T) Abergwyngredyn to Tai'r Meibion Improvement of Advanced Works: Archaeological Watching Brief.* GAT Report 1391.

location of pit [004]
NGR SH62287225

Gwynedd Archaeological Trust

Figure 1: Scheme extent and the location of assets in proximity to the Advance Works

Scheme footprint

27 Heritage Asset with number

8 Field number

N

Date: 12/10/2016

Author: NMC

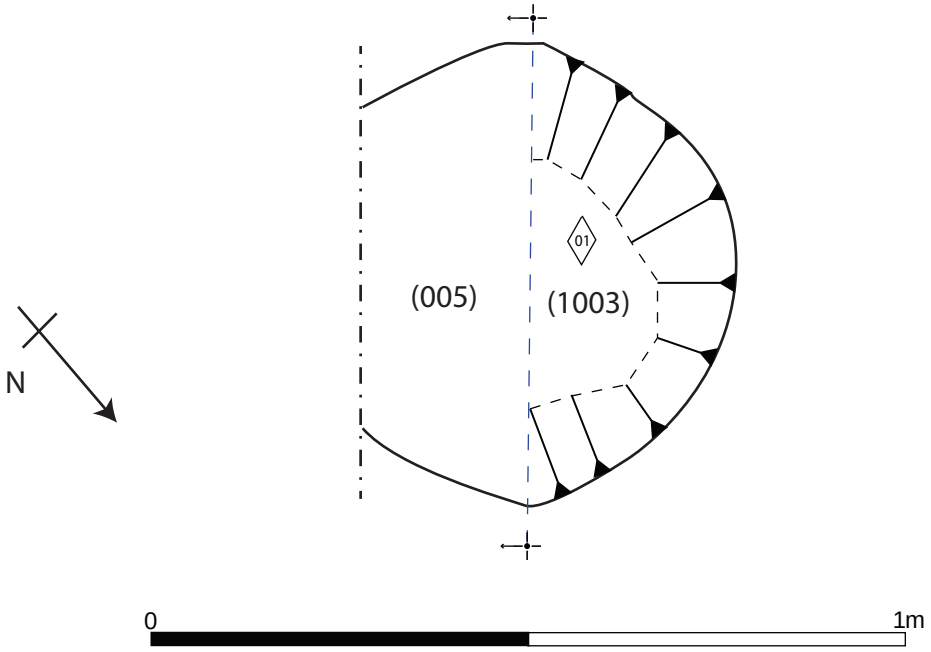
Office:

Drawing: G2424/AWPD/F01/R2

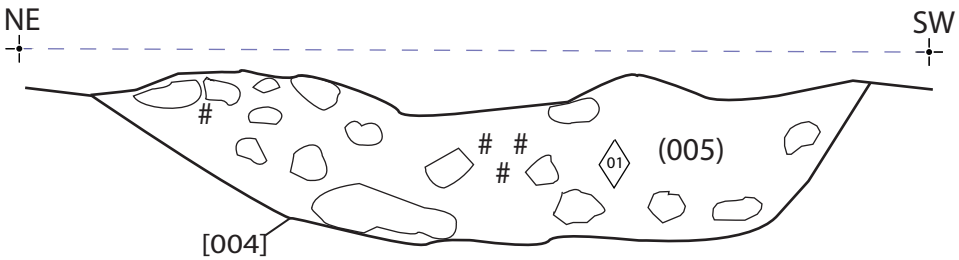
Scale: 1:10,000@A3

0 100 200 400 metres

Plan of Pit [004]
Scale 1:20@A4



NW Facing section through Pit [004]
Scale 1:10@A4



Gwynedd Archaeological Trust

Figure 02: Field 5
Plan and section through pit [004]

Charcoal

Stone

01 Sample number and location

25/05/2017
BMJ
GAT
G2424
1:20 / 1:10@A4

Plate 01: Burnt pit [004] in Field 5. View from NE. Scale 1x1m. (G2424_WB_2017_015).

Plate 02: NW facing section of burnt pit [004]. View from NW. Scale 1x1m. (G2424_WB_2017_016).

APPENDIX II

Gwynedd Archaeological Trust photographic metadata

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_001	A55 Tai'r Meibion	Access Point 2 - Site Compound		Pre-ex shot of field off Access Point 2.		W	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_002	A55 Tai'r Meibion	Access Point 2 - Site Compound		Pre-ex shot of field off Access Point 2.		SE	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_003	A55 Tai'r Meibion	Access Point 2 - Site Compound		Pre-ex shot of field off Access Point 2, along slate fence.		S	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_004	A55 Tai'r Meibion	Access Point 2 - Site Compound		Pre-ex shot of field off Access Point 2.		SW	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_005	A55 Tai'r Meibion	Access Point 2 - Site Compound		Start of topsoil strip of bell-mouth off Access Point 2.		W	1x1m	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_006	A55 Tai'r Meibion	Access Point 2 - Site Compound		Subsoil strip of bell-mouth off Access Point 2.		W	1x1m	14.02.2017	Stuart Reilly	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_007	A55 Tai'r Meibion	Access Point 2 - Site Compound		Subsoil strip of bell-mouth and site compiund at Access Point 2.		SW	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_008	A55 Tai'r Meibion	Access Point 2 - Site Compound		Top/subsoil strip of compound, along eastern edge.		SW	-	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_009	A55 Tai'r Meibion	Access Point 2 - Site Compound		Depth of top/subsoil along southern edge of strip.		NW	1x1m	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_010	A55 Tai'r Meibion	Access Point 2 - Site Compound		General view of site compound stripped.		S	1x1m	14.02.2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_011	A55 Tai'r Meibion	Access Point 2 - Site Compound		Depth of top/subsoil along nothern edge of strip.		S	1x1m	14.02.2017	Stuart Reilly	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_012	A55 Tai'r Meibion	Field 5		Remains of stone land drain running NW-SE		SE	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_013	A55 Tai'r Meibion	Field 5		Remains of stone land drain running NW-SE		NE	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_014	A55 Tai'r Meibion	Field 5		Trench for hedgerow replanting		NE	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_015	A55 Tai'r Meibion	Field 5	71129	Burnt pit [004]	[004] (005)	NE	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_016	A55 Tai'r Meibion	Field 5	71129	NW facing section of burnt pit [004]	[004] (005)	NW	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_017	A55 Tai'r Meibion	Field 5	71129	NW facing section of burnt pit [004]	[004] (005)	NW	1x1m	20/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_018	A55 Tai'r Meibion	Field 6		'Slip road' to NE of compound - topsoil strip		SW	1x1m	21/02/2017	Carol Ryan Young	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_019	A55 Tai'r Meibion	Field 6		'Slip road' to SW of compound - topsoil strip		NE	1x1m	21/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_020	A55 Tai'r Meibion	Field 6		'Slip road' to SW of compound - topsoil strip		NW	1x1m	21/02/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_021	A55 Tai'r Meibion	Field 6		Strip to Natural in area NE of compound - field 6		SW	1x1m	03/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_022	A55 Tai'r Meibion	Field 8		Trench for hedge relocation Field 8 SW end		NE	1x1m	09/03/2017	Carol Ryan Young	GAT	19
45245	G2424_WB_2017_023	A55 Tai'r Meibion	Field 8		Translocated hedge field 8 NE end		SW	1x1m	09/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_024	A55 Tai'r Meibion	Field 8		Backfilled trench after Morrison Utilities		SW	1x1m	09/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_025	A55 Tai'r Meibion	Field 6		Trench for hedge under power line		SW	1x1m	10/03/2017	Carol Ryan Young	GAT	18

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_026	A55 Tai'r Meibion	Field 7		Hedge in new location in field 7 (from field 6)		NE	-	10/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_027	A55 Tai'r Meibion	Field 5		Trench dug over gas main		NE	1x1m	14/03/2017	Carol Ryan Young	GAT	15
45245	G2424_WB_2017_028	A55 Tai'r Meibion	Field 8		Slate topped culvert	[006]	SW	1x1m	28/03/2017	Carol Ryan Young	GAT	14
45245	G2424_WB_2017_029	A55 Tai'r Meibion	Field 8		Stripped area for 'V' ditching		NE	1x1m	30/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_030	A55 Tai'r Meibion	Field 8		Stripped area for 'V' ditching		NE	1x1m	31/03/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_031	A55 Tai'r Meibion	Field 8		Stripped area for 'V' ditching		NE	1x1m	31/03/2017	Carol Ryan Young	GAT	13
45245	G2424_WB_2017_032	A55 Tai'r Meibion	Field 7		Stripped area for 'V' ditching		NE	1x1m	31/03/2017	Carol Ryan Young	GAT	09
45245	G2424_WB_2017_033	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_034	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_035	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	25
45245	G2424_WB_2017_036	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_037	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_038	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		SW	1x1m	03/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_039	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road		NE	1x1m	03/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_040	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_041	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_042	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_043	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_044	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	26

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_045	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_046	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_047	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_048	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_049	A55 Tai'r Meibion	Field 2		Topsoil strip for new haul road - working NW-SE (from next to A55 upwards)		NW	1x1m	04/04/2017	Michael Sion Lynes	GAT	
45245	G2424_WB_2017_050	A55 Tai'r Meibion	Field 7		'V' Ditch at SW of field 7		SW	1x1m	11/04/2017	Carol Ryan Young	GAT	10
45245	G2424_WB_2017_051	A55 Tai'r Meibion	Field 7		'V' Ditch in Field 7		NE	1x1m	11/04/2017	Carol Ryan Young	GAT	11
45245	G2424_WB_2017_052	A55 Tai'r Meibion	Field 7		Culvert halfway down field 7		NW	1x1m	11/04/2017	Carol Ryan Young	GAT	12
45245	G2424_WB_2017_053	A55 Tai'r Meibion	Field 6		'V' Ditch in field 6		SW	-	18/04/2017	Carol Ryan Young	GAT	06
45245	G2424_WB_2017_054	A55 Tai'r Meibion	Field 5		'V' Ditching		NE	1x1m	25/04/2017	Carol Ryan Young	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_055	A55 Tai'r Meibion	Field 4		40m 'V' Ditch at the NE end of field 4		SW	1x1m	26/04/2017	Carol Ryan Young	GAT	04
45245	G2424_WB_2017_056	A55 Tai'r Meibion	Field 2		'V' Ditching		NE	1x1m	02/05/2017	Carol Ryan Young	GAT	02
45245	G2424_WB_2017_057	A55 Tai'r Meibion	Field 3		'V' Ditching		SW	1x1m	03/05/2017	Carol Ryan Young	GAT	03
45245	G2424_WB_2017_058	A55 Tai'r Meibion	Field 1		'V' Ditching		SW	1x1m	04/05/2017	Carol Ryan Young	GAT	01
45245	G2424_WB_2017_059	A55 Tai'r Meibion	Field 2		Excavation of manhole and access pit for dig under A55		W	-	09/05/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_060	A55 Tai'r Meibion	Field 2		Excavation of manhole and access pit for dig under A55		S	-	09/05/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_061	A55 Tai'r Meibion	Field 2		Excavation of manhole and access pit for dig under A55		S	-	09/05/2017	Carol Ryan Young	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_062	A55 Tai'r Meibion	Field 4		'V' ditching in field 4 adjacent to the compound - made ground		S	1x1m	17/05/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_063	A55 Tai'r Meibion	Field 8		Final 10m of ditching at the NW end of field 8		SE	1x1m	01/06/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_064	A55 Tai'r Meibion	Field 7		Final section of ditching an trench for pipe at SE end of field 7 into watercoarse		NW	1x1m	01/06/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_065	A55 Tai'r Meibion	Field 9		Excavation of reception pit for dig under A55		W	1x1m	05/06/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_066	A55 Tai'r Meibion	Field 6		Ditch and pit for headwall to connect to existing drain		SW	1x1m	06/06/2017	Carol Ryan Young	GAT	
45245	G2424_WB_2017_067	A55 Tai'r Meibion	Field 6		Slate topped culvert structure [007]	[007]	N	1x1m	06/06/2017	Carol Ryan Young	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_068	A55 Tai'r Meibion	Field 9		Pre-ex shot of 'gully' location along the access track, Field 9		NNW	1x1m	25/07/2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_069	A55 Tai'r Meibion	Field 9		Pre-ex shot of access track in Field 9 prior to excavation of gully		SSE	1x1m	25/07/2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_070	A55 Tai'r Meibion	Field 9		Excavation of gully		NNW	-	25/07/2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_071	A55 Tai'r Meibion	Field 9		SSE face of upcast material being excavated for gully		SSE	1x1m	25/07/2017	Stuart Reilly	GAT	
45245	G2424_WB_2017_072	A55 Tai'r Meibion	Field 4		Photo of works area in Field 4 (beside former compound)		SW	1x1m	23/01/2018	Stuart Reilly	GAT	
45245	G2424_WB_2017_073	A55 Tai'r Meibion	Field 4		Excavated tree hole		S	1x1m	23/01/2018	Stuart Reilly	GAT	

Event PRN	File reference	Project name	Site sub-division	PRN	Description	Contexts	View from	Scale (s)	Date	Originating person	Originating organisation	Plate
45245	G2424_WB_2017_074	A55 Tai'r Meibion	Field 4		Excavated tree hole beside gully		S	1x1m	23/01/2018	Stuart Reilly	GAT	
45245	G2424_WB_2017_075	A55 Tai'r Meibion	Field 4		Works area, alongside former compound		NE	1x1m	23/01/2018	Stuart Reilly	GAT	
45245	G2424_WB_2017_076	A55 Tai'r Meibion	Field 4		Eastern edge of Field 4		SW	1x1m	23/01/2018	Stuart Reilly	GAT	
45245	G2424_WB_2017_077	A55 Tai'r Meibion	Field 4		Eastern edge of Field 4 showing upcast material		NE	1x1m	23/01/2018	Stuart Reilly	GAT	

APPENDIX III

Gwynedd Archaeological Trust context metadata

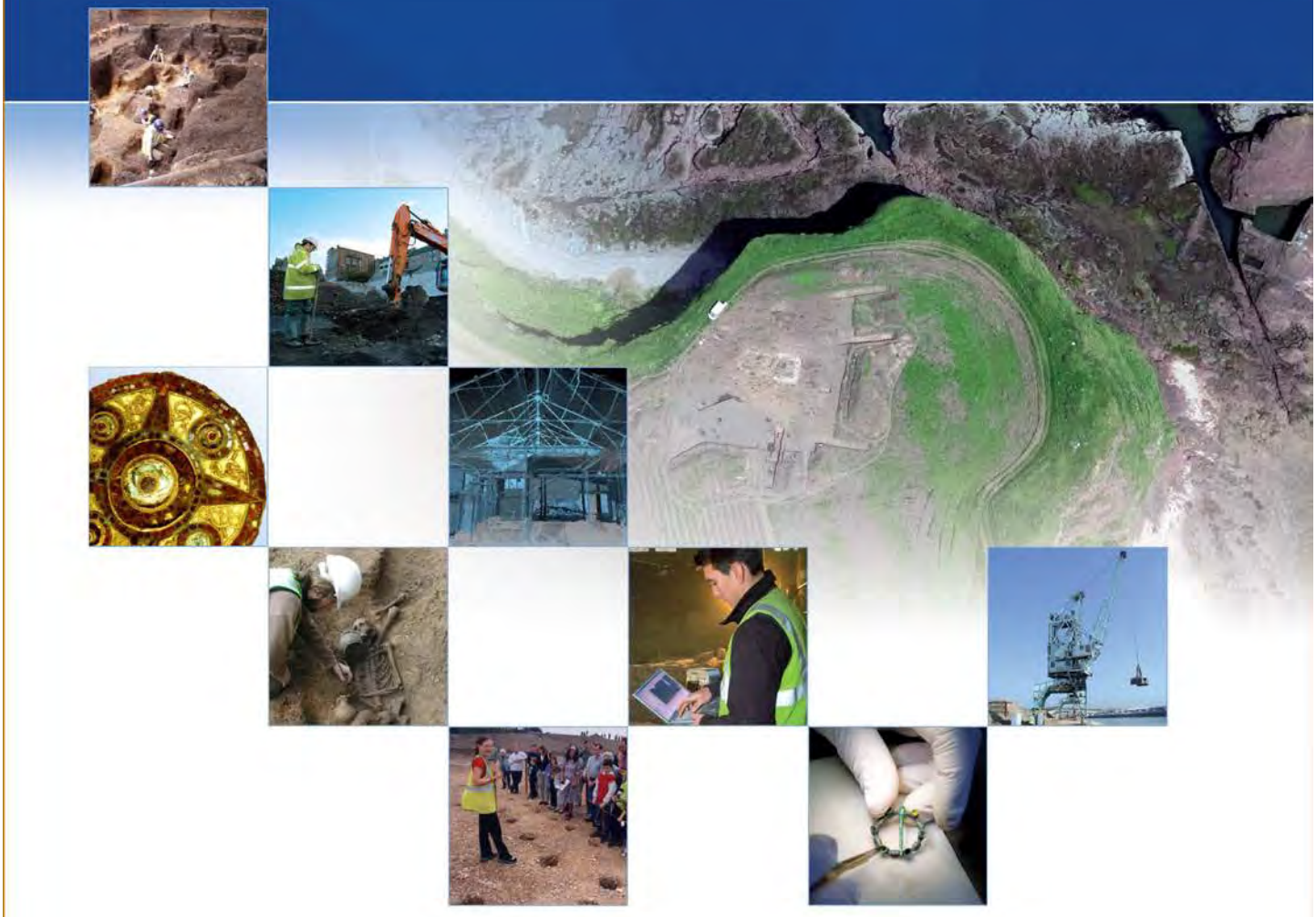
Context No.	Type	Description	Length	Breadth	Diameter	Depth/Height	Interpretation
001	Deposit	Topsoil: mid-brown silty/sandy clay	n/a	n/a	n/a	average depth of 0.27m	n/a
002	Deposit	Subsoil: mid-brown silty clay	n/a	n/a	n/a	average depth of 0.41m	n/a
003	Deposit	Glacial: yellow sandy clay	n/a	n/a	n/a	n/a	n/a
004	Cut	sub-citcular pit	1.00m	1.22m	1.22m	0.20m	prehistoric
005	Fill	Pit fill	1.00m	1.22m	1.22m	0.20m	prehistoric
006	structure	slate-topped culvert	2.50m	1.00m	n/a	0.30m	post-medieval
007	structure	slate-topped culvert	1.00m	0.72m	n/a	0.53m	post-medieval

APPENDIX IV

AOC Archaeology Group Ecofact Assessment Report

Tai'r Meirion

AOC Project no: 24153
Site Code: G2424
Date: 06TH Dec 2017



AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

Tai'r Meirion

On Behalf of: Gwynedd Archaeological Trust (GAT)

National Grid Reference (NGR):

AOC Project No: 24153

Prepared by: Jackaline Robertson

Illustration by: N/A

Date of Fieldwork:

Date of Report: 06TH Dec 2017

This document has been prepared in accordance with AOC standard operating procedures.

Author: Jackaline Robertson **Date: 06 12 2017**
Approved by: Ciara Clarke **Date: 07 12 2017**
Final Report Stage:

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www.aocarchaeology.com

Factual data

A single flot was submitted for environmental analysis from Gwynedd Archaeological Trust from the excavation undertaken at Tai'r Meirion. The sample was collected from a pit believed to date to the pre-historic period. The aim of this assessment was to recover all environmental evidence and assess its potential for providing accurate radiocarbon dates for this feature.

Methodology

The flot was sieved using a 4mm, 2mm and 1mm system of stack sieves. The sieved fractions were analysed using a low power microscope. Macrofossil and charcoal remains were examined at magnifications of x10 and up to x100 where necessary. Charcoal fragments larger than 4mm were collected for species identification. A maximum of 20 charcoal fragments were selected for further analysis.

Results

The results are recorded below in table 1 the charcoal species

Table 1 the charcoal species

Sample	Context	Species	Name	No	Weight (g)
1	5	*Corylus avellana* L.	Hazel	1	
1	5	*Fraxinus* sp.	Ash	18	
1	5	*Maloideae*/*Sorbus* sp.	Apple/pear/hawthorn/quince/rowan	1	114.8

The charcoal assemblage

Ecofacts recorded within context [005] comprised charcoal fragments which totalled 114.8g. The species identified were hazel (*Corylus avellane* L), ash (*Fraxinus* sp) and apple/pear/hawthorn/quince/rowan (*Maloideae*/*Sorbus* sp). The predominant species was ash which accounted for 80% followed by hazel 10% and apple/pear/hawthorn/quince/rowan 10%. The preservation of these fragments ranged from poor to adequate. Many fragments within the assemblage were either friable or partly vitrified and this at times made identification difficult.

The presence of mixed remains within a single feature is usually indicative of fuel debris, but given the large quantity of ash it is possible that a small discrete structural element such as a post or stake was burnt *in situ*. The absence of any domestic food debris such as cereal remains suggests that domestic cooking waste from hearths was not disposed of within this feature.

Modern Contamination

Modern contamination was noted in the form of roots, insect remains, leaf fragments, seeds and two pieces of plastic. There is no evidence that the archaeological security of this feature has been significantly undermined by the presence of these modern remains.

Recommendations

If required for dating the charcoal fragments recovered from [005] are all suitable.

AOC Archaeology Group

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tel: 0131 440 3593 | **fax:** 0131 440 3422 | **e-mail:** edinburgh@aocarchaeology.com

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APPENDIX V

Scottish Universities Environmental Research Centre Radiocarbon Dating Results

Scottish Universities Environmental Research Centre
Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK
Director: Professor F M Stuart Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

RADIOCARBON DATING CERTIFICATE

03 May 2018

Laboratory Code	SUERC-79319 (GU47412)
Submitter	Bethan Jones Gwynedd Archaeological Trust Craig Beuno Garth Road Gwynedd LL57 2RT
Site Reference	G2424: A55 Tai'r Meibion
Context Reference	5
Sample Reference	<01>
Material	Charcoal : Hazel (Corylus avellana L.)
$\delta^{13}C$ relative to VPDB	-26.5 ‰
Radiocarbon Age BP	3888 ± 32

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.

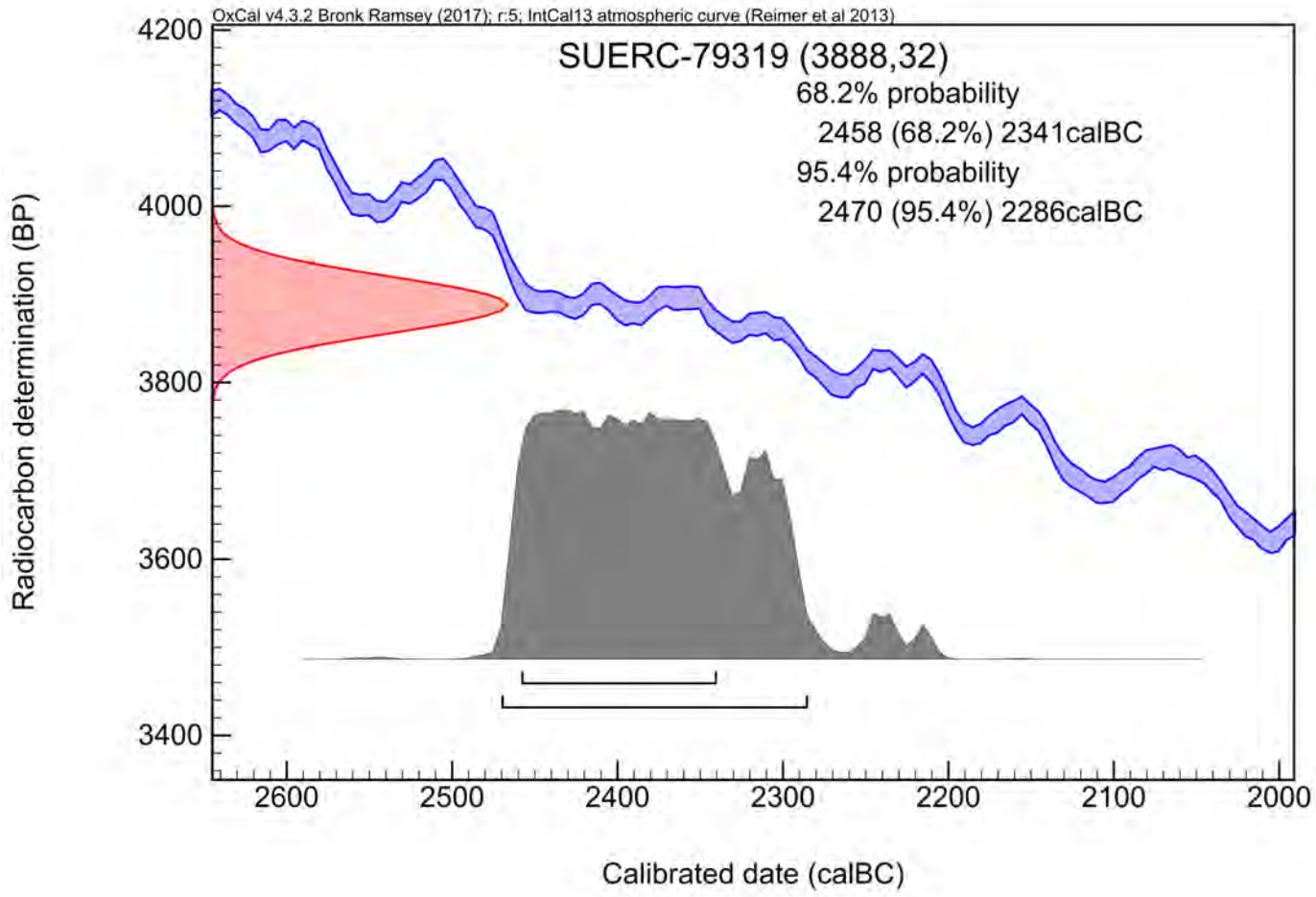
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

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 : P. Nayont



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 IntCal13 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. (2013) *Radiocarbon 55(4) pp.1869-87*

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RADIOCARBON DATING CERTIFICATE

03 May 2018

Laboratory Code	SUERC-79320 (GU47413)
Submitter	Bethan Jones Gwynedd Archaeological Trust Craig Beuno Garth Road Gwynedd LL57 2RT
Site Reference	G2424: A55 Tai'r Meibion
Context Reference	5
Sample Reference	<01>
Material	Charcoal : Ash (Fraxinus sp.)
$\delta^{13}C$ relative to VPDB	-25.6 ‰
Radiocarbon Age BP	3895 ± 32

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 Scottish Universities Environmental Research Centre AMS Facility 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.*

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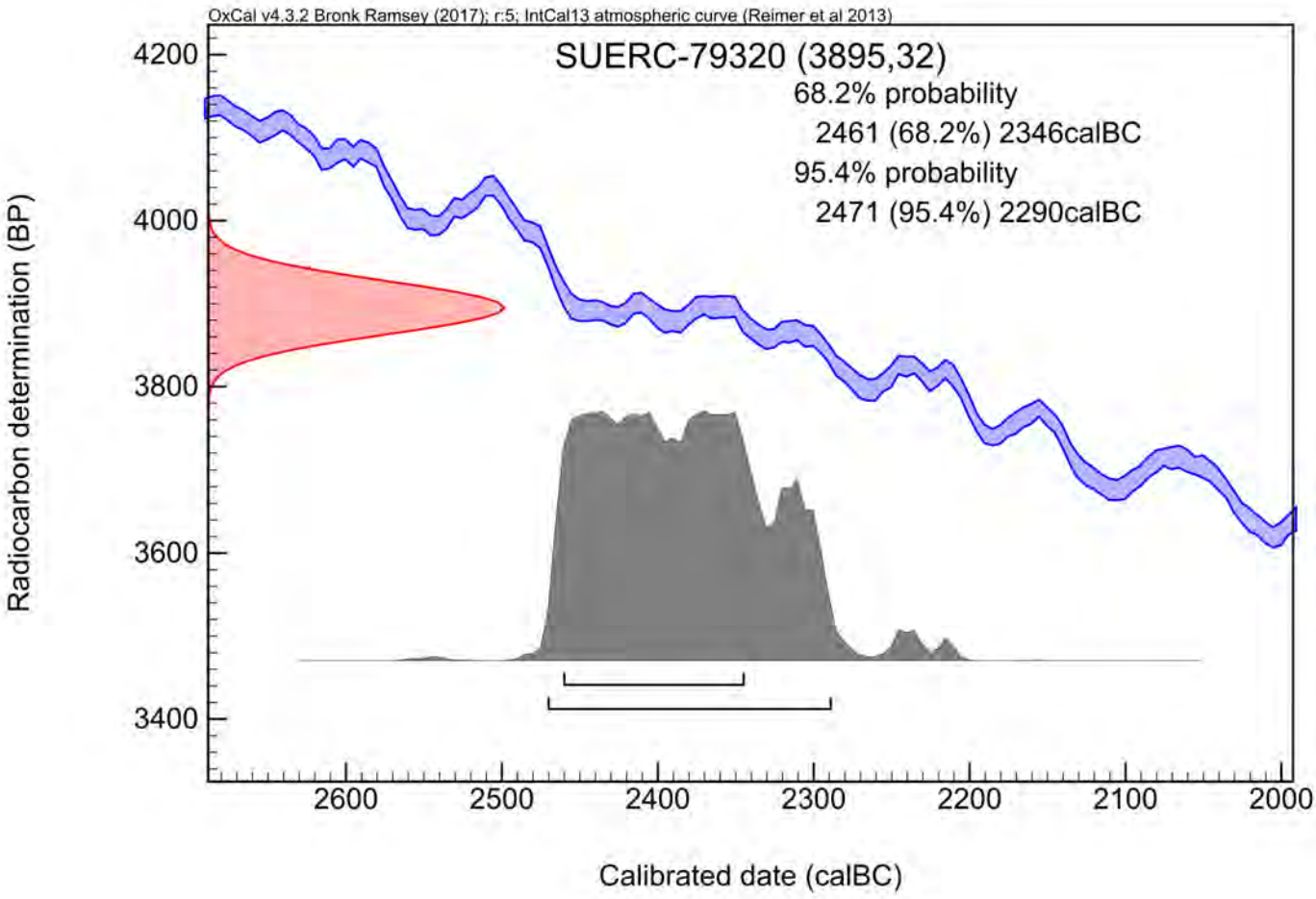
Conventional age and calibration age ranges calculated by : E. Dunbar

Checked and signed off by : P. Nayont



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 IntCal13 atmospheric calibration curve†

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