LLWYBR TEGID: LLANUWCHLLYN TO GLANLLYN CYCLE ROUTE

MAP2 Phase 3: Assessment of Potential for Analysis

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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MAP2 Phase 3: Assessment of Potential for Analysis

Prosiect Rhif / Project No. G2255

Adroddiad Rhif / Report No.1393

Prepared for: YMGYNGHORIAETH GWYNEDD CONSULTANCY

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Cyhoeddwyd gan Ymddiriedolaeth Achaeolegol Gwynedd
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Craig Beuno, Garth Road,
Bangor, Gwynedd, LL57 2RT

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NON-TECHNICAL SUMMARY

An assessment of the potential for analysis (MAP2 Phase 3) has been completed by Gwynedd Archaeological Trust for the artefact and ecofact assemblages recovered during the archaeological mitigation for the Llwybr Tegid cycle path. A section of the Caersws to Caer Gai Roman road was identified during the mitigation and the ecofact and artefact assemblages were recovered from contexts associated with the Roman road, a later drainage ditch, a gully, a posthole and the overlying subsoil. The artefacts included fragments of pottery, ceramic building material, glass, iron nails, worked lead and worked stone and were of Roman origin associated with the Caer Gai fort to the north, which was garrisoned between 75AD and 130AD. The ecofacts included charcoal from fuel debris and hazelnut shell; material suitable for dating was recovered from the Roman road ditch, posthole and gully.

Further analysis of the pottery, ceramic building material, glass, and worked stone are not recommended, but recommendations are made for the specialist analysis of the iron nails and worked lead, and for the radiocarbon dating of the suitable charcoal and macroplants.

The analysis and dating will be completed as part of MAP2 Phase 4. The results will be synthesised into a report that will also contextualise the results from MAP2 Phase 3, and determine their relationship to existing information from Caer Gai and current research aims from this period.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was commissioned by Ymgynhoriaeth Gwynedd Consultancy (YGC) to undertake archaeological mitigation during the construction of the Llwybr Tegid cycle path. The path measured 2.2km in length and ran through a series of fields to the south of the A494 road between Glanllyn (NGR SH88753184) and Llanuwchllyn (NGR SH87193068) in Gwynedd (cf. Figure 01). The mitigation was preceded by an archaeological assessment completed in 2012 (GAT Report 1055), which concluded that the cycle path would likely cross the former route of the Caersws to Caer Gai Roman road (RR642).

The archaeological mitigation was completed between February and March 2014 and comprised a watching brief along the route of the cycle path during groundworks, and a controlled strip of a designated area where the cycle path route was expected to cross the Roman road. No significant archaeological activity was identified during the course of the watching brief, but the controlled strip identified the remains of the Roman road, associated ditches and later activity. Based on the results of the mitigation, recommendations were made for the post excavation assessment and analysis of the recovered ecofacts and artefacts from the Roman road and associated features.

The project is being monitored by the Snowdonia National Park Archaeologist (SNPA) and the 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)

The post-excavation programme is being 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 (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 of the potential for analysis of recovered artefacts and ecofacts (MAP2 Phase 3). Subsequent analysis, dating, report preparation and dissemination will be undertaken as part of MAP2 Phases 4 and 5.

The archaeological mitigation and post-excavation has been 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).

2 FIELDWORK RESULTS

2.1 Watching Brief

The watching brief monitored the groundworks for the cycle scheme along the majority of the route and commenced near New Inn at the western end of the scheme (NGR SH87263084), and continued eastwards to the small hamlet at Gwern y Lon (NGR SH88293168), a total distance of approximately 1.4km (Figure 01). The width excavated did not exceed 2.0m and the depth did not usually exceed 0.20m, although on crossing field boundaries at times this depth was exceeded. The work involved removing the grass and topsoil and levelling the subsoil to provide an even surface for the stone foundation used for the cycle/pedestrian pathway.

No archaeological features were discovered along the watching brief element of the route. Modern and Victorian pottery was found in a number of areas, which was noted on the recording sheets, but not retained. Drains and culverts associated either with the A494 or field boundaries were photographically recorded. A photographic and written record was maintained.

2.2 Controlled Strip

The controlled strip was located between NGR SH87813122 and SH87963127, a total distance of 170m (Figure 01; Figure 02). The purpose of the controlled strip was to establish the presence of the Caersws to Caer Gai Roman road (RR642) at subsurface level within the confines of the cycle route. The width of the controlled strip measured 2.0m.

The Roman road was identified at NGR SH87943126 and included a road surface (agger) and associated drainage ditches; there was also evidence of a later ditch, a posthole and a gully.

Thirty metres to the west of the Roman road the controlled strip identified the presence of a 5m wide shallow spread of fragmented slates. This was noted on the recording sheets as a modern feature, most likely associated with repairs to the sub-surface of the A494.

2.2.1 Roman road (PRN 17793; RR642)

The upper surface of the road agger was cleaned with the mechanical excavator to just above the archaeological levels. The extent of the road, including the roadside ditches and the gully parallel to the western side was then cleaned and recorded. In order to examine the construction of the road, a slot 1.0m wide was excavated along the southern edge of the controlled strip through the road and associated and associated features (Figure 03). The

spoil was sorted to identify any artefacts that might have been missed during the excavation process. Individual archaeological context numbers were allocated to all layers/deposits/ditch cuts and fills.

The Roman road measured 3.0m in width and included a road surface (agger (012)) and a foundation layer (015); two drainage ditches ran parallel to the road on the western and eastern side respectively(Contexts [007] and [014]) (Figure 03). The eastern ditch was truncated by a later ditch [003], with only a small section remaining at the southern edge, which contained a single fill (005). The western ditch [007] was intact, with a width of 1.2m and depth of 0.32m and contained three fills: (011), (009) and (008) respectively. The agger was found to be only 0.15m deep, although there is evidence that some of this material had been disturbed and spread over the backfilled ditches and beyond (the displaced agger was given a separate context number: (013).

The eastern side of the road was truncated by a later ditch [003] (Figure 03). The ditch was 2.7m wide and 0.7m deep and contained three fills, (010), (006) and (004), all of which contained Roman artefacts. The upper fill (004) also contained displaced agger (013). The ditch may have been used as a drainage channel, possibly associated with later activity at the fort.

The western roadside ditch had a small post-hole cut into the inner edge [016], which had a diameter of 0.35m and depth of 0.28m, and was filled with a single deposit (017) (Figure 03; Figure 04). The cut for the post-hole could be seen in the upper fill of roadside ditch [007], and therefore must post-date the ditch. The fill was totally excavated by hand, no finds were recovered therefore a sample was taken of fill (017) to try and establish a date for the ditch (#2).

A shallow linear gully [018] with a north-south orientation was identified to the west of the western roadside ditch. The ditch measured 0.5m wide and 0.19m deep (Figure 03) and was filled by a single deposit (019). No datable artefacts were recovered.

3 RESULTS

3.1 Ecofact Assessment

The aim of the ecofact assemblage comprised:

- A 100% bulk sample was recovered from the primary fill of roadside ditch [007], comprising one 10 litre bucket;
- A 100% bulk sample was recovered from the fill (017) of a posthole [016] comprising one 10 litre bucket. This had been cut through roadside ditch [007];
- A 5% sample, comprising one 10 litre bucket, was recovered from the primary fill (019) of roadside ditch [018].

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 residues have been sorted to recover artefacts and non-floating ecofacts. Once sorted the residues will be discarded. The flots have been weighed, catalogued and examined for charred macroplant remains.
2. Recovered charred macroplant was sent for specialist assessment to AOC Archaeology. The charred macroplant 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 27 fragments of charcoal, weighing 54.7g; the dominant species was birch (*Betula* sp), followed by oak (*Quercus* sp), alder (*Alnus glutinosa* L), elm and hazel (*Corylus avellana* L). The charcoal was mostly from the primary fill of the Roman road ditch (east side) [003], with smaller amounts (0.9g and 0.7g) from the posthole and shallow linear ditch, respectively. There was no evidence for worked wood in any example and all samples represented mixed wood fuel debris. Macroplant evidence was limited to hazelnut shell fragments (0.1g) from the roadside ditch fill and were interpreted as food refuse, possibly reused as material for kindling. The assessment suggested that the large concentration of

charcoal within the primary ditch fill along with a smaller number of hazelnut shell fragments, probably derived from the deliberate disposal of fuel and food waste, whilst the charcoal from the posthole and shallow ditch could have been re-deposited or reworked into these two features.

The assessment recommended the alder, birch, elm, hazel charcoal and hazelnut shell as suitable for radiocarbon dating.

A copy of the assessment report by AOC Archaeology is included in Appendix III.

3.2 Artefact Assessment: Ceramic building material (CBM)

The Ceramic building material (CBM) was assessed by Gill Dunn, based at Grosvenor Museum Chester, and comprised 107 fragments from the following contexts:

Finds No.	Context No.	Context	Material	Description	Weight (g)
01	(002)	Subsoil	CBM	29 fragments of very weathered in orange and orange/pink fabrics; one fragment of *tegula*	1606
02	(002)	Subsoil	CBM	21 fragments of very weathered in an orange fabric	1243
03	(010)	Drainage Ditch	CBM	7 fragments of orange fabric with red ironstone inclusions	142
04	(006)	Drainage Ditch	CBM	2 fragments very weathered in a red/orange fabric; one fragment of *tegula*	184
05	(005)	Roman Roadside Ditches	CBM	16 fragments very weathered fragments in an orange fabric; one fragment of *tegula*	1274
06	(009)	Roman Roadside Ditches	CBM	4 weathered fragments in an orange fabric	22
07	(008)	Roman Roadside Ditches	CBM	4 fragments of very weathered red/orange fabric	22
08	(004)	Drainage Ditch	CBM	24 fragments of very weathered orange/red fabric; one fragment of *tegula*	2272

The assessment concluded that the fragments were mostly an orange or orange/red fabric in a poor weathered condition, with many of the diagnostic surfaces worn away. Specific forms were difficult to identify but were generally brick or tile, with five examples of *tegulae* (flanged roof tiles). The lack of identifiable forms and the condition of the assemblage meant that it was not possible to assign a date to the material.

No recommendations were made for further analysis in the specialist report but it is recommended that the artefacts are accessioned to an appropriate archive; a copy of the assessment report is included in Appendix IV.

3.3 Artefact Assessment: Pottery

The pottery was assessed by Gill Dunn, based at Grosvenor Museum Chester, and comprised 15 sherds from the following contexts:

Finds no.	Context No.	Context	Description	Weight (g)
16	(002)	Subsoil	1 body sherd in a coarse orange fabric	6
17	(002)	Subsoil	1 fragment of pottery	15
18	(002)	Subsoil	1 fragment of pottery	10
19	(002)	Subsoil	1 Fragment of pottery	14
20	(004)	Drainage Ditch	1 body sherd in a fine pale orange fabric	67
21	(004)	Drainage Ditch	1 rim sherd of a coarse pale orange fabric	46
22	(005)	Roman Road Ditch (East Side)	Base sherd of black burnished ware	37
23	(005)	Roman Road Ditch (East Side)	1 sherd in a coarse orange fabric	8
24	(005)	Roman Road Ditch (East Side)	1 body sherd of an orange	15
25	(005)	Roman Road Ditch (East Side)	1 body sherd	84
26	(006)	Drainage Ditch	Base sherd of black burnished ware	6
27	(006)	Drainage Ditch	Body sherd of orange fabric	10
28	(006)	Drainage Ditch	Body sherd of orange vessel	13
29	(006)	Drainage Ditch	Body sherd of orange vessel	6
30	(006)	Drainage Ditch	Rim sherd	82
31	(006)	Drainage Ditch	Base sherd of black burnished ware	16
32	(010)	Drainage Ditch	Rim sherd, possibly samian	8

Finds no.	Context No.	Context	Description	Weight (g)
16	(002)	Subsoil	1 body sherd in a coarse orange fabric	6

The assessment identified a range of vessel forms including amphora, a dish, mortarium and bowl. The indeterminate body sherds were identified as possible storage jars and/or beakers. Find numbers 27, 28 and 29 were identified as the same fabric, possibly from the same vessel; find numbers 21 and 30 were from the same mortarium; find numbers 26 and 31 were black-burnished ware sherds from the same vessel.

The assessment concluded that the pottery had a date range of the late first to early second century with the black-burnished ware giving a *terminus post quem* of 120AD. A Dressel 20 amphora from the subsoil had a wide date range of the first to third century, but a closer date was not possible from a single body sherd.

No recommendations were made for further analysis in the specialist report but it is recommended that the artefacts are accessioned to an appropriate archive; a copy of the assessment report is included in Appendix V.

3.4 Artefact Assessment: Glass

A glass fragment was submitted to Hilary Cool of Barbican Research Associates for assessment. The aim of the assessment was to identify vessel function, type and date range, with a possibility of recommendations for further analysis. The fragment (Find Number 15) was recovered from the tertiary fill (008) of the western roadside ditch.

The glass fragment was of a blue/green hue weighing 7.8g, and measured 37 x 20 mm. The assessment report concluded that glass was from a “prismatic, most probably square, bottle… in common use from the later first century into the third century with their main *floruit* in the second century. These storage vessels are found on all types of Romano-British sites during that time, often in large quantities”.

No recommendations were made for further analysis in the specialist report but it is recommended that the artefacts are accessioned to an appropriate archive; a copy of the assessment report is included in Appendix VI.

3.5 Artefact Assessment: Metal

A total of five oxidised and degraded metal artefacts were sent to Phil Parkes, metallurgist and archaeological conservator, at Cardiff University for diagnostic X-ray and assessment. The artefacts were x-rayed using a Faxitron 43805 cabinet system and the X-ray films were digitised using an Array Corporation 2905 Laser Film Digitiser. The metal assemblage comprised of:

Finds No.	Context No.	Context	Material	Description	Weight (g)
10	(013)	Dispersed agger, overlies roadside ditches	Fe	Possible iron nails	5
11	(013)	Dispersed agger, overlies roadside ditches	Pb	Rolled/Folded lead object	11
12	(010)	Primary fill of Roman Road Ditch (East Side)	Fe	Possible iron nail	1
13	(002)	Subsoil	Pb	Lead Fragment	8
14	(008)	Upper fill of Roman Road Ditch (West Side)	Metal	Lump of corroded metal	26

The artefacts included iron nails, with flat round heads and square cross-sections tapering to a point, waste lead and a small piece of rolled/folded lead. Find number 14 (008) had no discernible shape and could not be identified further.

No recommendations were made for further analysis by Phil Parkes; however, it is possible the nails have diagnostic value and a specialist will be contacted for guidance. It is also recommended that the artefacts are accessioned to an appropriate archive once specialist analysis is complete. A copy of the X-ray report is included in Appendix VII.

3.6 Artefact Assessment: Worked Stone

Gwynedd Archaeological Trust completed the assessment of the worked stone recovered from context (004), the upper fill the Roman road ditch (east side). A petrological examination of the archaeological artefacts was undertaken following standard methodology detailed in British Standard EN 12407 (2007); initial observation was made with the naked eye followed by use of a x20 Gem-A lens.

The assessment aim was to establish origin and function, both in terms of petrology and use. The assessment observed characteristics to known lithologies both locally and regionally. It was determined that the artefact was a sedimentary rock and considered to be highly likely to have a local origin. It was sourced from the Nant Ffrancon Siltstones outcropping north-west and north-east of the eastern end of Llyn Tegid. Evidence of tooling and working was noted on the stone, suggestive of working into a building stone.

The report concluded that the stone was of local origin and that similar material was identified as being part of the stone wall which made up part of the Phase II defences Caer Gai Roman fort.

No recommendations were made for further analysis in the specialist report but it is recommended that the artefacts are accessioned to an appropriate archive. A photographic record of the worked stone will also be completed. A copy of the assessment report is included in Appendix VIII.

4 CONCLUSION AND RECOMMENDATIONS

An assessment of the potential for analysis (MAP2 Phase 3) has been completed for the artefact and ecofact assemblages recovered during the archaeological mitigation for the Llwybr Tegid cycle path. A section of the Caersws to Caer Gai Roman road (RR642) was identified during the mitigation and the ecofact and artefact assemblages were recovered from contexts associated with the road, a later drainage ditch, a gully, a posthole and the overlying subsoil.

The artefacts included fragments of pottery, ceramic building material, glass, metal and worked stone and were of Roman origin associated with the Caer Gai fort, 250m to the north. The pottery included sherds from an amphora, a dish, mortarium and a bowl; the black-burnished ware sherds provided a *terminus post quem* of 120AD. The glass was from a storage vessel in common use from the later first century into the third century, but with the main period of use in the second century. The ceramic building material included roof tile fragments and the metal included nails and worked lead. The single worked stone from the Roman road ditch (east side) was of local origin and was interpreted as part of the fort defences.

The ecofact assemblage was recovered from the primary fill of the Roman road ditch (west side), the posthole and the gully. The ecofact assessment identified charcoal from mixed wood fuel debris in all the features and charcoal suitable for dating was recovered from all contexts assessed.

The assessment of the potential for analysis phase identified activity associated with the occupation period of the Caer Gai Roman fort, which was garrisoned between 75AD and 130AD, primarily through the *terminus post quem* of the black-burnished ware. The ceramic building material and glass have provided a more general timeline and further analysis of these artefacts and the worked stone will not improve on this. It is possible the nails and worked lead may have diagnostic potential and further analysis by a specialist is recommended to confirm this. The submission of the charcoal/macroplants from the Roman road ditch, posthole and gully for radiocarbon dating are recommended, as this would provide date ranges for all three features. This is particularly important for the posthole and gully, as the posthole is currently the latest sequenced feature on site, cutting into the Roman road ditch, whilst the gully is an isolated feature, with an undetermined date range. The analysis of the iron nails and worked lead, and the radiocarbon dating of selected charcoal/macroplants, will be completed as part of MAP2 Phase 4. The results will be synthesised into a report that will also contextualise the results from MAP2 Phase 3, and

determine their relationship to existing information from Caer Gai and current research aims from this period.

It is recommended that all artefacts are accessioned to a suitable museum for archiving. A nominated museum will be confirmed as part of the MAP2 Phase 4 process.

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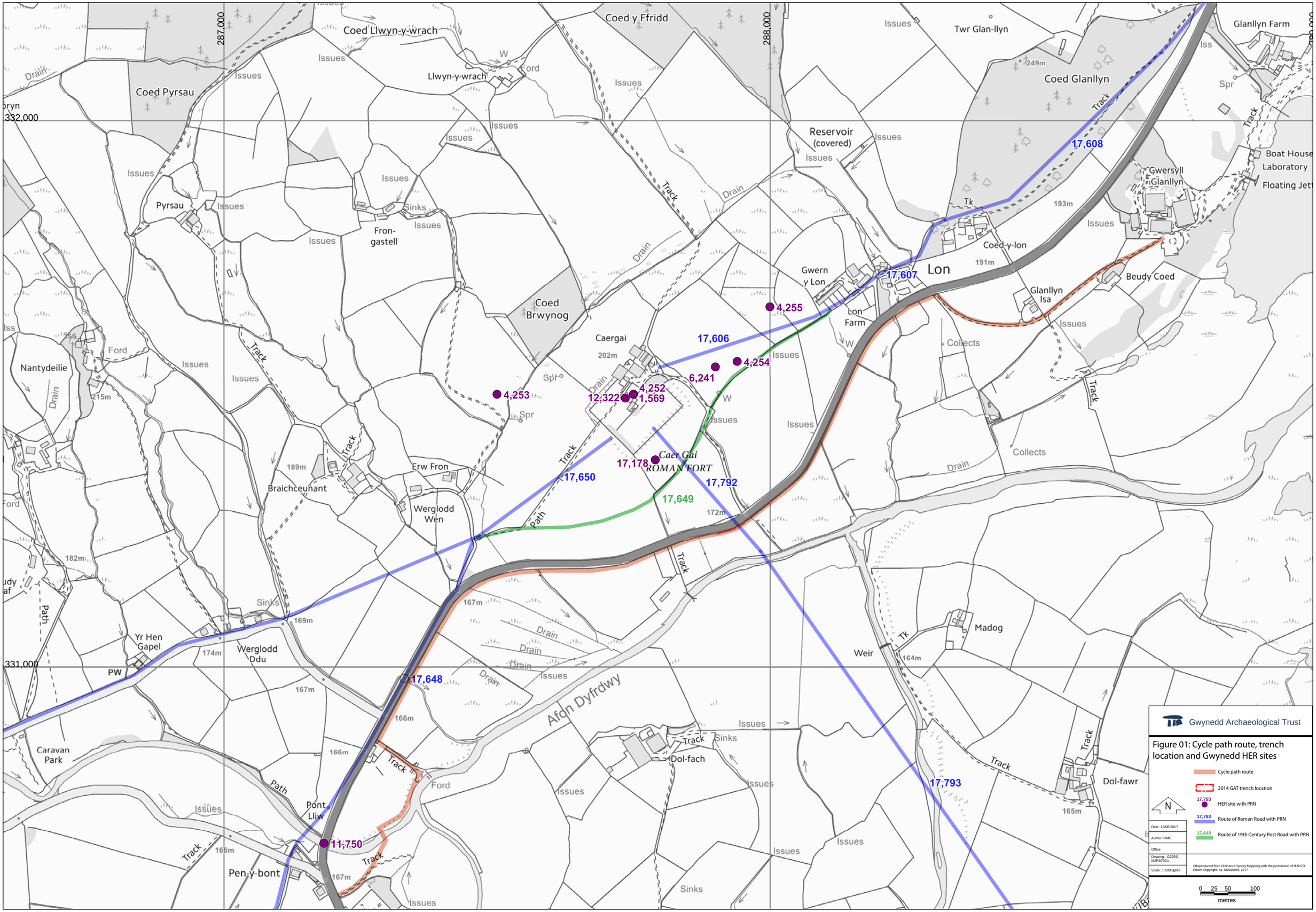
287,000
288,000
332,000
331,000
Coed Llwyn-y-wrach
Coed y Ffridd
Coed Pyrsau
Llwyn-y-wrach
Ford
Issues
Drain
Track
Pyrsau
Fron-
gastell
Sinks
Coed
Brwynog
Caergai
202m
Nantydeilie
215m
Braichceunant
189m
Erw Fron
Werglodd
Wen
Werglodd
Ddu
Yr Hen
Gapel
174m
182m
169m
167m
166m
Caravan
Park
Pont
Lliw
Pen-y-bont
Afon Dyfrdwy
Dol-fach
Reservoir
(covered)
Twr Glan-llyn
249m
Coed Glanllyn
Glanllyn Farm
Boat House
Laboratory
Floating Jetty
Gwersyll
Glanllyn
Tk
193m
Coed-y-lon
191m
Lon
Gwern
y Lon
Lon
Farm
Glanllyn
Isa
Beudy Coed
Collects
Madog
Weir
164m
Dol-fawr
165m
Caer Gai
ROMAN FORT
172m
PW
17,608
17,607
17,606
17,650
17,649
17,792
17,793
17,648
17,178
4,255
4,254
6,241
4,252
1,569
12,322
4,253
11,750
Gwynedd Archaeological Trust
Figure 01: Cycle path route, trench location and Gwynedd HER sites
Cycle path route
2014 GAT trench location
HER site with PRN
Route of Roman Road with PRN
Route of 19th Century Post Road with PRN
N
Date: 16/06/2017
Author: NMC
Office:
Drawing: G2255/M2P3/FIG1
Scale: 1:6000@A3
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0 25 50 100
metres


287,800
331,600
331,400
331,200
Track
Caergai
Caer Gai
ROMAN FORT
Well
Pond
Track
Dltch
Dltch
Road RR642
171.0m
FB
Track
FB
Gwynedd Archaeological Trust
Figure 02: Trench locations and geophysical survey results
2014 GAT trench location
1982 GAT trench location
N
Date: 09/06/2017
Author: NMC
Office:
Drawing: G2255/M2P3/FIG2
Scale: 1:2000@A4
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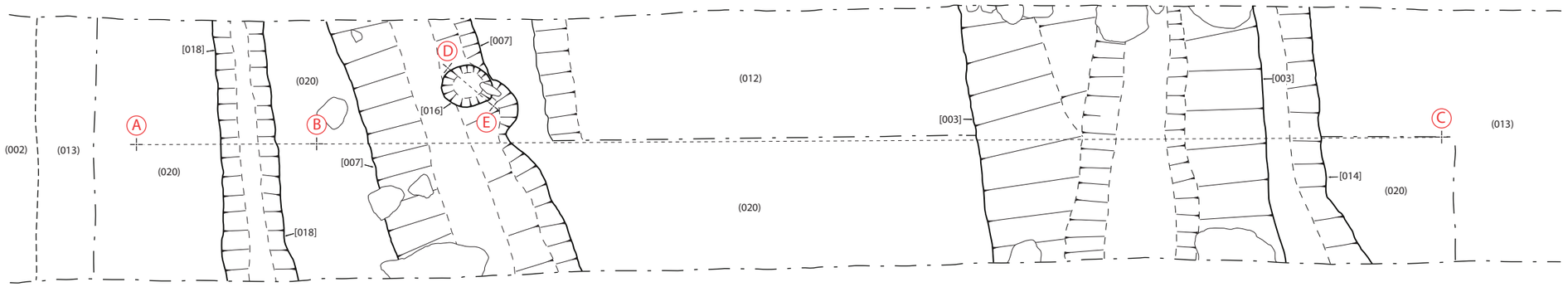
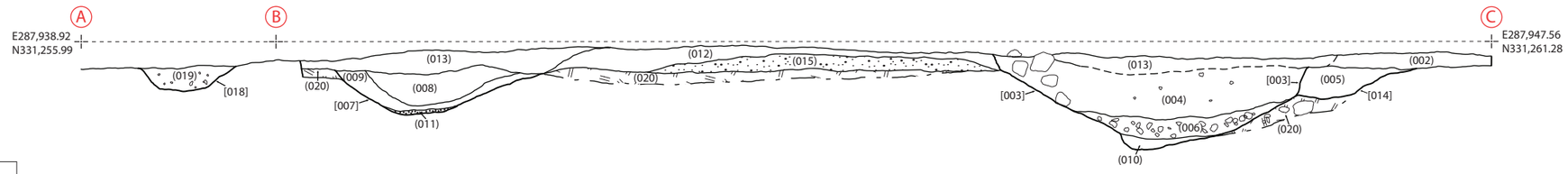
0
25
50
metres





(002) Subsoil
[003] Cut for large ditch east of Roman Road
(004) Upper fill of [003]
(005) Fill of [014]
(006) Fill of [003]
(010) Fill of [003] below (006)
(012) Roman Road agger
(013) Dispersed agger
[014] Possible cut for post Roman ditch
(015) Redeposited sand
[016] Cut of post-hole
[018] Cut of linear gully
(019) Fill of [018]
(020) Natural

0 1 2 3m

Figure 03: Plan and section of Roman Road and linear gully [018] (Scale 1:40 @ A3). Section D-E shown on Figure 04.

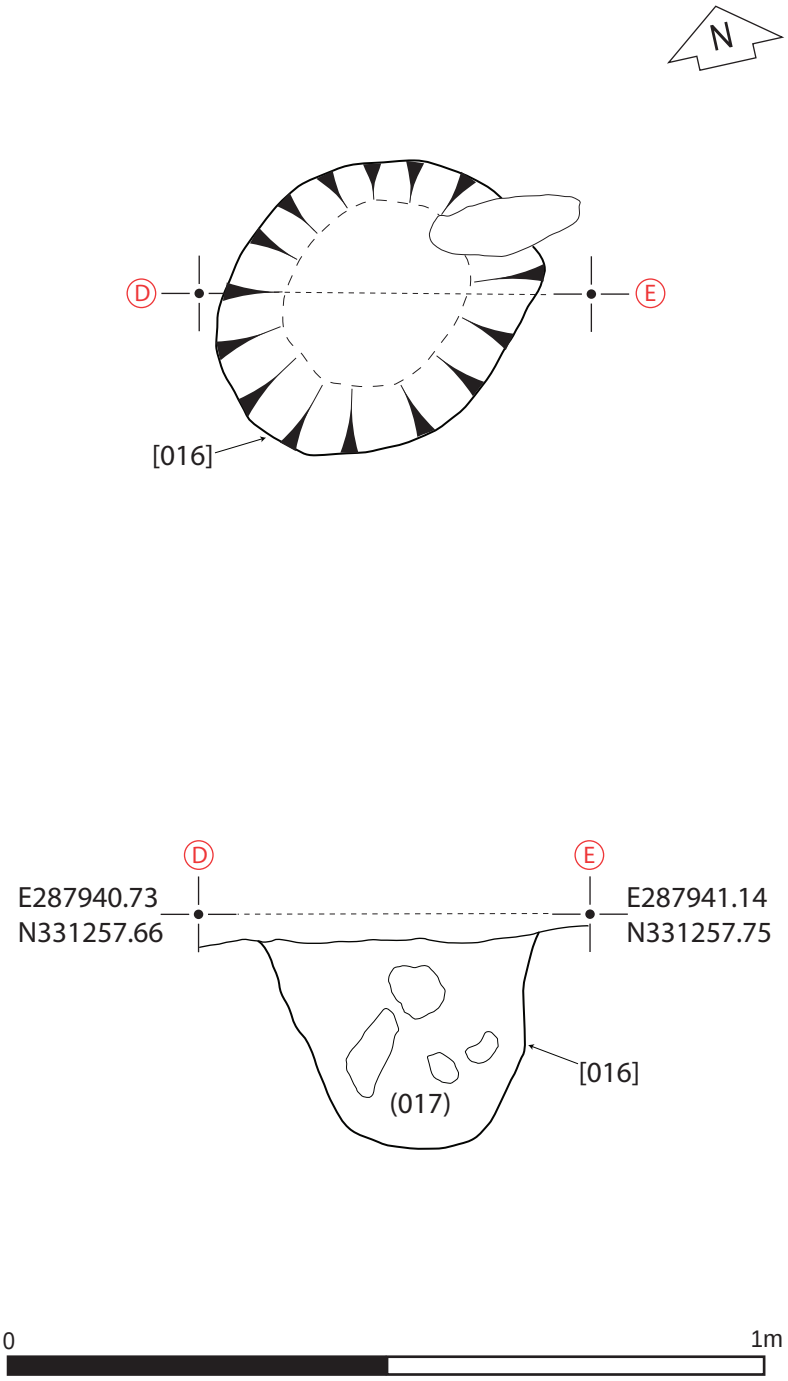


Figure 04: Plan and section of posthole [016] (Scale 1:10 @ A4).

APPENDIX I

Reproduction of Gwynedd Archaeological Trust project design for MAP 2 Phase 3 assessment of potential for analysis, May 2016

A494 'LLWYBR TEGID' CYCLE ROUTE, LLANUWCHLLYN TO GLAN-LLYN OUTDOOR ACTIVITY CENTRE, GWYNEDD

PROJECT DESIGN FOR MAP2 Phase 3:

Assessment of Potential for Analysis

Prepared for

Ymgynhoriaeth Gwynedd Consultancy (YGC)

May 2016

Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust

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1 INTRODUCTION

This document provides a design for post-excavation work associated with an archaeological watching brief and controlled strip carried out prior to and during the construction of a *c*.1.6km cycle route between the village of Llanuwchllyn (SH 87193068) and the Glan-Llyn Outdoor Education Centre (SH 88753184) (Figure 1) by Gwynedd Archaeological Trust (GAT). This design provides a preliminary statement on the results of the archaeological work. It also includes a project design to assess the potential of the archive and finds resulting from that work. This will be completed in line with *Management of Archaeological Projects* (MAP2, English Heritage, 1991) and will be undertaken as **Phase 3: assessment of potential for analysis**. Based on the results of this phase, two subsequent phases will be proposed: Phase 4: analysis and report preparation, and Phase 5: dissemination (including publication).

The work proposed in this document will lead to the production of a report on the potential of the finds and archive, as well as an updated project design, with additional costs, proposing what work is necessary to complete the post-excavation analysis, report writing and archiving (Phase 4). The final phase of post-excavation work will result in a full excavation report, a briefer report for publication, and the site archive prepared ready to submit to the agreed museum (Phase 5).

The fieldwork was monitored by the Snowdonia National Park Archaeologist (SNPA) and their approval of this design and all subsequent designs will be necessary.

2 SITE LOCATION

The assessment area roughly follows the A 487 (T) road corridor in a generally north-easterly direction. The road itself follows the Afon Dyfrdwy, marking the northwestern extent of the floodplain. The southern section of the cycle route lays at approximately 166m OD rising to 184m OD at the northern end. The surrounding fields to the southeast are characteristically floodplain pasture land, with some clawdd enclosed fields, with mixed hedgerows including occasional mature broad leaf trees, suggesting they are well established boundaries. The fields to the northwest are also pasture, although they are beyond the floodplain. There are a number of wetter fields along the cycle route, but these too have been utilised as rough grazing.

The floodplain of the Afon Dyfrdwy (to the southeast of the cycle route) is located south of Llyn Tegid, which itself is located within a major geological fault cutting northeast to southwest across North Wales. The fault formed the narrow valley, which is drained by the Afon Dyfrdwy and its tributaries. The underlying geology consists primarily of Alluvial River Terraces & Peat, beyond the floodplain there are Bala (Ashgill, Caradoc) Llandeilo & Asenig beds (Geological Survey, England & Wales, Sheets 9 & 10).

3 ARCHAEOLOGICAL BACKGROUND

All distances are measured using the Chainage distances provided on YGC drawings 3184/GA/112; 3184/GA/113; 3184/GA/114 and 3184/GA/115 dated 11.04.2012. Chainages are equidistant measuring points set 100m apart; the scheme started at Chainage *000:000* and terminated at Chainage *1600:000.*

3.1 WATCHING BRIEF

The watching brief element commenced at YGC Chainage *200:000* immediately northeast of New Inn, and continued as far as YGC Chainage *900:000* where the controlled strip element began on the eastern side of a track leading towards the River Dee. The watching brief element began again at YGC Chainage *1100:000* and continued as far as YGC Chainage *1500.000,* close to the hamlet of Gwern y Lon (Figure 1). The watching brief covered a total distance of 1.1km.

The work involved removing the grass and topsoil and levelling the subsoil to provide an even surface for the stone foundation used for 'Llwybr Tegid'. A 3.5 tonne 360° tracked excavator fitted with a toothless bucket was used for this task. The depth of excavation was on average 0.25m, although this was exceeded on occasion where pre-existing field boundaries were breached. The field boundaries were not recorded as part of the archaeological watching brief.

Nineteenth and twentieth century ceramics were found in a number of areas during the watching brief and their presence was noted on the recording sheets, but the ceramics themselves were not retained. A single ditch was encountered during the watching brief.

3.2 CONTROLLED STRIP

The controlled strip element commenced at YGC Chainage *900:000* on the eastern side of a track leading towards the River Dee, and continued to YGC Chainage *1100:000*, a total distance of 200m (Figure 1).

The work involved removing the grass and topsoil and levelling the subsoil to provide an even surface for the stone foundation used for 'Llwybr Tegid'. A 3.5 tonne 360° tracked excavator fitted with a toothless bucket was used for this task. The location

and orientation of the Roman road was identified by the presence of roadside ditches on either side.

4 AIMS AND OBJECTIVES

The original aim of the programme of work was to identify any archaeological remains which would be impacted as a result of the construction works for 'Llwybr Tegid'. The line of the Roman road was identified during the course of the mitigation works, and this was fully investigated and recorded under the scope of a further archaeological works design (Appendix I).

The current objective is to prepare an archaeological archive of the site to ensure the long-term curation of the recovered data. This is to include the treatment and preservation of any finds, deposition of the archive at an agreed repository or repositories, and the detailed analysis and publication of results to an appropriate level in line with nationally defined guidelines.

5 MITIGATION METHODOLOGY

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

All groundbreaking was undertaken under constant archaeological supervision. All archaeological features encountered were hand excavated. Where appropriate isolated pits and postholes were subject to at least 50% excavation, linear features to at least 10% excavation, and more complex features 100% excavated.

Artefacts were collected and where appropriate their locations noted on drawings, they were given a unique identification (SF) number and the context number of their originating deposit noted. Where a large quantity of similar material (e.g. ceramics) was present in the same deposit they were given a collective finds number and retained for analysis.

Hand drawn sections and plans were produced where appropriate, and at an appropriate scale, and tied into the National Grid.

A written record of all identified features was completed using standard GAT pro-forma sheets and a running photographic record was maintained using a Nikon digital SLR camera set to maximum resolution. All features were digitally surveyed

using a Trimble TSC2 controlled GPS receiver (Trimble R6 Unit), with the results tied into the National Grid.

Bulk soil samples (a minimum of 10 litres) were taken for environmental analysis and the recovery of macroscopic artefacts.

6 SUMMARY OF RESULTS

See Appendix II for a list of contexts and descriptions.

6.1 WATCHING BRIEF

The topsoil was a soft greyish brown sandy silt with occasional small stone inclusions (**001**), on average 0.1m thick. This sealed the subsoil, which consisted of a similar greyish brown sandy silt with moderate small stone inclusions (**002**). The natural geology was not encountered during the watching brief.

The only feature seen during this phase was a probable post-medieval ditch (**021**) which was located at Chainage 600,000 (Figure 1). The ditch was orientated north-south and measured 1.05m in width and 0.62m deep. It was filled with a single, sterile deposit consisting of a brownish grey clayey silt (**022**). A sherd of post-medieval pottery was recovered from this deposit.

6.2 CONTROLLED STRIP

The controlled strip was carried out on a 200m stretch of land between Chainage *900:000* and Chainage *1100:000* (Figures 1 and 2). This resulted in the identification and recording of the Roman Road and associated ditches.

The Roman road (**012**) (Figure 3) (Plates 1 and 2) was sectioned to a width of 1m with the remaining road *agger* and ditch fills removed to the southern half of the site, each layer/ ditch fill being removed and recorded in a strict stratigraphic order during this phase. It was apparent that the eastern side of the road (**012**) and roadside ditch (**014**) had been truncated by a large ditch (**003**) (Plate 3). Although this ditch (**003**) post-dated the road (**012**), all the finds within its fills (**004**, **006**, and **010**) were identified as Roman. Therefore the ditch (**003**) may belong to a later Roman, or early post-Roman phase after the road (**012**) had gone out of use. The upper fill (**004**) also contained displaced *agger* (**013**). A sample was taken of the primary silt (**010**) (SN #3).

The Roman road surface (**012**) was constructed using the deposits from the adjacent ditches (**007** and **014**). This was found to be only 0.15m deep, although there is evidence that some of this material had been disturbed and spread over the ditches and beyond (**013**), possibly during a more recent period.

The western ditch (**007**) (Figure 3) had a width of 1.2m and depth of 0.32m and contained three distinct fills (**011**, **009**, and **008**). A sample was taken from the primary fill (**011**) of the ditch (SN #1).

A small posthole (**016**) was visible cutting into the inner edge of ditch **007** (Figure 3). The posthole had a diameter of 0.35m, with a depth of 0.28m, and was filled with a single deposit (**017**). The posthole was visible cutting through the upper fill of roadside ditch (**007**), and therefore must post-date the ditch. No finds were recovered from the fill of the posthole and an environmental sample (SN #2) was taken to try and establish a date for the ditch.

There was a shallow linear ditch (**018**) with a north-south orientation to the western side of the ditch **007** (Figure 3) (Plate 4). It was filled with a single, sterile deposit (**019**), and measured 0.5m wide, with a depth of 0.19m. No dating evidence was recovered from this feature and an environmental sample (SN #3) was taken to try and establish a date for the ditch.

6.3 FINDS

6.3.1 Ceramic Building Material (CBM)

CBM was recovered from the subsoil (**002**) and the fills of ditches [**003**], [**014**], and [**007**].

6.3.2 Pottery

Pottery was recovered from the subsoil (**002**) and the fills of ditches [**003**] and [**014**].

6.3.3 Stone

Worked stone was uncovered from the fill of ditch [**003**].

6.3.4 Iron

Four fragments of iron were recovered from the road *agger* (**013**) and the fills of ditches [**003**] and [**007**].

6.3.5 Lead

Two fragments of lead were recovered from the subsoil (**013**) and the road *agger* (**013**).

6.3.6 Glass

A single shard of glass was recovered from the fill of ditch [**007**].

7 QUANTIFICATION OF RESULTS

Field records

Context sheets	20
Drawings	7 drawings on 4 sheets
Digital photographs	146

Environmental Samples

Samples: 3 x 10 litre tubs from 3 contexts

Finds

CBM	111
Pottery	16
Stone	1
Iron	4
Lead	2
Glass	1

8 POST-EXCAVATION ASSESSMENT

8.1 ASSESSMENT OF POTENTIAL FOR ANALYSIS

The management of this project follows guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991) and the Chartered Institute for Archaeology (CIfA) *Standard and Guidance for Archaeological Excavation* (2014). Five stages 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 of the project includes Phases 3 to 5. **This project design is concerned only with Phase 3**, following which a report will be produced detailing the potential for analysis, accompanied by a revised project design.

The purpose of this phase is to ensure appropriate post-excavation analyses are undertaken. This involves the careful definition of academic and archaeological objectives, to ensure that appropriate selection is made and a publication produced which accurately reflects the value of the data collection. All data sources are to be

collated, quantified and assessed for their potential to provide information of relevance. This includes all site records, consisting of the written record, drawn record, photographic record, survey, all artefacts, and all environmental samples, including those suitable for dating purposes. Relevant specialists will assess the potential for each category. On completion an assessment report will be compiled, and an updated project design produced.

The style and format of the assessment report will include as a minimum the following:

- Plan showing location of the controlled strip and excavation
- Detailed plans of features at an appropriate scale
- A summary statement of the results
- Reports on the assessment of the artefacts, ecofacts and samples with recommendations for further work
- A preliminary interpretation of the archaeological findings

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

8.2 ASSESSMENT METHODS

8.2.1 Data Collection from Site Records

The site records will be checked and cross-referenced and site matrices will be drawn up where appropriate. Photographs, plans, finds, and samples will be cross-referenced to contexts. A detailed site narrative will be written. Field survey and hand drawings will form the basis from which detailed plans of the excavated features will be produced. Final drawings will be produced of important and informative sections.

All paper field records will be scanned to provide a backup digital copy. Field drawings will be scanned both as a backup and to use in the creation of final illustrations. The photographs will be organised and a digital photo record will be produced in the form of an Access Database so that the Royal Commission of Ancient and Historical Monuments of Wales can curate them in their active digital storage facility.

8.2.2 Finds Methodology

Finds will be catalogued and grouped by material type. All finds, where appropriate, will be cleaned. Finds will be initially photographed and described to create a basic record to protect against any accidental losses when the pieces are sent for specialist analysis. All finds will be packaged in suitable containers and conditions for long-term

storage. Objects requiring conservation will be identified. The finds will be assessed by specialists as detailed below. The assessment of the material will identify and catalogue the collections and identify pieces to be drawn and any requirement for further study. Cataloguing is most efficiently done at this stage as each item must be inspected if the material is to be dated and its ultimate academic value is to be assessed.

The assessment report will established what comparative and research work will be required to place the assemblage within its national and international context. Any pieces worth illustrating will be identified and any appropriate further analysis will be proposed. The illustration and analysis will be carried out in the next phase of work.

When the residue from the wet sieving has been sorted (see below) any finds will be incorporated into the above process and assessed by the specialists.

The specialists to be used are as follows:

- CBM and Pottery: Gill Dunn (freelance ceramicist)
- Stone: Dr Ruth Shaffrey, Oxford Archaeology
- Glass: Dr Hilary Cool, Barbican Research Associates
- Iron and Lead: Phil Parkes, Cardiff University

8.2.3 Environmental Samples

The sampling strategy for bulk soil samples was related to the perceived character, interpretational importance and chronological significance of the strata under investigation. This ensured that only significant features were sampled. The aim of the sampling strategy was to recover carbonised macroscopic plant remains. However, the samples will have simultaneously enabled the recovery of any small artefacts not recovered during excavation.

The bulk soil samples will be processed by Gwynedd Archaeological Trust and assessed by Dr James Rackham of The Environmental Archaeology Consultancy. This will consist of flotation and wet sieving using a 300 micron mesh for flotation. The residues will be sorted to recover finds and non-floating ecofacts. All residues will be tested for magnetic metalworking debris and this will be collected where it is present. Once sorted the residues will be discarded.

The flots will be weighed, catalogued and assessed and their potential established in relation to charcoal and other plant macrofossils. The presence of suitable dating material will also be recorded. Specific samples may be recommended for further work.

8.2.4 Radiocarbon Dating

Radiocarbon dating can potentially resolve many chronological questions of importance. The small number of finds recovered from the site means that dating features on the site by finds alone is not possible. By radiocarbon dating several features it should be possible to clarify which features are contemporary and how many phases of activity are present.

The assessment process will concentrate on formulating dating questions and on identifying suitable material from the contexts best placed to answer these questions. The optimum number of dates will be established in consultation with Derek Hamilton (SUERC Radiocarbon Dating Laboratory) and will be proposed in the updated project design.

8.2.5 Reporting and Dissemination

The primary product of this project is to be a full excavation report to be published in a peer reviewed academic journal. The assessment of potential process will assess what data should be included in this report and how the report should be presented, including the number and type of illustrations. A step towards the published report is the detailed archive report, which may contain much more detailed information and a greater number of illustrations than the published version. Time will be allocated to a list of tasks necessary for the completion of the archive report and its conversion into the published report.

While essential as a record of the archaeological works, an academic report is not the only means of dissemination of the results that might be considered desirable. The assessment process will look at appropriate alternatives for dissemination, which will be proposed in the updated project design.

8.2.6 Archiving

Some aspects of archiving are included in the methods of data collection and finds processing, but these will be incorporated into an overall archiving strategy. There will be liaison with the Bangor Museum Service towards the deposition of the artefacts, including appropriate boxing and cataloguing of finds. The finds are currently the property of the owners of the land on which they were found. Owners will be contacted and asked to donate the finds to the Museum Service where they will be available for future study.

Similarly liaison will take place to ensure that the paper archives can be stored in a suitable depository. The National Monuments Record (NMR), Aberystwyth will take the digital record and the assessment process will identify what this should include and what formats and metadata are appropriate. Standards, costs and timetables for archiving will be included in the revised project design.

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APPENDIX I: FAWD

A494 LLWYBR TEGID –

CYCLE / MULTIPLE USER PATH

REVISED FURTHER ARCHAEOLOGICAL WORKS DESIGN:

CAER GAI TO CAERSWS ROMAN ROAD AND POSSIBLE ASSOCIATED FEATURES

(G2255)

Prepared for

YGC

March 2014

Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust

A494 LLWYBR TEGID – CYCLE / MULTIPLE USER PATH

REVISED FURTHER ARCHAEOLOGICAL WORKS DESIGN (FAWD):

CAER GAI TO CAERSWS ROMAN ROAD AND POSSIBLE

ASSOCIATED FEATURES (G2255)

March 2014

Prepared for *YGC*

Contents

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *YGC* to undertake a programme of archaeological mitigation during the construction of a 2.2km long cycle / multiple user path adjacent to or within the vicinity of the A494 between the village of Llanuwchllyn and Gwersyll Glanllyn (National Grid Reference SH87303030 to SH88303160). The general route is indicated on *YGC* drawing 4461/MI/03.

This revised Further Archaeological Works Design (FAWD) has been produced due to the likely discovery of the Roman road from Caer Gai to Caersws and associated ditches, and also further features within the investigative area (SH8794531265).

1.1 PROJECT BACKGROUND

The initial groundworks commenced on February 5th 2014 and is expected to continue for approximately three months. The scheme involves stripping topsoil to achieve an average depth of 200mm within a 2m wide corridor. There will be targeted areas where fill material will be imported to create embankments with the cycle track positioned on top, as well as reduced dig areas to accommodate topographical changes. The works will be carried out by excavators, JCB's and dumper trucks. The contractors' site compound is located at the existing car park at Llanuwchllyn – no excavation works will be done in this area. According to *YGC* drawings 4461/GA/01 to 4461/GA/04, the constructed cycle track will be completed along the first 1.64km of the route; the remaining 560m will be completed using a combination of timber boardwalks and an existing track (as detailed on *YGC* drawing 4461/GA/04; Figure 05). For the purposes of the scheme, the starting point is designated as the western end of the route, at Llanuwchllyn.

The archaeological mitigation will be completed in response to Condition 2 of Planning Notice NP5/71/433A, which states:

> Prior to any work commencing (including any ground disturbing works or site clearance) pursuant to this permission the applicant/developer shall submit to and receive written approval from the Local Planning Authority for an archaeological specification for a programme of works which must meet all relevant archaeological standards. The development shall subsequently be carried out in strict accordance with the approved programme of works unless otherwise agreed to in writing by the Local Planning Authority.

The archaeological mitigation programme includes controlled stripping of one targeted area, which has been completed and is the location of the identified features, and a scheme wide watching brief which is on-going. The mitigation is limited to the first 1.64km of the route; the remaining 560m (comprising timber boardwalks and an existing track), will not be mitigated.

The scheme is located within the Snowdonia National Park and will be monitored by the Snowdonia National Park Authority (SNPA) Archaeologist. In line with NP5/71/433A Condition 2, the content of this design and all subsequent documents produced by GAT must be approved by the SNPA Archaeologist.

1.2 ARCHAEOLOGICAL BACKGROUND

An archaeological assessment of the proposed route was completed by GAT in June 2012 (Richards, G. 2012. GAT Report 1055). The report concluded that the proposed route crosses a rich archaeological landscape with known sites dating from the prehistoric era through to the 19th century. The GAT assessment report also concluded that historic mapping indicates that the alignment of the A494 road has altered little in the modern era; however the height of the carriageway has increased significantly in places. The surrounding fields have remained largely undeveloped and unaltered during the modern era and undergone little or no modern cultivation.

The scheme passes approximately 250m south east of the Roman auxiliary fort, Caer Gai (SAM ME018) and is partly along the alignment of the Caer Gai to Brithdir Roman Road (PRN 17648 & 17649). The scheme also crosses the route of the Caersws to Caer Gai Roman Road (PRN 17793 & 17792) at approximately 1.08km from the scheme start point, which is the location of one of the identified features.

1.3 INSTITUTE FOR ARCHAEOLOGISTS STANDARD AND GUIDANCE

The required further archaeological works will conform to the relevant Institute for Archaeologists standard and guidance:

- *Standard and Guidance for Archaeological Excavation* (Institute for Archaeologists, 1995, rev. 2001 and 2008).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Institute for Archaeologists, 2009).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Institute for Archaeologists, 2008).

2 METHOD STATEMENT

2.1 ROMAN ROAD

The main feature identified as the Roman road was composed of a light band of stony and fairly compacted sandy silt approximately 4.5m wide which appears to run perpendicular to the line of the scheme (NW – SE) at approximately SH8794531265. On the north-eastern side of the feature a number of larger stones are evident, it is believed that these may represent the edge of the road although there is a slight possibility that they are part of a later wall. There is a distinct change in the soils on each side of these stones, to the south-west is the light stony deposit believed to be the road surface or material from it, and to the north-east a softer, dark gritty silt similar to the general topsoil of the area. The position and alignment of the feature corresponds to a cropmark (CUCAP, BTW004, 1975) which is believed to represent the Roman road from Caer Gai to Caersws, and appears to align with the road as seen on a geophysical survey conducted in the fort and surrounding fields (Hopewell & Burman 2007, reproduced below).

Geophysical survey of Caer Gai and surrounding area, line of Llwybr Tegid shown in green and red circle shows approximate location of probable Roman Road. © GAT

Feature believed to be Roman road, view from south-east, scale: 2x 1m. The fort of Caer Gai on top of the hill in the background.

It was decided to carefully machine a narrow slot at the southern edge of the trench to try and establish the stratigraphical relationships within the Roman road area, as there seemed to be later disturbance, both by a possible later cut feature and roots from a large oak tree.

A small 1.5 tonne rubber tracked excavator was used with a 0.4m ditching bucket, which was excavated in spits to the natural ground level exposing the Roman roadside ditches as well as a possible later feature, cut into the eastern edge of the Roman road. The possible later feature contained a large amount of stone and broken fragments of brick, some of which could be Roman.

Another possible narrow linear ditch was located 0.70m to the west of the road, although it is difficult to establish whether the feature is linear in such a narrow slot that was excavated.

2.2 SPECIFIC METHODOLOGY FOR FURTHER WORK

Further work needs to be conducted to gain understanding of the features of archaeological interest and try and establish the construction methods for the road.

It is proposed to initially excavate a 1m section across the Roman road and associated ditches by hand, this will provide the most accurate method of establishing the relationships within this short section for the archaeological record. Once the 1m wide strip has been excavated and recorded, the fill of the ditches should be 100% excavated (i.e. for the

remaining 1m of the cycle-track trench width) to maximise the potential recovery of artefacts/samples.

A 1:20 scale plan will be drawn of the completed excavated section, as well as a 1:10 section drawing which will provide the stratigraphical relationships. A full archive will be established onto GAT pro-forma recording sheets of each individual archaeological and natural deposit within the scope of the investigative area.

All ongoing work will also be photographically recorded with a digital SLR camera set to maximum resolution in RAW and JPEG formats.

After the completion of the hand excavated trench across the Roman road it is proposed to mechanically machine a short length of the working corridor away from each side of the road (possibly 10m as soil depth here is quite shallow), this will establish if there are any features within the working area associated with the Roman road.

Subsequent small finds will be retained, individually numbered and context noted.

Where complicated features of any period are encountered a specific methodology will be devised and discussed with the SNPA archaeologist prior to implementation.

If appropriate deposits are encountered bulk soil samples (maximum 30L) will be collected for specialist analysis and macroscopic artefact recovery.

All drawing baselines will be located, and digital survey of archaeological features may be made, using a high accuracy Trimble R6 GPS system.

Specialist input may be sought during the fieldwork stage regarding discoveries, including environmental potential of deposits, and artefact identification and conservation and feature interpretation.

2.3 BASIC ARCHAEOLOGICAL EXCAVATION METHODOLOGICAL PROCEDURES

2.3.1 Excavation

All identified features will be recorded using GAT pro-formas and photographed using a digital SLR camera set to RAW format. The extent of the controlled strip areas and any features therein will be located using survey grade (not handheld) GPS with <10cm accuracy (model: *Trimble GNSS/R6/5800*).

All features will be manually cleaned and examined to determine extent, function, date and relationship to adjacent features. Limited excavation will be undertaken to characterise the features: this strategy will be based on feature type and include an initial 50% sample of sub-circular features and 10% sample of linear features. Any subsequent excavation will be detailed in an appropriate Further Archaeological Works Design.

Where appropriate, samples for specialist analyses will be taken.

2.3.2 Environmental Samples

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.

Specific palaeoenvironmental strategies for any peat deposits will be discussed with the SNPA if encountered and input from a specialist will be sought during the fieldwork on an appropriate sampling strategy to be rationalised in a further archaeological works design.

2.3.3 Specialist Analysis

Any samples for specialist analysis will be taken as deemed appropriate by GAT and agreed with SNPA; specialist advice will be sought in relevant circumstances, e.g., soil micromorphology, archaeo-magnetic dating, metallurgy, etc., as the need arises.

2.3.4 Human Remains

Any finds of human remains will be left *in-situ*, covered and protected, and both the coroner and the SNPA 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.

2.3.5 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, including National Museums and Galleries of Wales at Cardiff and ARCUS at Sheffield.

Unexpected Discoveries: Treasure Trove

Treasure Trove law has been amended by the Treasure Act 1996. The following are Treasure under the Act:

- *Objects other than coins* any object other than a coin provided that it contains at least 10% gold or silver and is at least 300 years old when found.
- *Coins* all coins from the same find provided they are at least 300 years old when found (if the coins contain less than 10% gold or silver there must be at least 10. Any object or coin is part of the same find as another object or coin, if it is found in the same place as, or had previously been left together with, the other object. Finds may have become scattered since they were originally deposited in the ground. Single coin finds of gold or silver are not classed as treasure under the 1996 Treasure Act.

- *Associated objects* any object whatever it is made of, that is found in the same place as, or that had previously been together with, another object that is treasure.
- *Objects that would have been treasure trove* any object that would previously have been treasure trove, but does not fall within the specific categories given above. These objects have to be made substantially of gold or silver, they have to be buried with the intention of recovery and their owner or his heirs cannot be traced.

The following types of finds are not treasure:

- Objects whose owners can be traced.
- Unworked natural objects, including human and animal remains, even if they are found in association with treasure.
- Objects from the foreshore which are not wreck.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the National Museums and Galleries of Wales acts as advisor on technical matters, and may be the recipient body for the objects.

The National Museums and Galleries of Wales will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

3 POST-EXCAVATION PHASE

3.1 INTRODUCTION

Post-excavation phase will incorporate the results of the fieldwork as a whole and not exclusively the results of the further works discussed in this document.

The management of the post-excavation 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 stages 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 phases 3 to 5.

Phase 3 involves an objective assessment of the results of the fieldwork phases (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 (Phases 4 and 5).

3.2 POST-EXCAVATION ASSESSMENT

The level of post-excavation analysis and reporting for the purposes of the mitigation 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
- 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 per trench 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 the types of pottery and other artefacts to assist in characterising the

archaeology, and to establish the potential for all categories of artefacts should further archaeological work be necessary.

3.3 ANALYSIS AND REPORT PREPARATION

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

3.4 PRODUCTION OF SITE ARCHIVE

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) within six months of the completion of the project. All digital data will be written to optical media and stored with the paper archive.

- A paper report plus digital report and archive on optical disc will be provided to SNPA;
- Two copies of the paper report plus a 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 (including photographic and drawn) data 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
- All relevant artefacts and ecofacts will be submitted to the Gwynedd Museum (Ffordd Gwynedd, Bangor, Gwynedd LL57 1DT).

4 STAFF

The project will be supervised by John Roberts, Principal Archaeologist.

The further excavation will be conducted by one site archaeologists.

(One site archaeologist will also undertake any on-going watching briefs which is not included in this design)

The further archaeological works specified in this design are currently estimated to take 10No site days. Additional resourcing and costs may be required further to the completion of the controlled strip and will be addressed in revised FAWD. The current resourcing does not include MAP2 Phases 3 to 5, which will be resourced in relevant future project designs.

5 HEALTH AND SAFETY

All GAT staff will be inducted onto site, and 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.

6 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 22/06/14

Professional Indemnity Insurance – RSA Insurance Plc P8531NAECE/1028

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

The current period expires 22/07/14

7 SOURCES CONSULTED

Aerial photograph: Cambridge University Collection of Aerial Photography, BTW005 1975, *Caer Gai – area south of fort from west.*

Historic Environment Record, Craig Beuno, Bangor, Gwynedd, LL57 2RT

Hopewell, D. and Burman, J. 2007. Geophysical Survey at Caer Gai and Cefn Caer, Pennal Roman Forts, *Archaeology in Wales* 47 pp.91-3

Hopewell, D. 2013. *Roman Roads in North West Wales,* Gwynedd Archaeological Trust, Bangor

Richards, G. 2012. GAT Report 1055. *G2255 LLWYBR TEGID, LLANUWCHLLYN TO GLANLLYN, MEIRIONNYDD - ARCHAEOLOGICAL ASSESSMENT*

Roberts, J., 2014. A494 LLWYBR TEGID – Cycle / Multiple User Path ARCHAEOLOGICL MITIGATION DESIGN (G2255) prepared for *YGC* (GAT unpublished project design).

Standard and Guidance for Archaeological Excavation (Institute for Archaeologists, 1995, rev. 2001 and 2008).

Standard and Guidance for Archaeological Watching Brief (Institute for Archaeologists, 1995, rev. 2001 and 2008).

Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Institute for Archaeologists, 2009).

Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Institute for Archaeologists, 2008

YGC drawing 4461/MI/03

YGC drawings 4461/GA/01 to 4461/GA/04

YGC drawings 4461/XS/01 to 4461/XS/05

APPENDIX II: CONTEXT REGISTER

CONTEXT NUMBER	DESCRIPTION
001	Topsoil – Soft mid grey brown sand silt with occasional small stone inclusions.
002	Subsoil – Soft mid to light yellow brown sand silt with moderate small/medium stone inclusions.
003	Cut of large drainage ditch truncates the east side of the Roman Road. Upper fill [004] and secondary fill (006) contained large amounts of agger material as well as other Roman material such as brick. Linear was 0.70m deep and 2.70m wide with a concave/uneven base.
004	Upper fill of [003]. Firm orange flecked mid grey brown sand silt with a large amount of sub angular and sub rounded stones (pebble to boulder size). Also included a number of fragments of brick and pot (Roman?)
005	Fill of Roman roadside ditch [014] – Soft light/mid brown grey silt sand with occasional stones.
006	Secondary fill of [003]. Firm mid brown grey sand silt with abundant stone inclusions. Also contained Brick and pot fragments.
007	Cut of Roman roadside ditch (western side of Roman road). Linear was 0.32m deep and 1.20m wide with almost vertical sides and a flat base. Truncated by posthole 016.
008	Upper fill of [007]. Firm mid brown grey sand silt with abundant stones inclusions. Composed of redeposited agger material.
009	Secondary fill of [007]. Firm mid yellow grey sand silt with stone inclusions. Natural build up of silts.
010	Primary fill of [003].Soft orange flecked mid grey silt sand. Thin layer of natural silts at the bottom of ditch.
011	Primary fill of [007]. Firm mid brown grey sand silt with occasional stones and flecks of charcoal. Thin layer of natural silts at the bottom of ditch.
012	Road Agger. Firm mid yellow grey sand silt with a large volume of sub rounded and sub angular small stones. Badly truncated.
013	Dispersed agger. Firm mid brown grey sand silt with an abundant amount of small stones. Spread over 20m wide area.
014	Cut for Roman roadside ditch (at eastern side of Roman road). Heavily truncated by [003].
015	Redeposited sand below the Roman road surface, 012. Firm light orange grey silt sand with moderate amount of pebble stones.
016	Cut for posthole within ditch [007]. Circular with almost vertical sides and concave base.

017	**Fill of posthole [016]. Soft mid brown grey sand silt with moderate smalls and rare large cobble stones.**
018	**Cut of ditch. Linear/gully with slightly concave sides and concave base.**
019	**Fill of 018. Soft mid yellow grey with sub rounded and sub angular pebble inclusions.**
020	**Natural – Fairly soft light orange grey silt/clay sand.**
021	**Cut of ditch. N-S aligned, PM pottery from fill. 1.05m wide, 0.62m deep**
022	**Fill of ditch [021]. Brownish grey clayey silt.**

APPENDIX III: SAMPLE REGISTER

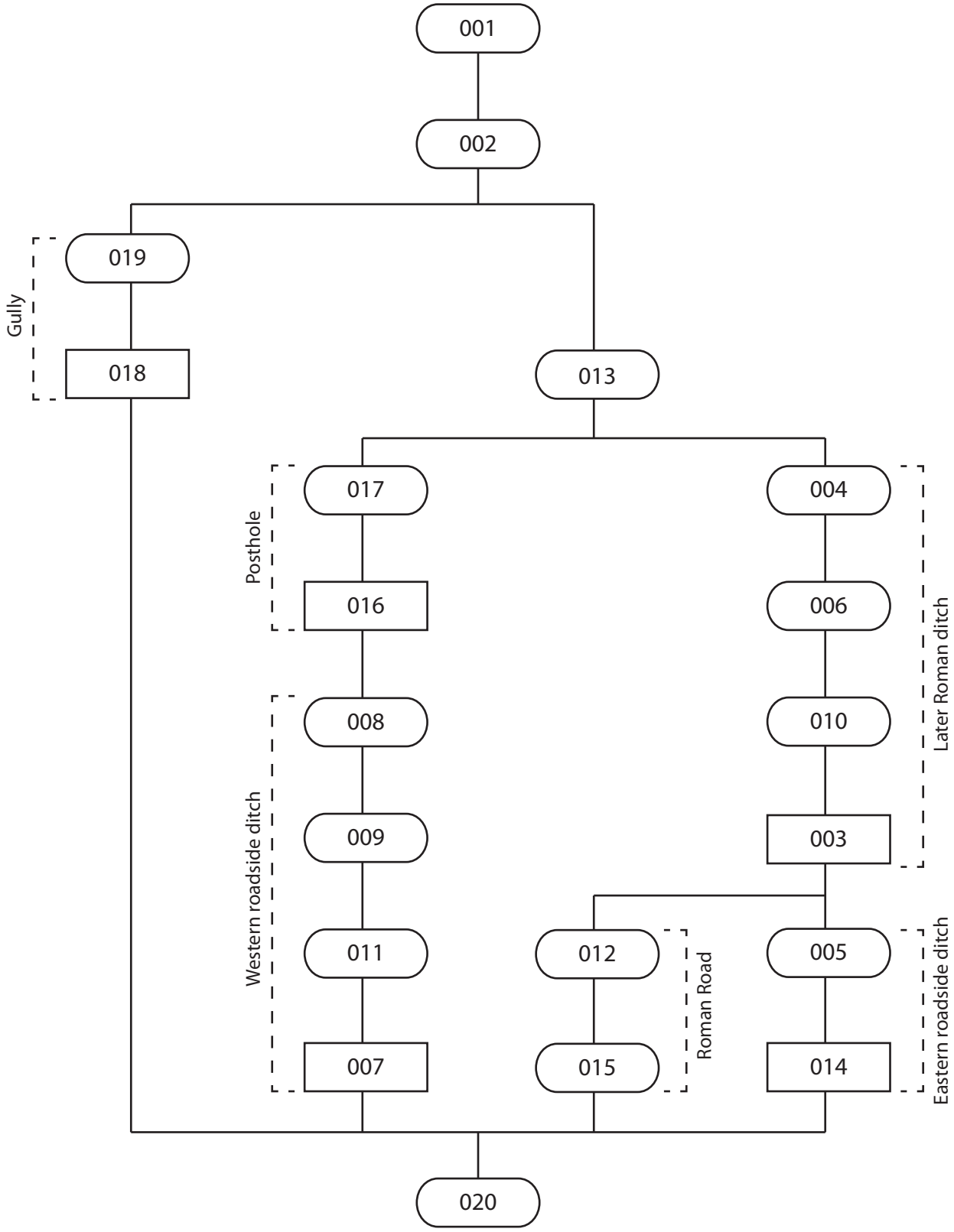
Sample #	Context #	No of Tubs
01	011	1
02	017	1
03	019	1

APPENDIX IV: DRAWING REGISTER

Drawing #	Sheet #	Description	Scale
01	1	Plan of trench – 0m to 20m	1:50
02	1	Plan of trench – 20m to 35m	1:50
03	2	Plan of trench – 35m to 55m	1:50
04	3	Section of Roman road and associated features	1:10
05	3	Section of Posthole 016 in western Roman Road Ditch	1:10
06	4	Plan of Roman road and associated features	1:20
07	3	Section of linear gully 018	1:10

APPENDIX II

Reproduction of Gwynedd Archaeological Trust stratigraphic matrix



Appendix X: Stratigraphic Matrix

APPENDIX III

Reproduction of Ecofact Assessment Report, AOC Archaeology Group, July 2017

Llwybr Tegid

AOC Project no: 23901
Site Code: G2255
Date: July 2017

AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

Llwybr Tegid

On Behalf of: Gwynedd Archaeological Trust (GAT)

National Grid Reference (NGR):

AOC Project No:

Prepared by: **Jackaline Robertson**

Illustration by: **N/A**

Date of Fieldwork:

Date of Report: **July 2017**

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

Author: Jackaline Robertson **Date: July 2017**
Approved by: Ciara Clarke **Date: August 2017**

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Factual data

Three flots and a single charcoal sample were submitted for environmental analysis from Gwynedd Archaeological trust from the excavation undertaken at Llwybr Tegid. The samples were collected from a linear feature, a post hole and a gully. A small quanity of carbonised hazelnut (Corylus avellana L) shells was recovered but there was a relatively large charcoal assemblage which was concentrated within the linear feature. The aim of this assessment was to recover environmental evidence, identify to species where possible and determine its suitability to provide reliable c14 dating.

Methodology

The flots were sieved using a 4mm, 2mm and 1mm system of stack sieves. The flots were analysed using a low power microscope. All plant macrofossils were subsequently examined at magnifications of x10 and up to x100 where necessary to aid identification. Identifications were confirmed using modern reference material and seed atlases stored at AOC Edinburgh (Cappers *et al* 2006). Taxonomic and nomenclature for plants follows Stace (2010). Charcoal 4mm and larger was collected for species identification.

Results

The results are recorded below in table 1 the charcoal species.

Table 1 Charcoal species

Feature	Sample	Context	Species	Name	Frag	Rw	Weight(g)
Linear 007	1	10-011	*Alnus glutinosa* L.	Alder	3		
Linear 007	1	10-011	*Betula* sp.	Birch	13		
Linear 007	1	10-011	*Corylus avellana* L.	Hazel		1	
Linear 007	1	10-011	*Quercus* sp.	Oak	2	1	53.1
P/H 016	2	10-017	*Alnus glutinosa* L.	Alder	1		
P/H 016	2	10-017	*Quercus* sp.	Oak	3		0.9
Gully 018	3	10-019	*Betula* sp.	Birch	2		
Gully 018	3	10-019	*Ulmus* sp.	Elm	1		0.7

The charcoal assemblage

The charcoal assemblage totalled 54.7g and 27 fragments were selected for species identification. The species identified were alder (*Alnus glutinosa* L), birch (*Betula* sp), elm, hazel (*Corylus avellana* L) and oak (*Quercus* sp). The dominate species was birch which formed 55% of the identified assemblage followed by, oak 22%, alder 15%, elm 4% and hazel 4%. There were two fragments of hazel and oak roundwood in context [10-011]. The charcoal was concentrated within context [010-011] which had 53.1g compared to 0.9g and 0.7g in contexts [10-017] and [10-019] respectively. There was no evidence of any worked wood or *in situ* structural burning of small discrete elements such as posts, stakes and or wattle screens. It is considered that these deposits of mixed wood species are representative of fuel debris.

The macroplant

Three fragments of hazelnut shell (0.1g) were recovered from context [10-011]. Preservation of this material was good and the fragments are suitable for dating if required. These shell remains are representative of food refuse and possibly reuse as a kindling material.

Modern Contamination

Small quantities of roots, insect remains and modern seeds were noted in all three samples but there is no evidence that the archaeological security of the charcoal assemblage has been compromised.

Recommendations

The alder, birch, elm, hazel charcoal and hazelnut shell are all suitable for radiocarbon dating. Where possible the oak should be avoided as this is a slow growing species which can prove unreliable for dating. The large concentration of charcoal within context [10-011] along with a smaller number of hazelnut shell fragments has probably derived from the deliberate disposal of fuel and food waste. The smaller quantities of charcoal noted within contexts [10-17] and [10-19] could have been re-deposited or reworked into these two features. The charcoal from context [10-011] is more likely to provide an accurate date relating to the activity taking place on site. The charcoal and hazelnut shell remains are representative of domestic fuel and food debris.

References

Cappers R.T.J., Bekker R.M. and Jans J.E.A. (2006) *Digital seed atlas of the Netherlands* (Barkhuis Publishing and Groningen University Library, Groningen).

Schweingruber, F.H. 1982. *Microscopic wood anatomy. Structural variability of stems and twigs in recent and subfossil woods from central Europe.* 2nd edition. F.Fluck-Wirth.

Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press

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

APPENDIX IV

Reproduction of Ceramic Assessment Report, Gill Reid, November 2017

Roman ceramic building material from Llwybr Tegid, Gwynedd (G2255)

Catalogue of material

(002) 01
Twenty-nine fragments weighing 1,606g.
Very weathered in orange and orange/pink fabrics. Includes a *tegula* flange (width 31mm), fragments with sanding, indicating the underside of a tile, and a corner fragment of a tile but no complete measurements. Brick fragments are also present but there are no complete measurements to identify the forms.

(002) 02
Twenty-one fragments weighing 1,243g.
Very weathered in an orange fabric. The only complete measurements are from a tile with a thickness of 21mm and a brick in an orange/red fabric with a thickness of 44mm.

(004) 08
Twenty-four fragments weighing 2,272g.
Very weathered. Two fragments are identifiable to form:

i) part of a *tegula* flange but no complete measurements.

ii) flange of a *tegula* in a dark orange/red fabric. Height of flange 45mm, width 23mm, thickness of tile 22mm.

The assemblage also includes a brick fragment in a very sandy fabric with few inclusions but the lack of complete measurements means that it is not possible to identify the exact form.

(005) 05
Sixteen fragments weighing 1,274g.
Very weathered fragments in an orange fabric. Thirteen of the fragments are unidentifiable to form. The remaining three are tiles with some sanding on the base and edges. Complete thicknesses are: 24mm, 31mm (corner fragment) and 34mm (edge of a *tegula*).

(006) 04
Two fragments weighing 184g.
Very weathered in a red/orange fabric. No complete measurements so unidentifiable to form.

(008) 07
Four fragments weighing 530g.
Very weathered. Two fragments are of indeterminate form. One is a fragment of brick in a

red/orange fabric. One fragment, less weathered, in a red fabric is identifiable as a tile, probably a *tegula* with sanded edges and base, maximum thickness 37mm.

(009) 06
Four weathered fragments in an orange fabric, weighing 22g.

(010) 03
Seven fragments weighing 142g.
The material is very weathered with all original surfaces lost. Given the existing dimensions it is considered that they are all fragments of tiles but the exact forms are unidentifiable as there are no complete measurements. Orange fabric with red ironstone inclusions.

Summary of the assemblage

A total of 107 fragments of Roman ceramic building material was recovered, weighing 7,273g, giving an average fragment weight of 68g. The material comes from the subsoil (002); (004), (006) and (010), the fills of drainage ditch (003); and (005), (008) and (009), the fills of the Roman roadside ditches (014) and (007). This therefore means that 46.7% by fragment count and 39.2% by weight, is from the subsoil. These are quantified below:

Subsoil (002) : 50 fragments weighing 2,849g

Drainage ditch (003) : 33 fragments weighing 2,598g

Roadside ditch (014) : 16 fragments weighing 1,274 g

Roadside ditch (007) : 8 fragments weighing 552g

All fragments are in an orange or orange/red fabric and are in a poor weathered condition. Many of the surfaces are lost and any features on the brick or tile have subsequently worn away.

Specific forms are difficult to identify due to the lack of complete measurements, though some can be generally identified as brick or tile. There are five examples of *tegulae* (flanged roof tiles) represented in the assemblage, including flanges.

Unfortunately, this lack of identifiable forms and the condition of the assemblage means that it is not possible to assign a date to the material.

G. Dunn
November 2017

APPENDIX V

Reproduction of Pottery Assessment Report, Gill Reid, December 2017

Roman pottery from Llwybr Tegid, Gwynedd (G2255)

Catalogue of pottery

(002) 2
One body sherd of a Spanish Dressel 20 olive oil amphora. Weathered. Weight 67g

(002) 16
One body sherd in a coarse orange fabric. Weight 6g

(004) 20
One body sherd in a fine pale orange fabric. Very weathered, all surfaces lost. Possibly a large storage vessel. Weight 67g

(004) 21
One rim sherd of a hooked rim mortarium in a coarse pale orange fabric with quartz and red ironstone inclusions. Very weathered. Sherd join with Find no 30 from (006). Weight 46g

(005) 22
Base and lower wall fragment of a Dorset black-burnished ware bowl. Right-angled cross-hatching. Weight 37g

(005) 23
One body sherd in a coarse orange fabric. Very weathered, possibly a fragment of tile. Weight 8g

(005) 24
One body sherd of an orange ware vessel in a coarse fabric with quartz and red ironstone inclusions. Very weathered. Weight 15g

(005) 25
One body sherd in a coarse buff fabric. Very weathered. Weight 84g

(006) 26
Base sherd of a black-burnished ware ?bowl. Good condition. Sherd link with (006) 31. Date of 120+ AD. Weight 6g

(006) 27
Body sherd of vessel in a fine orange fabric. Very weathered. Weight 10g

(006) 28
Body sherd of an orange ware vessel. Very weathered. Weight 13g

(006) 29
Body sherd of an orange ware vessel. Very weathered. Weight 6g

Finds 27, 28 and 29 are of the same fabric and it is possible that they are from the same vessel though there are no sherd joins due to their poor abraded condition.

(006) 30
Rim sherd of a hooked-rim mortarium, including the spout. Very weathered. Sherd link with Find no 21 from (004). Weight 82g

(006) 31
Base sherd of a black-burnished ware bowl/dish. Good condition. Scribed decoration on the underside of the base. Same vessel as (006) 26. Weight 16g

(010) 32
Rim sherd of a samian ware dish. Very weathered so most of the slip is missing. Weight 8g

Summary of the assemblage

A total of 15 sherds weighing 471g was recovered from the site, giving an average sherd weight of 31.4g. All are coarse wares except for one rim sherd of a samian dish. The majority of the sherds are in a poor abraded condition resulting in the surfaces, and hence any decoration, being lost, and in the case of the samian vessel, the slip is worn. The material comes from the subsoil (002); (004), (006) and (010), the fills of drainage ditch (003); and (005), the fill of the Roman roadside ditch (014):

Subsoil (002) : 2 sherds weighing 73g

Drainage ditch (003) : 9 sherds weighing 254g

Roadside ditch (014) : 4 sherds weighing 144g

There are a range of vessel forms including amphora, a dish, mortarium and bowl. The indeterminate body sherds are probably from storage jars and/or beakers.

Find numbers 27, 28 and 29 from (006) are of the same fabric and could be from the same vessel. Sherds from (004) and (006) (Find numbers 21 and 30) are from the same mortarium, and two of the black-burnished ware sherds (Find numbers 26 and 31 from (006)) also join.

The pottery has a date range of the late first to early second century with the black-burnished ware giving a *terminus post quem* of 120AD. The Dressel 20 amphora has a wide date range of the first to third century but a single body sherd cannot be more closely dated.

NB Sherds (002) 17, (002) 18 and (002) 19 are post-medieval in date.

G. Dunn
December 2017

APPENDIX VI

Reproduction of Glass Assessment Report, H.E.M. Cool, September 2017

Roman vessel glass from 'Llwybr Tegid' cycle route. Llanuwchllyn to Glan-llyn outdoor activity centre, Gwynedd

H.E.M. Cool

Report submitted to the Gwynedd Archaeological Trust September 2017

The glass fragment from the upper fill of ditch 7 comes from a prismatic, most probably square, bottle (Price and Cottam 1998, 194-8). These were in common use from the later first century into the third century with their main *floruit* in the second century. These storage vessels are found on all types of Romano-British sites during that time, often in large quantities.

Prismatic bottle; body fragment. Blue/green. Straight side curving over to shoulder; wear scratches on side shoulder junction. Dimensions 37 x 20mm, weight 4.8g. 008 : sf 15.

Bibliography

Price, J. and Cottam, S. 1998. *Romano-British Glass Vessels: a Handbook* CBA Practical Handbook in Archaeology 14 (York)

APPENDIX VII

Reproduction of X-Ray Report, Dr. Phil Parkes, September 2017

X-ray and assessment of finds, GAT Site G2255 A494 Llwybr Tegid Llanuwchllyn to Glanllyn

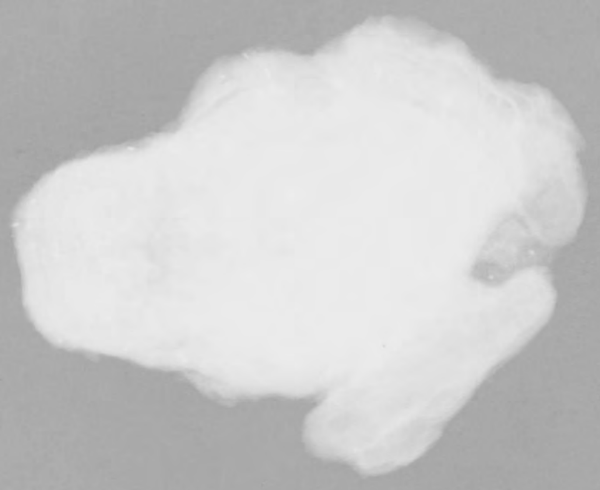
Notes

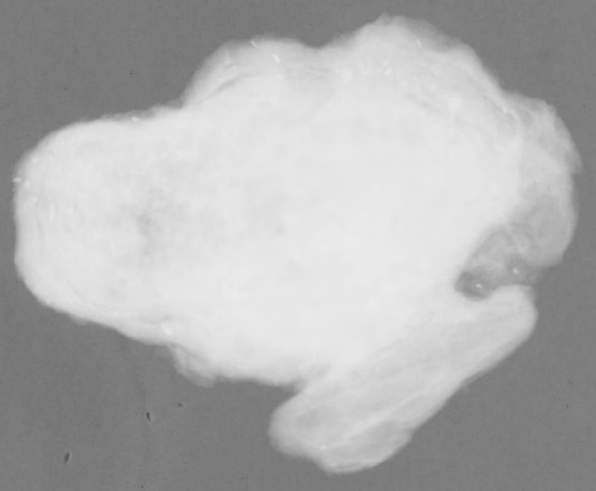
Objects from excavations at GAT Site G2255: A494 Llwybr Tegid Llanuwchllyn to Glanllyn, were received for x-raying and assessment. The finds are generally in a sound condition although one nail has flaking corrosion and splits leading to it being in several pieces. Finds were x-rayed using a Faxitron 43805 cabinet system. X-ray films were digitised using an Array Corporation 2905 Laser Film Digitiser. Below are comments on information provided by the x-rays.

Find number	X-ray number	Notes
10	J648	1 x nail corrosion has split and detached from shaft. Nail has a round, flat head and a shaft with a square cross-section tapering to a point. The nail was consolidated with Butvar B98 (Polyvinvl butyral) to try and reduce further losses. 1 x nail shaft or wire? Thin iron wire, appears to taper to a point with a probable round cross-section.
11		Lead object, waste?
12	J648	Nail fragment, flat round head with nail shaft having a square x-section, tip missing and broken.
13		Small piece of rolled / folded lead.
14	J648	Lump of iron corrosion with small stone attached. No discernible shape that would identify it as an object. Some spots of more dense material appears to be within the corrosion, but this is also noted on Δ12 and so may be a natural part of the burial environment rather than something associated with the object.

Phil Parkes
28/11/17

J648





APPENDIX VIII

Reproduction of Worked Stone Assessment Report, Spencer Gavin Smith, June 2017

Stone Methodology and Report

Methodology

Spencer Gavin Smith has been commissioned by *Gwynedd Archaeological Trust* (GAT) to undertake an assessment of piece of stone recovered from an archaeological excavation at Llwybr Tegid, Llanuwchllyn, Gwynedd in 2014. The stone will be assessed in line with information from the British Geological Survey in association with Chartered Institute of Archaeologists guidance.

Assessment of finds material recovered from intrusive fieldwork cannot be undertaken without knowledge of its provenance. Information on context, phasing, date and methods of retrieval and an internally consistent stratigraphic matrix should be provided for assessment (CIFA 2014, 3.5.2).

Report

A piece of stone [53] was assessed for this report. It was recovered from within the fill of a Roman roadside ditch (Context 004) of road RR642 (Caer Gai to Caersws), 235m south east of the Roman Fort of Caer Gai.

[53] Shaped Stone

Dimensions:
Maximum Surviving Length: 382mm
Maximum Surviving Width: 108mm
Maximum Surviving Depth: 54mm

A piece of Nant Ffrancon Subgroup – Siltstone. Mid grey in colour. Three of the faces (1) (2) & (3) show similar weathering patterns whilst the fourth (4) is much more angular, with the bedding planes from which the stone has been won much more angular in their definition. This would suggest that face (4) was not as exposed to the weather as the other faces prior to its deposition in the secondary fill of the roadside ditch (004).

There appear to be tooling fracture marks on face (1), which has been dressed to form a relatively flat surface, and the marks suggest the stone was worked from the broader to the narrower end. Face (2) is smoothly weathered up to 220mm along its length from the broader end, but appears to have lost a bedding plane prior to deposition, as the surface is much rougher from this point to the narrower end. Face (3) is similar to face (1) in texture, but lacks obvious tooling fracture marks. Face (4) is not weathered compared to the other faces, suggesting it was protected from this prior to deposition.

Conclusion

This piece of stone has been prepared for use in a structure of some kind, and its position in the secondary fill of the Roman roadside ditch (004) suggests it was part of a Roman structure, or at least quarried during the Roman period. Similar material was identified as being part of the stone wall which made up part of the Phase II defences – dated to the mid-2nd century A.D. – excavated by the Gwynedd Archaeological Trust in 1982 (White 1986: 136).

Bibliography

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