1383

New Ysgol Bro Aberffraw Primary School, Newborough, Anglesey

An Assessment of Potential for Analysis
MAP2: Phase 3

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

New Ysgol Bro Aberffraw Primary School, Newborough, Anglesey

An Assessment of Potential for Analysis
MAP2: Phase 3

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Adroddiad Rhif / Report No.1383

Prepared for: Cyngor Sir Ynys Môn

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***front cover image: SSW facing section through pit [1308], Trench 13 (scale 1x0.5m; archive image: G2467_084).**

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

1 *CRYNHODEB DAD-TECHNEGOL* NON-TECHNICAL SUMMARY

Cafodd Ymddiriedolaeth Archaeoleg Gwynedd ei dirprwy gan Gyngor Sir Môn i gwblhau Asesiad ôl-cloddiad o Ddadansoddiad o Adnoddau Cyd (MAP2: Cyfnod 3) yn dilyn rhaglen o asesiad archeolegol, arfarniad (prawf ffosydd) ac ymgymryd lliniariad a'r safle arfaethedig o'r Ysgol Newydd Gynradd Aberffraw, Niwbwrch, Ynys Môn.

Wnaeth arolwg geoffiseg ac asesiad seiliedig-desg ei chwblhau i'r safle arfaethedig gan Ymddiriedolaeth Archeolegol Gwynedd, gan ddilyn arfarniad archeolegol yn Orffennaf 2016. Roedd cyfanswm o deuddeg ffosydd gael ei gloddio tu fewn y'r ddau maes, gyda canlyniad o dynodi nifer o nodweddion gan gynnwyd adeilad a waliau cerrig yn gornel de-orllewin tu fewn Cae 1, a ffos cyn-hanesyddol posib yn Ffos 19 Cae 2, a dwy pydew yn cynnwys cerrig llosf tu fewn Ffos 13 Cae 2.

Mae'r Asesiad ôl-cloddiad o Ddadansoddiad o Adnoddau Cyd hwn wedi cael ei ymgymryd yn dilyn yr adfeddiant o'r gwrthrychau a ecofactiau o'r nodweddion a'i claddwyd yn ystod y rhaglen arfarniad ffosydd, yn arbennig o'r ardaloedd gyda phosibiliadau o weithgareddau cyn-hanesyddol yn Ffos 13 a 19. Mae'r gwrthrychau a ecofactiau a'i ailddarganfod o'r nodweddion cloddied ei darparu er mwyn gael asesiad ac awgrymiadau arbennig pan yn angenrheidiol i gael dadansoddiad ymhellach.

Mae'r asesiad amgylcheddol o'r gweddillion macro llysiau llosgedig wedi adnabod 26 gronyn cnydau o gyd-destunau o amgylch y safle gan gynnwys haidd, bara/gwenith clwb, gwenith a cheirch. Dynodwyd hefyd golosg coed oddi wrth gerddinen, derwen, gwernen a draenen ddu. Awgrymiad yr arbenigwyr i'w ymostwng y grawn cnydau a golosg coed er mwyn dyddio radio carbon o'r nodweddion posib cyn-hanesyddol o Ffosydd 13 a 19.

Ddaru'r asesiad gwrthrychau dyndod crynodiad o gerrig llosg mewn dau bydew neu derfyn ffos tu fewn Ffos 13. Arddangoswyd y cerrig fod eu detholwyd yn fwriadol, a sawl gwaith drosodd maent gael ei llosgi a'i oerni'n gyflym sydd yn achosi nhw i'w malu, mae hwn yn gyson y fath o ddefnydd sydd tueddu ei ailddarganfod o dwmpath llosg cyn-hanesyddol. Nid oes yna awgrymiadau am asesiadau pellach i'r cerrig llosg, fodd bynnag ddaru ddyddiad radio carbon darnau siarcol o'r pydewau gallu cadarnhau dyddiadau cyn-hanesyddol i'r nodweddion.

Cafodd gwrthrychau lithig a chrochenwaith cynhanesyddol posib ei chyflwyno i'r asesiad arbenigwyr. Dim ond dau o'r lithigau sydd gallu fod cael dechreuad anthropogenic ac nid ydynt yn ddiagnostig o gyfnod neu weithrediad. Mae'r darnau crochenwaith wedi eu hasesu i

fod yn galedion mwynau naturiol. Nid oed yna unrhyw awgrymiadau am asesiad pellach i'r lithig neu wrthrychau crochenwaith posib.

Gwynedd Archaeological Trust has been commissioned by Cyngor Sir Môn to complete a post-excavation Assessment of Potential for Analysis (MAP2: Phase 3) following a programme of archaeological assessment, evaluation (trial trenching) and mitigation undertaken at the proposed site of the New Ysgol Bro Aberffraw Primary School, Newborough, Ynys Môn.

A geophysical survey and desk-based assessment was completed for the proposed site by Gwynedd Archaeological Trust, followed by an archaeological evaluation in July 2016. A total of twenty trenches were excavated within the two fields, which resulted in the identification of a number of features including a stone walled building in the south west corner of Field 1, a possible prehistoric ditch in Trench 19 Field 2, and two pits containing burnt stone in Trench 13 Field 2.

This post-excavation Assessment of Potential for Analysis has been undertaken following the recovery of artefacts and ecofacts from features excavated during the evaluation trenching programme, most notably from areas of potential prehistoric activity in Trenches 13 and 19. The ecofacts and artefacts recovered following the evaluation have been sent for specialist assessment and recommendations have been made where necessary for further analysis.

The environmental assessment of charred macroplant remains identified 26 cereal grains from contexts across the site which included barley, bread / club wheat, wheat and oats. Wood charcoal from rowan, oak, alder and blackthorn was also identified. Specialist recommendation has been made for the submission of cereal grains and wood charcoal for the radiocarbon dating of the possible prehistoric features in Trenches 13 and 19.

The artefact assessment identified concentrations of burnt stone in two pits or ditch termini in Trench 13. The stones appear to have been deliberately selected, repeatedly burnt and rapidly cooled causing them to shatter, consistent with the type of material recovered from prehistoric burnt mounds. No further assessment is recommended for the burnt stone however radiocarbon dating of charcoal fragments from the pits may confirm a prehistoric date for the features.

Possible lithic and prehistoric pottery artefacts were also submitted for specialist assessment. Only two of the lithics may possibly be anthropogenic in origin and neither are diagnostic of period or function. The possibly prehistoric pottery fragments were assessed to

be natural mineral concretions. No further assessment is recommended for either the lithic or possible ceramic artefacts.

2 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Cyngor Sir Ynys Môn to complete a post-excavation *Assessment of Potential for Analysis (MAP2 Phase 3)*. This follows a programme of archaeological evaluation (trial trenching) on land designated for the proposed Ysgol Bro Aberffraw, Newborough, Ynys Môn (NGR SH4247566010; Figure 1). The post-excavation Assessment of Potential for Analysis has been undertaken in response to the identification of suspected prehistoric and medieval archaeological activity and the recovery of associated ecofacts and artefacts.

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

- 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 report specifically relates to the assessment of recovered artefacts and ecofacts (MAP2 Phase 3). The methodology and 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.

The post-excavation has been monitored by Gwynedd Archaeological Planning Services (GAPS). GAPS must approve the current report as well as any subsequent reporting.

Reference will also been made to the following guidelines:

- Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation (Campbell, Moffett and Straker 2011);
- Standard and Guidance for Archaeological Excavation (Chartered Institute for Archaeologists 2014);
- Standard and Guidance for Archaeological Watching Brief (Chartered Institute for Archaeologists 2014);

- Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists 2014);
- Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists 2014); and
- Guidelines for digital archives (Royal Commission on the Ancient and Historic Monuments of Wales 2015).

Gwynedd Archaeological Trust is certified to ISO 9001:2008 and ISO 14001:2004 (Cert. No. 74180/A/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists and a member of the Federation of Archaeological Managers and Employers (FAME).

3 BACKGROUND - ARCHAEOLOGICAL RESULTS

3.1 Introduction

The archaeological trial trenching was completed during July 2016 (Figure 2; Figure 3; Figure 4; McGuinness 2016). Twenty three archaeological features were identified, 18 of these features were subject to varying degrees of excavation. The majority of the features identified appear to be linear cut features, probably field boundaries and of unknown date. Other discoveries included linear banks, walls, ditch termini and a charcoal filled pit. Only two artefacts were recovered during the excavation, a 1916 One Penny coin from the topsoil in Trench 1 (SF001), and a small chip of flint (SF002) from the fill of the possibly prehistoric ditch in Trench 19. A further 15 artefacts or collections of artefacts were recovered from bulk samples which consisted mostly of flint fragments from Trenches 07, 01 and 04 (SF003 - SF009), heat cracked-stones from Trenches 13 and 01 (SF010-012), and possible burnt prehistoric ceramic fragments from Trench 13 (SF013 and SF14) and Trench 19 (SF014). The 6 desk-based assessment features targeted and successfully identified during trial trenching are discussed first below, followed by a discussion of the 17 previously unknown archaeological features.

3.2 Desk-based assessment features

3.2.1 Feature 2: house plot and associated small garden plot shown on the Lligwy Estate map of 1782

Though substantial remains of a building were not encountered, the structural remains in the southwest corner of Field 1 potentially relate to the house shown on historic maps in this area. Both wall (0905) in Trench 09 and wall (0109) in Trench 1 are potentially part of a larger structure in this area. Likewise, the earth and stone bank (0104) in Trench 1 could well be part of the curvilinear enclosure surrounding the house on the same map.

Wall (0905), near to the gateway to Field 1, already appears to be considerably disturbed; it is likely that the proposed works will further disturb archaeological remains in this area due to the high volume of construction related traffic anticipated through the gateway. The buildings and enclosure on the Lligwy Estate map certainly predate the late 18th century and may be Post-medieval or medieval in origin.

3.2.2 Features 8-9: linear anomaly/former field boundary

The remains of Feature 8 were encountered in Trench 7 as a wide 0.25m deep ditch [0707] cut into the natural drift geology. The remains of Feature 9 were identified both in Trench 01 as the 0.3m deep ditch [0108] and Trench 03 as the 0.35m deep ditch [0304]. The characteristics of all three of these ditch sections are consistent with that of silted up former field boundary ditches. Both Features 8 and 9 are most likely earlier than the late 18th century and may be relict medieval field boundaries. Unfortunately no finds from the excavated portions means that on our current level of understanding, the ditches remain undated. Environmental samples were taken from the fills of [0707], [0108] and [0305] and artefacts and or datable material may yet be recovered.

3.2.3 Feature 10: linear anomaly

The remains of Feature 10 were encountered in Trench 4 as a shallow narrow ditch [0404] cut into the natural drift geology. It was just 0.05m deep, and despite not being visible in the trench baulk sections as such, the ditch was probably cut from a much higher level through the subsoil. The encountered remains are consistent with that of a former field boundary ditch which accompanied the low bank in the field observed during the Phase 1 investigations. A boundary in this location is not shown on any of the historic mapping of this area so it would appear that the ditch at least predates the late 18th century and may be medieval or earlier. The lack of finds from the feature means that it remains undated. An environmental sample taken from the fill of [0404] may provide artefacts or other datable material.

3.2.4 Feature 18: linear anomaly

No evidence for Feature 18 was identified in Trench 8 however it is possible that the tree throw [1404] in Trench 14 does form the extreme eastern end of the feature. It is highly possible that any former field boundary may have incorporated trees along its length and that may explain the sporadic, intermittent nature of Feature 18. No finds were associated with [1404] and the date of Feature 18 remains uncertain, though its absence from the Lligwy Estate map suggests it predates the late 18th century and may be medieval or earlier.

3.2.5 Feature 19: possible ring ditch or circular gully.

No evidence for the circular gully was encountered in Trench 19, however a section of the seemingly associated curvilinear feature to the south was identified and recorded as ditch cut [1905]. Despite the lack of diagnostic and datable finds from the ditch cut, its form, the recovery of a small flint chip and the complete absence of post-medieval pottery (despite the

noticeable quantities visible in the top and subsoil in this area) suggest it is early, possibly prehistoric. An environmental sample taken from the fill of [1905] may provide artefacts or other datable material.

3.3 Previously unknown archaeological features

Seventeen previously unknown archaeological features were identified. They are discussed below. In many cases their full extent in plan is unestablished, likewise their relationship to other still unknown archaeological features that may survive in the vicinity. Though it is difficult to assess their individual potential, it is however possible to identify areas of higher archaeological potential within the two fields based upon the current level of understanding.

Two previously unknown archaeological features, [0107] in Trench 1 and [2007] in Trench 20, are best interpreted as Post-medieval/modern land drains and of little archaeological value.

Two shallow, narrow, linear gullies were also identified; [1307] in Trench 13 and [1605] in Trench 16. They are both of unknown date, but are likely drainage features of limited diagnostic value.

Five previously unknown straight linear ditches were encountered: 1 in Trench 4 [0406], 2 in Trench 7 [0705] and [0706], 1 in Trench 15 [1505] and 1 in Trench 19 [1907]. All are probably the shallow remains of former field boundary ditches and none contained any finds. Ditch [1907] is most likely a now removed straight linear field boundary shown on both the 1782 Lligwy Estate map and the First Edition Ordnance Survey Map and probably Post-medieval in date. Environmental samples were taken from the fills of [0406], [0705], [0706] and artefacts and or datable material may yet be recovered. At the current level of understanding, the date of these three ditches, like [1505] and [1907] is unknown.

In Trench 18, the remains of the field bank or wall [1804] also either represents part of the largely ploughed out remains of an earlier field boundary or enclosure or possibly the heavily damaged remains of a drystone wall of unknown date.

Five potential ditch termini were encountered across the site. The potential terminal ends of ditches were [0408] in Trench 4, [1308] and [1309] in Trench 13, [1806] in Trench 18 and [2005] in Trench 20. Without an understanding of the full extent of these features it is impossible to identify their full form and function; it's possible, for example, that any of these features may be elongated shallow pits. None of the termini contained any finds and all are of unknown date. Environmental samples were taken from the fills of [0408], [1308], [1309] and [1806] and artefacts and or datable material may yet be recovered. The two opposed

termini in Trench 13, [1308] and [1309], are worthy of note as their fills were comprised predominately of burnt stone, possibly the residue of industrial activity in the vicinity.

The remaining two previously unknown archaeological features identified are the remains of the shallow, charcoal rich pit in Trench 17 [1705] and the schist slab (0707) in Trench 07. As yet unprocessed environmental samples taken from the fill of [1705] do have the potential to provide a date for the feature, but at this stage it remains undated. The slab (0707) may be a flat stone laid on the natural ground surface in order to support a post, no other similar stones were identified within the confines of the trench however and the slab may be an isolated natural phenomena.

In light of these results, it is possible to suggest two areas of moderate archaeological potential based upon the discovery of previously unknown archaeological remains:

- The area around the eastern end of Trench 13 in Field 2 which contains the burnt stone filled opposed ditch termini [1308] and [1309]; and
- The area at the north eastern end of Trench 18 in Field 2 which contains the remains of the field bank (1804) and the charcoal rich possible ditch terminus [1806].

4 ASSESSMENT OF POTENTIAL FOR ANALYSIS: SPECIALIST ASSESSMENT

4.1 Ecofact Assessment

The primary aims of the wet-sieving and flotation of bulk samples are to recover charred macroplant remains for radiocarbon dating and paleo-environmental information, and also the recovery of additional artefacts. The ecofact assessment was limited to the 14 bulk samples shown in Table 1. The wet-sieving and flotation was conducted by GAT staff. The flots and macro-botanical remains recovered have been assessed by specialists at AOC Archaeology.

Sample No.	Context No.	Description	Purpose of sample	No. of Box/Bag (s)
<001>	(0405)	Fill of NE-SW aligned straight linear ditch [0404]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<002>	(0407)	Fill of E-W aligned straight linear ditch [0406]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<003>	(0409)	Fill of the possible terminus of a NW-SE aligned ditch [0408]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<004>	(0305)	Fill of a NE-SW aligned a straight linear ditch [0304]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box

Sample No.	Context No.	Description	Purpose of sample	No. of Box/Bag (s)
<006>	(1304)	Burnt stone and charcoal rich fill of pit/terminus [1308]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<007>	(1305)	Burnt stone fill of pit /terminus [1309]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<008>	(1704)	Charcoal rich fill of pit [1705]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<009>	(0109)	Sandy silt matrix between stones of wall (0109)	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<010>	(0110)	Fill of NE-SW aligned ditch [0108]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<011>	(0708)	Fill of E-W aligned cut straight linear feature [0705]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<012>	(0709)	Fill of E-W aligned cut straight linear feature [0706]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box

Sample No.	Context No.	Description	Purpose of sample	No. of Box/Bag (s)
<013>	(0710)	Fill of SE-NW aligned straight linear ditch [0707]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<014>	(1904)	Fill of possibly prehistoric ditch [1905]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
<015>	(1805)	Fill of shallow pit or ditch terminus [1806]	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box

Table 1 Bulk samples processed by wet sieving and flotation.

4.1.1 Ecofact Assessment Methodology

Ecofact assessment has been completed as a two stage process, based on the following methodology:

1. The 14 bulk samples were processed in house by GAT. The process consists of wet sieving using a 500 micron mesh to collect coarse residues, and flotation to enable the collection of a flot in a 250 micron mesh. Coarse residues were then dried before being examined to recover artefacts and non-floating ecofacts. Once examined, and any artefacts or ecofacts recovered, the residues were discarded. The flots were dried, weighed and catalogued.
2. The 14 flots recovered from the bulk samples were then sent for specialist assessment to AOC Archaeology. The flots were matted with roots which had to be separated with tweezers before the samples could be 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. Where possible a maximum of 10 charcoal fragments were selected for further analysis and preference was given to any possible roundwood. Identifications were confirmed using modern reference material and seed atlases stored at AOC Archaeology Edinburgh. Taxonomic and nomenclature for plants follows Stace,C. 2010. *New Flora of the British Isles*. 3rd Edition. Cambridge University Press. Recommendations were also made for any subsequent analysis and radiocarbon dating.

A copy of the environmental assessment report by AOC Archaeology is included as Appendix II.

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

4.1.2 Ecofact Assessment Results

4.1.2.1 Bulk Sample Processing

GAT processed 14 bulk samples from features within Trenches 01, 03, 04, 07, 13, 17, 18 and 19. The samples were taken to enable the recovery of charred macro-botanical remains for assessment and dating and were processed in accordance with the methodology defined in Sec 4.1.1. A summary of the results from the wet-sieving and flotation process and subsequent coarse residue examination are shown below.

Flots were recovered from all fourteen wet sieved bulk samples. The complete list is shown in Table 2.

Sample No.	Context No.	Total Weight (g)	Volume (L)	No. of Trays	No. of Flots	Flot Notes
<01>	(0405)	12.2	9	2	1	Root material, 2 tiny pieces of charcoal.
<02>	(0404)	12.5	9	9	1	Root material, some charcoal flecks.
<03>	(0409)	13.5	9	2	1	Root material, sparse charcoal.
<04>	(0305)	10.3	8	1	1	Root material, very sparse charcoal flecks
<06>	(1304)	12.7	8.5	3	1	Root material, very small charcoal pieces.
<07>	(1305)	10.9	8	2	1	Root material, very sparse charcoal.
<08>	(1704)	4.3	3.5	1	1	Root material, some charcoal.
<09>	(0109)	9.9	8	2	1	Root material, hardly any charcoal.
<10>	(0110)	13.2	9	2	1	Root material, some charcoal.
<11>	(0708)	10	8	2	1	Root material, sparse charcoal flecks.
<12>	(0709)	12.8	9	2	1	Root material, sparse charcoal.
<13>	(0710)	15.5	8.5	2	1	Root material, sparse charcoal.
<14>	(1904)	12.0	9	2	1	Root material, sparse charcoal.
<15>	(1805)	9	8	2	1	Root material, hardly any charcoal.

Table 2 Flots recovered from wet-sieved bulk samples and sent for specialist analysis.

4.1.2.1.1 *Coarse Residue Results*

The bulk sample coarse residues were dried and examined for potentially diagnostic ecofacts and artefacts. No macrobotanical remains were recovered, however potentially diagnostic artefacts were recovered from 7 of the 14 coarse residues (

Table 3).

Lithic artefacts were recovered from 7 coarse residues: sample <02> from Trench 04; samples <06> and <07> from Trench 13; samples <09> and <10> from Trench 01; sample <13> from Trench 07; and sample <14> from Trench 19.

Apparently deliberately burnt stones were recovered from 3 samples: <06> and <07> from Trench 13; and sample <10> in Trench 01.

Fragments of possible prehistoric ceramic material were recovered from the coarse residues from three samples: <06> and <07> from Trench 13; and sample <14> in Trench 19.

Sample No.	Context No.	Flint	Ceramic	Burnt Stone	Comments
<02>	0407	x			Chert and flint chips recovered.
<06>	1304	x	x	x	Heat cracked stones, flint fragments and prehistoric pottery fragments (burnt) recovered.
<07>	1305	x	x	x	Heat cracked stones, prehistoric pottery fragments (burnt) and a small piece of flint recovered.
<09>	0109	x			Flint chips recovered.
<10>	0110	x		x	Heat cracked stones and flint chips recovered
<13>	0710	x			Small flint fragment recovered.
<14>	1904	x	x		Burnt prehistoric pottery and a small piece of flint recovered.

Table 3 Coarse residues containing potentially diagnostic artefacts

4.1.2.2 Results of the Analysis of Macroplant Remains

The 14 flots listed in Table 2 were forwarded to Jackaline Robertson, an Archaeobotanist at AOC Archaeology. The flots were processed using the methodology outlined in Sec 4.1.1

Recommendations for additional analysis and radiocarbon dating of macro plant remains are summarised in the conclusion and will be defined in a MAP2 Phase 4 project design prepared by GAT.

The following paragraphs are drawn from Jackaline Robertson's environmental assessment report, a copy of which is included as Appendix II.

The Macroplant assemblage

A total of 37 charred macroplants were recovered from 11 contexts (Table 4). Carbonised macroplant remains were absent from pit [1308] in Trench 13, pit [1705] in Trench 17 and ditch [0707] in Trench 07.

The assemblage was dominated by 26 cereal caryopses (grains). The species and number identified were three barley (Hordeum sp), one bread/club wheat (Triticum aestivum/compactum L), one wheat (Triticum sp) and three oats (Avena sp). The remaining 18 cereal caryopses could not be identified further due to poor preservation. Preservation of the cereal was generally poor and only those remains from sample <14> context (1904) in Trench 19 could be described as good. The weed taxa comprised three sedge fruits (Carex sp), one seed of St John's wort (Hypericum perforatum L), one rush seed (Juncus sp) and one immature bud. A further five weed taxa could not be identified. The plant remains were scattered throughout the site with no evidence of deliberate or selective disposal of remains within specific features.

This small assemblage of cereal caryopses has probably derived from the disposal of domestic cooking and cleaning debris. The sedge and rush were either weed plants growing near to site and burnt accidently or alternatively these plants could have been used deliberately as building materials. Both species typically favour damp habits. St John's wort has long been recognised for its medical properties and its presence here could reflect selective use, although it is possible that it represents an intrusive weed seed. The immature bud was likely brought to site along with the wood intended for use as fuel. Given the small size of the weed assemblage it is not possible to confidently establish the economic importance of these species to the community living at this site.

Sample			01	02	03	04	06	07	08	09	10	11	12	13	14	15
			Linear	Linear	Ditch	Ditch	Pit	Pit	Pit	0Wall	Ditch	Linear	Linear	Ditch	Linear	Pit
Feature			0404	0406	0408	0304	1308	1309	1705	0105	0108	0705	0706	0707	1905	1806
Context			0405	0407	0409	0305	1304	1305	1704	0109	0110	0708	0709	0710	1904	1805
Flot Vol			<10	10	10	<10	100	30	<10	10	<10	<10	<10	<10	10	<10
% Sorted			100	100	100	100	100	100	100	100	100	100	100	100	100	100
Species	Name	Part														
Hordeum sp.	Barley	Caryopsis/es									3					
Triticum aestivum/compactum L.	Bread/club wheat	Caryopsis/es													1	
Triticum sp.	Wheat	Caryopsis/es										1				
Avena sp.	Oat	Caryopsis/es										1			2	
Cereal	Cereal	Caryopsis/es	1	3	4	1		1		1	3	1	1		2	
Carex sp.	Sedge	Fruit(s)									1		2			
Juncus sp.	Rush	Seed(s)			1											
Hypericum perforatum L.	St John's wort	Seed(s)									1					
Bud	Bud	Immature bud		1												
Unknown	Indet	Seed/fruit			1	1							2			1

Table 4 Carbonised macroplant remains

Sample	Feature	Context	Species	Name	Frag	RW	Weight (g)
2	Linear 0406	0407	Quercus sp.	Oak	1		0.02
6	Pit 1308	1304	Alnus glutinosa L.	Alder	5		
6	Pit 1308	1304	Sorbus sp.	Rowan	3	1	
6	Pit 1308	1304	Quercus sp.	Oak	1		49.2
7	Pit 1309	1305	Quercus sp.	Oak	6		
7	Pit 1309	1305	Sorbus sp.	Rowan	4		14.5
9	Wall 0105	0109	Sorbus sp.	Rowan	1		0.1
14	Linear 1905	1904	cf Prunus spinosa L.	Blackthorn	1		0.02

Table 5 Charcoal species identified

The charcoal assemblage

Charcoal was noted in all 14 contexts but fragments suitable for species identification were present in five samples only (Table 5). These were linear [0406] in Trench 04, pit [1308] in Trench 13, pit [1309] in Trench 13, drystone wall [0105] in Trench 01 and linear [1905] in Trench 19. The charcoal assemblage totalled 63.8g and 23 fragments were selected for species identification. The species were rowan (Sorbus sp) which formed 39% followed by oak (Quercus sp) 35%, alder (Alnus glutinosa L) 22% and blackthorn (Prunus spinosa L) 4%. Preservation of these fragments was adequate though a small number were noted to be friable. The charcoal was concentred within pits [1308] which had 49.2g and [1309] with 14.5g, both in Trench 13. The rest of the assemblage was scattered in small quantities in the three remaining contexts totalling 0.1g. There was a single piece of rowan roundwood in pit [1308] which was friable. There was no evidence of any wood working debris, structural or artefact burning and the two large concentrations of mixed charcoal species within pits [1308] and [1309] are typical of fuel reside.

Conclusion and recommendations for radiocarbon dating

The relatively small macroplant and charcoal assemblages recovered suggests that they have accumulated through domestic activities such as cooking, cleaning and preparing fires.

Due to the generally poor preservation of the charred macroplant assemblage, most of the cereal caryopses may not contain sufficient carbon for dating with the possible exception of the remains from context (1904), the fill of the possibly prehistoric ditch [1905] in Trench 19.

For other features, the charcoal, in particular the fragments from pits [1308] and [1309] in Trench 13, will provide better candidates for radiocarbon dating The most suitable charcoal species for dating are rowan, alder and blackthorn as oak where possible should be avoided as it is a slow growing species.

The potentially datable contexts based on the findings above are listed in Table 6. Though charcoal was identified in all fourteen contexts, only contexts with charcoal identifiable at species level or well preserved charred cereal grains will be considered for radiocarbon dating. Given the recommendations above regarding the use of oak charcoal, linear feature [0406] in Trench 04 is not deemed suitable for radiocarbon dating as only a single fragment of oak charcoal is available. Though a single fragment of rowan charcoal has been recovered from (0109), the sandy silt soil matrix between the stones of a buried drystone wall in Trench 01, it is possibly residual, and additionally, the point at which it became incorporated into the wall is uncertain. It is therefore deemed not to be a reliable chronological indicator of its construction, use-life, or abandonment.

Three features are proposed for radiocarbon dating:

- the pit or ditch terminus [1308] filled with burnt stones [1304] in Trench 13, using alder or rowan wood charcoal as a dating source;
- the pit or ditch terminus [1309] filled with burnt stones [1305] in Trench 13, using rowan wood charcoal as a dating source; and
- the possible prehistoric ditch [1905] / (1904) in Trench 19, using preferably either the charred oat, unidentified cereal, or bread / club wheat cereal grains, or less preferably the blackthorn charcoal, as a dating source.

Context No.	**Cut**	**Trench**	**Feature description**	**RC dating source**	**Details**
(0109)	[0105]	01	Sandy silt matrix between stones of wall	Wood charcoal	Rowan (*Sorbus* sp.)
(0407)	[0406]	04	Fill of straight linear feature	Wood charcoal	Oak (*Quercus* sp.)
(1304)	[1308]	13	Fill of pit filled with burnt stones	Wood charcoal	Alder (*Alnus glutinosa* L.) Oak (*Quercus* sp.) Rowan (*Sorbus* sp.)
(1305)	[1309]	13	Fill of pit filled with burnt stones	Wood charcoal	Oak (*Quercus* sp.) Rowan (*Sorbus* sp.)
(1904)	[1905]	19	Fill of possible prehistoric ditch.	Charred cereal grains Wood charcoal	Bread / Club Wheat (*Triticum aestivum/compactum L.*) Cereal (Unknown) Oat (*Avena* sp.) Blackthorn (cf *Prunus spinosa* L.)

Table 6 Contexts with potential radiocarbon dates

4.2 Artefact Assessment

Artefact assessment has been undertaken on all of the possibly prehistoric flint lithics from Trenches 01, 04, 07, 13 and 19. The burnt stones recovered from Trenches 13 and 01 have also been assessed. Burnt, possibly prehistoric, ceramic fragments were also recovered from the coarse residues of wet-sieved bulk samples from Trench 19 and Trench 13 and these too have been subject to specialist assessment.

4.2.1 Artefact Assessment Methodology

4.2.1.1 Lithics

Lithic artefacts have been assessed by George Smith, a specialist working on behalf of GAT, for form, function and provenance. The full list of lithic material sent for specialist analysis is shown in Table 7.

Find No.	Context No.	Site Sub.	Material	Description	Weight (g)
002	(1904)	TR19	Flint	Small flint chip recovered from base of the fill of possible prehistoric ditch during excavation.	0
003	(1304)	TR13	Flint	Flint fragments. Recovered from wet-sieved bulk sample <06>.	0
004	(1305)	TR13	Flint	Flint fragment. Recovered from wet-sieved bulk sample <07>.	0
005	(1904)	TR19	Flint	Flint fragment. Recovered from wet-sieved bulk sample <14>.	0
006	(0407)	TR04	Chert	Chert and flint fragments. Recovered from wet-sieved bulk sample <02>.	0
007	(0710)	TR07	Flint	Flint fragments. Recovered from wet-sieved bulk sample <13>.	0
008	(0110)	TR01	Flint	Flint chips (probably natural). Recovered from wet-sieved bulk sample <10>.	26
009	(0109)	TR01	Flint	Flint chips (probably natural). Recovered from wet-sieved bulk sample <09>.	30

Table 7 Lithic artefacts sent for specialist analysis

4.2.1.2 Burnt Stone

The burnt stone has also been assessed by George Smith, a specialist working on behalf of GAT, for form, function and provenance. The full list of burnt stone artefacts sent for specialist analysis is shown in Table 8 below.

Find No.	Context No.	Site Sub.	Material	Description	Weight (g)
010	(1305)	TR13	Burnt Stones	Heat-cracked stones. Recovered from wet-sieved bulk sample <07>.	904
011	(1304)	TR13	Burnt Stones	Heat-cracked stones. Recovered from from wet-sieved bulk sample <06>.	2513
012	(0110)	TR01	Burnt Stones	Burnt stones. Recovered from wet-sieved bulk sample <10>.	88

Table 8 Burnt stone artefacts sent for specialist analysis

4.2.1.3 Ceramics

The burnt ceramic material has been assessed by Frances Lynch, a specialist on welsh prehistoric archaeology and ceramics. The full list of ceramic material sent for specialist analysis is shown in Table 9 below.

Find No.	Context No.	Site Sub.	Material	Description	Weight (g)
013	(1304)	TR13	Ceramic	Fragments of burnt prehistoric pottery. Recovered from wet-sieved bulk sample <06>.	233
014	(1904)	TR19	Ceramic	Fragments of burnt prehistoric pottery. Recovered from wet-sieved bulk sample <14>.	7
015	(1305)	TR13	Ceramic	Fragments of burnt prehistoric pottery. Recovered from wet-sieved bulk sample <07>.	12

Table 9 Ceramic material sent for specialist analysis

4.2.2 Artefact Assessment Results

4.2.2.1 Lithics Assessment Results

A total of 8 lithics or groups of lithics were forwarded to George Smith for analysis (Table 10). With the exception of SF002, a flint chip recovered from the fill (1904) of the linear ditch [1905] in Trench 19, all of the lithics were recovered from coarse residues following wet-sieving of bulk samples.

A copy of the lithics assessment report by George Smith is included as Appendix III.

Only two of the lithic artefacts examined are possibly anthropogenic in origin, the rest are naturally occurring pieces of flint or chert gravel:

- a 10mm long angular fragment of flint recorded as part of SF006 from sample <02>, ditch fill (0407) in Trench 04; and
- a 5mm long flint flake fragment recorded as part of SF007 from sample <13>, ditch fill (0710) Trench 07.

Neither of these two artefacts however are definitely humanly struck pieces, and they are not diagnostic of any particular activity, tool form or period. The small quantity recovered suggests they too are almost certainly chance, natural broken pieces.

The burnt, naturally derived flint fragment recorded as part of SF006 from sample <02>, ditch fill (0407), may indicate human activity, however this has no additional interpretive value for linear ditch cut [0406].

No recommendations for further analysis of the lithic artefacts are proposed.

Find No.	Context No.	Description	Size	Assessment
002	(1904)	1x flint chip, heavily patinated	16mm	natural gravel
003	(1304)	2x rock quartz 1x flint pebble fragment	<10mm <10mm	natural gravel natural gravel
004	(1305)	1x heavily patinated flint fragment	<10mm	natural gravel
005	(1904)	1x struck flint flake with fresh flake face and heavily patinated cortex. Broader than it is long.	6mm	accidental fracture from plough damage

Find No.	Context No.	Description	Size	Assessment
006	(0407)	5x sub rounded black chert	<10mm	natural gravel
		2x angular broken fragments black chert	<10mm	natural gravel
		1x coal fragment	<10mm	worm sorted intrusive
		1x angular fragment of flint	10mm	possibly a humanly struck flake frag
		1x burnt flint fragment	<10mm	may suggest human activity
007	(0710)	1x flint flake fragment	5mm	possible anthropogenic artefact
		1x glossy flint fragment	<10mm	natural gravel
008	(0110)	Numerous subangular fragments of limestone chert	-	natural gravel
009	(0109)	Numerous subangular fragments of light grey chert	<10mm	natural gravel
		2x flint fragments	<10mm	natural gravel

Table 10 Lithic assessment results

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4.2.2.2 Burnt Stone Assessment Results

Three possible burnt stone samples recovered from coarse residues following wet-sieving of bulk samples were forwarded to George Smith for analysis (Table 11). Two of these, SF010 and SF011 derive from the fills of pits [1309] (sample <07>) and [1308] (sample <06>) in Trench 13. The third, SF012, was recovered from the fill of linear ditch [0108] (sample <10>) in Trench 01.

A copy of the burnt stone assessment report by George Smith is included as Appendix III.

The 6 pieces of sub-angular sandstone and chert, SF012, from fill (0110) of linear ditch [0108] in Trench 01 do not appear to have been burnt, and are therefore most likely derived from natural gravel deposits.

The numerous reddened angular and subangular cracked stones SF010 from fill (1305), pit [1309] in Trench 13 were derived from sandstone and measured up to 100mm long. They appear to be the shattered remains of sub-rounded sandstone cobbles, most likely broken in the heat of a fire. Sandstone is not part of the solid geology of the area, and the cobbles appear to have been selectively collected from beach or drift geological deposits, most likely for their ability to withstand thermal shock.

Similarly, the numerous sub-angular rock fragments SF011 from fill (1304), pit [1308] in Trench 13 consisted mainly of sandstone fragments up to 90mm long, though some-sub angular fragments of vein quartz were also present. They also appear to predominately derive from cobbles from non-local geological sources, have been selectively collected for their relatively high resistance to thermal shock, and again have been heated in a fire causing them to crack and shatter.

Both pits [1308] and [1309] therefore seem to contain stones that have been carefully selected and repeatedly heated in a fire causing discoloration. They have subsequently been subjected to rapid cooling, most likely by being exposed to cold water, the consequent thermal shock eventually causing them to crack. There was no evidence for burning in situ within either pit, and it appears that the stones have been burnt elsewhere before being deposited. Smith suggests that they result from ‘burnt mound’ type activity in the vicinity of Trench 13, most likely occurring within the second millennium BC but which could also possibly be from anywhere between the Late Neolithic through to the medieval periods.

Burnt mounds are thought to be the remains of either cooking activity, or less popularly, some kind of ceremonial activity. They usually consist of a ‘horseshoe’ shaped spread of burnt stones and charcoal, often with associated cut features such as pits or ‘troughs’ near

to, or under, the spread of burnt material. The magnetometer survey of the site (Evans, Hopewell and McGuinness, 2016) did not reveal any indication of the presence of such a feature nearby, however Trench 13 is located in area of geologically derived high magnetic background noise which masked any potential archaeological anomalies.

No recommendations for further analysis of the burnt stone artefacts are proposed.

Find No.	Context No.	Description	Size	Assessment
010	(1305)	Numerous reddened angular and subangular fragments of sandstone up to 100mm long. Derived from shattered non-local sub-rounded cobbles	up to 100mm	deliberately burnt stone
011	(1304)	Numerous subangular rock fragments, most sub-angular up to 90mm long. Mostly sandstone, some fine, some coarse. Also a few pieces of vein vein quartz	up to 90mm	deliberately burnt stone
012	(0110)	3x angular pieces of sandstone	up to 45mm	probably natural gravel
		3x sub-angular pieces of cream-coloured chert	up to 45mm	probably natural gravel

Table 11 Burnt stone assessment results

4.2.2.3 Ceramics Assessment Results

Three possible prehistoric ceramic collections recovered from coarse residues following wet-sieving of bulk samples were forwarded to Frances Lynch for analysis (Table 12). Two of these, SF013 and SF015 derive from the fills of the burnt stone filled pits [1308] (sample <06>) and [1309] (sample <07>) in Trench 13. The third, SF014, was recovered from the fill of the possible prehistoric ditch [1905] (sample <14>) in Trench 19.

None of the samples were assessed to contain prehistoric pottery. All three samples were assessed to be concreted mineral (iron and or manganese) deposits which have formed within pits [1308] and [1309] and ditch [1905] after they had filled.

No recommendations for the further analysis of the possible prehistoric ceramic artefacts are proposed.

Find No.	Context No.	Description	Size	Assessment
013	(1304)	Small fragments of mineral concretion		Formed as a result of post-depositional processes
014	(1904)	Small fragments of mineral concretion		Formed as a result of post-depositional processes
015	(1305)	Small fragments of mineral concretion		Formed as a result of post-depositional processes

Table 12 Ceramic assessment results

5 CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER ANALYSIS (MAP2 PHASE 4)

Overall a total of fourteen flots containing ecofacts derived from bulk samples, eight lithic finds, or collections of lithic finds, three samples of possibly burnt stone, and three assemblages of possible prehistoric pottery fragments have been assessed by specialists.

The macroplant and charcoal remains extracted from the flots were assessed by AOC Archaeology. Twenty six cereal grains were recovered from contexts across the site. Eight grains were identifiable to species level: three barley grains from ditch [0108]; one bread / club wheat from linear ditch [1905]; one wheat grain from linear ditch [0705]; and three oat grains, one from linear ditch [0705] and two from linear ditch [1905]. None of the cereals appear to be deliberately deposited and they most likely represent the residue of domestic cooking and cleaning activities.

Charcoal was identified in fourteen flots, five of which contained material which could be identified to species level. Rowan was the most numerous species followed by oak, alder and blackthorn. Almost all of the charcoal came from pits [1308] (77.1%) and [1309] (22.7%) in Trench 13. The number of species identified in the two pits indicates that the charcoal is a typical fuel residue, dumped into the pit along with quantities of burnt stones after being burnt elsewhere.

Overall, the macroplant and charcoal remains are representative of domestic activities such as cooking, cleaning and preparing fires.

Three contexts contained macroplant or charcoal material suitable for radiocarbon dating: pit [1308] in Trench 13; pit [1309] in Trench 13; and the possible prehistoric ditch [1905] in Trench 19.

The lithic artefacts were assessed by GAT specialist George Smith. Six of the collections of lithic artefacts have been assessed as naturally derived. He identified two small pieces of flint that may possibly be anthropogenic in origin, one from ditch fill (0407) and one from ditch fill (0710). Their interpretative potential is however very low, they are not diagnostic of any particular activity, tool form or period and these too may also be naturally broken pieces. No further assessment of the lithic artefacts is proposed.

The burnt stone artefacts were also assessed by GAT specialist George Smith. One of the collections of possibly burnt stone is assessed to be natural in origin. The other two, taken

from pits [1308] and [1309] in Trench 13, contain stones that have been carefully selected before being repeatedly heated in a fire causing them to discolour and shatter. There was no evidence for burning in situ within the pits and the stones appear to have been burnt elsewhere before being deposited. It is possible that the pits represent cut features associated with as yet undiscovered nearby 'burnt mound' type activity that may date from anywhere between the Late Neolithic and the medieval periods. The date of this activity can be determined by the radiocarbon dating of charcoal recovered from pits [1308] and [1309]. No further assessment of the burnt stone artefacts is proposed.

Three samples of possible prehistoric pottery were assessed by GAT specialist Frances Lynch. None of the samples contained prehistoric pottery; all three consisted of natural mineral concretions. No further assessment of the possible ceramic artefacts is proposed.

6 SOURCES CONSULTED

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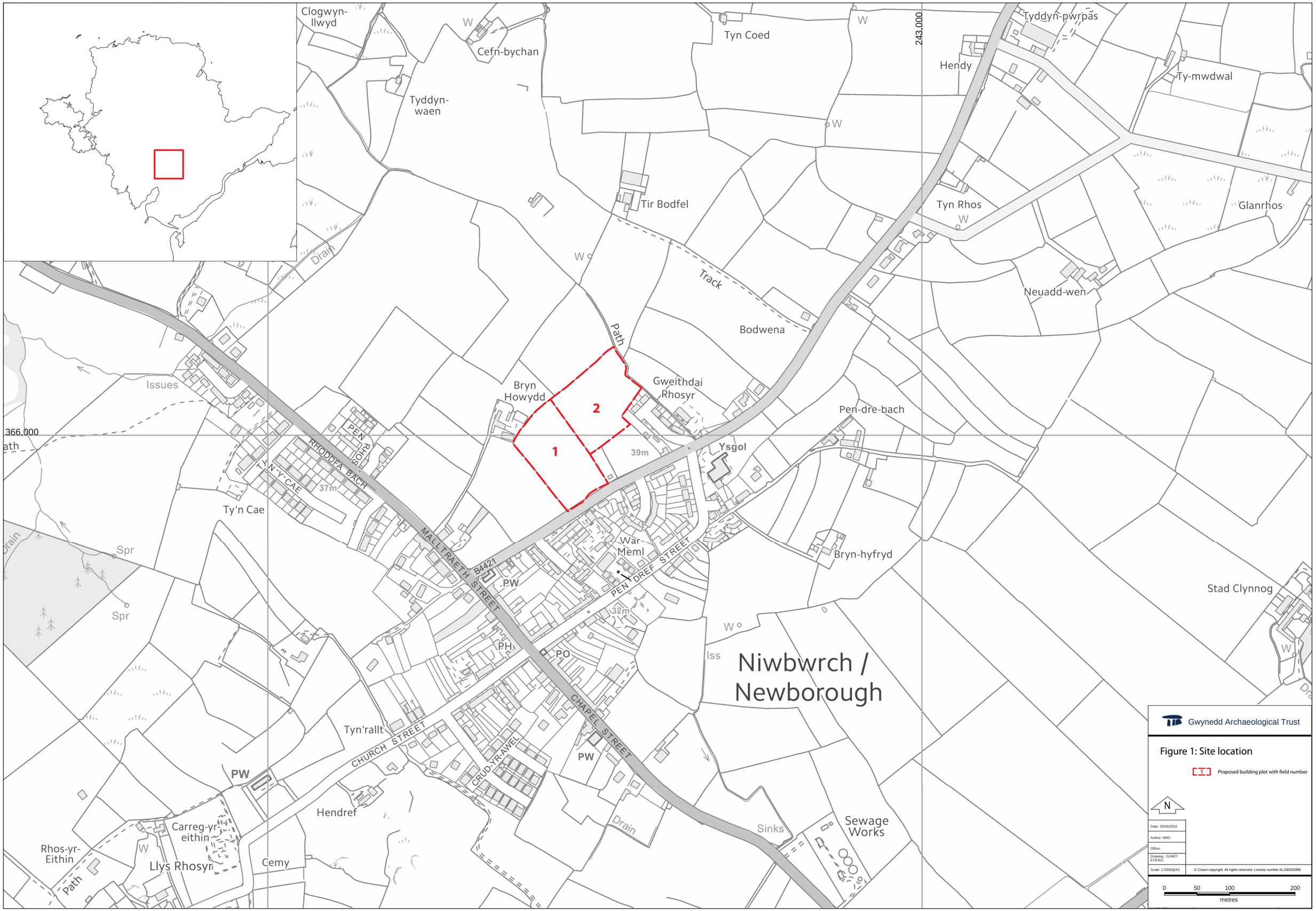
FIGURES



Gwynedd Archaeological Trust

Figure 1: Site location

[1] Proposed building plot with field number

N

Date: 20/08/2016	
Author: NMC	
Office:	
Drawing: G2467/ ET/FIG1	
Scale: 1:5000@A3	© Crown copyright. All rights reserved. License number AL100020895

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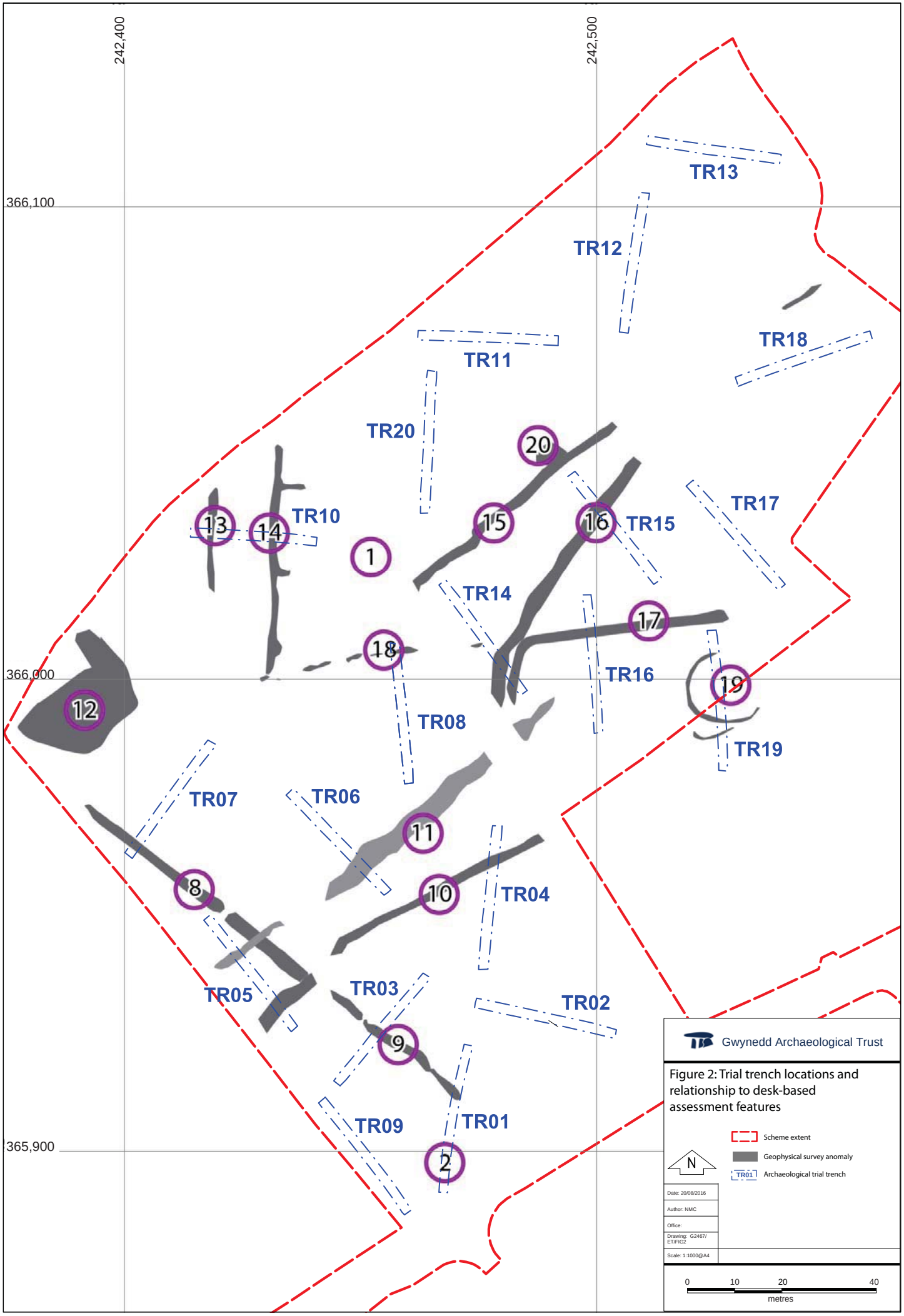
metres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Gwynedd Archaeological Trust
Figure 2: Trial trench locations and relationship to desk-based assessment features
Scheme extent
Geophysical survey anomaly
TR01
Archaeological trial trench
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Author: NMC
Office:
Drawing: G2467/ ET/FIG2
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20
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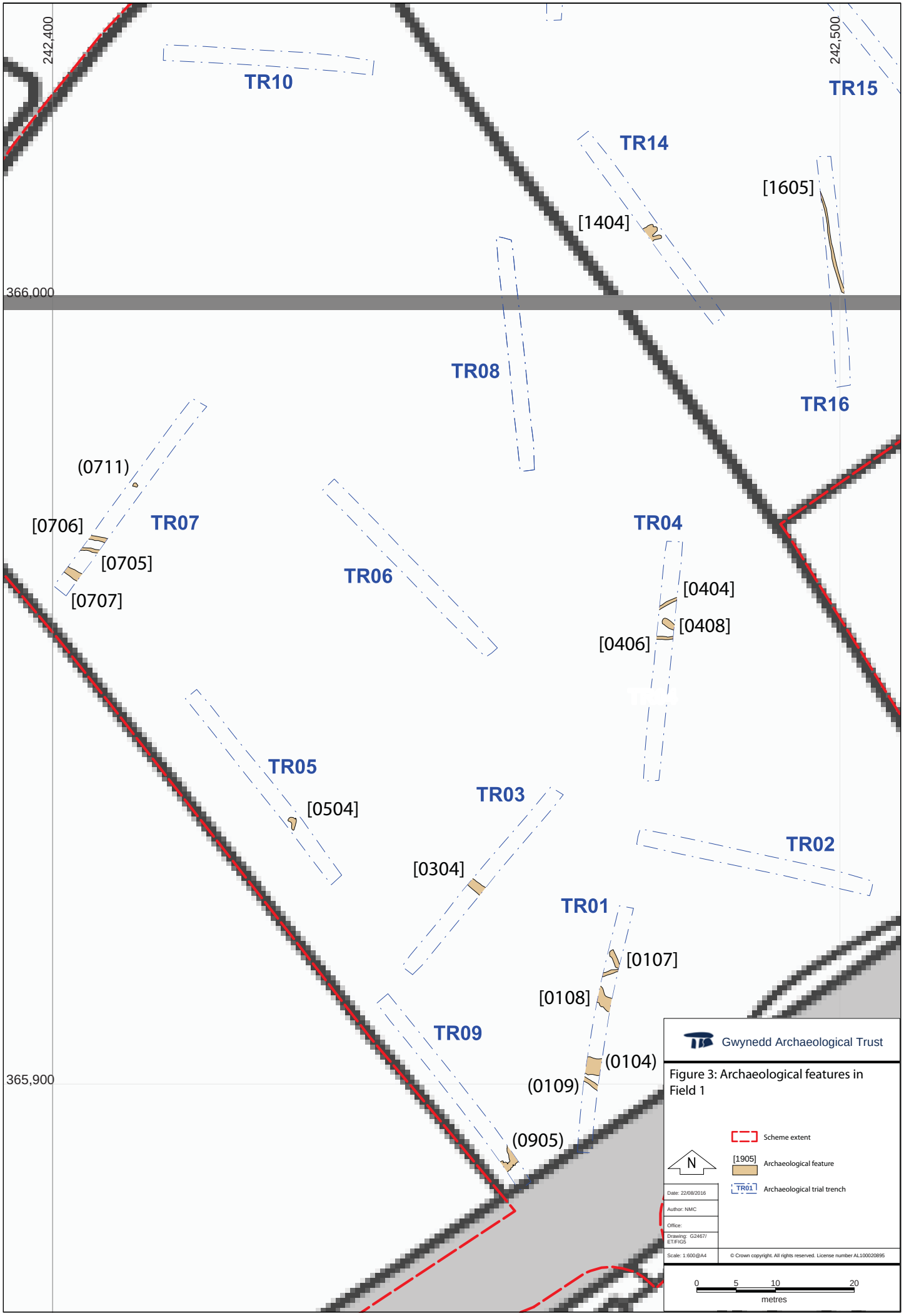
metres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TR03
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TR02
TR01
[0107]
[0108]
TR09
(0104)
(0109)
(0905)
Gwynedd Archaeological Trust
Figure 3: Archaeological features in Field 1
Scheme extent
[1905] Archaeological feature
TR01 Archaeological trial trench
N
Date: 22/08/2016
Author: NMC
Office:
Drawing: G2467/ ET/FIG5
Scale: 1:600@A4
© Crown copyright. All rights reserved. License number AL100020895
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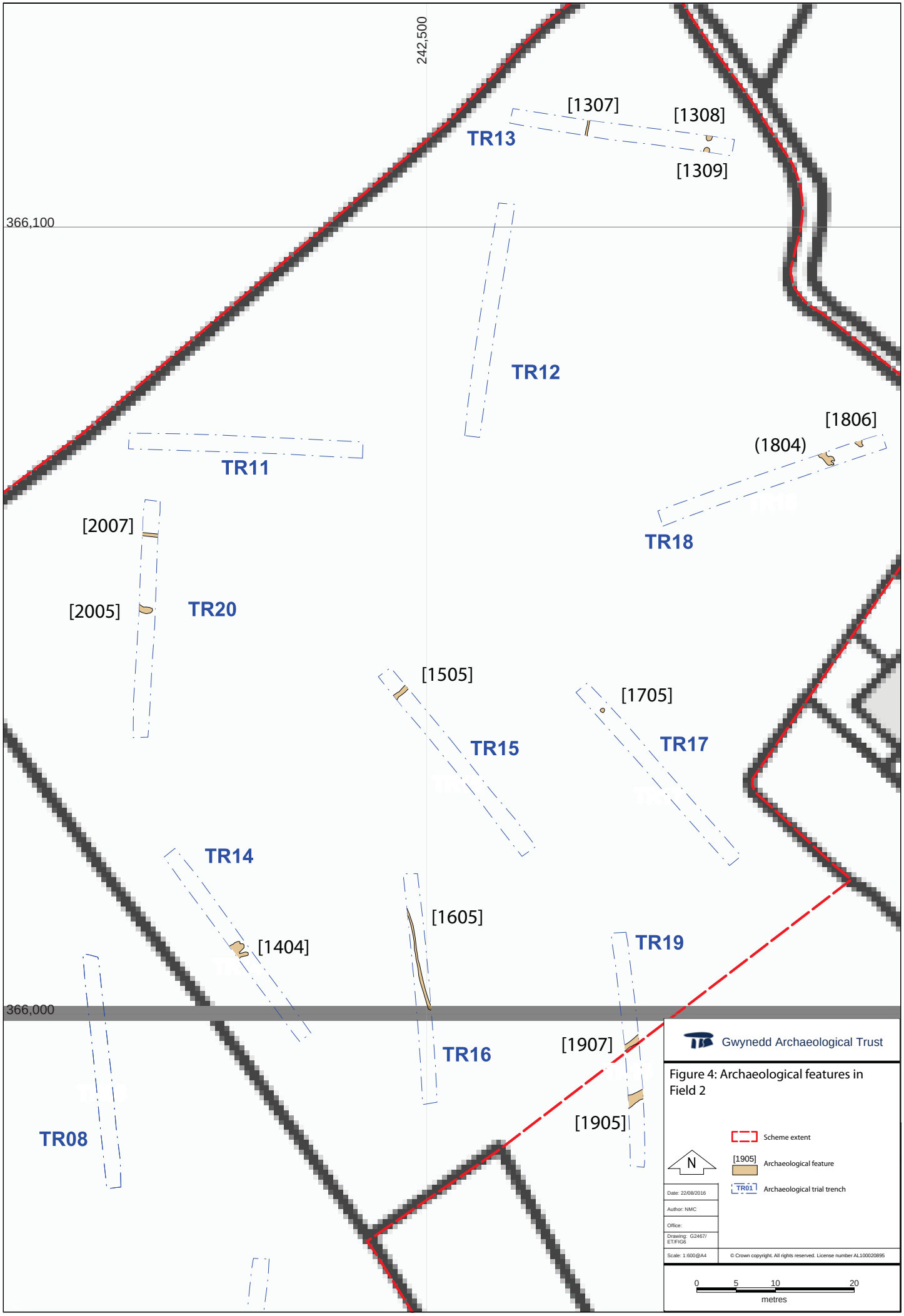
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TR08
Gwynedd Archaeological Trust
Figure 4: Archaeological features in Field 2
Scheme extent
[1905] Archaeological feature
TR01 Archaeological trial trench
N
Date: 22/08/2016
Author: NMC
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Drawing: G2467/ ET/FIG6
Scale: 1:600@A4
© Crown copyright. All rights reserved. License number AL100020895
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metres

APPENDIX I - Approved Project Design

YSGOL BRO ABERFFRAW, NEWBOROUGH, YNYS MÔN (G2467)

PROJECT DESIGN FOR AN ASSESSMENT OF POTENTIAL FOR ANALYSIS (MAP2 PHASE 3)

Prepared for

Cyngor Sir Ynys Môn

March 2017

Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust

Ysgol Bro, Aberffraw, Ynys Môn

Project Design for an Assessment of Potential For Analysis

(MAP2 Phase 3)

Prepared for Cyngor Sir Ynys Môn

Contents

Approvals Table				
	Role	**Printed Name**	**Signature**	**Date**
Originated by	Document Author	Neil McGuinness		
Reviewed by	Document Reviewer	John Roberts		24/03/17
Approved by	Principal Archaeologist	John Roberts		24/03/17

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

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 Cyngor Sir Ynys Môn to complete a post-excavation *Assessment of Potential for Analysis (MAP2 Phase 3)*. This follows a programme of archaeological evaluation (trial trenching) on land designated for the proposed Ysgol Bro Aberffraw, Newborough, Ynys Môn (NGR SH4247566010; Figure 1). The post-excavation Assessment of Potential for Analysis will be undertaken in response to the identification of suspected prehistoric and medieval archaeological activity and the recovery of associated ecofacts and artefacts.

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 the relevant guidelines from *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England 2015). Five project phases are specified in *MAP2* :

- 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.

The post-excavaiton will be monitored by Gwynedd Archaeological Planning Services (GAPS). GAPS must approve the current project specification as well as any subsequent reporting.

Reference will also been made to the following guidelines:

- *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation (*Campbell, Moffett and Straker 2011);
- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists 2014);
- *Standard and Guidance for Archaeological Watching Brief* (Chartered Institute for Archaeologists 2014);

- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists 2014);
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists 2014); and
- Guidelines for digital archives (Royal Commission on the Ancient and Historic Monuments of Wales 2015).

Gwynedd Archaeological Trust is certified to ISO 9001:2008 and ISO 14001:2004 (Cert. No. 74180/A/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists and a member of the Federation of Archaeological Managers and Employers (FAME).

2 ARCHAEOLOGICAL RESULTS

2.1 Introduction

The archaeological trial trenching was completed during July 2016 (Figure 02; Figure 03; McGuinness 2016). Twenty three archaeological features were identified, 18 of these features were subject to varying degrees of excavation. The majority of the features identified appear to be linear cut features, probably field boundaries and of unknown date. Other discoveries included linear banks, walls, ditch termini and a charcoal filled pit. Only two artefacts were recovered, a 1916 One Penny coin from the topsoil in Trench 1 (SF001), and a small chip of flint (SF002) from the fill of the possibly prehistoric ditch in Trench 19. The 6 desk-based assessment features targeted and successfully identified during trial trenching are discussed first below, followed by a discussion of the 17 previously unknown archaeological features.

2.2 Desk-based assessment features

2.2.1 Feature 2: house plot and associated small garden plot shown on the Lligwy Estate map of 1782

Though substantial remains of a building were not encountered, the structural remains in the southwest corner of Field 1 potentially relate to the house shown on historic maps in this area. Both wall **(0905)** in Trench 09 and wall **(0109)** in Trench 1 are potentially part of a larger structure in this area. Likewise, the earth and stone bank **(0104)** in Trench 1 could well be part of the curvilinear enclosure surrounding the house on the same map.

Wall **(0905)**, near to the gateway to Field 1, already appears to be considerably disturbed; it is likely that the proposed works will further disturb archaeological remains in this area due to the high volume of construction related traffic anticipated through the gateway. The buildings and enclosure on the Lligwy Estate map certainly predate the late 18th century and may be Post-medieval or Medieval in origin.

2.2.2 Features 8-9: linear anomaly/former field boundary

The remains of Feature 8 were encountered in Trench 7 as a wide 0.25m deep ditch **[0707**] cut into the natural drift geology. The remains of Feature 9 were identified both in Trench 01 as the 0.3m deep ditch **[0108]** and Trench 03 as the 0.35m deep ditch **[0304]**. The characteristics of all three of these ditch sections are consistent with that of silted up former field boundary ditches. Both Features 8 and 9 are most likely earlier than the late 18th

century and may be relict medieval field boundaries. Unfortunately no finds from the excavated portions means that on our current level of understanding, the ditches remain undated. Environmental samples were taken from the fills of [0707], [0108] and [0305] and artefacts and or datable material may yet be recovered.

2.2.3 Feature 10: linear anomaly

The remains of Feature 10 were encountered in Trench 4 as a shallow narrow ditch **[0404]** cut into the natural drift geology. It was just 0.05m deep, and despite not being visible in the trench baulk sections as such, the ditch was probably cut from a much higher level through the subsoil. The encountered remains are consistent with that of a former field boundary ditch which accompanied the low bank in the field observed during the Phase 1 investigations. A boundary in this location is not shown on any of the historic mapping of this area so it would appear that the ditch at least predates the late 18th century and may be medieval or earlier. The lack of finds from the feature means that it remains undated. An environmental sample taken from the fill of [0404] may provide artefacts or other datable material.

2.2.4 Feature 18: linear anomaly

No evidence for Feature 18 was identified in Trench 8 however it is possible that the tree throw **[1404]** in Trench 14 does form the extreme eastern end of the feature. It is highly possible that any former field boundary may have incorporated trees along its length and that may explain the sporadic, intermittent nature of Feature 18. No finds were associated with **[1404]** and the date of Feature 18 remains uncertain, though its absence from the Lligwy Estate map suggests it predates the late 18th century and may be medieval or earlier.

2.2.5 Feature 19: possible ring ditch or circular gully.

No evidence for the circular gully was encountered in Trench 19, however a section of the seemingly associated curvilinear feature to the south was identified and recorded as ditch cut **[1905].** Despite the lack of diagnostic and datable finds from the ditch cut, its form, the recovery of a small flint chip and the complete absence of post-medieval pottery (despite the noticeable quantities visible in the top and subsoil in this area) suggest it is early, possibly prehistoric. An environmental sample taken from the fill of [1905] may provide artefacts or other datable material.

2.3 Previously unknown archaeological features

Seventeen previously unknown archaeological features were identified. They are discussed below. In many cases their full extent in plan is unestablished, likewise their relationship to other still unknown archaeological features that may survive in the vicinity. Though it is difficult to assess their individual potential, it is however possible to identify areas of higher archaeological potential within the two fields based upon the current level of understanding.

Two previously unknown archaeological features, **[0107]** in Trench 1 and **[2007]** in Trench 20, are best interpreted as Post-medieval/modern land drains and of little archaeological value.

Two shallow, narrow, linear gullies were also identified; **[1307]** in Trench 13 and **[1605]** in Trench 16. They are both of unknown date, but are likely drainage features of limitied diagnostic value.

Five previously unknown straight linear ditches were encountered: 1 in Trench 4 **[0406]**, 2 in Trench 7 **[0705]** and **[0706]**, 1 in Trench 15 **[1505]** and 1 in Trench 19 **[1907].** All are probably the shallow remains of former field boundary ditches and none contained any finds. Ditch **[1907]** is most likely a now removed straight linear field boundary shown on both the 1782 Lligwy Estate map and the First Edition Ordnance Survey Map and probably Post-medieval in date. Environmental samples were taken from the fills of **[0406]**, **[0705]**, **[0706]** and artefacts and or datable material may yet be recovered. At the current level of understanding, the date of these three ditches, like **[1505]** and **[1907]** is unknown.

In Trench 18, the remains of the field bank or wall **[1804]** also either represents part of the largely ploughed out remains of an earlier field boundary or enclosure or possibly the heavily damaged remains of a drystone wall of unknown date.

Five potential ditch termini were encountered across the site. The potential terminal ends of ditches were **[0408]** in Trench 4, **[1308]** and **[1309]** in Trench 13, **[1806]** in Trench 18 and **[2005]** in Trench 20. Without an understanding of the full extent of these features it is impossible to identify their full form and function; it's possible, for example, that any of these features may be elongated shallow pits. None of the termini contained any finds and all are of unknown date. Environmental samples were taken from the fills of **[0408]**, **[1308]**, **[1309]** and **[1806]** and artefacts and or datable material may yet be recovered. The two opposed termini in Trench 13, **[1308]** and **[1309]**, are worthy of note as their fills were comprised predominately of burnt stone, possibly the residue of industrial activity in the vicinity.

The remaining two previously unknown archaeological features identified are the remains of the shallow, charcoal rich pit in Trench 17 **[1705]** and the schist slab **(0707)** in Trench 07. As yet unprocessed environmental samples taken from the fill of **[1705]** do have the potential to provide a date for the feature, but at this stage it remains undated. The slab **(0707)** may be a flat stone laid on the natural ground surface in order to support a post, no other similar stones were identified within the confines of the trench however and the slab may be an isolated natural phenomena.

In light of these results, it is possible to suggest two areas of moderate archaeological potential based upon the discovery of previously unknown archaeological remains:

- The area around the eastern end of Trench 13 in Field 2 which contains the burnt stone filled opposed ditch termini **[1308]** and **[1309];** and

- The area at the north eastern end of Trench 18 in Field 2 which contains the remains of the field bank **(1804)** and the charcoal rich possible ditch terminus **[1806]**.

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 and to recover additional artefacts. The ecofact assessment will be limited to the following samples:

Sample No.	Context No.	Description	Purpose of sample	No. of Box/Bag (s)
001	0405	Fill of NE-SW aligned straight linear ditch **[0404]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
002	0407	Fill of E-W aligned straight linear ditch **[0406]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
003	0409	Fill of the possible terminus of a NW-SE aligned ditch **[0408]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
004	0305	Fill of a NE-SW aligned a straight linear ditch **[0304]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
006	1304	Burnt stone and charcoal rich fill of pit/terminus **[1308]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
007	1305	Burnt stone fill of pit /terminus **[1309]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box

Sample No.	Context No.	Description	Purpose of sample	No. of Box/Bag (s)
008	1704	Charcoal rich fill of pit **[1705]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
009	0109	Sandy silt matrix between stones of wall **(0109)**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
010	0110	Fill of NE-SW aligned ditch **[0108]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
011	0708	Fill of E-W aligned cut straight linear feature **[0705]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
012	0709	Fill of E-W aligned cut straight linear feature **[0706]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
013	0710	Fill of SE-NW aligned straight linear ditch **[0707]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
014	1904	Fill of possibly prehistoric ditch **[1905]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box
015	1805	Fill of shallow pit or ditch terminus **[1806]**	Ecofact recovery; artefact recovery; ecofact assessment/analysis; Radiocarbon date.	1 x 10 litre box

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. 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 remaines.
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 is currenlty limited to the prehistoric flint identified in Trench 19 and burnt stone recovered from Trench 13.

The flint and burnt stone will be assessed by George Smith, a sepcilaist working on behalf of GAT, for form, function and provenance. If relevant, recommendations will be made for any further analysis as part of MAP2 Phase 4.

If any artefacts are recovered during the bulk sample processing that require assessment, GAPS will be informed of results and propsals for specialist assessment.

The 1916 George V One Penny coin recovered from the topsoil in trench TR01 will not be sent for assessment.

3.3 Reporting

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

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

3.4 Archiving

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 the end of **October 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. Note: due to the current relocation of the RCAHMW premises, the RCAHMW Archive and Library Team Leader has requested that any new accessions are deferred until further notice.

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. It is also expected to be appropriate to publish an in-depth article in an appropriate journal, possibly *Archaeologia Cambrensis*. This will be undertaken as part of MAP2 Phase 5.

4 SOURCES CONSULTED

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)

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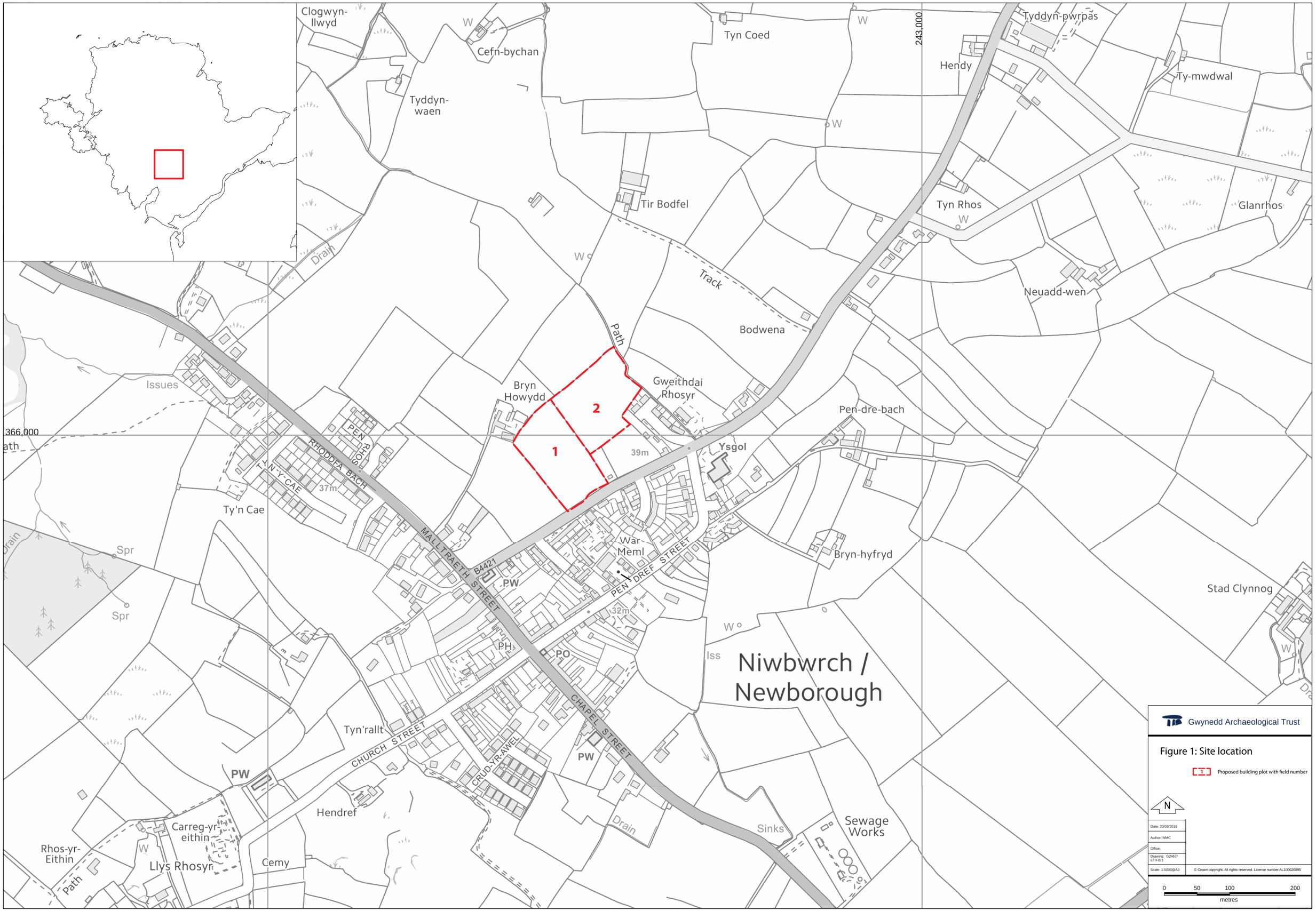

Gwynedd Archaeological Trust

Figure 1: Site location

[1] Proposed building plot with field number

N

Date: 20/08/2016	
Author: NMC	
Office:	
Drawing: G2467/ ET/FIG1	
Scale: 1:5000@A3	© Crown copyright. All rights reserved. License number AL100020895

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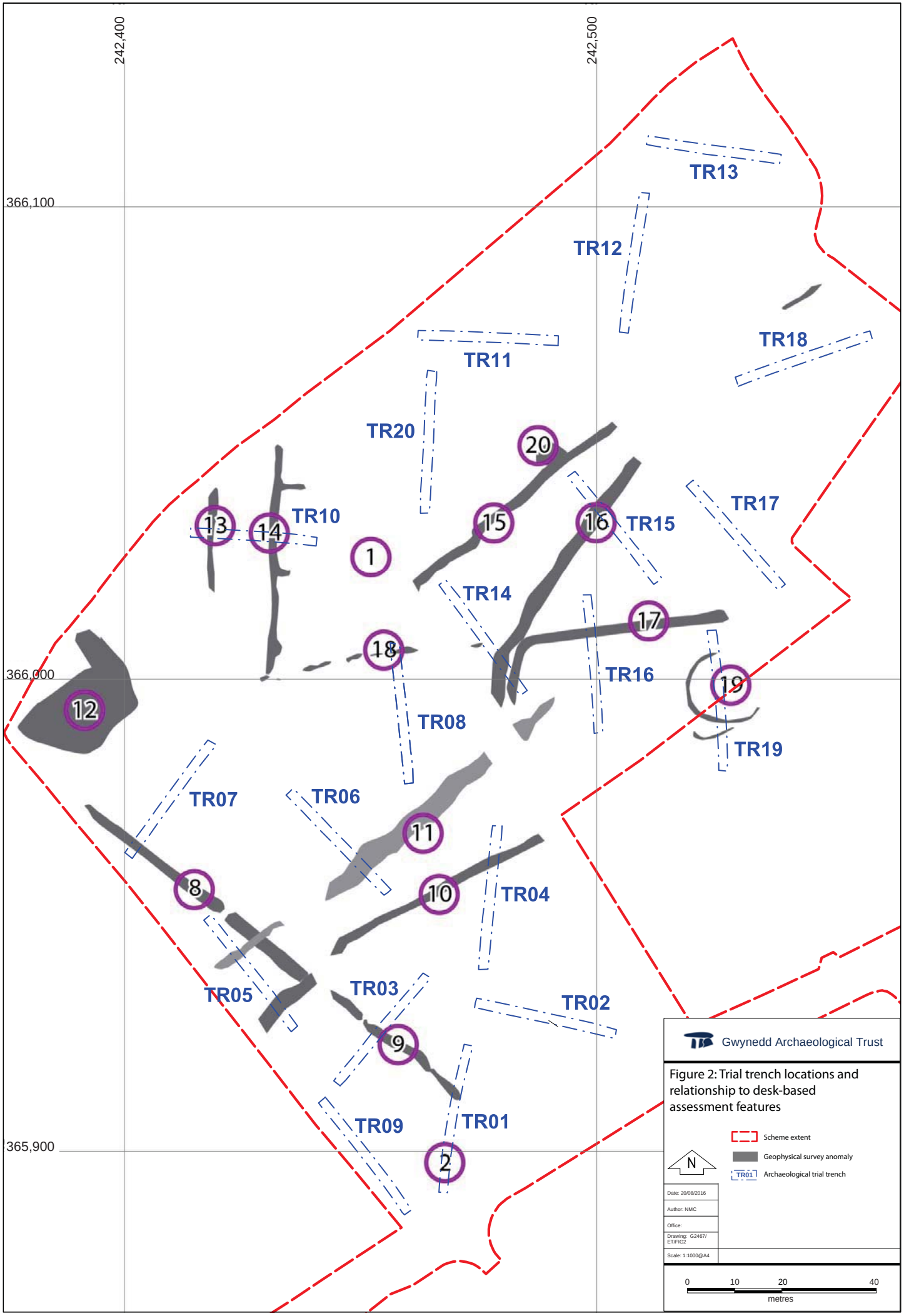
metres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TR08
TR19
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TR06
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TR02
TR09
TR01
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19
20
Gwynedd Archaeological Trust
Figure 2: Trial trench locations and relationship to desk-based assessment features
Scheme extent
Geophysical survey anomaly
TR01
Archaeological trial trench
N
Date: 20/08/2016
Author: NMC
Office:
Drawing: G2467/ ET/FIG2
Scale: 1:1000@A4
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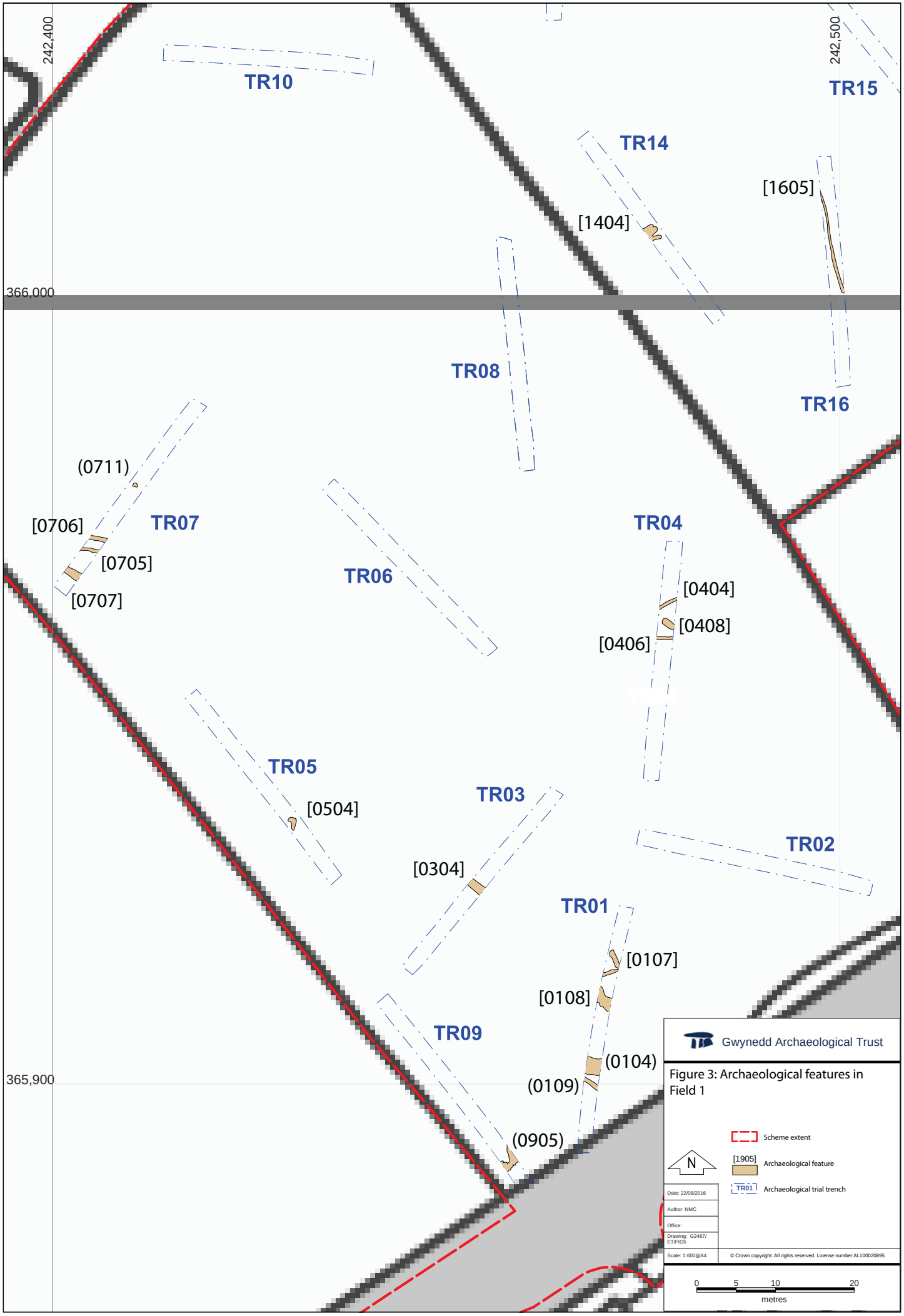
20
40
metres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TR08
TR16
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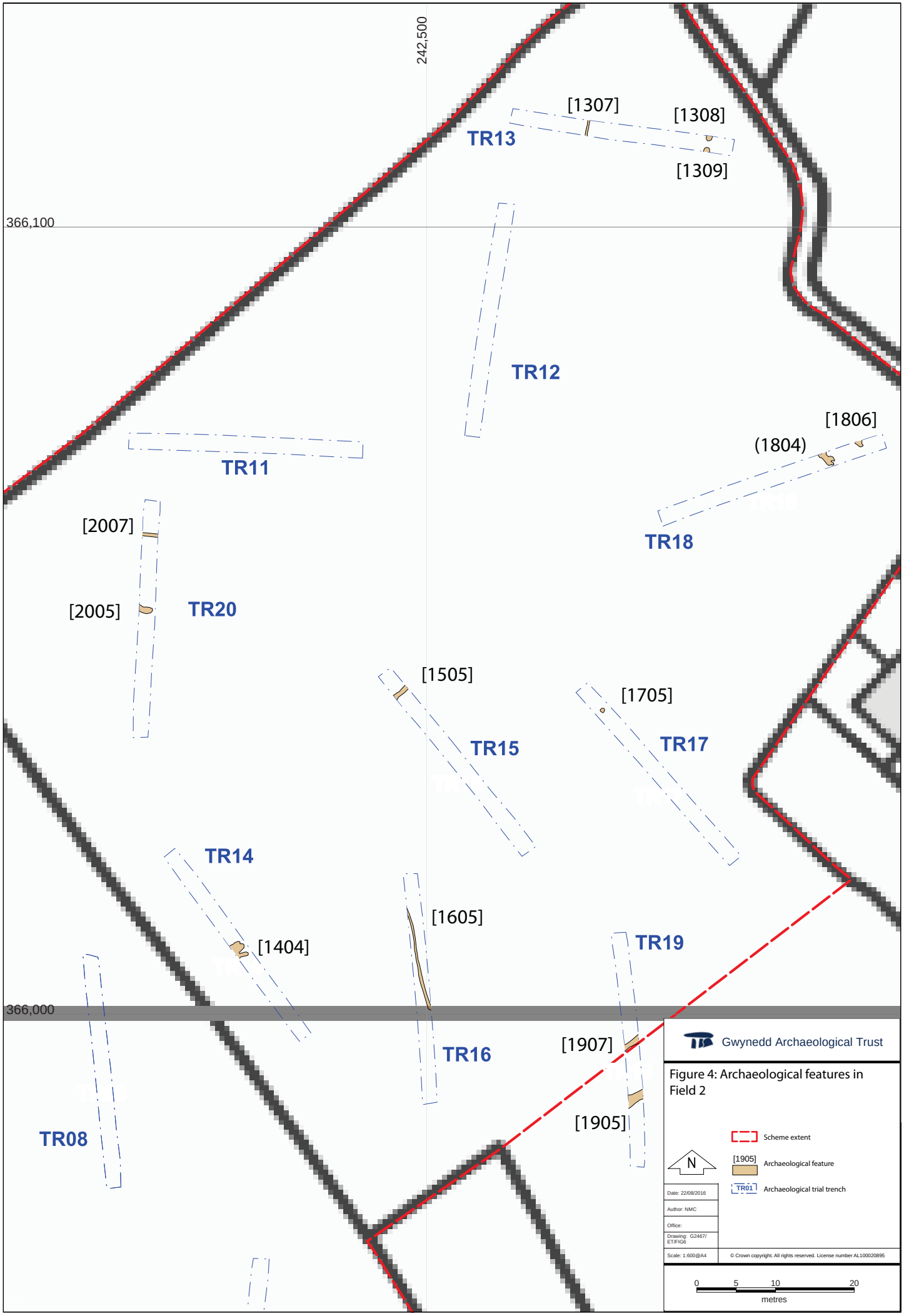
TR03
[0304]
TR02
TR01
[0107]
[0108]
TR09
(0104)
(0109)
(0905)
Gwynedd Archaeological Trust
Figure 3: Archaeological features in Field 1
Scheme extent
[1905] Archaeological feature
TR01 Archaeological trial trench
N
Date: 22/08/2016
Author: NMC
Office:
Drawing: G2467/ ET/FIG5
Scale: 1:600@A4
© Crown copyright. All rights reserved. License number AL100020895
0 5 10 20
metres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TR17
TR14
[1404]
[1605]
TR16
TR19
[1907]
[1905]
TR08
Gwynedd Archaeological Trust
Figure 4: Archaeological features in Field 2
Scheme extent
[1905] Archaeological feature
TR01 Archaeological trial trench
N
Date: 22/08/2016
Author: NMC
Office:
Drawing: G2467/ ET/FIG6
Scale: 1:600@A4
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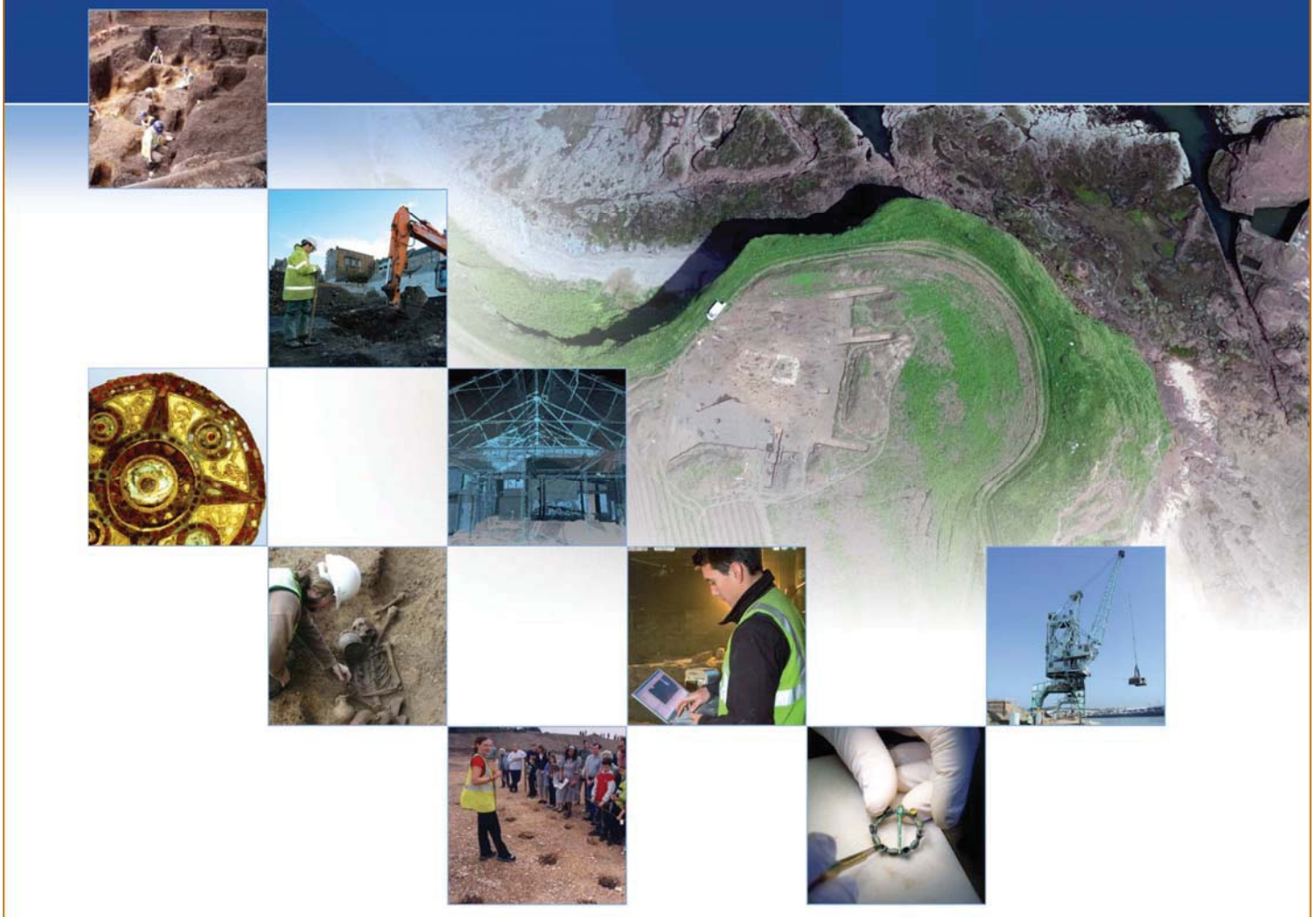
APPENDIX II - Environmental Assessment Report

Ysgol Bro Aberffraw

AOC Project no: 23835
Site Code: G2467
Date: 24TH May 2017



AOC Archaeology Group

ARCHAEOLOGY | HERITAGE | CONSERVATION

Ysgol Bro Aberffraw

On Behalf of: Gwynedd Archaeological Trust (GAT)

National Grid Reference (NGR):

AOC Project No: 23835

Prepared by: Jackaline Robertson

Illustration by: N/A

Date of Fieldwork:

Date of Report: 24TH May 2017

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

Author: Jackaline Robertson Date: 24 05 2017
Approved by: Ciara Clarke Date: 26 05 2017
Final Report Stage:

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Factual data

Fourteen flots were submitted for environmental analysis from Gwynedd Archaeological Trust from the excavation undertaken at Ysgol Bro Aberffraw site in Anglesey. The samples were collected from a series of linear features, ditches, pits and a dry stone wall. The aim of this assessment was to recover all environmental evidence and assess its potential for providing accurate radiocarbon dates for the associated archaeological features.

Methodology

The flots were matted with roots which had to be separated with tweezers before the samples could be 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. Where possible a maximum of 10 charcoal fragments were selected for further analysis and preference was given to any possible roundwood. Identifications were confirmed using modern reference material and seed atlases stored at AOC Edinburgh (Cappers *et al* 2006; Jacomet 2006, Kerney *et al* 1994; Cameron *et al* 1976). Taxonomic and nomenclature for plants follows Stace (2010).

Results

The results are recorded below in table 1 the carbonised macroplant and table 2 the charcoal species

The macroplant assemblage

A total of 37 charred macroplants were recovered from 11 contexts. Carbonised macroplant remains were absent from pits [1308], [1705] and ditch [707].

The assemblage was dominated by 26 cereal caryopses. The species and number identified were three barley (*Hordeum* sp), one bread/club wheat (*Triticum aestivum*/*compactum* L), one wheat (*Triticum* sp) and three oats (*Avena* sp). The remaining 18 cereal caryopses could not be identified further due to poor preservation. Preservation of the cereal was generally poor and only those remains from sample 14 context [1904] could be described as good. The weed taxa comprised three sedge fruits (*Carex* sp), one seed of St Johns wort (*Hypericum perforatum* L), one rush seed (*Juncus* sp) and one immature bud. A further five weed taxa could not be identified. The plant remains were scattered throughout the site with no evidence of deliberate or selective disposal of remains within specific features.

This small assemblage of cereal caryopses has probably derived from the disposal of domestic cooking and cleaning debris. The sedge and rush were either weed plants growing near to site and burnt accidently or alternatively these plants could have been used deliberately as building materials. Both species typically favour damp habits. St John's wort has long been recognised for its medical properties and its presence here could reflect selective use, although it is possible that it represents an intrusive weed seed. The immature

bud was likely brought to site along with the wood intended for use as fuel. Given the small size of the weed assemblage it is not possible to confidently establish the economic importance of these species to the community living at this site.

The charcoal assemblage

Charcoal was noted in all 14 contexts but fragments suitable for species identification were present in five samples only. These were linear [406], pit [1308], pit [1309], drystone wall [105] and linear [1905]. The charcoal assemblage totalled 63.8g and 23 fragments were selected for species identification. The species were rowan (*Sorbus* sp) which formed 39% followed by oak (*Quercus* sp) 35%, alder (*Alnus glutinosa* L) 22% and blackthorn (*Prunus spinosa* L) 4%. Preservation of these fragments was adequate though a small number were noted to be friable. The charcoal was concentred within pits [1308] which had 49.2g and [1309] with 14.5g. The rest of the assemblage was scattered in small quantities in the three remaining contexts totalling 0.1g. There was a single piece of rowan roundwood in pit [1308] which was friable. There was no evidence of any wood working debris, structural or artefact burning and the two large concentrations of mixed charcoal species within pits [1308] and [1309] are typical of fuel reside.

Modern Contamination

Matted roots were noted in all of the samples along with insect remains, earth worm capsules, leaf fragments and seeds. There is no evidence that the archaeological security of any of the features has been significantly undermined by the presence of these modern remains.

Recommendations

The charred macroplant assemblage is generally poorly persevered and most of the cereal caryopses may not contain sufficient carbon for dating with the possible exception of the remains from context [1904]. For this reason the charcoal in particular the fragments from pits [1308] and [1309] provide better candidates for radiocarbon dating. The most suitable charcoal species for dating are rowan, alder and blackthorn. Oak where possible should be avoided as it is a slow growing species. This small accumulation of macroplants and charcoal suggests that the assemblages have accumulated through domestic activities such as cooking, cleaning and preparing fires.

References

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