Archaeoleg Brython Archaeology

Post-Excavation Assessment of Potential
Wylfa Hotspot 14

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Wylfa Newydd Development, Hotspot 14

Post-Excavation Assessment of Potential

Prepared for Wardell Armstrong LLP.

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Crynodeb

Comisiynwyd Archaeoleg Brython gan Horizon Nuclear Power Ltd. (HNP) i gyflawni rhaglen o waith cloddio archaeolegol rhwng 2017 a 2019 yn ystod gwaith clirio cynnar cyn cyflwyno cais Orchymyn Cydsyniad Datblygu (OCD/DCO) ar gyfer Orsaf Bŵer Wylfa Newydd ar Ynys Môn, Gogledd Cymru.

Wedi cwblhau'r cloddio commisynwyd Wardell Armstrong LLP. ac Archaeoleg Brython gan HNP i ddarparu crynodeb o ganlyniadau'r gwaith ac i gyflawni rhaglen o waith ôl-gloddio rhwng Medi 2019 a Mawrth 2020 i asesu arwyddocâd a photensial yr archif a'r darganfyddiadau.

Adroddiad Asesiad o Botensial yw'r ddogfen hon ar gyfer archif a chasgliad arteffactau safle Hotspot 14 a gloddiwyd fel rhan o'r gwaith clirio cynnar.

Roedd cloddfa Hotspot 14 (NGR SH 34969272; EVENT PRN 46045) yn mesur 342m^2 ac wedi ei leoli i asesu potensial y safle yn dilyn arolwg geoffisegol ac arolwg ffosi gan Wessex Archaeology. Wedi dadorchuddio'r safle nodwyd twmpath llosg posib wedi ei orchuddio gan lifwaddod a thri thwll postyn. Wrth gloddio'r nodweddion darganfyddwyd weddillion tŷ crwn gyda chylch o chwech twll postyn ac aelwyd ganolog. Darganfyddwyd nifer o arteffactau gan gynnwys teilchion o grochenwaith Gynhanesyddol a lithigau. Mae dyddiadau Radiocarbon o ddeunydd organic o samplau pridd yn awgrymu bod y tŷ crwn yn dyddio o'r cyfnod Neolithig Hwyr i'r Oes Efydd Gynnar.

Summary

Brython Archaeology, commissioned by Horizon Nuclear Power Ltd. (HNP), undertook a phased programme of excavation in 2017-2019 in advance of the submission of a Development Consent Order (DCO) application for the construction of the proposed Wylfa Newydd Power Station on the Isle of Anglesey, North Wales.

Wardell Armstrong LLP. (WA) and Brython Archaeology was subsequently commissioned by HNP to provide a summary of the results of the archaeological excavation and to undertake a programme of post-excavation during September 2019 to March 2020 to assess the significance and potential of the site archive and finds.

This is an Assessment of Potential Report of the archive and finds assemblage of Hotspot 14, which was excavated during early clearance works.

The excavation area of 342m^2 at Wylfa Hotspot 14 (NGR SH 34969272; EVENT PRN 46045) was defined following a geophysical survey and archaeological trial trench evaluation by Wessex Archaeology to address the archaeological potential of the site. Upon stripping a suspected burnt mound sealed under alluvial deposit and three postholes were identified. Excavation of these features by Brython Archaeology revealed the remains of a roundhouse along with a centrally located hearth, surrounded by a ring of six post holes. Artefacts recovered included Prehistoric pottery and lithics. Radiocarbon dates from organic material recovered from soil samples suggested that the roundhouse dates from the Late Neolithic to Early Bronze Age period.

1 Introduction

During August 2017 to January 2019, Archaeoleg Brython Archaeology CYF. (ABA), commissioned by HNP, conducted a phased programme of excavation of the remains of a probable Bronze Age roundhouse at Wylfa Hotspot 14, Anglesey (NGR SH34969272) in advance of the submission of a Development Consent Order (DCO) application (PINS reference number EN010007) for the construction of the proposed Wylfa Newydd Power Station. The excavations at the Wylfa Newydd development site involved 30 open area excavations, with some undertaken as set piece excavations and others as strip map and sample excavations. In total 32 strip, map and sample areas, described as 'Hotspots' were identified, and organized into four zones referred to as 1a, 1b, 2 and 3 within the Written Scheme of Investigation (WSI; Horizon Nuclear Power, 2016; 2017). Fourteen of these areas were excavated by ABA totalling an area of approximately 25,578m^2 (*Figure 1 and Appendix II*):

- Wylfa Head (EVENT PRN 46035)
- Area 7 (EVENT PRN 46036)
- Area 8 (EVENT PRN 46037)
- Hotspot 5 (EVENT PRN 46038)
- Hotspot 6 (EVENT PRN 46039)
- Hotspot 7-9 (EVENT PRN 4640)
- Hotspot 8 (EVENT PRN 46041)
- Hotspots 10 (EVENT PRN 46042)
- Hotspot 11-13 (EVENT PRN 46043)
- Hotspot 12 (EVENT PRN 46044)
- Hotspot 14 (EVENT PRN 46045)
- Hotspot 15 (EVENT PRN 46046)
- Hotspot 16 (EVENT PRN 46047)
- Hotspot 17 (EVENT PRN 46048)

Two supplementary excavation areas, Hotspot 8B and Hotspot 15 West, were opened to investigate the interaction between the archaeology in Hotspot 8 and Hotspot 15. This phase of fieldwork was concluded in January 2019. In February 2019 it was announced that the Wylfa Newydd project was being put into a suspended state. As a result of this all further works on the site have been suspended.

Prior to the excavation of the Wylfa Hotspot 14 site, it had been subject to an archaeological Desk Based Assessment (DBA) (Cooke *et al.*, 2012), magnetometer geophysical survey (Hopewell, 2011a; b; Hopewell 2012) and a programme of evaluation trenching by Wessex Archaeology (2016a; 2016b; 2016c). During the evaluation a suspected burnt mound sealed under alluvial deposits and three postholes were identified. A sherd of decorated Prehistoric pottery was recovered during environmental processing of the soil samples from the presumed burnt mound which also recovered evidence of low proportions of charred plant remains. Excavation of Hotspot 14 revealed the remains of a probable Bronze Age roundhouse, comprising several postholes and hearth, as well as a complex series of colluvial deposits.

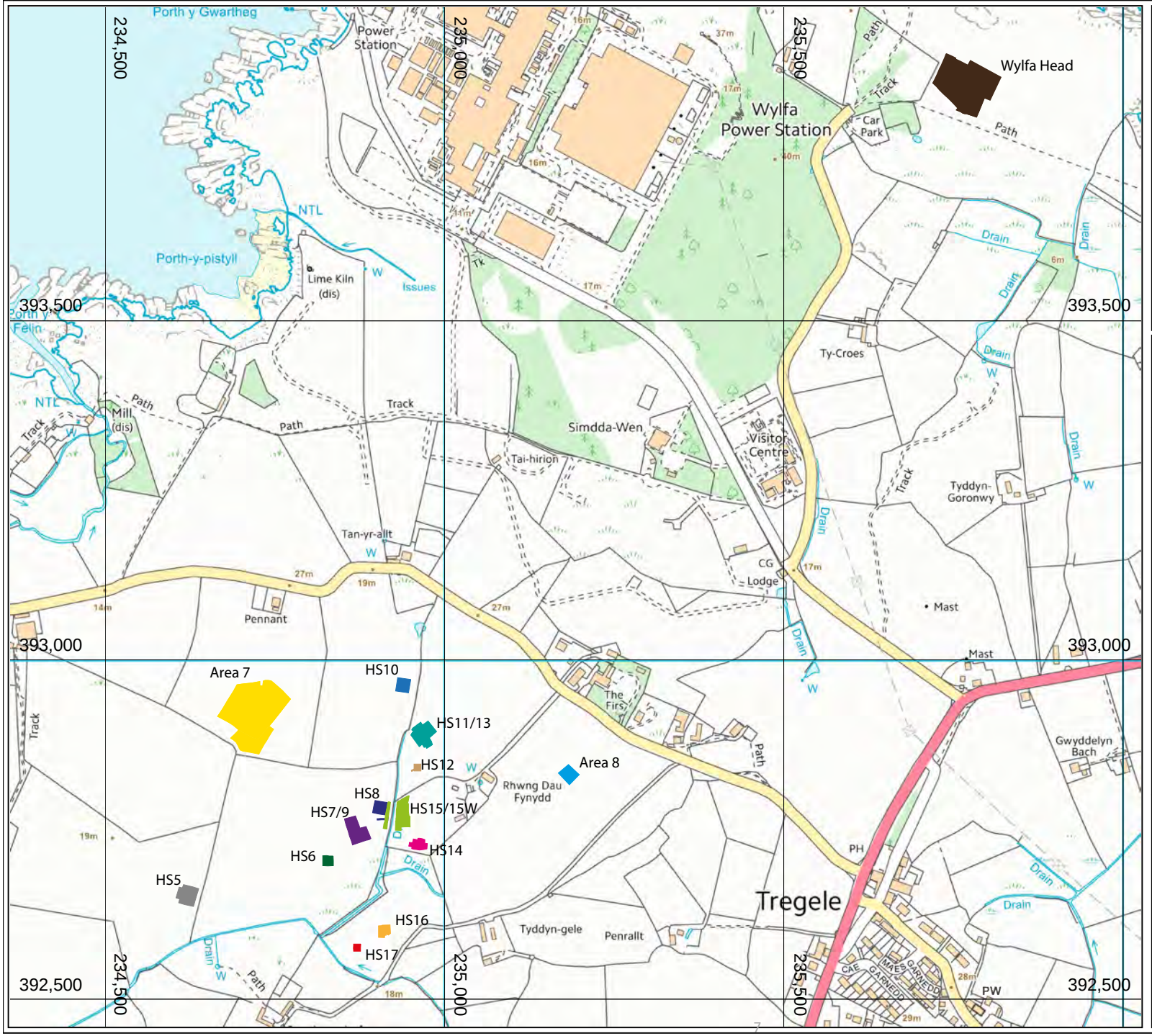
All archaeological works were undertaken in accordance with the Written Scheme of Investigation (WSI [Horizon Nuclear Power, 2016; 2017]) and in line with paragraph 5.8.21 of the overarching National Policy Statement for Energy (EN-1 [Department of Energy and Climate Change, 2011]). The work was monitored by Gwynedd Archaeological Planning Services (GAPS), cultural heritage advisors to the Local Authority. WA have been employed by HNP as cultural heritage consultants for the project and within this capacity have provided guidance and advice during the works. The key historic environment stakeholders are:

- Cadw – The principal Welsh government body responsible for the historic environment of Wales; and
- GAPS - The curators responsible for monitoring archaeological investigations undertaken as part of development in the region.

During the fieldwork and post-excavation work an archaeological record and archive of the site, AB1703 Wylfa Hotspot 14, was created. WA was appointed by HNP to undertake a programme of

assessment of the archaeological potential of the evidence accumulated during the excavations and ABA was selected to undertake a portion of this work under a sub-contract agreement with WA. The excavated finds and environmental samples were handed over to WA in April 2019.

The purpose of this document is to report on the post-excavation assessment of the Hotspot 14 archive and finds assemblage, and to create an ordered archive for deposition. This report is written and structured to conform to MoRPHE guidelines, the Charted Institute for Archaeologists standards required for post excavation assessment (CIfA 2014a; 2014b), and in line with the recommendations as stated in the ABA site summary report (ABA, 2018). Digital copies of this report are to be submitted to HNP and relevant stakeholders. The archive and finds assemblage were stored in accordance to CIfA's standards and guidance (CIfA, 2014a: 2014b) while under the curatorship of ABA. The paper archive and digital data, including photographs will be lodged with the Royal Commission on Ancient and Historical Monuments of Wales (RCAHMW) in Aberystwyth on completion of the project. ABA will hold a digital version of the archive indefinitely.



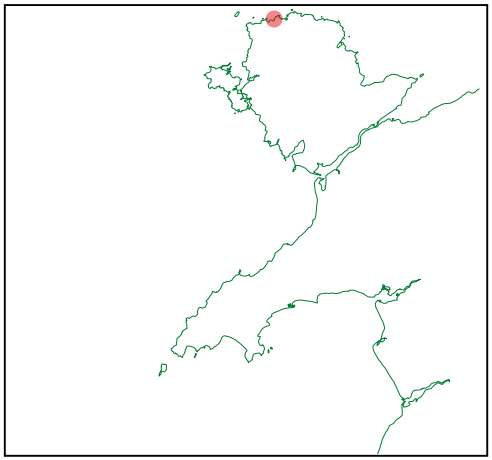


Figure 1
Location plan showing the areas excavated by ABA in the Wylfa Newydd Devleopment Area

Key

- Wylfa Head
- Area 8
- Area 7
- Hotspot 5
- Hotspot 6
- Hotspot 7/9
- Hotspot 8
- Hotspot 10
- Hotspot 11/13
- Hotspot 12
- Hotspot 14
- Hotspot 15
- Hotspot 16
- Hotspot 17

Project No.
AB1703

Drawn By: IGP

Date: 09/06/2021

Location:
SH35439322

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2 Project Background

2.1 Site Location

Hotspot 14, located in Hotspot Zone 1a, sits on a hill approximately 650m west of Tregele and 900m south of the decommissioned power station in a field laid to pasture to the south-west of the former farmstead of Rhwng Dau Fynydd (*Figure 2*). The name of the farmstead translates to Between Two Mountains, which refers to the two hills immediately east and west. Hotspot 14 was located at the south-western foot of the eastern hill on the edge of marshy ground which extends to the south-west at a height of approximately 9.0m AOD, centred on NGR SH34969272, and measured approximately 342m^2.

2.2 Geology and Topography

Superficial deposits in the area consist of Till, Devensian – Diamicton. These are sedimentary deposits which formed between 11.6 and 11.8 thousand years ago during the Quaternary period, indicating a landscape dominated by Ice Age conditions. The underlying bedrock geology consists of schist of the Gwna Group. This is a metamorphic bedrock which formed between 508 and 635 million years ago during the Cambrian and Ediacaran periods. These rocks were originally sedimentary, formed in deep seas by chaotic deposition from underwater gravity slide, and later altered by low-grade metamorphism (BGS, 2019).

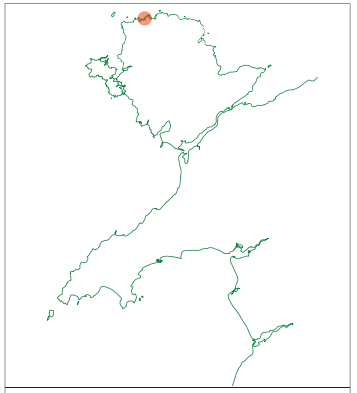

Figure 2
Location Plan, Hotspot 14.

Key

Excavation Area

Drawn By:	DN, RN (edited CNV)
Date:	19/10/18 (edited 06/12/19)
Location:	SH34969272
Project:	AB1703 Hotspot 14

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2.3 Archaeological and Historical Background Data

Historic mapping and documentary sources consulted by ABA did not indicate the presence of the remains of a roundhouse or any other archaeological features identified during the excavation of Hotspot 14. However, Anglesey is rich in archaeological sites and artefacts dating from the Mesolithic to the modern period. The information below is summarised from reports and archaeological baseline assessments (Cooke *et al.*, 2012; Parry *et al.*, 2012; Jacobs, 2015; Wessex Archaeology, 2016; ABA, 2017; Headland Archaeology, 2018).

Mesolithic finds in the area generally consist of flint scatters and tools located at a number of locations across Anglesey, generally close to water sources and often at coastal locations. The nearest possible Mesolithic activity recorded is at Cemlyn Bay, located approximately 2km to the west of the existing decommissioned Wylfa power station, in the form of flint scatters (HER PRN GAT 31584). Another discovery of three blade-like flint flakes (HER PRN GAT 7046) is recorded approximately 8km to the south near Llyn Alaw. Two possible Mesolithic lithic scatters (HER PRN GAT 91809/ HER PRN GAT 91811) were identified during the early clearance works at the Wylfa Head excavation area, approximately 350m east of the existing decommissioned power station.

Evidence for Neolithic activity in the area is abundant, mostly represented by megalithic funerary monuments, including chambered and passage tombs. These tombs would have been held the remains, both skeletal and cremated, of numerous individuals of the early farming communities which constructed them. Such monuments were often in use for long periods of time spanning both the Neolithic and Early Bronze Age periods, some examples show evidence of re-arrangement and alteration to accommodate changing funerary practices. A ruined chambered tomb (HER PRN GAT 3046) is located approximately 1.8km to the south-east at Llanfechell. A limited number of domestic sites have been recorded on Anglesey, with the closest being the Early Neolithic settlement at Llanfaethlu, located approximately 8km south-west of the existing decommissioned Wylfa power station. The settlement of at least three Early Neolithic houses is the first of its kind to identified in Wales and one of the first in the UK (Rees and Jones, 2015). Evidence of Neolithic activity was identified during the early clearance works at the Wylfa Head excavation area where a group of stone axes and polishing tools were identified in a pit (HER PRN GAT 91812).

Few Bronze Age settlements have been identified on Anglesey but evidence of activity during this period, such as barrow and cairn construction and erection of standing stones, remains visible in the landscape. During the Bronze Age, settlements become apparent on high, defendable ground suggesting the establishment of centres of power, likely organised into tribes or clans. Undefended domestic sites of this period are also known on Anglesey including a roundhouse (HER PRN GAT 31588) and possible settlement activity (HER PRN GAT 31577, 31578, 31579, 31580) at Parc Cybi, Holyhead (Kenney *et al.*, 2020). The nearest Scheduled Monument dating to the Bronze Age is Meini Hirion (AN 30), a group of three standing stones, which may form part of a Prehistoric complex along with the previously mentioned ruined chambered tomb (HER PRN GAT 3046), located approximately 2km south-east of the existing decommissioned Wylfa power station. Prehistoric burials in the later part of the period appear to have moved away from the communal tradition with the appearance of individual urned cremations and crouched cist inhumations. Arguably the most common feature type associated with the Bronze Age is burnt mounds. Evidence of these features are plentiful in the region and as many as twenty burnt mound deposits were identified within the footprint of the Wylfa Newydd development area. The closest recorded burnt mound (HER PRN GAT 61102/91837) is located east of Rhwng Dau Fynydd, approximately 1km south of the existing decommissioned Wylfa power station and was excavated in Area 8. Further burnt mounds were excavated in Hotspot 5 (HER PRN GAT 91839) and Hotspot 7-9 (HER PRN GAT 91846) during the early clearance works.

Prior to the commencement of the archaeological evaluation and early clearance works no Iron Age activity had been recorded at the site. The closest recorded Iron Age enclosure (HER PRN GAT 61454) is found north of Penymorwydd, located approximately 4km south-east of the existing decommissioned power station at Wylfa. A number of undated large enclosures and ring-gullies were identified in the development area during the evaluation phase, excavation during early clearance indicates that some of these date to the Iron Age. A partially enclosed hilltop settlement with a single roundhouse and possible granary (HER PRN GAT 91829), dated to the Iron Age, was identified in Area 7. Unenclosed and low-lying Iron Age settlements were also identified at Hotspot 15 (HER PRN GAT 91875) and Area O5 South, occupation of these settlements is likely to have spanned from the Iron Age through to the Romano British period.

The closest evidence of Roman activity to the Wylfa Newydd development site previously identified was a probable fortlet (HER PRN GAT 37976) near Cemlyn Bay, near the western extent of the development area, and Roman coins (HER PRN GAT 998) and brooch (HER PRN GAT 999) found at Cemaes Fawr Farm, located approximately 2km east. During evaluation and early clearance Roman and Romano British archaeology was identified at a number of locations. At Area 4, approximately 500m south of the existing power station, a possible Roman invasion camp (HER PRN GAT 92053) was identified. Iron Age/Romano British settlements were identified at Wylfa Head (HER PRN GAT 91817), Area O5 South, and Hotspot 15 (HER PRN GAT 91875).

Prior to the evaluation and early clearance works evidence of early medieval archaeology within the development area was scant. Few sites of this period have been identified on Anglesey, the majority of known sites are ecclesiastical, including a 9th century cross slab (HER PRN GAT 3059) from Llanbadrig which pre-dates the 12th century church (HER PRN GAT 3052). During evaluation an early medieval cist cemetery (HER PRN GAT 91824) was identified at Wylfa Head, this was fully excavated during the early clearance works. A second cemetery (HER PRN GAT 91830) which included four square funerary enclosures (HER PRN GAT 91831,91832,91833,91834) was identified at Area 7, and a possible group of family graves at Hotspot 11-13 (HER PRN GAT 91862).

Documentary and physical evidence suggests that the area was extensively habited and utilised by the 12th century. The area would have been within the Kingdom of Gwynedd which was sub-divided into a number of regional commotes (Cwmwd) which would have had a royal manorial centre (Mardref) to act as a focus for administration and taxation (Cooke *et al.*, 2012). The proposed development area was within the commote of Tanybolion, the Mardref was located approximately 1km east at Cemaes. No medieval settlements have been recorded in the area and the existence of settlements is largely known from documentary sources. Two place names that are however spatially closely associated with the site are:

- Tre'r Gof (township of the smith) – documented from the 12th century and is thought to have been a medieval township or hamlet with the commote of Talybolion.
- Wylfa (lookout point) – documented from the later medieval period as a farm that was part of the township of Caerdegog.

Although no physical evidence of the hamlets have been identified it is possible that buried archaeology remains below later farms.

Evidence of early post-medieval field systems across the site was identified through desk based assessments, geophysical survey and confirmed during evaluation and early clearance works. Many of these are likely to date to the 16th and 17th centuries and are likely to have been removed in the 19th century during episodes of land improvement and creation of larger fields for new farming techniques. It is likely that much of the land improvement during the 19th century was driven by the estates which held the land, these include Carreglwyd, Plas Coch, Cefn Coch and Bodorgan (Cooke *et al.*, 2012).

Although no large estate houses were ever located within the proposed development area large houses with associated ancillary buildings, landscaped grounds and gardens were constructed at several former farms including Wylfa, Simdde Wen and Cestyll (Cooke *et al.*, 2012). During WWII a Chain Home radar station (HER PRN GAT 36597/3658) was established at Wylfa Head to identify enemy aircraft and to manage the shipping routes for Liverpool.

The current landscape is dominated by the now decommissioned Wylfa power station which was constructed in the 1960s and was operational until 2015. As well as the present building much of the surrounding area was impacted by the construction of the plant but recent work shows that buried archaeology survives in close proximity to impacted areas.

2.4 Original Geophysical Survey Results

Geophysical surveys were carried out during the assessment of the site (WYAS, 2015; Hopewell 2011a: 2011b; Hopewell, 2012). The surveys did not demonstrate the presence of significant archaeological remains within the excavation area.

2.5 Original Evaluation Results

Archaeological investigations undertaken in 2015-2016 by Wessex Archaeology (2016) indicated a fairly consistent non-archaeological deposit of 0.1-0.45m of brown sand loam topsoil, overlying 0.02-0.58m of yellow brown silt loam subsoil across Field Group 1, in which Field A12 is located. Natural deposits of orange brown sand or clay was recorded 0.2-0.8m below ground level. A total of nine trenches were opened in Field A12, with only two of those containing recorded archaeology.

Hotspot 14 targeted the location of Trench 233 which contained a potential Bronze Age burnt mound deposit (originally identified as 23304), overlain by an alluvial deposit and three aligned postholes, interpreted as a windbreak. The burnt mound measured 2.45m by 1.8m. A sherd of decorated Bronze Age pottery was recovered during environmental processing of the soil samples from the presumed burnt mound which also recovered evidence of low proportions of charred plant remains with a low concentration of charred cereal grains (including emmer/spelt wheat grains, barley grains and glume wheat chaff), dominated by wood charcoal.

2.6 Original Aims and Objectives

According to the WSI (Horizon Nuclear Power, 2016: 2017), the general aim of the excavations at the Wylfa Newydd development site was to gather additional information of the extent, condition, depth, character, quality, stratigraphic sequence and date of the archaeological remains within the excavation areas and to preserve the revealed remains, in record, in anticipation that their physical remains may be destroyed by future development works. The results of the investigations are to be disseminated through the deposition of an ordered archive at suitable repositories for both physical and digital material, the deposition of a detailed report at the Historic Environment Record and the production of a publication article, at a level of detail appropriate to the significance of the results.

2.6.1 Archaeological Strip, Map and Sample Aims

1. To ensure the adequate recording of any archaeological remains revealed by the strip map and sample work.
2. To identify, investigate and record the character, nature, extent and relationships of the archaeological remains discovered, to the extent possible by the methods put forward in the specification.
3. To determine (as far as possible) the stratigraphic sequence and dating of the deposits or features identified.
4. To integrate the results of the work into the wider historic and archaeological context of the landscape and to address relevant regional research objectives where applicable and so far as is possible.
5. To disseminate the results through deposition of an ordered archive at the suitable repositories for both physical and digital material, the deposition of a detailed report at the Historic Environment Record (HER) and publication at a level of detail appropriate to the significance of the results.
6. To undertake the works in such a way as to allow sufficient data to be gathered to address the various research objectives outlined below. This includes the investigation and recording of features, the identification, recording and collection of artefacts and ecofacts (including environmental samples) and the use of appropriate analytical methodologies/techniques when examining the record/artefacts.

2.6.2 Archaeological Strip, Map and Sample Objectives

The relevant archaeological framework documents identified in the WSI were:

- Review of the Research Framework for the Archaeology of Wales: North West Wales – Neolithicand Early Bronze Age (Burrow, 2010);
- Review of the Research Framework for the Archaeology of Wales: North West Wales – Later Bronze Age and Iron Age (Gale, 2010);
- A Research Framework for the Archaeology of Wales – Romano British (AD 43-AD 410) (Davies, 2017);
- A Research Framework for the Archaeology of Wales: North West Wales - Early Medieval c. AD 400-1070 (Edwards *et al.*, 2016); and
- A Research Framework for the Archaeology of Wales: North West Wales – Medieval c.AD 1100 – 1539 (Longley, 2010).

As the evaluation and excavation of Hotspot 14 revealed a burnt mound and the remains of a possible Bronze Age roundhouse and Prehistoric artefacts, the following, relevant, archaeological research questions were identified in the WSI for Strip, Map and Sample areas:

Prehistoric;

Q.1. Are the possible structural features associated with isolated structures or part of a larger settlement?

Q.2. Are the burnt mounds/spreads the by-product of a specific function and what is that function?

Q.3. What is the functional and stratigraphic relationship between the burnt mounds/spreads and other spatially associated features in particular reference to possible structural features (post holes) and ditch type features ('troughs')?

Q.4. What relationships or patterns, if any, can been seen between these Prehistoric features and their wider landscape setting?

Due to the excavation results revealing archaeological remains differing from those observed within the evaluation trenches the following questions should also be addressed:

Q.5. What evidence do the ditch features provide for Prehistoric landscape organisation and enclosure?

Q.6. What is the relationship between the ditches and other Prehistoric features such as settlement features and burnt mounds/spreads?

Q.7. What relationships or patterns, if any, can been seen between these potential Prehistoric features and their wider landscape setting?

Q.8. What types of artefacts are present in the SMS zones?

Q.9. What can these artefacts tell us about daily life and ritual activity?

Q.10. Were those artefacts, which may be found in the SMS Zones, produced locally?

2.7 Field Methodology

The investigations were undertaken in accordance with the scope and methodology outlined in the WSI (Horizon Nuclear Power, 2016: 2017), and as described in the Site Summary Report (ABA, 2018). All works complied with CIfA's best practice guidance, regulations and standards (CIfA 2014b; 2014c).

2.7.1 Surveying and Setting Out

The original excavation area was set out by Jones Brothers Balfour Beatty Joint Venture (JBBBJV). The excavation area and all archaeological features were subsequently surveyed by ABA using a Leica Viva GPS system, all surveys were tied into the Ordnance Survey National Grid.

2.7.2 Excavation and Sampling

2.7.2.1 Mechanical Excavation

Initial mechanical excavation and stripping was undertaken by Wessex Archaeology, all extensions were completed by ABA. Topsoil and other overburden were removed using a tracked 360˚ excavator fitted with a toothless ditching bucket. All mechanical excavation was undertaken under direct archaeological supervision. Mechanical excavation proceeded to a depth sufficient to address the objectives of the excavation. Mechanical excavation ceased when the first archaeologically significant horizon was encountered or when the absence of any archaeological 'horizon' was adequately demonstrated. Spoil from the stripping operations were stockpiled in bunds outside of the archaeological excavation area. After the completion of mechanical excavation, both the spoil heaps and the stripped surface were scanned with a metal detector and visually. Any artefacts of potential archaeological interest identified were recovered and their location accurately recorded (Horizon Nuclear Power, 2016; ABA, 2018).

2.7.2.2 Hand Excavation

Immediately after the removal of deposits overlying the archaeological horizon, the area was manually cleaned and all features investigated and recorded. As pre-excavation plans of all visible features were prepared by GPS survey; this was printed out and brought to site to be checked and enhanced by hand planning. Unstratified artefacts and small finds exposed during the cleaning were collected. All hand cleaned surfaces, features and archaeological layers were scanned for metal object signals using a metal detector. Excavation priorities were assessed by taking these signals into account (ABA, 2018):

- Positive features likely to obscure earlier archaeological features – 100%;
- Discrete negative features of less than 1m in diameter - at least 50% by area in addition to all stratigraphic relationships;
- Discrete negative features of more than 1m in diameter - at least 50% by area in addition to all stratigraphic relationships;
- Discrete negative features containing good artefact assemblages - 100%;
- Non-structural linear negative features - at least 10% by area in addition to all stratigraphic relationships and termini;
- Structural negative features - 100% unless otherwise agreed with the Consultant;
- Hearths, pyre remains or other features with evidence of deliberate in situ heating - 100%;
- All intersections between features, all terminals of linear features, and all other features - 25% unless otherwise agreed with the Consultant; and
- The location of all small finds, except for those discovered within discrete features, were recorded in 3D by a GPS system tied into the OS NGR system, with an accuracy of ± 5mm.

2.7.2.3 Recording

All excavated contexts were fully recorded in line with the standards set out in the WSI (Horizon Nuclear Power, 2016) using appropriate ABA pro-forma recording sheets:

- A complete drawn record of archaeological features and deposits was compiled - this includes both plans and sections, drawn to appropriate scales (1:20 for plans, 1:10 for sections). The Ordnance Datum (OD) height of all principal features and levels were calculated and plans/sections have been annotated with OD heights;
- All photogrammetry and drawing control points were located in 3D by a GPS system tied into the OS NGR system, with an accuracy of ± 5mm; and
- The photographic record was compiled using digital cameras equipped with an image sensor of not less than 10 megapixels, these were taken as high-quality JPEG and RAW images, TIFF images will be created from RAW files for final archiving. Digital images were subject to managed quality control, curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image.

2.7.2.4 Paleoenvironmental Sampling

General environmental sampling was undertaken in accordance with Historic England's (2011) environmental archaeology guide in sampling methods for post-excavation analysis (ABA, 2018).

- Bulk environmental soil samples for plant macro fossils, small animal bones and other small artefacts were taken from appropriate well sealed and dated/datable archaeological contexts.

2.7.3 Archiving

The creation, compilation, transfer and deposition of the archaeological archive followed in line with the regulations of the Chartered Institute for Archaeologists Standards and Guidance (CIfA, 2014a; 2014b). At the time of writing the finds assemblage was under the curatorship of WA while awaiting assessment. Upon completion of the project the paper archive and all digital data including photographs will be lodged with the Royal Commission on Ancient and Historical Monuments of Wales (RCAHMW) in Aberystwyth. Digital copies of the report will be submitted to Horizon who will then distribute to stakeholders. Printed versions will only be produced if specifically requested. ABA will hold a digital version of the archive indefinitely.

3 Excavation Results

A preliminary excavation of Hotspot 14 (EVENT PRN 46045) was carried out by Wessex Archaeology in May 2018 during which a curvilinear feature was identified and recorded as the remains of a Bronze Age roundhouse along with a centrally located hearth, surrounded by a ring of six post holes. Other postholes that were investigated were located to the west of the hearth. A linear feature running north-west to south-east was identified in the western corner of the site.

Excavation by ABA in September 2018 identified the same series of six post holes surrounding a hearth, which was associated with a bounding curvilinear drip gully (*Figure 3*). The results were first described in the ABA 2018 site summary report.

3.1 Quantification of Excavation Data

Data Category	ABA records Number	Wessex records Number	Total
Context	74 (8 voided)	30	96
Small finds	14 (1668.78g / 16.6687kg)	4 (124g)	18
Environmental samples	19 (220 litres / 27 buckets)	10 (180 litres / 18 buckets)	29
Digital photographs	87 JPEG / 87 NEF	130 JPEG	304
Rectified photographs	16.7 GB	-	16.7 GB
GPS surveyed data	1.27 MB	-	1.27 MB
Hand drawn plans	22	7	29
Hand drawn sections	23	12	35

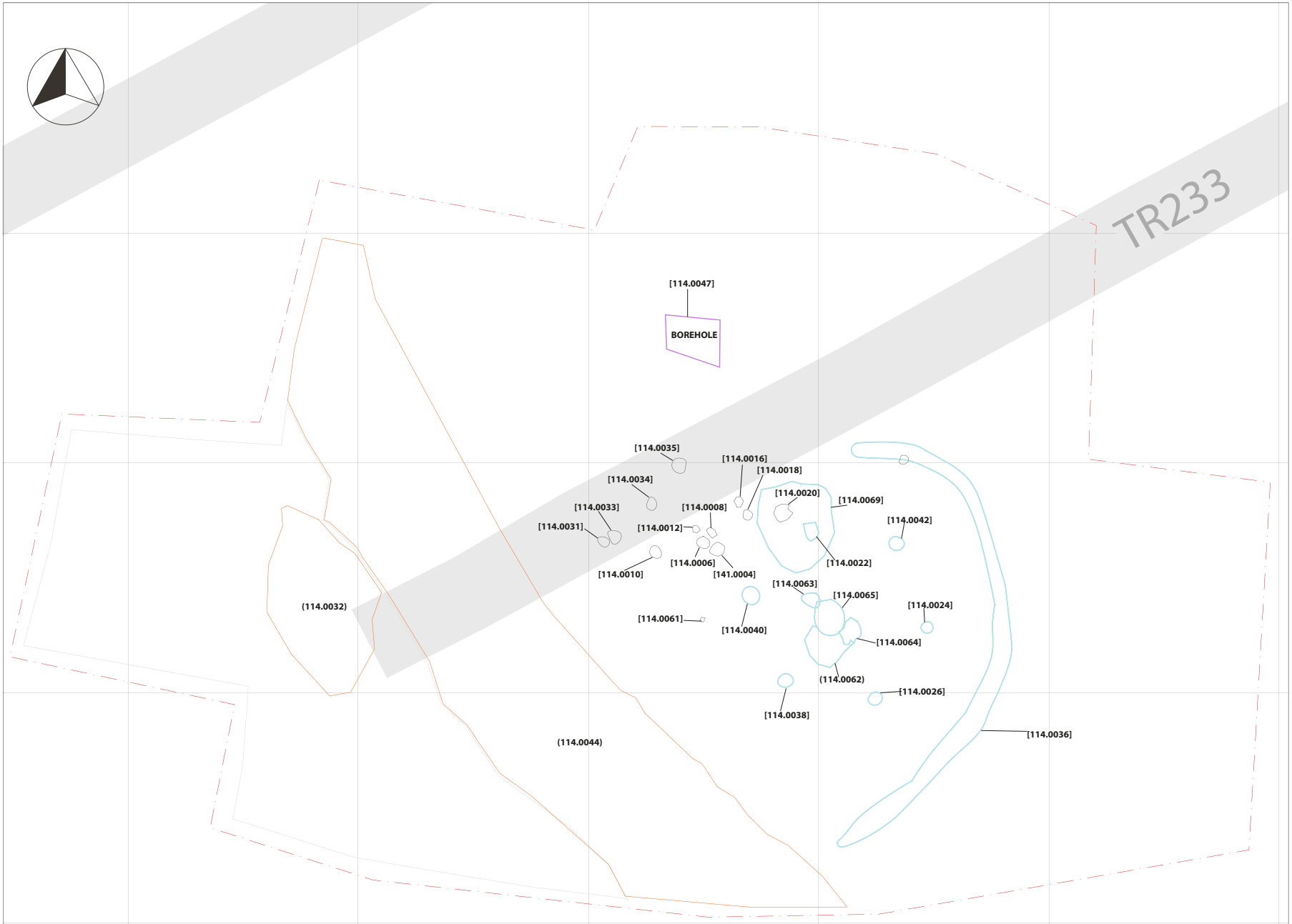
Allocated PRNs

PRN	Feature
HER PRN GAT 91866	Wetland Consolidation
HER PRN GAT 91867	Pit
HER PRN GAT 91868	Roundhouse

3.2 Phasing/Stratigraphic Sequence

Post-excavation work involved checking and collating the site records, grouping contexts and phasing the stratigraphic data. A stratigraphic Harris Matrix was constructed from this data and is included as Appendix IX. A total of 104 contexts (*Appendix III and IV*) were identified during the Hotspot 14 excavation. Upon investigation eight contexts were found to not be of archaeological interest. The physical relationship between features excavated at the site suggested two phases and/or groups of activity within the limits of Hotspot 14:

1. A possible early consolidation of wetland areas with stony deposits, including an unphased pre-roundhouse pit [114.0069]; and
2. The remains of a probable Bronze Age roundhouse with some consolidation of wetland areas (seen as charcoal dumps) and deposition of larger stone patches.



Grid - 5m

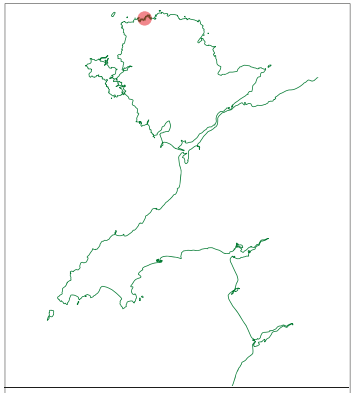


Figure 3
Site Plan, Hotspot 14.

Key

- Limit of Excavation
- Evaluation Trenches
- Natural Deposit
- Late Neolithic to Early Bronze Age Features
- Late Bronze Age Features
- Undated Features

Drawn By: DPN, RN (edited CNV + KM)
Date: 29/10/18 (last edit on 16/03/21)
Location: SH34969272
Project: AB1703 Hotspot 14

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3.2.1 Early consolidation of wetland area with stony deposits (HER PRN GAT 91866)

Deposit (114.0044) consisted of a compact dark grey brown clay silt with frequent inclusions of charcoal. From this charcoal rich consolidation layer several small finds were recovered: six sherds of Bronze Age pottery (SF001), one of which was decorated, and a heat affected stone (SF002).

Below (114.0044) a silt (114.0045) and stony (114.046) layer were uncovered. These deposits were likely the presumed burnt mound identified during the evaluation phase in Trench 233 and later described as a ditch in the preliminary excavation by Wessex Archaeology (2016). The intentional deposition of material along marginal wetland, i.e. stony layer (114.0046 [*Plate 1*]), was located immediately to the south west of the roundhouse structure and hearth [114.0065]. This deposition, perhaps contemporary with the roundhouse structure, may have provided a stable and more compacted area of ground at the edge of the wetland that potentially encroached on the roundhouse. A spindle whorl (SF005) and one sherd of Bronze Age pottery (SF006) was discovered in stony layer (114.0032) which also formed part of the consolidation of the wetland area directly south west of the roundhouse structure.

Located towards the eastern extent of the excavation area, and in the northern half of the roundhouse structure, an early storage/refuse pit [114.0069] (HER PRN GAT 91867) was excavated (*Plate 2*), which contained a series of fills: an initial silting episode (114.0070), followed by dumping fills of compact grey yellow clay, (114.0071); (114.0073), and a charcoal rich sand silt (114.0072). This pit measured 1.85m long, 1.54m wide and 0.30m deep. It had irregular sides with the north side being steeper than the south which lead gradually to a generally flat but undulating base. This pit was truncated by posthole [114.0022], one of the ring of six principle posts inside the roundhouse.

Plate 1. Stony deposit (114.0046) located south west of the Roundhouse. View from the South-West, 1m scale.

Plate 2. Section through pit [114.0069] illustrating charcoal rich silt (114.0072) and grey yellow clay (114.0071 and 114.0073). View from the East, 1m scale.

3.2.2 Period 2 - Early Bronze Age Roundhouse and associated features (HER PRN GAT 91868)

A central circular arrangement of six principle postholes [114.0026], [114.0024], [114.0022], [114.0038], [114.0040] and [114.0042], likely supported roof timbers around hearth [114.0065] (*Plate 3*). The diameter of this ring of postholes was approximately 4.5m. The post holes were all circular with steep to vertical sides (*Figure 4*).

- Posthole [114.0026] had a diameter of 0.15m and a depth of 0.20m with steep slightly concave sides leading sharply to a concave base. It was filled by (114.0025), a loose black brown sand silt with moderate charcoal and pebble inclusions.
- Posthole [114.0024] was 0.22m in diameter and 0.23m deep with steep slightly concave sides leading sharply to a flat base. It was filled by primary fill (114.0023), a loose brown grey silt clay with moderate inclusions of charcoal. In the centre of this was secondary fill (114.0047) which represents a postpipe that consisted of a friable black grey charcoal in a matrix of silt clay.
- Posthole [114.0022] was 0.23m in diameter and 0.20m deep with vertical sides leading sharply to a flat base. It was filled by (114.0021), a mid brown grey clay silt with occasional charcoal and subrounded pebble inclusions. A large chunk of burnt clay (SF007) was found within this fill.
- Posthole [114.0038] was 0.3m in diameter and 0.15m deep with near vertical sides leading sharply to a slightly concave base. It was filled by (114.0039), a loose dark grey brown silt with occasional flecks of charcoal and sub-angular and sub-rounded pebbles.
- Posthole [114.0040] was 0.35m in diameter and 0.18m deep with near vertical slightly concave sides leading gradually to a concave base. It was filled by primary fill (114.0041), a loose grey brown silt with occasional flecks of charcoal and sub angular and sub rounded stones. Over

this was secondary fill (114.0074), a loose dark black brown silt with frequent charcoal. This fill appeared to be the remains of a postpipe.

- Posthole [114.0042] was 0.25m in diameter and 0.28m deep with steep near vertical sides leading sharply to a flat base. It was filled by (114.0043), a loose dark brown grey silt clay with occasional charcoal inclusions.

A possible hearth structure [114.0065] was situated in the centre of the ring of post holes and contained a deposit of large flat schist stones laid horizontally (114.0052) within a cut. This cut is presumed to be a levelling cut so that the top surfaces of the stones were at roughly the same level. This structure showed little evidence of *in situ* high temperature burning and had silted-up once no longer in use. A heat affected clay deposit (114.0062), located directly south of the hearth structure, may represent the hearth proper with the adjacent stones performing some other, related function. Two postholes, [114.0064] and [114.0063], were located either side of the hearth, and both contained charcoal rich clay silt fills (*Plate 4 and Figure 5*) and suggest a possible structure associated with cooking, drying, smoking, or other processes utilising the hearth. Posthole [114.0064] measured 0.48m in diameter and was 0.22m deep with steep sides leading sharply to a flat base. Posthole [114.0063] measured 0.46m in diameter and was 0.20m deep with steep sides leading to a flat base. Radiocarbon dating of charred material identified as Rose recovered from fill (114.0050) of hearth structure [114.0065] and charred material identified as oak from fill (114.0051) of posthole [114.0064] returned a date range of *c.* 1954 – 1741 BC, suggesting a Late Neolithic to Early Bronze Age date for the roundhouse and associated features.

Plate 3. Roundhouse pits with central hearth [114.0065] and semi-circular drip gully [114.0036]. View from South-east, 2m scale.

Plate 4. Section through hearth [114.0065] with adjacent postholes [114.0064], [114.0063]. View from the South, 1m scale.

Seven postholes [114.0004], [114.0006], [114.0008], [114.0010], [114.0012], [114.0018] and [114.0020], were excavated to the north-west of the hearth.

- Posthole [114.0004] was 0.2m in diameter and 0.2m deep with near vertical sides leading sharply to a flat base. It was filled by (114.0028), a loose light brown sand silt with frequent sub angular and sub rounded pebbles.
- Posthole [114.0006] was 0.3m in diameter and 0.1m deep with near vertical sides; leading sharply to a flat base. It was filled by (114.0005), a light grey sand silt with occasional charcoal flecks.
- Posthole [114.0008] was 0.2m in diameter and 0.2m deep with near vertical sides leading sharply to a flat base. It was filled by (114.0007), a loose light brown grey sand silt with moderate inclusions of charcoal flecks and occasional sub-angular and sub-rounded pebbles.
- Posthole [114.0010] was 0.25m in diameter and 0.06m deep with steep, slightly concave sides leading sharply to a flat base. It was filled by (114.0009), a light brown grey sand silt with occasional charcoal flecks and subangular and subrounded pebbles.
- Posthole [114.0012] was 0.15m in diameter and 0.08m deep with steep sides leading gradually to a concave base. It was filled by (114.0011), a light brown grey sand silt with occasional flecks of charcoal.
- Posthole [114.0018] was 0.2m in diameter and 0.2m deep with steep, near vertical sides leading sharply to a flat base. It was filled by (114.0017), a light brown grey sand silt with occasional flecks of charcoal, sub-rounded and sub-angular pebbles.
- Posthole [114.0020] was 0.25m in diameter and 0.06m deep with gently sloping sides leading gradually to a concave base. It was filled by (1114.0019), a light brown grey silt with frequent sub-angular and sub-rounded pebbles.

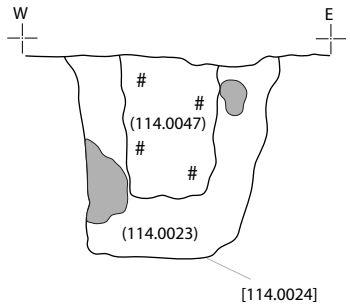
A further four postholes [114.0031], [114.0033], [114.0034] and [114.0035], were located in line, north-west of the hearth and were originally identified during the evaluation phase as forming a possible wind break (*Figure 3*). These features may be associated with the entrance to the roundhouse.

- Posthole [114.0031] was 0.2m in diameter and 0.04m deep with gently sloping sides leading imperceptibly to a concave base. It was filled by (114.0030), a loose light brown grey sand silt with occasional flecks of charcoal.
- Posthole [114.0033] was 0.3m in diameter and 0.10m deep with irregularly sloping sides leading gradually to a concave base. It had previously been excavated during the initial investigation by Wessex Archaeology and as such had no fill left. No record of this feature was present in the Wessex archive.
- Posthole [114.0034] was 0.2m in diameter and 0.17m deep with vertical sides leading sharply to a flat base. It was filled by (114.0048), a mid grey brown silt with occasional sub-angular and sub-rounded pebbles.
- Posthole [114.0035] was 0.3m in diameter and 0.15m deep with vertical sides leading sharply to a flat base. It had previously been excavated during the initial investigation by Wessex Archaeology and as such had no fill left. No record of this feature was present in the Wessex archive.

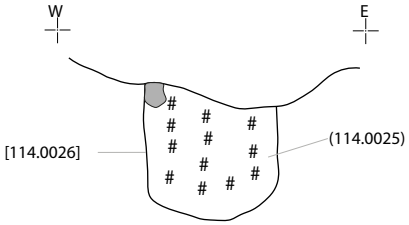
A curving gully [114.0036] was located up slope and to the east of the hearth, forming a semi-circle. This is likely to have defined the limits of the roundhouse, and likely formed a drainage gully to divert surface water and drips from the roof away from the wall of the roundhouse. The gully was 0.38m wide and approximately 11m long. it had gently sloping sides leading gradually to a flat base with rounded termini. The gully had an approximate diameter of 8m and at its closest point was 1m from the circle of principle postholes giving the structure a maximum possible diameter of 7m.

A pit [w22009] identified during the initial excavation of the area by Wessex Archaeology, measuring approximately 0.70m in diameter, was located 1m south of the southern terminus of the gully and contained sherds of Bronze Age pottery (SF4).

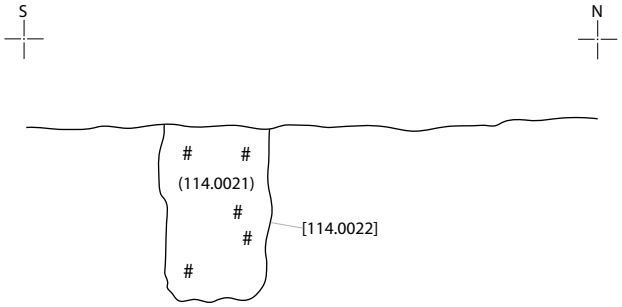
Section of Posthole [114.0024]



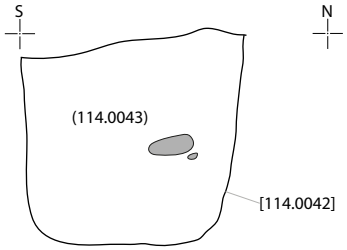
Section of Posthole [114.0026]



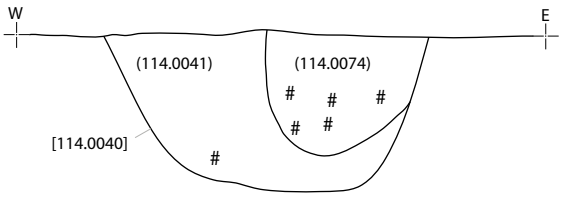
Section of Posthole [114.0022]



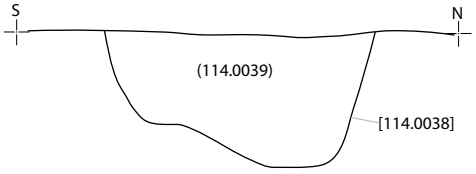
Section of Posthole [114.0042]



Section of Posthole [114.0040]



Section of Posthole [114.0038]



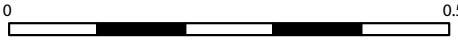
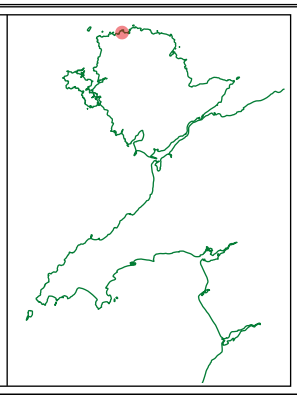


Figure 4
Sections of roundhouse postholes.

Key

\# Charcoal

Stone



Project No.
AB1703

Drawn By:
KM/IGP

Date:
16/03/2021

Location:
SH34969272

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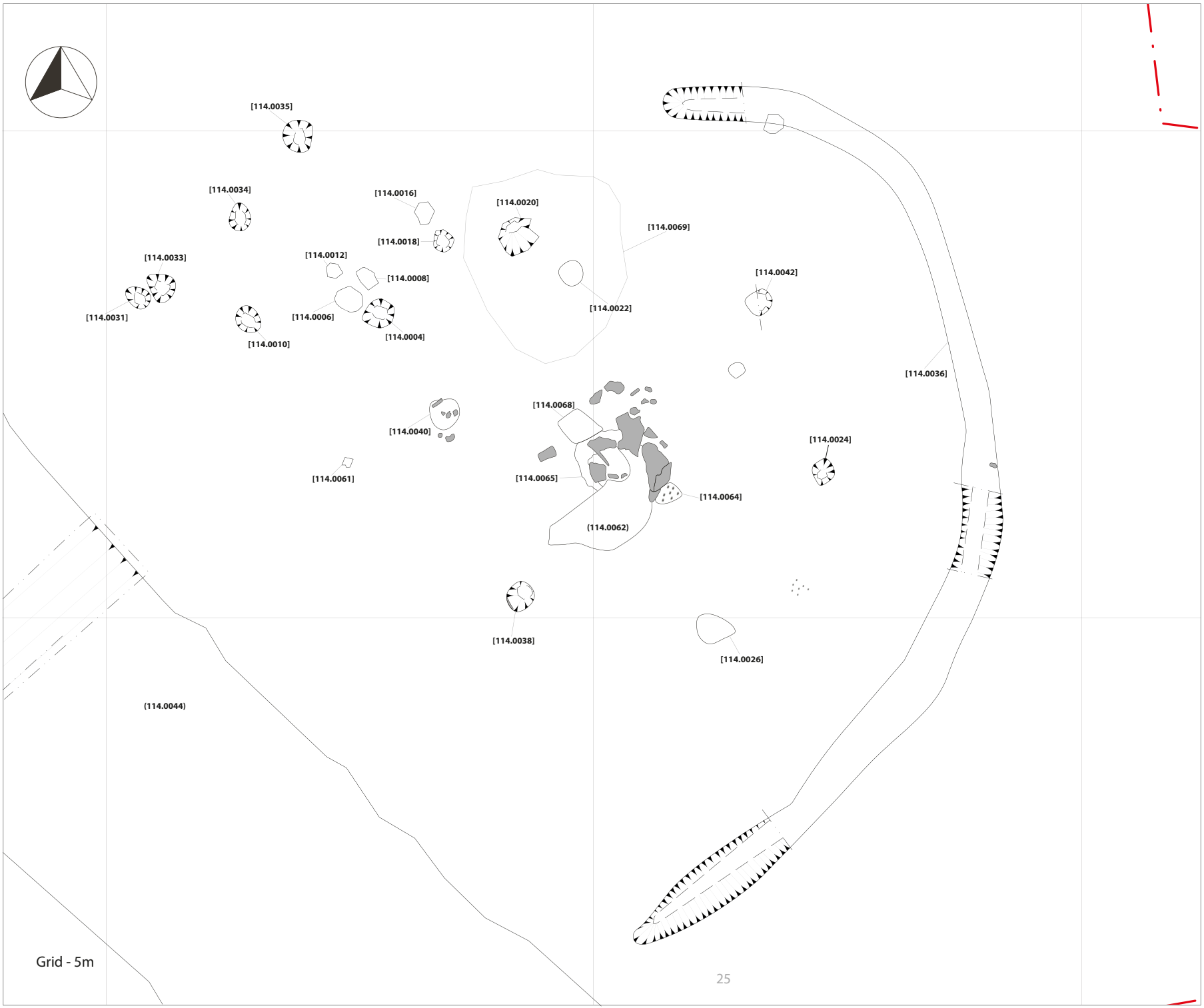

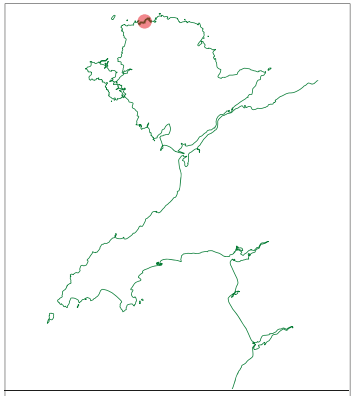

Figure 5
Mid excavation plan of the Bronze Age roundhouse.

Key

- Label lines
- Limit Of Excavation
- Break of slope
- Limits of slots and half sections
- Pit predating the Roundhouse
- Stone
- Charcoal

Drawn By:	KM
Date:	17/04/20
Location:	SH34969272
Project:	AB1703 Hotspot 14

Archaeoleg Brython Archaeology

4 Assessment of Potential and Significance

All finds were treated in accordance with the guidelines set out in Watkinson and Neal's (2001) and CIfA's (2014a; 2014b) standards and guidelines in collecting, packaging and documenting of archaeological materials. The finds assemblage and environmental samples were handed over to WA in April 2019 for curation and assessment of potential. All processing of artefacts and ecofacts were undertaken away from site. At the time of writing the finds assemblage was under the curatorship of WA.

4.1 Finds Assessment

During the excavation of Hotspot 14 a total of 18 small find (SF) numbers were allocated to 35 artefacts (1683g). The finds assessment report was compiled by Sue Thompson, and the full Finds Assessment Report is included as Appendix V. The lithics were assessed by Miguel Gonzales. The Prehistoric pottery was assessed by Frances Lynch, this report is included as Appendix VI.

4.1.1 Prehistoric Pottery

The Prehistoric pottery was consistent with an Early Bronze Age date and can be identified as food vessels. Pot one and two was recovered from pit (22009) by Wessex Archaeology. Pot three and four, including flint, was recovered from charcoal rich context (114.0002). The fifth pot consisted of a single small sherd recovered from the stone consolidation layer over the wet area. The sherd was found with a spindle whorl. A fragment of burnt clay (CBM) or pottery (SF3) recovered by Wessex Archaeology was found in context (22016) in the southern terminal of the drip trench. The fragment has crumbled to dust and does not allow for further discussion.

- Pot 1 – Pit [22009] context (22010), SF4

Two of the three sherds labelled as SF4 were from the same pot which had a diameter of 240mm. Both sherds were in a hard but fragile fabric, brown throughout with smooth, bumpy surfaces. The clay contained a lot of large rounded and angular stone grit, 5-8mm in size. The rim sherd [52 x 52 x 8mm (rim), 16mm (cordon), 15mm (wall)] was decorated. The exterior decoration consisted of two incised counter-hatched lines between the upright rim and a low cordon. The interior decoration consisted of a shallow horizontal groove with a dot below it. The second sherd (originally 52 x 40 x 16-15mm) has completely disintegrated, but was recorded in 2018 as showing the external cordon with seed-like impressions and internal groove with dot.

Pot 1 was very similar to a poorly preserved pot from Bedd Branwen (Lynch, 1971: 33-34; Lynch, 1991: 170 Fig 45). This Pot E was unlike most of the vessels from that barrow but was judged to be a Ridged Food Vessel by Dr Ian Longworth. The upright cordoned rim and its internal decoration was almost identical, but not the external herringbone hatching, though this is another popular Food Vessel motif, also seen in pot 1 recovered from Hotspot 11-13 (ABA, 2021). Pot E, like pot1 of Hotspot 14, was poorly fired with large grits.

- Pot 2 - Pit [22009] context (22010), SF4

The third sherd of pottery labelled as SF4 was a single shoulder sherd (48 x 55 x 10-16-13mm) from a different pot measuring 200mm in diameter. The fabric was yellow inside and out with a soft

black core with small stone grits, rhyolite and a darker rock. The fragment was decorated with spaced vertical lines on the neck in whipped cord.

Pot 2 was not a typical Food Vessel, either in the way the decoration was set out, nor the use of whipped rather than twisted cord, though whipped cord was seen on the large Vase Food Vessel from Merddyn Gwyn, the burial for which the Beaker-period mound was enlarged (Lynch, 1991: 187 Fig 52.1).

- Pot 3 - Context (114.0002), SF001 and SF014

Pot three consisted of six sherds; two substantial segments (70 x 65 x 9mm and 60 x 50 x 10mm) running from rim to shoulder giving a confident reconstruction as a small urn-shaped pot measuring 145mm in diameter at the bottom of the narrow collar, and 165mm at the crisp shoulder. One body sherd from SF001 (50 x 40 x 11mm) joined the smaller section of rim from SF0014 on an ancient break at the shoulder, making a profile section of 100mm. Two other body sherds (50 x 40 x 11m and 30 x 32 x 11) have been broken recently and could not be fully restored. A fourth curved body sherd (30 x 35 x 10mm) comes from SF014 with the smaller rim section but did not join it. The pot was completely undecorated and made from a hard, red black fabric with a smooth surface. Despite its careful finish it was slightly lopsided, as many coil-made pots are. It contained plentiful angular stone grit varying in size from 3-7mm, with possible inclusions of rhyolite and some other rock.

Pot 3 was a small plain version of the Vase Food Vessel with a narrow collar and a sharp shoulder. The height is uncertain but was probably about 160mm, very much the same size as the equally plain Pot K from Bedd Branwen which had been an accessory vessel, not a burial urn. Pot K is described as a Collared Urn, but in truth the difference between an early Collared Urn and a Vase Food Vessel is the product of modern archaeological typology and, when styles are shown to be contemporary, there is a great deal of fluidity. An analysis of the clays, grits and firing technique of typical pots in both styles from Moel Goedog in Merioneth showed that all were likely to have been made in the same workshop (Lynch, 1984: 45-47).

- Pot 4 - Context (114.0002), SF004

Pot 4 consisted of two shoulder sherds, no rim, and four pieces from the body of a vase measuring approximately 180mm in diameter at the shoulder. The shoulder sherds measured 55 x 55 x 11-12mm and 40 x 35 x 10-13mm. A body sherd close to the shoulder measured 68 x 60 x 10-12mm, and the largest of the three other pieces measured 40 x 35 x 9mm. The decoration on the shoulder, and probably the missing neck, was impressed close-set horizontal lines of twisted cord, rather variable in thickness and depth of impression. The bottom line was made with a double twisted cord, but this was not the case everywhere. The body below the shoulder was undecorated. The fabric was hard, orang pink outside, black inside with a smooth surface. There was a good deal of angular stone grit mostly medium in size (5mm).

What remained of pot 4 was very closely comparable to pot 3 recovered from Hotspot 11-13, though the shoulder is more sharply defined. With a shoulder diameter of 180mm this was a smaller vase than those used for burial, and this domestic assemblage allows us to see more of this group of smaller pots. Those eventually used for burials are a sub-set of a broader range of equipment.

- Pot 5 - Context (114.0032), SF006

Pot 5 consisted of a single small concave sherd (30 x 25 x 11-13mm) from the neck, close to the shoulder. The sherd was decorated with light incised hatching. The fabric was very hard, orange-surfaced on a grey core with masses of sharp angular grits 7+mm - 3mm in size, of dark and white rock. The white grit might possibly be burnt flint. The fragment does not add much to our knowledge, but the grits are unusual and might repay study.

Prehistoric pottery recovered from the environmental samples during processing include pottery fragments from sample <1> (114.0044) and sample <22004> (22016). The fragments consisted of undecorated body sherd of coarse handmade fabric with large inclusions reduced to a dark grey, but oxidised externally. Tiny fragments of likely Prehistoric pottery were also recovered from sample <22009> (220026). Further analysis is warranted on the prehistoric pottery.

4.1.2 Fired Clay

One large fired clay fragment (SF007), weighing 885g, was recovered from context (114.0021), the fill of posthole [114.0022]. The fragment, of unknown function, measured 150 x 70 x 80mm and consisted of a well fired but friable orange fabric with frequent stone inclusions. Further analysis including comparison with fired clay from nearby sites may be warranted.

4.1.3 Lithics

Three (3.76g) lithics were recovered during the excavation of Hotspot 14 by Wessex Archaeology. The assemblage consisted of local beach pebble flint and included two tertiary flakes produced by soft hammer and a chip fragment recovered from context (22028) and (22026), the charcoal layers above ditch [22027] and [22022]. Due to the lack of diagnostic elements and the scarcity of the assemblage it is not possible to date the lithics. No further analysis was recommended.

4.1.4 Stone

SF005, a small sub-circular stone disc of possible tuff weighing 11g was recovered from context (114.0032), a stony spread along the edge of the wetland. The disc measured 33 x 38 x 10mm with a slightly off-centre circular hole measuring 6mm and may have functioned as a small weight. Given that it was recovered with prehistoric pottery, it is likely of similar date. Further work may be warranted.

A small fragment of heated stone was recovered during processing of environmental sample <22001> (22020). The fragment appears unworked.

4.1.5 Industrial Residue and Glass

Industrial residue and glass fragments were recovered from environmental samples during processing. The industrial residue from sample <220010> (22028), consist of a single hard fragment that was easily snapped and contained frequent inclusions of small stones and is likely a fragment of burnt earth rather than slag. The single clear glass fragment of sample <22006> (22014) weighs less than 1g and is modern in date. No further analysis was recommended.

4.2 Palaeoenvironmental Assessment

Nineteen bulk environmental samples were taken during the excavation of Hotspot 14 by ABA, and a further ten samples during an earlier phase of work by Wessex Archaeology. A total of 28 samples with a total weight of 4292kg (296 litres) were processed by WA according to guidelines stipulated in the Wardell Armstrong LLP. Technical Manual No. 2 (2018) and Wardell Armstrong (2019) (*Appendix VII*). The assessment identified the significance and potential of the material for further analysis, and provided identification to species where practical to do so on material selected for radiocarbon dating. Due to being either lost, or damaged in storage or transit, sample <22002> (22010) was not processed. The full report by Freddie Sisson is included as Appendix VII. No bone or shell material was recovered from the environmental samples.

4.2.1 Results

Overall, the samples were dominated by a sand silt sediment matrix. Artefactual material recovered from the dried residues were minimal but contained examples of ceramic building material (CBM), glass, industrial waste and prehistoric pottery. The material recovered from the flots are outlined below.

4.2.1.1 Charred Plant Remains (CPR)

Ten samples presented charred plant remains (CPR) which were predominantly cereal grains and in a good state of preservation. The largest quantities were 18 CPR from (114.0023) <9> taken from posthole [114.0024]. 19 CPR from (114.0051) <11> from hearth [114.0065], 23 CPR in (114.0053) <12> from posthole [114.0063] and 37 CPR from (114.0050) <13> from posthole [114.0064]. The hearth sampled in (114.0062) <16> only yielded two CPR.

The CPR assemblages are too small to give any meaningful discussion. However, they do have radiocarbon potential, the most suitable samples are **<9>, <11>, <12>** and **<13>** as these have the most available examples.

4.2.1.2 Charcoal

Charcoal was present in all samples processed of which nine yielded more than 5g: Charcoal rich fill (114.0002) <1>; postholes (114.0023) <9> [114.0024], (114.0053) <12> [114.0063]. (114.0050) <13> [114.0064] and (114.0021) <18>; and the deliberate back fill of pit [20009] - (22012) <22003>; fill of gully [22015] - (22016) <22004>; and from the fill of gully [22015].

The largest charcoal assemblages came from layers (22026) <22009> and (22028) <22010> which yielded 93g and 90.71g respectively. The charcoal is likely to have been a primary deposit with the post burnt *in situ*. Whilst the charcoal cannot tell us any specific dates about the features it was recovered from it can tell us about fuel procurement or woodland management. In order to do this any features charcoal came from need to be dated through actual or typological methods. The most suitable charcoal for radiocarbon should be taken from **<1>, <12>, <13>, <22009>** and **<22010>** due to the large quantities of available charcoal.

4.2.1.3 Magnetic Material

Thirteen samples contained magnetic material, of which two yielded more than 10g: (20012) <22003> from the back fill of pit [20009]; and <22005> (22018) from the secondary fill of gully [22017]. No microslags were present and the material is made up of small naturally occurring stone and are of low archaeological significance. No further analysis was recommended.

4.3 Radiocarbon Dating Results

Samples for radiocarbon dating were selected based on the archaeology of the site, i.e. selecting viable contexts that would yield useful information, and the results obtained from bulk environmental sample assessment, i.e. selecting suitable material for dating from the samples obtained from the selected contexts. Based on this criteria two samples were submitted for radiocarbon dating. The samples were sent to Beta Analytic Radiocarbon Dating Laboratory for analysis. Prior to dating, it was suggested that the charcoal samples were identified to species to select the shorter-lived species to mitigate against the potential 'old wood effect' that may present a radiocarbon date range older than the feature. In the absence of single growth entities such as charred plant remains and hazel nutshell fragments, charcoal was chosen for radiocarbon determinations. Where no short-lived species were observed the youngest i.e. twig, branch or periderm fragments from longer-lived species such as oak were selected (*Appendix VII*). The results are presented in Appendix VIII and summarised below:

Sample	Context	Material	Date (probability %)	Period
11	114.0051 – fill of hearth	Oak	1954-1767 cal BC (95.4%)	Neolithic – Early Bronze Age
13	114.0050 – fill of posthole	Rose	1893-1741 cal BC (93.4%)	Neolithic – Early Bronze Age

5 Discussion and Statement of Potential

Hotspot 14 was targeted for excavation because of the potential for Prehistoric archaeology identified during evaluation trenching which consisted of a presumed Bronze Age burnt mound and a series of related post holes in Trench 233. Due to the small number of datable features and archaeological material identified during the excavation of Hotspot 14, the information gained from the assessment is limited. However, the excavation and assessment of the finds assemblage and archive has revealed a site which has archaeological potential that requires further analysis to properly understand the archaeological features identified and how they relate to their wider setting.

The excavation of Hotspot 14 determined that what was initially interpreted as a burnt mound was a series of intentional dumps of material as part of the consolidation of marginal wetland immediately to the south-west of a Late Neolithic to Early Bronze Age roundhouse. The deposits generally contained low proportions of charred plant remains, dominated by wood charcoal, and a low density of charred cereal grains and chaff, including emmer/spelt wheat grains, barley grains and glume wheat chaff (Wessex Archaeology, 2016). The charred cereal grain identified from evaluation trenching deposits is likely due to accidental charring during food preparation and redeposited as waste from domestic hearths. The cereal chaff would have been removed from the crop during processing and potentially charred as tinder and/or waste. The glume wheat chaff is indicative of waste from the later stages of glume wheat processing. As glume wheat can be imported in spikelet form, it is not possible to determine if the glume wheat was grown locally (Hillman, 1981). In general, the presence of charred cereal grains suggest that crop processing and/or food preparation were being carried out in the vicinity of the site. The excavation of Hotspot 14 by ABA also produced samples of environmental material, some of which retrieved from stratified context. Detailed analysis and identification of the plant species, in particular wood species, in addition to data on ring curvature, counts and possible diseases may further aid our understanding of wood selection and woodland management, agricultural practices and land use.

Based on the excavation results and phasing/stratigraphy, it is suggested that the early consolidation of wetland area and stony deposits pre-date the roundhouse but may be broadly contemporary. The identified roundhouse structure was defined by six postholes forming a circular arrangement around a central hearth and a semi-circular drip gully on its north-east (upslope) side. The roundhouse would have had a maximum diameter of approximately 7m which is considerably smaller than the proposed 11m diameter for the undated, but likely Early Bronze Age, roundhouse at Parc Cybi (HER PRN GAT 31588) (Kenney *et al.*, 2020), but further research is warranted to identify comparable parallels. The Early Bronze Age pottery, radiocarbon dating results from both the roundhouse and wetland consolidation material, along with the prehistoric pottery recovered from the drip gully terminus during the Wessex Archaeology excavation suggest a Late Neolithic to Early Bronze Age date for activity at the site. To fully address and determine the chronology of archaeological remains recorded at Hotspot 14 however, multiple samples recorded from the same, stratigraphically sound context, should be submitted for radiocarbon dating.

The pottery recovered from Hotspot 14 (and Hotspot 11-13 [EVENT PRN 46043] an early medieval site with evidence of Neolithic to Early Bronze age activity located approximately 150m north [ABA, 2021]) can be dated typologically to a period when Collared Urns were developing and food vessels were at the beginning of their decline (2000 – 1750 cal BC). The fact that many of their typological parallels are burial urns from Bedd Branwen and Llanddyfnan demonstrates that the early Urns and later food vessels overlap in their period of use and revised radiocarbon dates on the cremated bone from a number of Welsh cairns, including Bedd Branwen, have been reviewed and published by Brindley (2007) in her study of the Irish food vessels. The association at Bedd

Branwen and at Llanddyfnan with the second half of the Wessex Culture trading nexus suggests that the vase food vessel was in use in Anglesey throughout the period 2000-1750 cal BC (*Appendix VI*).

The pottery recovered from Hotspot 14, identified as food vessels, has reasonable counterparts amongst food vessels found throughout Anglesey and north Wales. However, the Hotspot 14 (and Hotspot 11-13) assemblage is associated with settlements rather than burials. This makes it unique in Anglesey and rare in most parts of the country. Food vessels in Anglesey include the occasional bowl, such as that from Merddyn Gwyn (Lynch, 1991: 187 Fig 52.2), but are predominately vase food vessels which come in a variety of sizes. All those known previously have come from burial contexts where the larger ones contain the cremated bone, but smaller ones, like those recovered at Hotspot 14 (pot 3) and Hotspot 11-13 (pot 3), may have been used as accessory vessels. Domestic use would have called for a variety of container sizes and it appears that the containers eventually used for the burial of the dead were taken from among the pottery available in the home (*Appendix VI*).

It is clear from the excavation, and from nearby excavations, that the locality holds archaeology which has the potential to significantly increase knowledge of the development of the north-east of Anglesey from the Mesolithic through to modern times.

5.1 Conclusions and Realisation of Original Aims and Objectives

The original aims and objectives stated in section 2.6 has largely been met in that material was recovered during the Hotspot 14 excavation in order to date evidence of past activities, and samples were taken to better understand the past environment and land use. However, the results from the assessment is limited. The excavation revealed the remains of a Late Neolithic to Early Bronze Age roundhouse, comprising several postholes, a drip gully and hearth, as well as a series of intentional deposits which appear to be evidence of marginal wetland consolidation. Artefacts associated with the features included decorated Prehistoric pottery, likely Early Bronze Age in date, lithics, a spindle whorl and burnt clay and stone. To fulfil the potential of the site data, the updated objectives and research questions have been set out below to provide a framework for the proposed further analysis. Addressing the aims and objectives will be achieved through a detailed examination of the stratigraphy, contextual analysis of the datable finds and comparative research.

1. *Are the possible structural features associated with isolated structures or part of a larger settlement?*
2. *What relationships or patterns, if any, can been seen between these Prehistoric features and their wider landscape setting?*
3. *What evidence do the ditch features provide for Prehistoric landscape organisation and enclosure?*
4. *What is the relationship between the ditches and other Prehistoric features such as settlement features and burnt mounds/spreads?*
5. *What types of artefacts are present in the SMS zones?*
6. *What can these artefacts tell us about daily life and ritual activity?*
7. *Were those artefacts, which may be found in the SMS Zones, produced locally?*

6 Proposal for Further Work

The results from the investigation of the prehistoric assemblage is of local and regional interest and should be considered along with similar findings from neighbouring archaeological areas. It is proposed that a detailed site report, incorporating stratigraphic and further specialist finds analysis as recommended by the specialist assessment reports (*Appendix V, VI and VII*) are produced:

- Prehistoric finds - Further work is recommended including comparative research and illustration.
- Fired clay - Further analysis including comparison with fired clay from nearby sites may be warranted.
- Stone – Further work may be warranted.
- Radiocarbon dating - Charred Plant Remains from samples <9>, <11>, <12> and <13>, and charcoal materials from samples <1>, <12>, <13>, <22009> and <22010> are suitable for dating.

7 Storage and Archive Deposition

At the time of writing the paper and digital archive was held at the ABA offices in Bangor, Gwynedd. The finds assemblage and environmental samples was under the curatorship of WA. Upon completion of the project, and with agreement with HNP and the relevant stakeholders, the paper archive and digital data, including photographs will be lodged with the Royal Commission on Ancient and Historical Monuments of Wales (RCAHMW) in Aberystwyth, under an accession number yet to be assigned. ABA will hold a digital version of the archive indefinitely.

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Appendix I

AB1703 Archaeoleg Brython Archaeology

Project Team

AB1703 Archaeoleg Brython Archaeology Project Team

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Lucia Fernandez Rabanal

Sean Finlay-Scott

James Fish

Amy Gamman

Catherine Godsiffe

Sergio Gomez-Carrion

Paul Hickman

Karen Hole

Vickki Hudson

Rocio Jimenez Diaz

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Leslie Law

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Sharon Martin

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Ramon Navas Losada

Cindy Nelson-Viljoen

Declan New

Tomasz Neyman

Jennifer O'Donnell

Edmund Palka

Craig Parkinson

Gethyn Phillips

Jeannette Plummer Sires

Stephen Porter

Blazej Prus

Gary Reid

Clair Richardson

Louis Roper

Kurt Russell

Karolina Saxerbo Sjoberg

Victoria Scott

James Sinclair

Robert Slabonski

Elena Stefani

Stuart Stokes

Luke Tremlett

Michael Tunnicliffe

Harri Twigg

Kerri Waite

April Williams

Edward Worsley

Luke Yates

Appendix II

AB1703 Wylfa Newydd Early Clearance Works

Site Gazetteer

Appendix II – Gazetteer of sites excavated by ABA

Area	PRN	Description	Easting	Northing	Period	Summary
Wylfa Head	91809	Lithic Scatter	235752	393877	Early Neolithic	Flint scatters consisting of a number of flint tools and debitage recovered from stoney layer (10.1954) that had evidence of being heat affected
Wylfa Head	91810	Pits, Wylfa Head	235746	393880	Early Neolithic	Two large pits [10.01372] and [10.1994] located in the north-western corner of site. Both pits were sub-circular in plan and possibly contemporary. Pit [10.1994] contained fire-cracked stone (10.1964) and the remains of a burring episode (10.1996)
Wylfa Head	91811	Lithic Scatter	235802	393867	Early Neolithic	Lithic scatters identified in test slot [10.2725] dug through two palaeosols (10.2621) and (10.2790). The assemblage was indicative of Mesolithic activity and included classic microlithic forms and bladelets. Radiocarbon dating of spit (10.2730) returned a Late Neolithic date
Wylfa Head	91812	Neolithic Pits, Wylfa Head	235765	393810	Early Neolithic	Large pit excavated at the southern limit of site, possibly consisting of two intercutting pits [10.0010] and [10.0008]. The pit contained three Neolithic axes (SF1210, SF1211 and SF1212), whetstones (SF1035 to SF1037) and a cache of small polishing stones
Wylfa Head	91813	Postholes	235787	393865	Late Iron Age/Early Romano-British	Three posthole groups, [10.2706], [10.2902] and [10.2910], each consist of three postholes forming a triangle. Postholes groups [10.2706] and [10.2902] was located along the southern edge of burnt daub patch (10.2614)
Wylfa Head	91814	Roundhouse	235790	393863	Late Iron Age/Early Romano-British	Roundhouse located in the north-eastern section of site and consisted of burnt daub patch (10.2614) and nearby postholes [10.2862], [10.2835], [10.2793], [10.2784], [10.2817] and [10.2745]. The roundhouse was heavily truncated by later activity
Wylfa Head	91815	Ditch	235778	393873	Late Iron Age/Early Romano-British	East to west aligned ditch identified below later stone walls and located north-west of roundhouse (HER GAT PRN 91814). The ditch may represent an early boundary. Radiocarbon dating of fill (10.2610) returned a mid to late Roman date
Wylfa Head	91816	Multi-post Structure (Granary)	235751	393873	Late Iron Age/Early Romano-British	Multi-post structure located in the north-west corner of site. Identified below later stone structures and consisted of three rows of three post arranged equally and aligned with the cardinal points of the compass. The most northerly row consisted of [10.0135], [10.0356] and [10.0233]. The central row consisted of [10.0317], [10.0231] and [10.02777]. The most southerly row consisted of [10.0296], [10.0183] and [10.0187]
Wylfa Head	91817	Enclosed Settlement	235781	393862	Late Iron Age/Early Romano-British	An enclosed settlement with substantial stone built walls forming the northern and eastern boundaries, presumably of a sub-square enclosure. A timber built roundhouse, heavily truncated by an early medieval cemetery, is likely to be contemporary. A number of internal stone built structures were identified including sections of curving walls which could not be easily interpreted due to later truncation. A large stone lined pit (HER PRN GAT 91823) is likely to be contemporary with the settlement, although radiocarbon dating suggested it may be later.
Wylfa Head	91818	Roundhouse	235779	393854	Late Iron Age/Early Romano-British	Ring of 18 postholes with a small number of central postholes located on top of plateau occupied by later cemetery. Heavily truncated by later medieval burials. Radiocarbon dating of fill (10.1165) of posthole [10.1167] and fill (10.2008) of posthole [10.2007] returned a Late Roman date
Wylfa Head	91819	Settlement Features	235742	393872	Late Iron Age/Early Romano-British	Possible settlement features identified in the north-western section of site that are likely contemporary with the later enclosed phase of settlement (HER GAT PRN 91818). The features included a stone lined drain [10.0845], post holes and gullies
Wylfa Head	91820	Platforms	235746	393860	Late Iron Age/Early Romano-British	Three rock-cut platforms with patched of heat discoloured bedrock was identified to the west of roundhouse (HER GAT PRN 91818). Radiocarbon dating of deposit (10.0439) returned a middle Roman date

Appendix II – Gazetteer of sites excavated by ABA

Wylfa Head	91821	Industrial Activity	235768	393833	Late Iron Age/Early Romano-British	Area of industrial activity identified north of southern boundary wall (10.2013), largely truncated by the early medieval cemetery. Features included walls and postholes, suggesting the presence of a structure, and pits containing slag.
Wylfa Head	91822	Ditch	235741	393883	Romano-British	A ditch [10.1022] at the western edge of the excavation area which was truncated by later activity but may have formed part of an enclosure system with ditch [10.1176].
Wylfa Head	91823	Stone Lined Pit	235794	393858	Late Iron Age/Early Romano-British	Large oval pit located within sub-rectangular structure (10.2782) north-east of roundhouse (HER GAT PRN 91818). The pit contained a rectangular lining of large schist orthostats in base of the cut with the western edge left open for access via a stepped slope
Wylfa Head	91824	Cemetery	235778	393845	Early Medieval	Early medieval cist cemetery that consisted of 315 graves. Human remains in varying degrees of preservation recovered from 109 graves representing 119 individuals
Wylfa Head	91825	Ditch	235778	393849	Post-Medieval/Modern	East-west aligned post medieval ditch pointed to square rock-cut shaft (HER GAT PRN 91826). The ditch truncated several early medieval graves. No dating evidence was recovered
Wylfa Head	91826	Shaft	235732	393851	Post-Medieval/Modern	Rock-cut shaft located on the crest of highest part of site to the west of post medieval ditch (HER GAT PRN 91825). No dating evidence was recovered
Wylfa Head	91827	Pits and Postholes	235732	393862	Undetermined date	Small pits and post-holes which appeared to form structures, windbreaks or fences and laid rough stone surfaces identified on the top of the hill at the western edge of the excavation area. No dating evidence was recovered
Area 7	91828	Pits	234727	392882	Neolithic	Three pits [07.0559], [07.0533] and [07.0477] that contained charcoal and burnt stones. Pit [07.0559] located north-east of Funerary Enclosure contained a burnt saddle quern (SF07.0013), two pieces of Graig Lwyd stone from Penmaenmawr (SF07.0014 and 07.0015) and a polished axe (SF07.0012). Pit [07.0533] to the south of pit [07.0559] contained a polished stone (SF07.0010)
Area 7	91829	Partially Enclosed Settlement	234728	392926	Iron Age	A hilltop enclosure comprising roundhouse with associated partial enclosure ditch, small ditches and gullies and group of pits and postholes likely representing a granary structure concentrated in the northern part of the site
Area 7	91830	Cemetery	234718	392898	Early Medieval	Early medieval cist cemetery with three square funerary enclosures excavated in the southern part of the site with a fourth heavily truncated by later activity (HER PRN GAT 91831 – 91834). Fifty-one graves were excavated. No human remains were recovered.
Area 7	91831	Funerary Enclosure	234715	392887	Early Medieval	Funerary Enclosure 1 was located in the southern central area of the site and contained one grave (G0.053). The largest of three complete enclosures with continuous ditch enclosing an area of 32 square metres
Area 7	91832	Funerary Enclosure	234723	392880	Early Medieval	Funerary Enclosure 2 was located south-east of the cemetery and contained three burials (G07.031), (G07.032) and (G07.033). Identified by evaluation Trench 97. An entrance way or causeway was located on the eastern side
Area 7	91833	Funerary Enclosure	234715	392873	Early Medieval	Funerary Enclosure 3, the southernmost of the enclosures was the smallest and contained one large central grave (G07.054) and a smaller juvenile grave (G07.052) to the north. The enclosure ditch enclosed an area of approximately 10.8 square metres. The entrance or causeway was located on the eastern side
Area 7	91834	Funerary Enclosure	234706	392890	Early Medieval	Funerary Enclosure 4 located to the west of funerary enclosure 1 contained one central grave (G07.009). The enclosure ditch was heavily truncated to the east and west and enclosed an area of approximately 12 square metres
Area 7	91835	Intercutting Pits	234709	392877	Undetermined date	Two groups of intercutting pits located to the west of funerary enclosure 3. Group 1 consisted of pits [07.0176], [07.0264] and [07.0367]. Group 2 consisted of pits [07.0542], [07.0177] and [07.0542]

Appendix II – Gazetteer of sites excavated by ABA

Area 7	91836	Ditches	234705	392872	Undetermined date	Two large ditches [07.0114] and [07.0115] traversed the southern edge of site along a north-west to south-east direction. They may have served as drainage ditches or delineated the southern edge of the cemetery
Area 8	91837	Burnt Mound	235186	392829	Middle to Late Bronze Age	Deposit (08.0003) identified as burnt mound 21404 during evaluation. Heavey agricultural activity resulted in substantial plough damage. No dating evidence was recovered. Associated trough [08.0019] located to the north-east and below the burnt mound contained one large loom weight (SF001) and charcoal.
Area 8	91838	Former Boundary	235174	392831	Post-Medieval/Modern	Double ditch field boundary, [08.0004] and [08.0006], aligned northwest to southeast running parallel to each other and continued beyond the limit of excavation. Both ditched contained modern backfill and debris. Ditches identified as clawdd boundary 2116 during evaluation and same as HER PRN GAT 61137
Hotspot 5	91839	Burnt Mound	234623	392652	Later Bronze Age to Iron Age	A large burnt mound, measuring approximately 25m x 14m, showing evidence of phases of activity, along with a number of troughs including [105.0012] which was stone lined.
Hotspot 5	91840	Possible Well	234622	392644	Later Bronze Age to Iron Age	Well [105.0071] located south of burnt mound (105.0022). Consisted of sub-circular pit with slightly undercut sides with some indication of stepping along eastern edge. Worked blue schist stone (SF004) and chert (SF005) was recovered from fill (105.0070)
Hotspot 5	91841	Pit	234613	392658	Undetermined date	Sub-circular pit [105.0091] located at north-western section of burnt mound (105.0022) and sealed by a discrete deposit of burnt mound material (105.0090). Function unknown
Hotspot 6	91842	Pit	234835	392703	Neolithic to Early Bronze Age	Sub-circular pit [106.0034] located toward the eastern extend of site containing charcoal, worked chert and flint.
Hotspot 6	91843	Trackway	234828	392706	Undetermined date	South-West to North-East aligned trackway [106.0008] which had a metalled stone surface, may be same as trackway (HER PRN GAT 91851) observed in Hotspot 7-9. Pre-dates enclosure system in same area which was dated early medieval/medieval.
Hotspot 6	91844	Enclosure Gullies	234829	392704	Early medieval to medieval	Series of intercutting gullies recorded across site that may represent two square enclosures with entrances located to the north-west sides. The north east enclosure consisted of gullies [103.0005] and [106.0012]. Gully [106.0012] was truncated by [106.0010], which along with [106.0013] formed the south-west enclosure. Gully [106.0010] was truncated by ditch [106.0021]. The gullies and enclosure appear similar to those identified in Hotspot 7-9 (HER PRN GAT 91849) and Hotspot 11-13 (HER PRN GAT 91861). Struck flint (SF002) was recovered from gully [106.0010]
Hotspot 7-9	91845	Stakeholes and Pits	234863	392740	Neolithic/Early Bronze Age	Group number (109.0101) consisted of a small pit and 35 stakeholes, likely forming a windbreak or small structure, located 7m north of burnt mound (HER PRN GAT 91846). Pit [109.0109] was cut into bedrock and contained firecracked stone, prehistoric pottery, grinding stone and a flint scraper. Pit [109.0135] pre-dated the burnt mound activity. Pit [109.0125] contained a possible axe roughout.
Hotspot 7-9	91846	Burnt Mound	234877	392737	Late Bronze Age to Iron Age	Burnt mound material (109.0154) identified as burnt mound (134508) in Trench 1345 during evaluation. Stretched across southern central part of site it contained a spindle whorl (SF020), worked chert (SF021). Evidence of phasing lost due to later ploughing.
Hotspot 7-9	91847	Possible Working Area	234883	392746	Later Iron Age and Romano British	Several features including a stone spread (109.0143) overlaying well [109.0214] cut below current ground water table with compacted stone surface (109.0210) abutting the stones of the well. These features may be associated with the Iron Age/Roman-British settlement identified in Hotspot 15 (HER PRN GAT 91875).
Hotspot 7-9	91848	Pits, Gullies and Ditches	234879	392750	Undetermined date	Several features of indeterminate function including: northwest-southeast aligned linear gully [109.0130] cutting through burnt mound (109.0154); ditch [109.0152], possibly a continuation

Appendix II – Gazetteer of sites excavated by ABA

						of gully [109.0132]; north-east to south-west aligned ditch [109.0198] that cut pit [109.0204] and ditch [109.0207]; northeast to southwest aligned ditch [109.0207]; and pit [109.0205]. No dating evidence was recovered
Hotspot 7-9	91849	Ditch	234863	392763	Undetermined date	North-East to South-West aligned ditch [109.0008] located at northern end of site. It continuing beyond limit of excavation and terminated north of the bedrock outcrop (HER PRN GAT 91850).
Hotspot 7-9	91850	Possible Quarrying	234860	392751	Undetermined date	Possible tool marks identified on outcrop of schist. Possible quarrying location for nearby settlement and long-cist cemeteries.
Hotspot 7-9	91851	Trackway	234864	392737	Undetermined date	Short section of trackway (109.0085) running from the north-east to the south-west (continued beyond limit of excavation). May be the same as (HER PRN GAT 91843) located to the south-west.
Hotspot 7-9	91852	Pits	234865	392765	Undetermined date	A number of undated pits of no apparent function identified in Hotspot 7-9.
Hotspot 8	91853	Stone Surface	234912	392781	Undetermined date/Likely Romano British	A surface of laid schist slabs, orientated North-South measuring approximately 2m x 1.5m. Likely associated with Romano British features in the vicinity.
Hotspot 8	91854	Ditches	234907	392786	Undetermined/Neolithic	Two ditches identified in Hotspot 8. Ditch [108.0035]=[108.043] was orientated North-South at the eastern side of the excavation area, it produced a Neolithic date and was cut by Late Iron Age features. The western ditch [108.0011] was orientated north-east to south-west and was undated.
Hotspot 8	91855	Pits and Postholes	234908	392780	Late Iron Age	A number of pits and postholes located at the south-eastern quarter of Hotspot 8. Likely to represent truncated postholes forming a structure, possibly a granary. Late Iron Age date obtained from pit [108.0053].
Hotspot 8	91856	Filed Clearance	234901	392774	Undetermined date	A deposit of stones, likely representing field clearance identified at the southern limit of excavation.
Hotspot 10	91857	Pit	234933	392962	Late Neolithic Early Bronze Age	A discrete pit [110.017] which was radiocarbon dated to the Late Neolithic or Early Bronze Age, 1.3m in diameter and 0.45m deep.
Hotspot 10	91858	Ditches	234938	392956	Undetermined date	A series of four ditched identified within the excavation area. The earliest by stratigraphy were a pair of parallel ditches [110.008] & [110.014] at the southern edge of the area which were orientated east-west. These were cut by a narrower ditch [110.007]orientated approximately north-south. Ditch [110.026]=[110.028], which was orientated north-east to south-west was 5m in length, terminated 0.5m north of ditch [110.020] and ran into the western baulk. The nature of the ditches suggests that they relate to a relict field systems.
Hotspot 11-13	91859	Pits, Stakeholes, Postholes and Stone Bank	234958	392894	Neolithic	A number of prehistoric features including a stone bank (113.0186), two pit groups and stone lined furnace or oven [113.0136] with associated stakeholes at the western side of the excavation area.
Hotspot 11-13	91860	Enclosure	234977	392902	Undetermined date	An apparent square or rectangular enclosure with an entrance orientated to the south-east was excavated at the north of the Hotspot. Stratigraphically pre-dated the early medieval features.
Hotspot 11-13	91861	Ditch	234969	392895	Undetermined date	Ditch [113.0032] pre dated the early medieval features and cut enclosure (HER PRN GAT 91860). The ditch traversed the entire excavation area on a north-west to south-east orientation.

Appendix II – Gazetteer of sites excavated by ABA

Hotspot 11-13	91862	Cemetery	234967	392893	Early medieval	The cemetery contained 21 graves aligned east-west, mostly long-cists, suggesting an early medieval date. No human remains were recovered, possibly due to the acidic nature of the soil.
Hotspot 11-13	91863	Ditch	234979	392878	Undetermined date	At the southern extent of the excavation area a small east-west oriented ditch [113.0110] which may have formed part of an enclosure system.
Hotspot 12	91864	Possible Quarrying	234952	392837	Undetermined date	A schist outcrop showing signs of possible quarrying. Could potentially be associated with Romano-British structures or early medieval long-cists in the wider area.
Hotspot 12	91865	Pit	234965	392838	Post-Medieval/Modern	A pit [112.0004] which contained a sherd of post-medieval white glazed pottery.
Hotspot 14	91866	Wetland Consolidation	234957	392727	Late Neolithic/Early Bronze Age	An area of wetland consolidation on the edge of marshy ground close to Early Bronze Age roundhouse (HER PRN GAT 91868).
Hotspot 14	91867	Pit	234964	392729	Undetermined date	A possible refuse or storage pit (114.0069) which pre dated the Early Bronze Age roundhouse (HER PRN GAT 91868).
Hotspot 14	91868	Roundhouse	234966	392727	Late Neolithic/Early Bronze Age	A timber built roundhouse comprising post ring, central hearth and ring gulley with a diameter of approximately 8m.
Hotspot 15	91869	Pits	234936	392792	Undetermined date	A group of pits at the northern end of the excavation area, stratigraphically earlier that the stone-built phase of the settlement. Function unknown, possibly Late Bronze Age/Early Iron Age.
Hotspot 15	91881	Ditch	234941	392789	Late Bronze Age to Iron Age	A shallow ditch [115.0215] running north to south and underlying the eastern enclosure wall may have formed part of an earlier enclosure associated with the pits and postholes.
Hotspot 15	91882	Postholes	234938	392792	Undetermined date	A line of three, closely spaced postholes [115.0276], [115.0277] and [115.0278] near the north edge of the excavation may have been associated with each other but no clear function. Likely Late Bronze Age/ Early Iron Age in date.
Hotspot 15	91870	Nine-Post Structure	234936	392789	Romano-British	A group of nine postholes in the area which may form part of a sub rectangular structure (HER PRN GAT 91870); [115.0393], [115.0394], [115.0422], [115.0402], [115.0458], [115.0392], [115.0391], [115.0346] and [115.0400]. Possible Granary.
Hotspot 15	91871	Postholes	234933	392782	Undetermined date	Three postholes, [115.0355], [115.0436] and [115.0361], located in the centre of the excavation area overlying the large nine-post/orthostat structure in the centre of the excavation (part of HER PRN GAT 91875). As such these may be contemporary with the later stone-built phase or predate it.
Hotspot 15	91872	Post-Built Structure	234937	392775	Undetermined date	A sub square post built structure, likely Iron Age/Romano-British in date.
Hotspot 15	91873	Pits	234935	392771	Undetermined date	Three pits, [115.0420], [115.0300] and [115.0305], excavated to the south of structure (HER PRN GAT 91872)
Hotspot 15 (W)	91874	Pits	234915	392760	Undetermined date	Three pits, [215.0009], [215.0021] and [215.0031], excavated at the southern end of Hotspot 15W. Likely contemporary with features pre-dating stone built phase of settlement.
Hotspot 15	91875	Stone Built Settlement	234934	392775	Late Iron Age/Romano-British	Stone-built roundhouse, well, raised floor building and a walled enclosure. A probable stone building identified in Hotspot 15 West (215.0004) also likely relates to this phase of activity. Radiocarbon dating of organic material recovered from occupation layer (215.0005) within this stone building returned a Late Iron Age to middle Roman date of c. 4-130 AD. Twelve sherds of pottery were also recovered from this occupation layer with many being identified as Black Burnish Ware DOR BB1. It appears the settlement was abandoned after a large burning episode.

Appendix II – Gazetteer of sites excavated by ABA

Hotspot 15	91876	Trackways	234943	392763	Late Iron Age/Romano-British	The convergence of two trackways associated with the stone-built settlement. Trackway [115.0072] ran north south, with its northern end indistinct whilst to the south it extended beyond the limit of excavation. Trackway [115.0005] ran northwest-southeast and extended beyond the eastern limit of excavation. These trackways consisted of stones and pebbles trampled into a shallow depression in the clay natural. Stratigraphically the trackways were contemporary with the stone built settlement.
Hotspot 15	91877	Post-Settlement Activity	234936	392773	Undetermined date	Acitvity in the area following abandonment of the settlement. Represented by a rough stone surface and the capping of the well, a number of small postholes of undetermined function likely represent later temporary structures or agricultural activity in the area.
Hotspot 16	91878	Pits	234909	392600	Late Iron Age/Romano-British	Three pits [116.0005], [116.0012] and [116.0002] which were cut into alluvial deposits. No artefacts recovered and function not apparent.
Hotspot 16	91879	Pit	234906	392597	Post-Medieval/Modern	Pit containing sherds of post-medieval pottery.
Hotspot 16	91880	Pits and Ditch	234915	392605	Undetermined date	A number of undated features within excavation area. [116.0008] was a shallow pit which may have been truncated. Pit [116.0020] was truncated by ditch [116.0018]. Pit [116.0025] contained charcoal and a fragment of preserved wood. No dating evidence was retrieved from any of the features.

Appendix III

AB1703 Hotspot 14

Context Register - Archaeoleg Brython Archaeology

AB1703 Hotspot 14 Context Register – Archaeoleg Brython Archaeology

Context #	Category	Feature type	Length (m)	Breadth (m)	Diameter (m)	Depth (m)	Context description
114.0001	VOID						VOID
114.0002	LAYER	LAYER	0	0	0	0	COMPACT DARK GREY BROWN CLAY SILT WITH FREQUENT CHARCOAL
114.0003	FILL	POST HOLE	0	0	0.20	0.20	LOOSE PALE BROWN GREY SAND SILT WITH OCCASIONAL FLECKS OF CHARCOAL
114.0004	CUT	POST HOLE	0	0	0.20	0.20	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0005	FILL	POST HOLE	0	0	0.30	0.10	LOOSE PALE GREY SAND SILT WITH RARE CHARCOAL FLECKS
114.0006	CUT	POST HOLE	0	0	0.30	0.10	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0007	FILL	POST HOLE	0	0	0.20	0.15	LOOSE PALE BROWN GREY SAND SILT WITH OCCASIONAL CHARCOAL FLECKS AND RARE SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0008	CUT	POST HOLE	0	0	0.20	0.15	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0009	FILL	STAKE HOLE	0.30	0.20	0	0.06	LOOSE PALE BROWN GREY SAND SILT WITH OCCASIONAL CHARCOAL FLECKS AND RARE SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0010	CUT	STAKE HOLE	0.30	0.20	0	0.06	SUB CIRCULAR WITH VERY STEEP SIDES LEADING SHARPLY TO A FLAT BASE
114.0011	FILL	POST HOLE	0	0	0.15	0.08	FIRM PALE BROWN GREY SAND SILT WITH RARE FLECKS OF CHARCOAL
114.0012	CUT	POST HOLE	0	0	0.15	0.08	SUB CIRCULAR WITH STEEP SIDES LEADING GRADUALLY TO A FLAT BASE
114.0013	VOID						VOID
114.0014	VOID						VOID
114.0015	VOID						VOID
114.0016	VOID						VOID

Context #	Category	Feature type	Length (m)	Breadth (m)	Diameter (m)	Depth (m)	Context description
114.0017	FILL	POST HOLE	0	0	0.20	0.20	LOOSE PALE BROWN GREY SAND SILT WITH OCCASIONAL CHARCOAL FLECKS AND SUB ANGULAR AND SUB ROUNDED STONES
114.0018	CUT	POST HOLE	0	0	0.20	0.20	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0019	FILL	POST HOLE	0	0	0.25	0.06	FIRM PALE BROWN GREY SILT WITH COMMON MANGANESE FLECKS AND SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0020	CUT	POST HOLE	0	0	0.25	0.06	CIRCULAR WITH GRADUAL SIDES LEADING IMPERCEPTIBLY TO A CONCAVE BASE
114.0021	FILL	POST HOLE	0.23	0.22	0	0.20	LOOSE MID BROWN GREY CLAY SILT WITH 15% SUB ROUNDED STONES AND 5% CHARCOAL
114.0022	CUT	POST HOLE	0.23	0.22	0	0.20	IRREGULAR CIRCLE WITH VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0023	FILL	POST HOLE	0	0	0.22	0.16	LOOSE BROWN GREY SILT CLAY WITH 15% CHARCOAL
114.0024	CUT	POST HOLE	0	0	0.22	0.16	CIRCULAR WITH VERTICAL SIDES LEADING GRADUALLY TO A CONCAVE BASE
114.0025	FILL	POST HOLE	0	0	0.15	0.17	LOOSE BLACK BROWN SAND SILT WITH 15% CHARCOAL AND 10% STONES (<0.01M)
114.0026	CUT	POST HOLE	0	0	0.15	0.17	CIRCULAR WITH VERTICAL SIDES LEADING GRADUALLY TO A CONCAVE BASE
114.0027	VOID						VOID
114.0028	FILL	POST HOLE	0	0	0.20	0.20	LOOSE PALE BROWN SAND SILT WITH COMMON SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0029	VOID						VOID
114.0030	FILL	POST HOLE	0	0	0.20	0.04	LOOSE PALE BROWN GREY SAND SILT WITH OCCASIONAL CHARCOAL FLECKS
114.0031	CUT	POST HOLE	0	0	0.20	0.04	CIRCULAR WITH STEEP SIDES LEADING GRADUALLY TO A FLAT BASE
114.0032	LAYER	LAYER	3.70	2.54	0	0	DEPOSIT OF MIXED MEDIUM TO LARGE POORLY SORTED STONE

Context #	Category	Feature type	Length (m)	Breadth (m)	Diameter (m)	Depth (m)	Context description
114.0033	CUT	POST HOLE	0	0	0.30	0.10	SUB CIRCULAR WITH STEEP IRREGULAR SIDES LEADING GRADUALLY TO A CONCAVE BASE
114.0034	CUT	POST HOLE	0	0	0.20	0.17	CIRCULAR WITH VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0035	CUT	POST HOLE	0	0	0.30	0.15	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A FLAT BASE
114.0036	CUT	GULLY	0	0	0	0	SEMI CIRCULAR CURVED GULLY WITH CONCAVE SIDES LEADING GRADUALLY TO A FLAT BASE
114.0037	CUT	BORE HOLE	0	0	0	0	MODERN BORE HOLE WITH CONCRETE CAPPING
114.0038	CUT	POST HOLE	0	0	0.30	0.15	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A SLIGHTLY CONCAVE BASE
114.0039	FILL	POST HOLE	0	0	0.30	0.15	LOOSE DARK GREY BROWN SILT WITH RARE CHARCOAL FLECKS AND SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0040	CUT	POST HOLE	0	0	0.35	0.19	CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A CONCAVE BASE
114.0041	FILL	POST HOLE	0	0	0.35	0.19	LOOSE GREY BROWN SILT WITH RARE CHARCOAL FLECKS AND OCCASIONAL SMALL SUB ANGULAR AND SUB ROUNDED STONES
114.0042	CUT	POST HOLE	0	0	0.25	0.25	CIRCULAR WITH VERTICAL SIDES LEADING GRADUALLY TO A FLAT BASE
114.0043	FILL	POST HOLE	0	0	0.25	0.25	LOOSE BLACK BROWN SILT CLAY WITH 5% CHARCOAL
114.0044	LAYER	LAYER	2.08	0.90	0	0.16	COMPACT DARK GREY BROWN CLAY SILT WITH FREQUENT CHARCOAL
114.0045	LAYER	LAYER	4.00	0.90	0	0.20	COMPACT LIGHT GREY BROWN SILT CLAY WITH OCCASIONAL STONE
114.0046	LAYER	LAYER	3.32	0.90	0	0.36	COMPACT MID GREY SILT CLAY WITH 50% SMALL TO LARGE ANGULAR AND SUB ANGULAR STONES
114.0047	FILL	POST HOLE	0	0	0.11	0.16	LOOSE BLACK GREY SILT CLAY WITH 80% CHARCOAL
114.0048	FILL	POST HOLE	0	0	0.20	0.04	LOOSE MID GREY BROWN SILT WITH RARE SMALL SUB ANGULAR AND SUB ROUNDED STONES

Context #	Category	Feature type	Length (m)	Breadth (m)	Diameter (m)	Depth (m)	Context description
114.0049	LAYER	LAYER	3.60	2.80	0	0	FIRM BLUE GREY CLAY WITH POORLY SORTED FREQUENT SUB ROUNDED STONES
114.0050	FILL	POST HOLE	0	0	0.48	0.22	LOOSE DARK BROWN BLACK CLAY SILT WITH 95% CHARCOAL
114.0051	FILL	PIT	0.62	0.58	0	0.27	LOOSE MID GREY BROWN SILT CLAY WITH 5% CHARCOAL
114.0052	FILL	PIT	1.00	0.70	0	0.25	GREY HEAT AFFECTED STONES PARTIALLY LINING THE PIT
114.0053	FILL	PIT	0.36	0.28	0	0.20	LOOSE BLACH GREY SILT CLAY WITH 60% CHARCOAL AND ORANGE FLECKS
114.0054	LAYER	LAYER	2.82	0.90	0	0.22	COMPACT MID GREY BROWN SILT CLAY WITH OCCASIONAL SMALL TO LARGE STONE
114.0055	LAYER	LAYER	1.64	0.90	0	0.38	COMPACT MID BROWN ORANGE SILT CLAY WITH OCCAISIONAL SMALL TO MEDIUM SUB ANGULAR STONES
114.0056	LAYER	LAYER	0.90	0.90	0	0.06	COMPACT DARK BROWN GREY SILT CLAY WITH OCCASIONAL MANGANESE
114.0057	LAYER	LAYER	2.56	0.90	0	0.40	COMPACT DARK BROWN GREY SILT CLAY WITH OCCASIONAL SMALL STONES
114.0058	LAYER	LAYER	3.15	0.90	0	0.32	COMPACT MID BROWN ORANGE SILT CLAY WITH RARE SMALL TO MEDIUM SUB ANGULAR STONES
114.0059	LAYER	LAYER	3.11	0.90	0	0.22	COMPACT MID GREY BROWN SILT CLAY WITH OCCASIONAL SMALL STONES
114.0060	FILL	STAKE HOLE	0	0	0.10	0.04	FIRM DARK GREY BLACK SILTWITH FREQUENT CHARCOAL
114.0061	CUT	STAKE HOLE	0	0	0.10	0.04	SUB CIRCULAR WITH NEAR VERTICAL SIDES LEADING SHARPLY TO A CONCAVE BASE
114.0062	LAYER	LAYER	1.32	0.66	0	0	COMPACT ORANGE CLAY WITH 10% CHARCOAL
114.0063	CUT	PIT	0.36	0.28	0	0.20	SUB SQUARE WITH ROUNDED CORNERS AND STEEP IRREGULAR SIDES LEADING TO AN IRREGULAR BASE
114.0064	CUT	POST HOLE	0	0	0.48	0.22	CIRCULAR WITH STEEP SIDES LEADING SHARPLY TO AN IRREGULAR BASE
114.0065	CUT	PIT	0.70	0.66	0	0.27	SUB CIRCULAR WITH GRADUAL SIDES LEADING IMPERCEPTIBLY TO A SLIGHTLY IRREGULAR BASE

Context #	Category	Feature type	Length (m)	Breadth (m)	Diameter (m)	Depth (m)	Context description
114.0066	LAYER	LAYER	0.48	0	0	0.07	LOOSE MID GREY BROWN SILT CLAY WIYH 10% SUB ANGULAR STONES
144.0067	VOID						VOID
144.0068	LAYER	LAYER	2.13	0.90	0	0.13	COMPACT LIGHT GREY BROWN CLAY WITH RARE STONE
144.0069	CUT	PIT	1.86	1.60	0	0.30	SUB CIRCULAR WITH IRREGULAR SIDES LEADING IRREGULALRY TO A SLIGHTLY IRREGULAR BASE
144.0070	FILL	PIT	1.50	0	0	0.18	LOOSE MID GREY ORANGE SILT CLAY WITH 20% SUB ANGULAR AND SUB ROUNDED STONES, AND 5% CHARCOAL
144.0071	FILL	PIT	1.81	0	0	0.07	COMPACT MID WHITE GREY CLAY SILT WITH 10% SMALL SUB ROUNDED AND SUB ANGULAR STONES, AND 5% CHARCOAL
144.0072	FILL	PIT	0.80	0	0	0.03	LOOSE DARK BLACK SAND SILT WITH 90% CHARCOAL
144.0073	FILL	PIT	1.00	0	0	0.11	COMPACT MID GREY YELLOW SILT CLAY WITH 20% SUB ROUNDED AND SUB ANGULAR STONES
144.0074	FILL	POST HOLE	0	0	0.16	0.14	LOOSE DARK BLACK BROWN SILT WITH COMMON CHARCOAL FLECKS
144.0075	LAYER	TOPSOIL	0	0	0	0	TOPSOIL
144.0076	LAYER	GEOLOGY	0	0	0	0	NATURAL

Appendix IV

AB1703 Hotspot 14

Context Register - Wessex Archaeology

AB1703 Hotspot 14 Context Register – Wessex Archaeology

PROJECT	SITE	CONTEXT NO	DESCRIPTION	FILL OF/FILLED WITH
117360	HOTSPOT 14	22001	TOPSOIL	-
117360	HOTSPOT 14	22002	SUBSOIL	-
117360	HOTSPOT 14	22003	NATURAL	-
117360	HOTSPOT 14	22004	POSTHOLE	FW (22005)
117360	HOTSPOT 14	22005	DELIBERATE BACKFILL	FO [22004]
117360	HOTSPOT 14	22006	PIT/POSTHOLE	FW (22007), (22008)
117360	HOTSPOT 14	22007	POST PIPE	FO [22006]
117360	HOTSPOT 14	22008	PACKING FILL	FO [22006]
117360	HOTSPOT 14	22009	PIT/POSTHOLE	FW (22010)-(22012)
117360	HOTSPOT 14	22010	DELIBERATE BACKFILL	FO [22009]
117360	HOTSPOT 14	22011	PRIMARY FILL	FO [22009]
117360	HOTSPOT 14	22012	DELIBERATE BACKFILL	FO [22009]
117360	HOTSPOT 14	22013	CUT FOR GULLY TERMINUS (NORTH SIDE)	FW (22014)
117360	HOTSPOT 14	22014	FILL OF GULY TERMINUS	FO [22013]
117360	HOTSPOT 14	22015	CUT OF GULLY TERMINUS (SOUTH SIDE)	FW (22016)
117360	HOTSPOT 14	22016	FILL OF GULLY TERMINUS	FO [22015]
117360	HOTSPOT 14	22017	CUT FOR GULLY SLOT (EAST SIDE)	FW (22018)
117360	HOTSPOT 14	22018	FILL OF GULLY SLOT	FO [22017]
117360	HOTSPOT 14	22019	CUT OF POSTHOLE	FW (22020)
117360	HOTSPOT 14	22020	FILL OF POSTHOLE - PIPE	FO [22019]
117360	HOTSPOT 14	22021	FILL OF POOSTHOLE - PACKING	FO [22019]
117360	HOTSPOT 14	22022	CUT OF DITCH ON NW OF SITE	FW (22023), (22024), (22025)
117360	HOTSPOT 14	22023	FILL OF DITCH	FO [22022]
117360	HOTSPOT 14	22024	FILL OF DITCH	FO [22022]
117360	HOTSPOT 14	22025	FILL OF DITCH	FO [22022]
117360	HOTSPOT 14	22026	CHARCOAL LAYER ABOVE DITCH [22022]	FO [22022]
117360	HOTSPOT 14	22027	CUT OF DITCH ON NW OF SITE	FW (22028)

PROJECT	SITE	CONTEXT NO	DESCRIPTION	FILL OF/FILLED WITH
117360	HOTSPOT 14	22028	CHARCOAL LAYER ABOVE DITCH	FO [22027]
117360	HOTSPOT 14	22029	FILL OF DITCH	FO [22027]
117360	HOTSPOT 14	22030	FILL OF DITCH	FO [22027]

Appendix V

AB1703 Hotspot 14

Finds Assessment

WYLFA HOTSPOT 14: FINDS ASSESSMENT

Introduction

A total of 14 Small Find numbers were allocated to 24 artefacts, weighing a total of 1,560g, recovered from three contexts and as unstratified material from an archaeological investigation at Wylfa Hot Spot 14. The finds assemblage was transferred to Carlisle and assessed by Wardell Armstrong. It was noted at this point that one object, SF3, was missing from the assemblage.

A further four small find numbers weighing 123g were allocated to 11 fragments recovered from four contexts during an earlier phase of work. They are included here with the site code 117360. The finds have duplicate small find numbers but different context numbers.

All finds were dealt with according to the recommendations made by Watkinson & Neal (1998) and to the Chartered Institute for Archaeologists (CIfA) Standard & Guidance for the collection, documentation, conservation and research of archaeological materials (CIfA 2014b). All artefacts have been boxed according to material type and conforming to the deposition guidelines recommended by Brown (2011), EAC (2014) and the Oriel Ynys Môn. The project has the unique identifier WA 2019 / CL12283 / Hot Spot 14 / AB1703 / 35-2016.

The material archive has been assessed for its local, regional and national potential in line with the archaeological research framework for Wales (https://www.archaeoleg.org.uk/areanorthwest.html).

The finds assessment was compiled by Sue Thompson. Lithic artefacts were assessed by Miguel Gonzalez.

Quantification of bulk finds by material and context is given in Table 1; quantification of lithics is given in Table 2. Quantification of finds recovered from the environmental samples is given in Table 3.

Prehistoric Pottery

This is one of a group of occupation sites in the shallow wet valley close to the farms of Rhwng Dau Fynydd and Tyddyn-gele (NGR 349 927). Another area of less coherent, but certainly contemporary, occupation was found some 100m further up the valley to the north at Hotspot 11-13 (NGR 349 928). The pottery from that site will be considered alongside that from Hotspot 14.

The site was identified during the Evaluation Stage in 2016 by Wessex Archaeology who also

undertook fuller excavation in May 2018 which was completed by Brython Archaeology, alongside their work at Hotspot 11-13, in September of that year. This change may have caused some of the confusions seen at this site. This is regrettable because it is a site with better artefactual and structural evidence than most.

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HS 14. Pot 1. From Context 22010 (Pit 22009) Bag Marked Wessex SF 4 (*illustrated*)

Two of the 3 sherds are from the same pot which had a diameter of 240mm. Both are in a hard but fragile fabric, brown throughout with smooth surfaces but a bit lumpy. The clay contains as lot of large rounded and angular stone grit 5-8mm in size.

The rim sherd (52 x 52 x 8mm (rim) 16mm (cordon) 15mm (wall)) is decorated: Exterior: 2 incised counter-hatched lines between the upright rim and a low cordon. On the inside is a shallow horizontal groove and a dot below it. The second sherd (originally 52 x 40 x 16-15mm) is now completely disintegrated, but when I recorded it in 2018 it showed the external cordon with some seed-like impressions in it and the internal groove and dot. This was at a slightly different level from that on the rim sherd.

HS 14. Pot 2. From the same context, Pit 22009 (*illustrated*)

A single shoulder sherd (48 x 55 x 10-16-13mm) from a different pot 200mm in diameter. The fabric is yellow inside and out with a black core; rather soft, with small stone grits, rhyolite and a darker rock. The decoration, spaced vertical lines on the neck is in whipped cord.

Context 114.0002 is described in the context Register as 'fill of ditch with charcoal', but the *Assessment Report* Para 6 says that 10 sherds and 3 flints came from 114.0044 which is described as the top of the 'consolidation' layer over the edge of the marsh. The '10 sherds' approximate to the 12 sherds present (Pots 3 and 4: Finds 1, 4 and 14). The photo shows that there were 3 sondages through this consolidation layer so it is not quite clear where exactly this pottery came from, but the stratigraphic position is that they were found close to the exposed surface at an early stage, and come from the upper fill, probably removed from their original context in antiquity by water or human clearing up activities.

HS 14. Pot 3. From context 114.0002 Finds 1 and 14 (*illustrated*)

There are 6 sherds of this pot; 2 substantial segments (70 x 65 x 9mm and 60 x 50 x 10mm) running from rim to shoulder giving a confident reconstruction as a small urn-shaped pot 145mm in diameter at the bottom of the narrow collar and 165mm at the crisp shoulder. One body sherd from Find 1(50 x 40 x 11mm) joins the smaller section of rim from Find 14 on an ancient break at the shoulder, making a profile section of 100mm. Two other body sherds (50 x 40 x 11m and 30 x 32 x 11) have been broken recently and cannot be fully restored. A fourth curved body sherd (30 x 35 x 10mm) comes from Find 14 with the smaller rim section but does not join it.

The pot is completely undecorated and made from a hard, red/black fabric with a smooth surface. Despite its careful finish it is slightly lopsided, as many coil-made pots are. It contains plentiful angular stone grit varying in size from 3-7mm. There is probably rhyolite and some other rock in it.

HS 14. Pot 4. From Context 114.0002 Find 4 (*illustrated*)

2 shoulder sherds, no rim and 4 pieces from the body of a vase about 180mm in diameter at the shoulder; none join. The shoulder sherds are 55 x 55 x 11-12mm and 40 x 35 x 10-13mm. A body sherd close to the shoulder is 68 x 60 x 10-12mm and the largest of the three other pieces is 40 x 35 x 9mm.

The decoration on the shoulder, and probably the missing neck, is impressed close-set horizontal lines of twisted cord, rather variable in thickness and depth of impression. The bottom line is made with a double twisted cord, but this is not the case everywhere. The body below the shoulder is undecorated.

The fabric is hard, orangey pink outside, black inside with smooth surfaces. There is a good

deal of angular stone grit mostly medium in size (c. 5mm).

HS 14. Pot 5. from Context 114.0032: the 'Stony Layer' to the west of the consolidation layer. Find 6 (*illustrated*)

A single small concave sherd (30 x 25 x 11-13mm) from the neck, close to the shoulder; decorated with light incised hatching. The fabric is very hard, orange-surfaced on a grey core with masses of sharp angular grits 7+mm - 3mm in size, of dark and white rock. The white grit might possibly be burnt flint.

HS 13. Pot 1. From Pit 113.0173 (Context 113.0177) Find 16 (*illustrated*)

A single rims herd (60 x 62 x 9-17mm) from a vessel probably 240mm in diameter. The fabric is brown on the outside and black inside (with a good deal of sooting). The surfaces are smooth and feel slightly sandy. It is very hard fired but it is not densely gritted. The grits are a dark angular stone, small to medium (2-5mm) in size. It has a narrow rounded collar with a concave internal bevel. Both surfaces are decorated with lines of triangular/circular stab marks; 3 on the outside and probably 2 on the inside where the lines are less coherent. Below the collar the neck is decorated with quite a largescale pattern of thick incised herringbone lines.

HS 13. Pot 2. From Pit 113.0173 (context 113. 0176) Find 17 (*illustrated*)

A small piece from a base (45 x 30 x 13mm). This is a very different fabric, very low-fired and crumbly, but densely gritted with small angular pieces of pale rhyolite. There are no other sherds in this fabric at either site.

HS 13. Pot 3. From **surface scatter 113.0171** Finds 9, 10, 11, 13, 14, 15, 19 and 24. Finds 11 and 24 contain a mixture of sherds of Pot 3 and perhaps different pots, as might Finds 12 and 23. There are 27 sherds in all from this surface scatter. (*illustrated*)

Most of these sherds come from the upper part of a small vase-shaped pot, 210mm in diameter and perhaps 200-240mm tall, decorated inside and out with horizontal lines of thin loosely twisted cord, 7 on the inside running down to a slight bevel, and probably 11 on the outside ending at a gently rounded shoulder. The undecorated lower body is not well represented (7 sherds) and there is no sign of the expected flat base. The joins between the individual finds suggest that the broken pot had been trodden into the ground and not subsequently moved much.

The outer surface is pink and the inner is grey; the clay is densely gritted with medium (c 3-5mm) stone grits which do not appear on the well-smoothed surfaces. The smaller dark grits seem to be concentrated within the outer coils and the inner coils contain some larger rhyolite pieces. The overlapping coils in sherds 9 and 10 are of interest in terms of the manufacturing

process. The undecorated body surfaces are particularly well-smoothed and the pot has been very competently fired.

Finds 9 & 10. Two single sherds joining at a coil overlap to form a section of the waist (65 x 65 x 12-14-10mm)

Finds 14 & 11 join at a coil overlap to form a section of rim and neck (55 x 36 x 10-14mm)

Find 11 contains another small scrap which joins Find 15 at the same coil overlap and a separate piece of rim (30 x 13 x 10mm). It also contains another featureless sherd (33 x27 x 8mm) in a very hard fabric, grey throughout, which may be from a fourth pot.

Find 12 is a single undecorated sherd (35 x 25 x 11mm) in a pink/grey fabric which seems rather softer than Pot 3, but the grits seem to be similar.

Find 13 & 19 join to form a section of the undecorated body just below the shoulder. Find 13 (62 x 55 x 11-13mm) has a diameter of 200mm which provides a clue to the profile of the lower body. The outer surface of this sherd is particularly well smoothed. Find 19 (40 x 40 x 14mm) is closer to the shoulder.

Find 14 (40 x 42 x 13mm) is part of the neck, joining sherd from Find 11. It is grey throughout; generally the upper part of the pot is less pink than the lower sherds

Find 15 (30 x 30 x11mm) is another small piece of the neck with a joining spall from find 11.

Find 23. A single curved sherd (40 x 30 x 13mm) with a good inner surface but the outer is mainly lost. This might be from the shoulder of Pot 3 but the fabric seems rather different – more lightweight.

Find 24. 5 undecorated sherds: the largest (30 x 40 x 11mm) may be close to the base but seems, like find 12, to be a softer fabric; 3 others (largest 30 x 30 x 12mm) are very like Find 13, pink/grey smooth surfaced; and the fifth is a curved sherd (30 x 20 x 11mm) which seems a bit too thin to be the shoulder of Pot 3, but the fabric fits.

Comment on the pottery from Hotspots 14 and 11-13. Reasonable parallels for all these pots can be found amongst the Food Vessels of Anglesey and north Wales. The particularly interesting thing about this assemblage is that it is associated with settlement rather than burial. This makes it unique in Anglesey and rare in most parts of the country.

Food Vessels in Anglesey include the occasional Bowl, such as that from Merddyn Gwyn (Lynch 1991, 187 Fig 52.2), but are predominately Vase Food Vessels which come in a variety of sizes. All those known previously have come from burial contexts where the larger ones contain the cremated bone, but smaller ones, like HS 13.3 and HS 14.3, may be used as accessory vessels. Obviously domestic use would have called for a variety of container sizes

and it is clear from this assemblage that the containers eventually used for the burial of the dead were taken from among the pottery available in the home.

HS 14.1. This is very close to a poorly preserved pot from Bedd Branwen (Lynch 1971,33-4 Lynch 1991, 170, Fig 45). This Pot E is unlike most of the vessels from that barrow but was judged to be a Ridged Food Vessel by Dr Ian Longworth. He was more right than I thought he was at the time! The upright cordoned rim and its internal decoration is almost identical, but not the external herringbone hatching, though this is another popular Food Vessel motif, also seen on HS 13.1. Pot E, like HS 14.1, was poorly fired with large grits.

HS 14.2. This is a single piece from the shoulder of a Vase decorated with whipped cord in vertical lines down the neck. This is not an especially typical Food Vessel, either in the way the decoration is set out, nor the use of whipped rather than twisted cord, though whipped cord is seen on the large Vase Food Vessel from Merddyn Gwyn, the burial for which the Beaker-period mound was enlarged (Lynch 1991, 187, Fig 52.1).

HS 14.3. This is a small plain version of the Vase Food Vessel with a narrow collar and a sharp shoulder. The height is uncertain but was probably about 160mm, very much the same size as the equally plain Pot K from Bedd Branwen which had been an accessory vessel, not a burial urn. Pot K is described as a Collared Urn, but in truth the difference between an early Collared Urn and a Vase Food Vessel is the product of modern archaeological typology and, when styles are shown to be contemporary, there is a great deal of fluidity. An analysis of the clays, grits and firing technique of typical pots in both styles from Moel Goedog in Merioneth showed that all were likely to have been made in the same workshop (D A Jenkins in Lynch 1984, 45-7).

HS 14.4. What remains of this pot is very closely comparable to HS 13.3, though the shoulder is more sharply defined. With a shoulder diameter of 180mm this is a smaller vase than those used for burial, and this domestic assemblage allows us to see more of this group of smaller pots. Those eventually used for burials are a sub-set of a broader range of equipment.

HS 14.5. This is a fragment of neck from near the shoulder and does not add much to our knowledge, but the grits are unusual and might repay study.

HS 13.1. This is a substantial rimsherd from the rim and neck of a large Vase Food Vessel some 240mm in diameter. The curved collar and concave internal bevel are best paralleled in a pot from a burial cairn on Carnedd Howell above Llandygai, near Bangor (Savory 1956 Fig 3. 10) but the decoration of rough stabs and incised herringbone can be found on several Anglesey examples, notably the vase from Cerrig Dewi (Lynch 1991, 190, Fig 53.7), at Bedd Branwen on Pot E and on the Early Collared Urn found there in 1813 (Lynch 1991,170, Fig 45), and here

on HS 14.1.

HS 13.2. This is a flat base in a locally unusual fabric, but within the range of Early Bronze Age practice.

HS 13.3. This is the best-preserved of the HS13 pots, trodden underfoot in a busy area of pits and ovens. It is a medium –sized Vase Food Vessel, 210mm in diameter and perhaps about the same in height. It has a more gently curved profile than some of the others and is decorated with impressed lines of twisted cord inside and out. The closest parallel is the slightly smaller Accessory Vessel (8) from the richest burial in the Llanddyfnan barrow (Lynch 1991, 177 Fig 48). This burial, in a larger Vase Food Vessel, was accompanied by a small decorated bronze dagger of Camerton-Snowshill type which links it to the second half of the Wessex Culture. Another Anglesey pot which is close to HS 13.3 is Vessel 5 from the cemetery group from Cae Mickney, decorated with a slightly more complex pattern of cord impressions (Lynch 1991, 197 Fig 55.5).

Dating. This pottery can be dated typologically to a period when Collared Urns were developing and Food Vessel s were at the beginning of their decline – a period from 3600 – 3500 in radiocarbon years BP (2000 – 1750 cal BC). The fact that many of their typological parallels are burial urns from Bedd Branwen and Llanddyfnan demonstrates that the early Urns and later Food Vessels overlap in their period of use and, conveniently, revised radiocarbon dates on the cremated bone from a number of Welsh cairns, including Bedd Branwen, have been reviewed and published by Brindley in her study of the Irish Food Vessels (2007, 361-369). The association at Bedd Branwen and at Llanddyfnan with the second half of the Wessex Culture trading nexus suggests that the Vase Food Vessel was in use in Anglesey throughout the period 2000-1750 cal BC.

Settlement context. This prosperous and expansive period is, surprisingly, a time when evidence for settlement is difficult to find. This is particularly true of Wales. Here the best parallel for the situation at Hotspot 14 is that at Stackpole Warren in Pembrokeshire, a similar coastal environment where small areas of activity were scattered amongst the sand dunes, none of them providing much evidence for concentration of population (Benson *et al* 1990). The element which is missing in the Wylfa area is the provision of some monumental public centre, which in Pembrokeshire was provided by The Devil's Quoit, a standing stone which was the focus of burials and ceremony over many centuries.

It is under the stone platform around this standing stone that the best evidence for the contemporary domestic structures was found, though demolition and re-building has made the detail difficult to disentangle. In broad terms the comparison is good. The size of the ring of posts supporting the roof is the same and initially the Stackpole house had a similar

central hearth. Both houses had a long and substantial porch. It is the size – around 4-5m -- which most clearly distinguishes these Early Bronze Age houses from those of the Middle and Later Bronze Age which are between 7 and 8m in diameter. The convincing ring of posts at EV9 near Tregele is a good example of such a house and is associated with a range of competently made pottery which completely lacks the variation of styles and decoration that is such a feature of the Late Neolithic and Early Bronze Age, when there was a lot of cultural investment in the pottery used in the home and for more ceremonial roles.

Fired Clay

A single large fired clay fragment was recovered from context (**114.0021**) weighing 885g.

The fragment measured 150 x 70 x 80mm and comprised a well fired but friable orange fabric with frequent small stone inclusions. The function of the fired clay is unknown.

Further analysis including comparison with fired clay from nearby sites may be warranted.

Lithics

A total of three (3.76g) lithics were recovered during the archaeological excavation at Hot Spot 14.

All the lithics within the assemblage were individually examined and assigned to a category according to debitage, core or tool type.

The entire assemblage is made up of a local beach pebble flint and comprises two tertiary flakes produced by soft hammer and a chip fragment. Due to the lack of diagnostic elements and the scarcity of the assemblage, it is not possible to date the flint.

No further work is recommended.

Stone

A small sub-circular stone disc of tuff(?) was recovered **SF5** (**114.0032**), weighing 11g.

The disc measured 33mm x 38mm x 10mm with a slightly off-centre hole circular hole measuring 6mm. The object is irregular in shape and may have acted as a small weight. Given that this was recovered with prehistoric pottery, it is likely of a similar date.

Several spindle whorls made of a similar material have been recovered from nearby sites of likely Roman date but are of a much more uniform shape and size.

Further work may be warranted.

Finds from Environmental Samples

Pottery. Prehistoric pottery was recovered from sample <**1**> (**114.0044**) and <**22004**> (**22016**) comprising undecorated body sherds of coarse hand made fabric with large inclusions. The sherds are mostly reduced to a dark grey but are oxidised externally. Tiny highly abraded fragments of likely prehistoric pottery were also recovered from <**22009**> (**22026**).

Further analysis of the prehistoric pottery is warranted alongside that recovered as small finds.

Industrial Residue A single fragment of possible industrial residue was recovered from <**22010**> (**22028**) The fragment, although hard, is easily snapped and contains frequent small stones. It may be a fragment of burnt earth rather than slag.

Glass A single fragment of clear glass was recovered from sample <**6**> (**22014**). The fragment weighs less than 1g and is modern in date.

Stone A small fragment of heated stone was recovered from sample <**1**>. Although the stone appears burnt, it is unworked.

Recommendations While they need to be considered alongside the bulk finds assemblage, a separate data set is appropriate for the finds from environmental samples, as it represents a separate recovery and quantification strategy for the retrieval of finds.

Statement of Potential

Although the finds assemblage recovered from Hot Spot 14 is small, it clearly indicates prehistoric activity on site, and as such is of local and regional significance and is of high archaeological potential.

Further work is recommended on the prehistoric finds assemblage, including comparative research and illustration.

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Table 1: *Quantification of Finds by Material and Context*

Context	SF	Material	Qty	Wgt (g)	Period	Refined Date	Comments
114.0002	1	Pottery	4	109	Prehistoric	Neolithic- Bronze Age	Same vessel. Rim x 1. Internal residue
11.40002	2	Stone	3	56			Natural fragments
	3	MISSING					MISSING
114.0002	4	Pottery	6	58	Prehistoric	Neolithic- Bronze Age	External inscribed and impressed cord lines
114.0032	5	Stone	1	11			Spindle Whorl? Weight?
114.0032	6	Pottery	1	11	Prehistoric	Neolithic- Bronze Age	External inscribed line
114.0021	7	Fired Clay	1	885	Prehistoric?		Large lump
U/S	8	Stone	1	6	Prehistoric		Chert. Worked
U/S	9	Stone	1	6	Prehistoric		Chert. Worked
U/S	10	Stone	1	64			Natural fragment
U/S	11	Stone	1	149			Natural fragment
U/S	12	Stone	1	114			Natural fragment
U/S	13	Stone	1	40			Natural fragment
114.0002	14	Pottery	2	51	Prehistoric	Neolithic- Bronze Age	Rim x 1. Internal residue
			24	**1560**			
Context	**SF**	**Material**	**Qty**	**Wgt**	**Period**	Refined Date	Comments
22028	1	Stone	1	1			Chert
22026	2	Stone	2	3	Prehistoric		Flint. Worked
22016	3	Pottery	5	3	Prehistoric	Neolithic-Bronze Age	Abraded crumbs.
22010	4	Pottery	3	116	Prehistoric	Neolithic- Bronze Age	Rim and body sherds. Incised and impressed decoration
Total			**11**	**123**			

Table 2. *Worked Lithics Hotspot 14*

Context no.	Raw Material							Measures				Class	Category	Subcategory	Notes
	Type	Colour	Lustre	Texture	Opacity	Cortex	Patination	L	W	T	Wgt				
22028	Flint	Grey	Shiny	Fine	Opaque	Nco	None	18.7	10.1	3.6	0.78	Debitage	Chip	chip	14103
22026.1	Flint	Beige	Shiny	Fine	Opaque	Nco	None	25.7	20.6	2.4	1.44	Debitage	Flake fragment	Distal fragment tertiary flake	22026
22026.2	Flint	Beige	Shiny	Fine	Opaque	Nco	None	28.1	21.9	4.3	1.54	Debitage	Flake	Tertiary flake	22026

Table 3: *Finds recovered from Environmental Samples*

Context	Sample	Material	Weight (g)
114.0002	1	Heated stone	**24**
114.0002	1	Prehistoric pottery	**14**
22016	22004	Prehistoric pottery	**9**
22014	22006	Glass	
22026	22009	Prehistoric pottery	
22028	22010	Ind waste	**31**
Total			**80**

Appendix VI

AB1703 Hotspot 14

Prehistoric Pottery Assessment

AB1703 Wylfa Hotspot 14 - Prehistoric Pottery Report

This is one of a group of occupation sites in the shallow wet valley close to the farms of Rhwng Dau Fynydd and Tyddyn-gele (NGR 349 927). Another area of less coherent, but certainly contemporary, occupation was found some 100m further up the valley to the north at Hotspot 11-13 (NGR 349 928). The pottery from that site will be considered alongside that from Hotspot 14.

The site was identified during the Evaluation Stage in 2016 by Wessex Archaeology who also undertook fuller excavation in May 2018 which was completed by Brython Archaeology, alongside their work at Hotspot 11-13, in September of that year. This change may have caused some of the confusions seen at this site. This is regrettable because it is a site with better artefactual and structural evidence than most.

The remains consist of a post-built round house with a central hearth and ring of 6 posts some 4m in diameter, surrounded on the east (upper) side by a very shallow drip trench with a diameter of about 8.5m. The western side may have been damaged by flooding since there is a 3m wide wet gulley or stream bed filled with burnt stone and containing some pottery and lithics which might have been swept up from around the side of the house. There is some evidence to suggest attempts to consolidate the ground again, but the proximity of the marsh may have forced the abandonment of the house. An arc of 4 postholes just in front of the porch of this house may suggest that houses needed to be frequently replaced at this spot.

The pottery is all consistent with an Early Bronze Age date and can be identified as Food Vessels. The same is true of Hotspots 11-13. Two of the pots (1 and 2) come from a large pit (22009) between the post ring and the drip trench on the south side. They are said to have been lying right on the bottom of the pit before any silting or filing had taken place. Pots 3 and 4, together with some flints, come from Context 114.002 which is described as 'fill of ditch with charcoal'. This is the broad stream bed to the west of the round house which was later investigated with a sondage 114.0044). The 5th pot, only a single small sherd, comes from the stone consolidation layer over the wet area. It was found with a spindlewhorl. A fragment of burnt clay (CBM) or pottery was found in the southern terminal of the drip trench (wessexSF.3 context 2016) but has now crumbled to dust, so no more can be said about it.

HS 14. Pot 1 from Context 22010 (Pit 22009) Bag Marked WessexSF 4 (*illustrated*)
Two of the 3 sherds are from the same pot which had a diameter of 240mm. Both are in a hard but fragile fabric, brown throughout with smooth surfaces but a bit lumpy. The clay contains as lot of large rounded and angular stone grit 5-8mm in size.

The rimsherd (52 x 52 x 8mm (rim) 16mm (cordon) 15mm (wall))is decorated: Exterior : 2 incised counter-hatched lines between the upright rim and a low cordon. On the inside is a shallow horizontal groove and a dot below it. The second sherd (originally 52 x 40 x 16-15mm) is now completely disintegrated, but when I recorded it in 2018 it showed the external cordon with some seed-like impressions in it and the internal groove and dot. This was at a slightly different level from that on the rimsherd.

HS 14. Pot 2 from the same context, Pit 22009 (*illustrated*)
A single shoulder sherd (48 x 55 x 10-16-13mm) from a different pot 200mm in diameter. The fabric is yellow inside and out with a black core; rather soft, with small stone grits, rhyolite and a darker rock. The decoration, spaced vertical lines on the neck is in whipped cord.

Context 114.0002 is described in the context Register as 'fill of ditch with charcoal', but the *Assessment Report* Para 6 says that 10 sherds and 3 flints came from 114.0044 which is described as the top of the 'consolidation' layer over the edge of the marsh. The '10 sherds' approximate to the 12 sherds present (Pots 3 and 4: Finds 1, 4 and 14). The photo shows that there were 3 sondages through this consolidation layer so it is not quite clear where exactly this pottery came from, but the stratigraphic position is that they were found close to the exposed surface at an early stage, and come from the upper fill, probably removed from their original context in antiquity by water or human clearing up activities.

HS 14. Pot 3 from context 114.0002 Finds 1 and 14 (*illustrated*)
There are 6 sherds of this pot; 2 substantial segments (70 x 65 x 9mm and 60 x 50 x 10mm) running from rim to shoulder giving a confident reconstruction as a small urn-shaped pot 145mm in diameter at the bottom of the narrow collar and 165mm at the crisp shoulder. One body sherd from Find 1(50 x 40 x 11mm) joins the smaller section of rim from Find 14 on an ancient break at the shoulder, making a profile section of 100mm. Two other body sherds (50 x 40 x 11m and 30 x 32 x 11) have been broken recently and cannot be fully restored. A fourth curved body sherd (30 x 35 x 10mm) comes from Find 14 with the smaller rim section, but does not join it.

The pot is completely undecorated and made from a hard, red/black fabric with a smooth surface. Despite its careful finish it is slightly lopsided, as many coil-made pots are. It contains plentiful angular stone grit varying in size from 3-7mm. There is probably rhyolite and some other rock in it.

HS 14. Pot 4 from Context 114.0002 Find 4 (*illustrated*)
2 shoulder sherds, no rim and 4 pieces from the body of a vase about 180mm in diameter at the shoulder; none join. The shoulder sherds are 55 x 55 x 11-12mm and 40 x 35 x 10-13mm. A body sherd close to the shoulder is 68 x 60 x 10-12mm and the largest of the three other pieces is 40 x 35 x 9mm.

The decoration on the shoulder, and probably the missing neck, is impressed close-set horizontal lines of twisted cord, rather variable in thickness and depth of impression. The bottom line is made with a double twisted cord, but this is not the case everywhere. The body below the shoulder is undecorated.

The fabric is hard, orangey pink outside, black inside with smooth surfaces. There is a good deal of angular stone grit mostly medium in size (c. 5mm).

HS 14. Pot 5 from Context 114.0032: the 'Stony Layer' to the west of the consolidation layer. Find 6 (*illustrated*)
A single small concave sherd (30 x 25 x 11-13mm) from the neck, close to the shoulder; decorated with light incised hatching. The fabric is very hard, orange-surfaced on a grey core with masses of sharp angular grits 7+mm - 3mm in size, of dark and white rock. The white grit might possibly be burnt flint.

HS 13. Pot 1 From Pit 113.0173 (Context 113.0177) Find 16 (*illustrated*)
A single rimsherd (60 x 62 x 9-17mm) from a vessel probably 240mm in diameter. The fabric is brown on the outside and black inside (with a good deal of sooting). The surfaces are smooth and feel slightly sandy. It is very hard fired but it is not densely gritted. The grits are a dark angular stone, small to medium (2-5mm) in size. It has a narrow rounded collar with a concave internal bevel. Both surfaces are decorated with lines of triangular/circular stab marks; 3 on the outside and probably 2 on the inside where the lines are less coherent. Below the collar the neck is decorated with quite a largescale pattern of thick incised herringbone lines.

HS 13. Pot 2 From Pit 113.0173 (context 113. 0176) Find 17 (*illustrated*)

A small piece from a base (45 x 30 x 13mm). This is a very different fabric, very low-fired and crumbly, but densely gritted with small angular pieces of pale rhyolite. There are no other sherds in this fabric at either site.

HS 13. Pot 3 From **surface scatter 113.0171** Finds 9, 10, 11, 13, 14, 15, 19 and 24. Finds 11 and 24 contain a mixture of sherds of Pot 3 and perhaps different pots, as might Finds 12 and 23. There are 27 sherds in all from this surface scatter. (*illustrated*)

Most of these sherds come from the upper part of a small vase-shaped pot, 210mm in diameter and perhaps 200-240mm tall, decorated inside and out with horizontal lines of thin loosely twisted cord, 7 on the inside running down to a slight bevel, and probably 11 on the outside ending at a gently rounded shoulder. The undecorated lower body is not well represented (7 sherds) and there is no sign of the expected flat base. The joins between the individual finds suggest that the broken pot had been trodden into the ground and not subsequently moved much.

The outer surface is pink and the inner is grey; the clay is densely gritted with medium (c 3-5mm) stone grits which do not appear on the well-smoothed surfaces. The smaller dark grits seem to be concentrated within the outer coils and the inner coils contain some larger rhyolite pieces. The overlapping coils in sherds 9 and 10 are of interest in terms of the manufacturing process. The undecorated body surfaces are particularly well-smoothed and the pot has been very competently fired.

Finds 9 & 10. Two single sherds joining at a coil overlap to form a section of the waist (65 x 65 x 12-14-10mm)

Finds 14 & 11 join at a coil overlap to form a section of rim and neck (55 x 36 x 10-14mm)

Find 11 contains another small scrap which joins Find 15 at the same coil overlap and a separate piece of rim (30 x 13 x 10mm). It also contains another featureless sherd (33 x27 x 8mm) in a very hard fabric, grey throughout, which may be from a fourth pot.

Find 12 is a single undecorated sherd (35 x 25 x 11mm) in a pink/grey fabric which seems rather softer than Pot 3, but the grits seem to be similar.

Find 13 & 19 join to form a section of the undecorated body just below the shoulder. Find 13 (62 x 55 x 11-13mm) has a diameter of 200mm which provides a clue to the profile of the lower body. The outer surface of this sherd is particularly well smoothed. Find 19 (40 x 40 x 14mm) is closer to the shoulder.

Find 14 (40 x 42 x 13mm) is part of the neck, joining sherd from Find 11. It is grey throughout; generally the upper part of the pot is less pink than the lower sherds

Find 15 (30 x 30 x11mm) is another small piece of the neck with a joining spall from find 11.

Find 23 A single curved sherd (40 x 30 x 13mm) with a good inner surface but the outer is mainly lost. This might be from the shoulder of Pot 3 but the fabric seems rather different – more lightweight.

Find 24 5 undecorated sherds: the largest (30 x 40 x 11mm) may be close to the base but seems, like find 12, to be a softer fabric; 3 others (largest 30 x 30 x 12mm) are very like Find 13, pink/grey smooth surfaced; and the fifth is a curved sherd (30 x 20 x 11mm) which seems a bit too thin to be the shoulder of Pot 3, but the fabric fits.

Comment on the pottery from Hotspots 14 and 11-13.

Reasonable parallels for all these pots can be found amongst the Food Vessels of Anglesey and north Wales. The particularly interesting thing about this assemblage is that it is associated with settlement rather than burial. This makes it unique in Anglesey and rare in most parts of the country.

Food Vessels in Anglesey include the occasional Bowl, such as that from Merddyn Gwyn (Lynch 1991, 187 Fig 52.2), but are predominately Vase Food Vessels which come in a variety of sizes. All those known previously have come from burial contexts where the larger ones contain the cremated bone, but smaller ones, like HS 13.3 and HS 14.3, may be used as accessory vessels. Obviously domestic

use would have called for a variety of container sizes and it is clear from this assemblage that the containers eventually used for the burial of the dead were taken from among the pottery available in the home.

HS 14.1 This is very close to a poorly preserved pot from Bedd Branwen (Lynch 1971,33-4 Lynch 1991, 170, Fig 45). This Pot E is unlike most of the vessels from that barrow, but was judged to be a Ridged Food Vessel by Dr Ian Longworth. He was more right than I thought he was at the time! The upright cordoned rim and its internal decoration is almost identical, but not the external herringbone hatching, though this is another popular Food Vessel motif, also seen on HS 13.1. Pot E, like HS 14.1, was poorly fired with large grits.

HS 14.2 This is a single piece from the shoulder of a Vase decorated with whipped cord in vertical lines down the neck. This is not an especially typical Food Vessel, either in the way the decoration is set out, nor the use of whipped rather than twisted cord, though whipped cord is seen on the large Vase Food Vessel from Merddyn Gwyn, the burial for which the Beaker-period mound was enlarged (Lynch 1991, 187, Fig 52.1).

HS 14.3 This is a small plain version of the Vase Food Vessel with a narrow collar and a sharp shoulder. The height is uncertain but was probably about 160mm, very much the same size as the equally plain Pot K from Bedd Branwen which had been an accessory vessel, not a burial urn. Pot K is described as a Collared Urn, but in truth the difference between an early Collared Urn and a Vase Food Vessel is the product of modern archaeological typology and, when styles are shown to be contemporary, there is a great deal of fluidity. An analysis of the clays, grits and firing technique of typical pots in both styles from Moel Goedog in Merioneth showed that all were likely to have been made in the same workshop (D A Jenkins in Lynch 1984, 45-7).

HS 14.4 What remains of this pot is very closely comparable to HS 13.3, though the shoulder is more sharply defined. With a shoulder diameter of 180mm this is a smaller vase than those used for burial, and this domestic assemblage allows us to see more of this group of smaller pots. Those eventually used for burials are a sub-set of a broader range of equipment.

HS 14.5 This is a fragment of neck from near the shoulder and does not add much to our knowledge, but the grits are unusual and might repay study.

HS 13.1 This is a substantial rimsherd from the rim and neck of a large Vase Food Vessel some 240mm in diameter. The curved collar and concave internal bevel are best paralleled in a pot from a burial cairn on Carnedd Howell above Llandygai, near Bangor (Savory 1956 Fig 3. 10) but the decoration of rough stabs and incised herringbone can be found on several Anglesey examples, notably the vase from Cerrig Dewi (Lynch 1991, 190, Fig 53.7), at Bedd Branwen on Pot E and on the Early Collared Urn found there in 1813 (Lynch 1991,170, Fig 45), and here on HS 14.1.

HS 13.2 This is a flat base in a locally unusual fabric, but within the range of Early Bronze Age practice.

HS 13.3 This is the best-preserved of the HS13 pots, trodden underfoot in a busy area of pits and ovens. It is a medium –sized Vase Food Vessel, 210mm in diameter and perhaps about the same in height. It has a more gently curved profile than some of the others and is decorated with impressed lines of twisted cord inside and out. The closest parallel is the slightly smaller Accessory Vessel (8) from the richest burial in the Llanddyfnan barrow (Lynch 1991, 177 Fig 48). This burial, in a larger Vase Food Vessel , was accompanied by a small decorated bronze dagger of Camerton-Snowshill type which links it to the second half of the Wessex Culture. Another Anglesey pot which

is close to HS 13.3 is Vessel 5 from the cemetery group from Cae Mickney, decorated with a slightly more complex pattern of cord impressions (Lynch 1991, 197 Fig 55.5).

Dating

This pottery can be dated typologically to a period when Collared Urns were developing and Food Vessel s were at the beginning of their decline – a period from 3600 – 3500 in radiocarbon years BP (2000 – 1750 cal BC). The fact that many of their typological parallels are burial urns from Bedd Branwen and Llanddyfnan demonstrates that the early Urns and later Food Vessels overlap in their period of use and, conveniently, revised radiocarbon dates on the cremated bone from a number of Welsh cairns, including Bedd Branwen, have been reviewed and published by Brindley in her study of the Irish Food Vessels (2007, 361-369). The association at Bedd Branwen and at Llanddyfnan with the second half of the Wessex Culture trading nexus suggests that the Vase Food Vessel was in use in Anglesey throughout the period 2000-1750 cal BC.

Settlement context

This prosperous and expansive period is, surprisingly, a time when evidence for settlement is difficult to find. This is particularly true of Wales. Here the best parallel for the situation at Hotspot 14 is that at Stackpole Warren in Pembrokeshire, a similar coastal environment where small areas of activity were scattered amongst the sand dunes, none of them providing much evidence for concentration of population (Benson *et al* 1990). The element which is missing in the Wylfa area is the provision of some monumental public centre, which in Pembrokeshire was provided by The Devil's Quoit, a standing stone which was the focus of burials and ceremony over many centuries.

It is under the stone platform around this standing stone that the best evidence for the contemporary domestic structures was found, though demolition and re-building has made the detail difficult to disentangle. In broad terms the comparison is good. The size of the ring of posts supporting the roof is the same and initially the Stackpole house had a similar central hearth. Both houses had a long and substantial porch. It is the size – around 4-5m -- which most clearly distinguishes these Early Bronze Age houses from those of the Middle and Later Bronze Age which are between 7 and 8m in diameter. The convincing ring of posts at EV9 near Tregele is a good example of such a house and is associated with a range of competently made pottery which completely lacks the variation of styles and decoration that is such a feature of the Late Neolithic and Early Bronze Age, when there was a lot of cultural investment in the pottery used in the home and for more ceremonial roles.

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Hotspot 15

I was sent the Summary Report on Hotspot 15 but there are no prehistoric finds mentioned and no pottery was sent.

I'm afraid I can't make any helpful comments on the pits and postholes judged to predate the stone structures on the site. However, since it is clearly part of quite an extensive area of earlier Bronze Age activity, it is likely that some, if not all, might belong to that period.

Frances Lynch May 6th 2020

Appendix VII

AB1703 Hotspot 14

Palaeoenvironmental Assessment

Appendix VII. AB1703 Hotspot 14 Palaeoenvironmental Assessment

Palaeoenvironmental assessment

1.1 Introduction

1.1.1 Twenty-eight bulk samples were taken during the excavation on Hotspot 14 at Wylfa Newydd Nuclear Power Plant located in Anglesey, North Wales. Wessex Archaeology, who initially undertook the excavation on this area, took ten samples, (although only nine were received at Carlisle) and Brython Archaeology (who took over from Wessex on this site) presented 19 samples. A total weight of 429kg (296l) of sediment was processed for this stage of works. Further details for each sample can be found in Tables 1 (Brython samples) and 2 (Wessex samples).

1.1.2 The environmental assessment was undertaken by Freddie Sisson.

1.2 Methodology

1.2.1 This report presents the results of the assessment of the environmental samples, palaeobotanical and charcoal remains in accordance with Campbell et al. (2011) and English Heritage (2008). The assessment will establish the significance of the material and will only provide identifications where it was practicable to do so, such as, small quantities of plant material or charcoal identifications where radiocarbon determinations are sought. The report will focus on the preservational qualities and note the potential of the material to warrant analysis.

1.2.2 The bulk environmental samples were processed at Wardell Armstrong LLP following standards stated in Wardell Armstrong (2018 and 2019). The colour, lithology, weight and volume of each sample was recorded using standard Wardell Armstrong pro forma recording sheets. cf. Tables 1 and 2. The samples were processed with 500-micron retention and flotation meshes using the Siraf method of flotation (Williams 1973). Once dried, the residues from the retention mesh were sieved to 4mm and the artefacts and ecofacts removed from the larger fraction and forwarded to the finds department. The smaller fraction was scanned with a magnet for microslags such as hammerscales. This fraction was then examined for smaller artefacts such as beads. Once fully sorted, and all relevant material removed, the retent residues were discarded.

1.2.3 The flot plant macrofossils and charcoal were retained and scanned using a stereo microscope (up to x45 magnification). Any non-palaeobotanical finds were noted on the flot pro forma, cf. Tables 3 (Brython samples) and 4 (Wessex samples). Once fully sorted and all relevant material removed the flots were discarded.

1.2.4 The four common palaeoenvironmental materials (namely plant remains, charcoal, shell and bone), along with magnetic matter, will be listed within the results section and where none were present this will be stated.

1.2.5 In the absence of single growth entities such as charred plant remains and hazel nutshell fragments charcoal will be utilised for radiocarbon determinations. Charcoal was only identified to species to select the shortest-lived species for radiocarbon determination once the report author had determined what they would like dated. Where no short-lived species were observed the youngest i.e. twig, branch or periderm fragments from longer-lived species

were selected. Once this was achieved no further identification was undertaken. Identification was undertaken using Hather (2000), Schweingruber (1982) and the author's own reference collection. Nomenclature followed Stace (2010).

1.3 Results

1.3.1 Silty sand dominated the samples' sediment matrix with lesser quantities of sandy silt sediments.

1.3.2 Artefactual material recovered from the dried residues were minimal but contained examples of ceramic building material, glass, industrial waste and prehistoric pottery.

1.3.3 CPR: Ten samples presented charred plant remains (CPR) which were predominantly cereal grains and in a good state of preservation. The largest quantities were 18 CPR from **(114.0023) <9>** taken from posthole **[114.0024]**. 19 CPR from **(114.0051) <11>** from hearth **[114.0065]**, 23 CPR in **(114.0053) <12>** from posthole **[114.0063]** and 37 CPR from **(114.0050) <13>** from posthole **[114.0064]**. The hearth sampled in **(114.0062) <16>** only yielded 2 CPR (cf. Table 3).

1.3.4 CHARCOAL: Charcoal was present in all of the samples processed, of these nine yielded more than 5g and was in relatively good condition. These were taken from the charcoal-rich fill **(114.0002) <1>.** The postholes **(114.0023) <9> [114.0024], (114.0053) <12> [114.0063]. (114.0050) <13> [114.0064]** and **(114.0021) <18>**. From **(22012) <22003>** deliberate back fill of pit **[20009]** and **(22016) <22004>** from the fill of gully **[22015].** The two largest charcoal assemblages came from unknown layers **(22026) <220009>** and **(22028) <22010>** which yielded 93g and 90.71g respectively.

1.3.5 Only two sample had their charcoal identified for radiocarbon determination. Sample **<11>** presented oak (*Quercus* sp.) and rose-family (Rosaceae) was observed in **<13>**.

1.3.6 SHELL: No shell was recovered on site or in the environmental samples.

1.3.7 BONE: No bone was present in the samples.

1.3.8 MAGNETIC MATTER: Thirteen samples contained magnetic material only two of these yielded more than 10g **(20012) <22003>** from the back fill of pit **[20009]** and **(22018) <22005>** from the secondary fill of gully **[22017]**. The magnetic material was scanned under a microscope (x45 magnification) for microslags but none were present.

1.4 Discussion

1.4.1 The CPR listed in 1.3.3 appeared to be part of backfilling for the most part. The 19 CPR from **<11>** from hearth **[114.0065]** is also likely to be a re-deposit as none of the charcoal assemblages are in such quantities as to confirm definite human activity at the time of deposition.

1.4.2 The charcoal discussed in 1.3.4 are the largest assemblages. The charcoal from the post holes is likely to have been a primary deposit with the post burnt *in situ*. Whilst the pit and gully fills are likely to be secondary deposition and filled with burnt middening. Unknown layers sampled in **<22009>** and **<22010>,** although they have the highest yields of charcoal, are likely to be redeposition.

1.5 Statement of potential and recommendations

1.5.1 The CPR assemblages are too small to give any meaningful discussion. However, they do have radiocarbon potential and the most suitable samples are **<9>, <11>, <12>** and **<13>** as these have the most available examples.

1.5.2 Whilst the charcoal cannot tell us any specific dates about the features it was recovered from. It can tell us about fuel procurement or woodland management, in order to do this any features charcoal came from need to be dated through actual or typological methods. The most suitable charcoal for radiocarbon should be taken from **<1>, <12>, <13>, <22009>** and **<22010>** due to the large quantities of available charcoal.

1.5.3 It must be stated that if a radiocarbon determination is sought from charcoal then the fragment must be identified to species prior to submission to select the shorter lived species to mitigate against the potential 'old wood effect' that may present a radiocarbon age far older than the feature.

1.5.5 *Retention and discard*: It is recommended that all ecofactual material is retained at least until initial radiocarbon dates have been obtained and any analysis has been completed.

1.5.6 The magnetic matter from all samples may be discarded due to it being of no significance.

1.6 Acknowledgments

1.6.1 Freddie Sisson supervised the environmental team who consisted of, Megan Lowrie, Paul Sherwood, Oliver Tallis, Jessica McGreevy, Sophia Davies, Edited by Lynne F Gardiner

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Table 1 Brython Sample Information

C	<>	Cut	Description	TQ	Matrix	PW	PV	SW	SV
114.0002	1		Charcoal rich fill	4	sandy silt	45	33	3082	3100
114.0009	2	114.0010	Fill of posthole	1	silty sand	1	1	491	200
114.0030	3	114.0031	Fill of posthole	1	silty sand	1	1	337	275
114.0017	4	114.0018	Fill of posthole	1	silty sand	5	3	809	525
114.0003	5	114.0004	Fill of posthole	1	silty sand	4	3	1141	900
114.0028	6	114.0004	Post packing of posthole	1	silty sand	5	3	877	650
114.0007	7	114.0008	Fill of posthole	1	silty sand	6	4	0	0
114.0005	8	114.0006	Fill of posthole	1	sandy silt	5	4	1399	1000
114.0023	9	114.0024	Fill of posthole	1	sandy silt	6	4	1511	900
114.0025	10	114.0026	Fill of posthole	1	silty sand			511	375
114.0051	11	114.0065	Fill of hearth	1	silty sand	15	9	2998	2100
114.0053	12	114.0063	Fill of posthole	1	silty sand	6	5	4421	2850
114.0050	13	114.0064	Fill of posthole	2	silty sand	16	15	3000	2800
114.0062	14		Fill of hearth	1	silty sand	5	5	1521	1200
114.0066	15		Fill of hearth	1	silty sand	13	9	2921	2000
114.0062	16		Fill of hearth	1	silty sand	11	8	2297	2500
114.0045	17		Grey clay layer	4	clay	49	33	5805	3700
114.0021	18		Fill of posthole	2	silty sand	20	14	2917	2000
114.0026	19		Fill of posthole	1	silty sand	2	2	958	400

Key: C=context; <>=sample number; Cut=cut of feature; Description=description of context; TQ=tub quantity processed; Matrix= matrix of processed sediments; PW= processed weight (kg); PV= processed volume (l); SW= sorted weight (g); SV= sorted volume (ml)

Table 2 Wessex Sample Information

C	<>	Cut	Desc	TQ	Matrix	PW	PV	SW	SV
22020	22001	22019	Fill of Post pipe	1	sandy silt	9	5	3837	2000
22012	22003	20009	Deliberate backfill of pit	3	silty sand	27	21	5243	3300
22016	22004	22015	Secondary fill of gully	5	sandy silt	63	41	13833	8675
22018	22005	22017	Secondary fill of gully	3	sand	35	23	7468	4800
22014	22006	22013	Secondary fill of gully	3	silty sand	34	23	9596	7200
22007	22007	22006	Fill of post pipe	1	clayey silt	6	3	1211	825
22005	22008	22004	Secondary fill of posthole	1	sandy silt	7	4	1594	900
22026	22009		Layer	2	sandy silt	24	14	6952	5100
22028	22010		Layer	1	sandy silt	9	6	2020	1600

Key: C=context; <>=sample number; Cut=cut of feature; Description=description of context; TQ=tub quantity processed; Matrix= matrix of processed sediments; PW= processed weight (kg); PV= processed volume (l); SW= sorted weight (g); SV= sorted volume (ml)

Table 3 Brython Flots and Finds Information

		Flots				Retent		
C	**<>**	**WF**	**VF**	**CPR**	**Ch**	**Ch**	**MM**	**PP**
114.0002	1	569.64	1550	-	502.36			3
114.0009	2	305	15	-	1.54	<1		
114.0030	3	0.13	2	-	-	<1		
114.0017	4	2.64	20	2	1.58	<1	<1	
114.0003	5	10.44	30	-	1.9			
114.0028	6	3.32	15	-	-	<1		
114.0007	7	4.61	25	-	1.75			
114.0005	8	5.31	30	2	1.35	3	<1	
114.0023	9	13.56	50	18	6.4	<1	<1	
114.0025	10	1.49	10	-	0.07	<1		
114.0051	11	8.08	50	19	3.14	<1	<1	
114.0053	12	49.15	150	23	11.24	<1		

		Flots				Retent		
C	<>	WF	VF	CPR	Ch	Ch	MM	PP
114.0050	13	111.65	300	37	26.68	21		
114.0062	14	6.69	50	-	0.63	<2		
114.0066	15	3.79	50	-	1.09	<1		
114.0062	16	2.16	25	2	0.41	<1		
114.0045	17	10.1	50	-	-	<1		
114.0021	18	66.02	100	2	6.13	3		
114.0026	19	2.91	10	-	1.24			

Key: C=context: <>=sample number; WF= weight of flot(g): VF= volume of flot (ml); CPR= count of charred plant remains; Ch= charcoal (g); CBM= ceramic building material (g); PP=prehistoric pottery actual count

Table 4 Wessex Flots and Finds Information

		Flots				Finds					
C	<>	WF	VF	CPR	Ch	Ch	CPR	PP	Glass	IW	MM
22020	22001	7.9	60	1	0.2	2					<1
22012	22003	53.8	200	-	7.59	5	2				19
22016	22004	51.5	200	-	-	19		9			5
22018	22005	31.5	100	-	3.61	5					11
22014	22006	84.5	200	-	-	<1			1		9
22007	22007	4.7	20	-	0.17	3					3
22005	22008	3.1	10	1	0.13	<1					2
22026	22009	27.7	100	-	0.62	93		<1			<1
22028	22010	120.5	400	-	70.71	20				31	2

Key: C=context: <>=sample number; WF= weight of flot(g): VF= volume of flot (ml); CPR= count of charred plant remains; Ch= charcoal (g); PP= actual count of prehistoric pottery; Gl= count of glass sherds; IW= industrial waste (g); MM= magnetic material (g)

Appendix VIII

AB1703 Hotspot 14

Radiocarbon Dating Results

BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL13)

(Variables: d13C = -24.5 o/oo)

Laboratory number **Beta-554178**

Conventional radiocarbon age **3540 ± 30 BP**

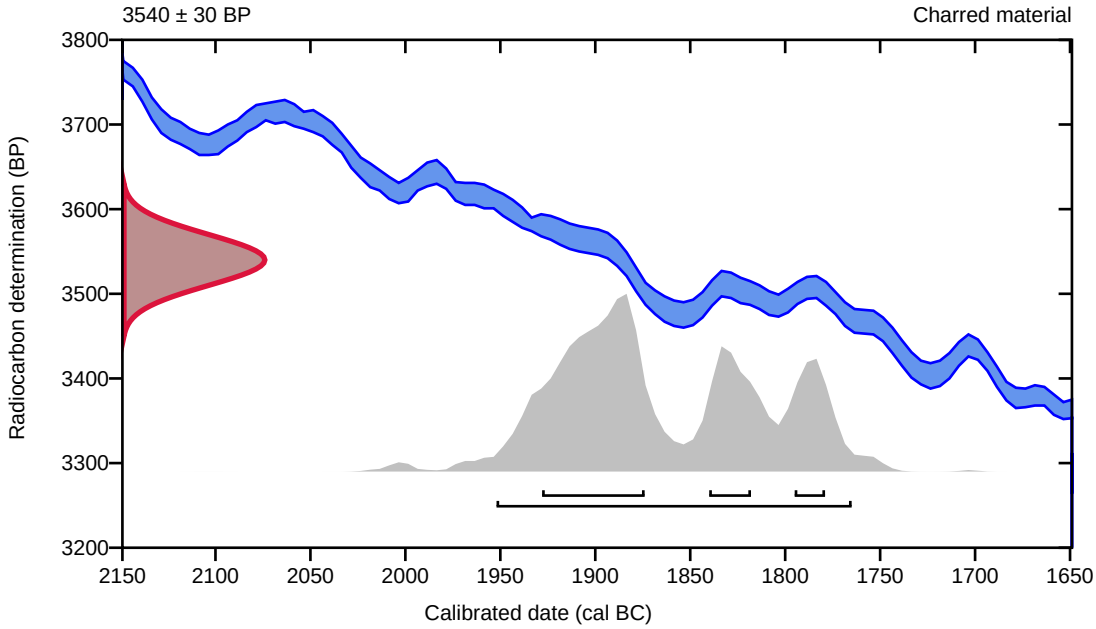
95.4% probability

(95.4%)	1954 - 1767 cal BC	(3903 - 3716 cal BP)

68.2% probability

(44.4%)	1930 - 1876 cal BC	(3879 - 3825 cal BP)
(14.1%)	1842 - 1820 cal BC	(3791 - 3769 cal BP)
(9.7%)	1797 - 1781 cal BC	(3746 - 3730 cal BP)

HS14_(114.0051)_< 11 >



Database used

INTCAL13

References

References to Probability Method

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References to Database INTCAL13

Reimer, et.al., 2013, Radiocarbon55(4).

Beta Analytic Radiocarbon Dating Laboratory
4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • Email: beta@radiocarbon.com

BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): INTCAL13)

(Variables: d13C = -26.2 o/oo)

Laboratory number **Beta-554179**

Conventional radiocarbon age **3490 ± 30 BP**

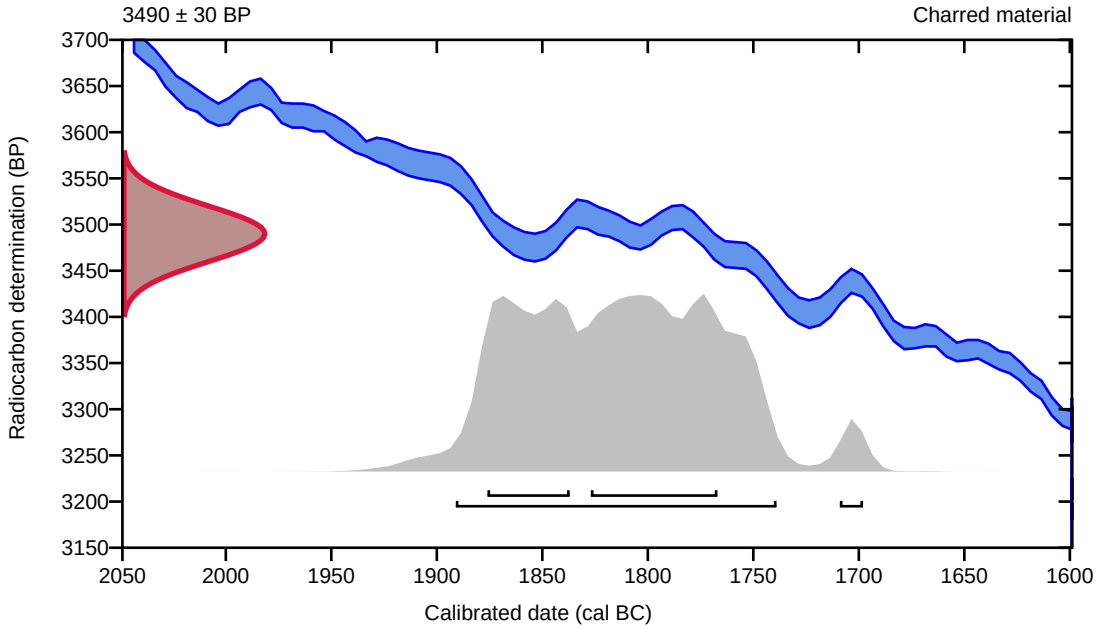
95.4% probability

(93.4%)	1893 - 1741 cal BC	(3842 - 3690 cal BP)
(2%)	1711 - 1700 cal BC	(3660 - 3649 cal BP)

68.2% probability

(41.4%)	1829 - 1769 cal BC	(3778 - 3718 cal BP)
(26.8%)	1878 - 1839 cal BC	(3827 - 3788 cal BP)

HS14_(114.0050)_< 13 >



Database used

INTCAL13

References

References to Probability Method

Bronk Ramsey, C. (2009). Bayesian analysis of radiocarbon dates. Radiocarbon, 51(1), 337-360.

References to Database INTCAL13

Reimer, et.al., 2013, Radiocarbon55(4).

Beta Analytic Radiocarbon Dating Laboratory

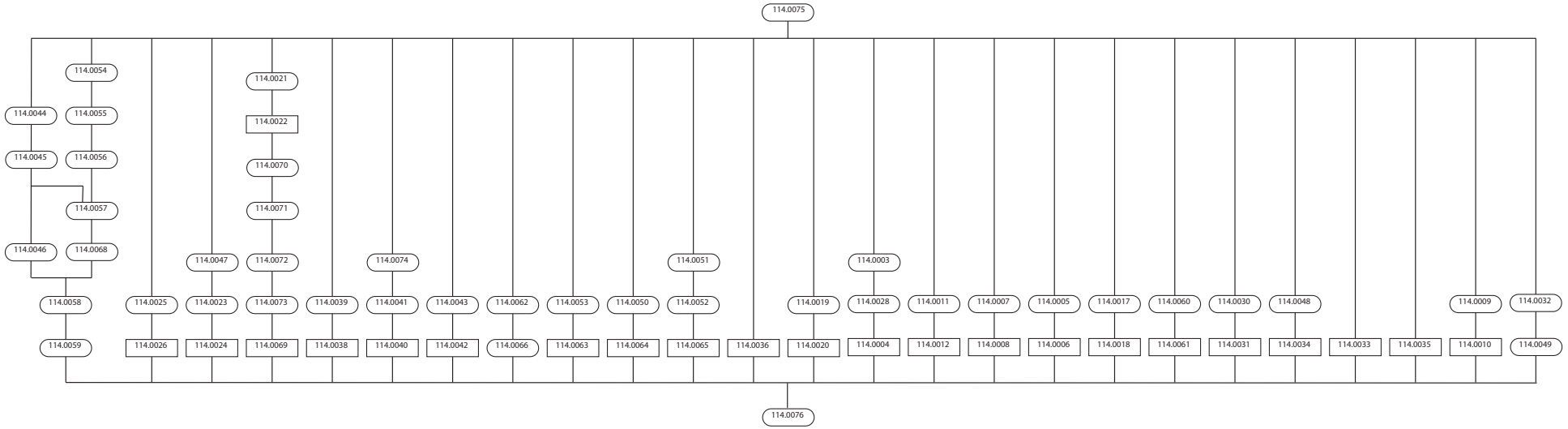
4985 S.W. 74th Court, Miami, Florida 33155 • Tel: (305)667-5167 • Fax: (305)663-0964 • Email: beta@radiocarbon.com

Appendix IX

AB1703 Hotspot 14

Harris Matrix

AB1703 Hotspot 14 Harris Matrix



Appendix X

AB1703 Hotspot 14

Post Excavation Assessment Methodology

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ENERGY AND CLIMATE CHANGE
ENVIRONMENT AND SUSTAINABILITY
INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING AND MINERAL PROCESSING
MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

HORIZON

WYLFA NEWYDD

POST EXCAVATION ASSESSMENT METHOD STATEMENT

APRIL 2019

wardell armstrong

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JOB NUMBER: **CL12271**

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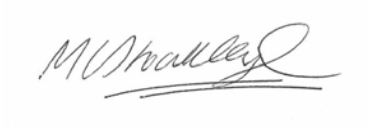

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WYLFA NEWYDD POST EXCAVATION ASSESSMENT METHODOLOGY

Introduction

This document has been prepared to provide the client with an explanation of the Post Excavation Assessment (PXA) process and to provide Wardell Armstrong's own technical team, with clear guidance on undertaking the PXA for the Wylfa Newydd archaeological mitigation works. Post Excavation Assessment (PXA) is the first stage of a process of post-excavation analysis, publication and archive deposition. It provides quantification and initial assessment of the archive resulting from excavation and provides a framework to inform further investigation and publication. It is designed to ensure that Horizon Nuclear Power meet their requirements to secure discharge (by the two primary stakeholders: Gwynedd Archaeological Planning Service (GAPS) and CADW) of the early works archaeological mitigation programme at Wylfa Newydd.

It is based on the requirement described in the Written Scheme of Investigation for Trial Trenching and Excavation (2015) and Written Scheme of Investigation for Strip Map and Sample Excavation and Paleoenvironmental Assessment (2016). It is informed by the following guidance, Association of Local Government Archaeological Officers (ALGAO) Advice Note for Post-Excavation Assessment (2015), Conservation principles for the sustainable management of the historic environment in Wales CADW (2011), Chartered Institute for Archaeologists (CIfA) Standard and Guidance for Archaeological Excavation (2014) sections 3.4 to 3.6, and for human remains The British Association of Biological Anthropology and Osteoarchaeology Human Bones from Archaeological Sites. In addition, GAPS require reference to Society of Museum Archaeologists (1993), Selection, Retention and Dispersal of Archaeological Collections: Guidelines for use in England, Wales and Northern Ireland, as well as Welsh Office Circular 60/96, (1996), Planning and Historic Environment: archaeology.
This current document identifies the stages of the PXA process, then describes the broad tasks required for each stage. The document concludes with a report template containing individual sections within the PXA report and UPD.

Requirement for and Purpose of the Post Excavation Assessment

The PXA will follow a staged process of post excavation assessment detailed in Written Scheme of Investigation for Trial Trenching and Excavation (2015) and the Written Scheme of Investigation for Strip Map and Sample Excavation and Paleoenvironmental Assessment (2016).

As stated in the ALGAO *Advice Note for Post-Excavation Assessment*, "following the completion of archaeological fieldwork, it is standard practice for a post excavation assessment (PXA) to be undertaken". CIfA describe the purpose of a PXA as a means by which "the findings should be assessed against the original project design to determine the extent to which the original research aims have been met, and the identification of any new research questions to be incorporated in a post-excavation project design". CIfA further state that PXA work "must be carried out by suitably qualified and experienced staff, who must be apprised of the project design before commencing work. The post excavation manager should preferably be a corporate member of CIfA. The level of assessment of records and materials should be appropriate to the aims and purpose of the project".

In brief the PXA process involves cleaning, processing, sorting and cataloguing the finds and environmental samples and the ordering of the documentary site records to create an archive, and then assessment of that archive to focus further analysis and reporting on that archive. The archive consists of two elements, the material archive (finds, processed environmental samples and human remains) and the documentary archive (site records and ancillary research documentation such as notes on archival sources).

Post Excavation Assessment Stages and Outputs

The PXA consists of four separate, largely, though not necessarily, sequential stages; processing of the finds, palaeoenvironmental samples and any human remains (the material archive); archival preparation for data assessment and deposition (both material and documentary archive); data assessment and finally reporting. The outputs are two stand alone documents, although often bound together under a single cover as they will be in this case. The documents are the Data Assessment Report (DAR) which quantifies the data, identifies its significance and potential for further research, and the Updated Project Design (UPD), which scopes the response necessary by achieving the site's research potential and provides the basis for a cost for doing so.

The proposed work described in the UPD is entirely separate from the PXA and will form a future stage of work involving any necessary post-excavation research and leading to the

publication of the results of the excavation. This future stage concludes with the deposition of the entire project archive with the Oriel Museum Anglesey. Funding of the required future research, publication and archive deposition for long-term curation is a requirement to secure final discharge of the 2017-2019 phase of fieldwork at the Wylfa site.

For Wylfa Newydd each site will have a separate DAR and UPD to allow GAPS/CADW and the client, to be fully appraised of the justifications for further analytical work. Each site can then be discussed in relation to its specific significance before arriving at a consensus with regard to further work requirements. There will also be a need for an overview DAR and UPD which will have two functions:

- To succinctly summarise the findings of the individual site DARs and UPDs following consultation and provide a cohesive assessment of the whole project as well as a basis for an overall justified costing for future work requirements.
- To provide a research statement regarding the overall potential of the Wylfa Newydd development area. Clearly many of the sites will not merit the publication of a standalone report. Consequently, the research potential of such sites will be best realised in contributing to period-based volumes that address regional research framework questions.

Stage 1 Processing

A summary of the processing requirements is given below. A more detailed breakdown of the required procedures for finds is contained in appendix 1 and for environmental samples in appendix 2.

Environmental sample processing involves sieving individual 10 litre tubs of soil samples for bulk samples (collected from site) in a purpose-built water filtration tank. The flots (floats) and retents (sinks) are then dried, bagged and labelled. More specialised forms of sample processing may be required for other samples taken such as column samples for insects, pollen monoliths or cores, but these represent only a tiny fraction of the samples collected. Human remains (cremated and non-cremated) require different cleaning methods depending on their state of preservation. Non-cremated articulated and disarticulated human remains in good condition will undergo wet cleaning but without the bones being immersed in water. Human remains in poor condition must not be wet-washed and will have to be dry-brushed to avoid unnecessary damage to the remains.

Bulk finds are cleaned by washing. Small finds are cleaned according to the requirements of the material, this usually but not always involves washing. Following cleaning, most finds will need to be dried and some may require stabilisation to preserve them. Cleaning and stabilisation by material and object will be as described in Watkinson & Neal (1998). Specialist conservation will not be routinely undertaken at this stage as this will involve items being sent away to specialist laboratories and the consequent costs, but the conservation need will be defined by a specialist in conservation. Where an immediate conservation need is identified this will be addressed to ensure item stability.

Stage 2 Archival Preparation

Three tasks are required in stage 2 in relation to the material archive, marking in accordance with Oriel Museum guidelines, X-raying metal objects and boxing the finds and human bones for long term curation. There will be some need to carry out X-ray photography of metal objects to be able to identify them and assess their significance. Finds, mainly pottery, will need to be marked as appropriate. As some Prehistoric and Roman pottery is of a sandy fabric this can sometimes be difficult to place a mark directly on the fabric so clear nail varnish is required to prepare the location of the mark. Following marking the finds will be bagged and boxed. The archive boxes need to be made of acid free cardboard for long term conservation storage and will need to be purchased specifically for the project.

The documentary archive should have been appropriately ordered, indexed and catalogued before it left site, but it will require checking and final cross-referencing before it can be assessed. The checking will involve both digital and paper-based records and include a finalisation of plan and section data, both hand-drawn and recorded through a digital medium. Relevant HER entries will need to be listed in full detail. All records will need security copies. Paper records (drawn plans, sections and record sheets) will be scanned for digital archiving. The digitisation of all hand drawn plans and sections is to be avoided as not cost effective. Drawings for digitisation can be selected in the analysis phase when it is known which drawings will contribute to the publication. This ensures that all digitisation will be 'heads up' and only for the purposes of report illustration rather than 'heads down', thus removing the need for digitisation tablets and increasing efficiency.

Stage 3 Data Assessment

In all cases the assessment begins with a quantification of the items to be assessed, whether it be sample residues, finds or site records. The material archive assessment involves separate

assessments of ecofacts, artefacts and any human remains. Further details of the finds assessment are contained in appendix 3.

Every flot and retent will be examined to establish whether they contain plant macrofossils, zooarchaeological remains, snail shells etc, artefacts or metal working residue. Ecofacts, residues and any artefacts are then extracted and examined. Ecofactual assemblages are identified and characterised. The assessment of individual ecofactual assemblages must be undertaken by a suitably-qualified palaeoenvironmentalist.

The finds assessment involves the quantification, identification and dating of the recovered artefacts. The finds assessment can only be compiled by a suitably-qualified finds specialist who can identify and spot-date the artefacts. Where necessary, specialists with local expertise will be consulted, especially regarding the pottery assemblages.

Radiocarbon dating, or any other form of absolute scientific dating, will be undertaken at the assessment stage, though some samples may need to be sent for testing to identify their suitability for dating. As this is an assessment a full suite of dates suitable for Bayesian analysis will not be undertaken but the potential for such future work will be highlighted in the UPD. The documentary archive assessment involves identifying each site's stratigraphic phases assisted by a Harris Matrix. It is required that this will be done using the Harris Matrix generator software. Duplicate and false contexts will be identified, recorded and discarded.

<u>Stage 4 PXA and UPD Reporting</u>

Stage 4 results in the creation of the PXA report and the UPD. A detailed template for producing these documents follows. The documents produced will be technical grey literature reports and not publication reports.

Report Template

The following report template is laid out in accordance with the desired structure and layout of the report. Sentences in italics refer to the required illustrations whether drawings or photographs.

1. **Non-technical summary, including reasons for work, aims and summary results**

2. **Introduction**

2.1 Site location (include eight digit NGR), site code/ PRN reference, and Event Number

2.2 Scope of the project.

2.3 Dates/duration of fieldwork.

2.4 Outline of the site's character (including topsoil, subsoil and substrata descriptions, past land use impacts on preservation and impact of bioturbation) and how the site fits into the local archaeological landscape.

2.5 Brief summary of previous work including directly relevant nearby sites (i.e. likely to be part of same archaeologically represented activity), geophysical results, metal detecting results and evaluation results.

2.6 Explanation of the purpose of the assessment report and organisation of the report (refer to this report template and include as appendix 1).

2.7 *Site location map related to the development area.*

2.8 *Plan of site and excavated area (usually these will be the same).*

3. **Summary of the excavation methodology**

3.1 Proposals set out in the approved Written Scheme of Investigation for the fieldwork (copy of the Written Scheme of Investigation sections 4 and 5 only as appendix 2).

3.2 Any variations from the Written Scheme of Investigation with justifications.

3.3 Site planning strategy with justifications for the applied methodology.

3.4 A description of any avoidance strategies or re-burial methods used to preserve unexcavated archaeological remains in situ, indicating whether or not these will be subject to a monitoring scheme and, if so, providing a description of it or references to supporting relevant documentation.

4. **Site archive**

4.1 Summary details of the contents and organisation of the project archive

4.2 Quantification of documentary archive (including catalogues and indices) and details of current (give date) location of the paper archive. Details of the digital archive and arrangements for storage security.

4.3 Summary of work carried out on the documentary archive during post-excavation assessment.

4.4 Quantification of material archive (by storage box) and details of current (give date) location.

4.5 Summary of work carried out on the material archive, including nature of processing and cleaning, and any necessary preliminary conservation/stabilisation.

4.6 Details of any samples sent for scientific analysis or dating as a necessary precursor to costing a programme of analysis.

4.7 Agreed destination of the site archive (in all instances this will be the Oriel Museum, Anglesey) with a statement of any receiving repository conditions if necessary.

4.8 OASIS reference supported by completed data collection form as appendix 3.

4.9 *Representative sample photographs of site features that aid understanding of the assessment of stratigraphic data*.

5. Stratigraphic data

5.1 Summary of the nature of the investigated features/deposits described by phase in chronological order (not by individual context or feature), supported by a Harris matrix/matrices in appendix 4 (use context group numbers if appropriate).

5.2 Statement of significance of the stratigraphic data.

5.3 *Final pre-excavation plan.*

5.4 *Either an overall plan for all phases or individual phase plans or both as appropriate to the site's complexity.*

5.5 *Sections of key features with a location plan showing position of sections.*

5.6 *If relevant a more detailed plan of key structures.*

5.7 *Where relevant a structure through motion model illustration(s).*

6. Artefacts

6.1 Quantification (by weight in grams for bulk finds) of finds by type.

6.2 Description of condition, stability and the immediate and longer term conservation and storage needs by artefact group.

6.3 An assessment of the character, range and variety, date, meaning and significance of all recovered artefact groups.

6.4 Statement by a recognised specialist on the research potential of each individual artefact group. If no further work beyond assessment is considered necessary this should be clearly indicated.

6.5 Statement of significance for the retention of material and a proposal for a fully justified discard strategy for low/nil value assemblages, in agreement with GAPS/CADW.

6.6 *Supporting finds illustrations at appropriate scales (for the assessment wherever practicable scaled photographs should be used rather than line drawings).*

7. **Palaeoenvironment**

7.1 Quantification (by weight in grams) of the retents and flots available for analysis. Quantification by sample bucket where further portions of a sample are available and the assessment sub-sample has revealed that further sample processing is worthwhile for the additional data it may reveal. Sub-sampling will have been sufficient to characterise and understand a sample.

7.2 Factual summary of each type of sample (e.g. bulk organic, dendrochronological, monolith), quantity, preservation, post-depositional processes, curation and storage need by ecofact group.

7.3 An assessment of the character, range, variety and significance of all ecofactual groups (likely to include plant macrofossils, pollen, animal bone, shell, snails and insects).

7.4 Statement by a recognised specialist on the research potential of each individual ecofact group, including potential to provide scientific dating. If no further work beyond assessment is considered necessary, this should be clearly indicated.

7.5 Statement of significance for the retention of material and a proposal for a fully justified discard strategy for low/nil value assemblages, in agreement with GAPS/CADW.

7.6 *Representative photographs of key assemblages*.

8. **Human remains**

8.1 For inhumations quantify by number of burials and then summarise information on skeletal completeness in a table divided as >75%, -75%, -50%, <25%. For cremations, bone remains from each context should be quantified by weight in grams.

8.2 Factual data about the bone assemblage, describing the provenance of the skeletal material and the general condition of the remains. The condition of the bone will influence the information that can be gained from the assemblage.

8.3 Statement by a recognised specialist on the research potential of the human remains.

8.4 Note on the long-term arrangements for the curation or reburial of the human remains.

8.5 *Plans showing the location of burials or other deposits of human remains*

8.6 *Photographs and/or drawings of inhumation burials in situ or a structure through motion 3d model.*

9. **Discussion**

9.1 A brief summary of the character and significance of the site as represented through its stratigraphic, artefactual and palaeoenvironmental data. Include where relevant the results of any documentary research. If no further work beyond assessment is considered necessary, this should be clearly indicated. If further work is required then include 9.2, 9.3 and 9.4 below.

9.2 A tabulated list of relevant sources discovered (relevant books, articles, HER data, archival sources) quantity, variety, level of study of sources during post-excavation assessment.

9.3 Indicate applied studies that will be necessary for further analytical work. These might include, for example, comparative analysis, archival and/or cartographic research and intra and inter-site spatial analyses, site morphological studies, absolute dating methods, scientific techniques not covered by the standard suite of applications (e.g. specific chemical analyses, thin sectioning for soils or ceramic research, isotope studies, scanning electron microscopy, specific biological analyses etc).

10. **Statement of potential**

10.1 A summary of the potential of the data in terms of local, regional, national and international importance, referencing as relevant regional and national period and subject specific research agendas. This should include:

- an appraisal of the extent to which the site archive might enable the data to meet the original research aims of the project;
- a statement of the potential of the data in developing new research aims, to contribute to other projects and to advance methodologies;
- an assessment of the relevant level at which the site data might be published e.g. site specific publication, project landscape overview or background contextual data (choose one only).

10.2 An informed strategy for the detailed analysis of some or all data groups as recommended by relevant specialists to enable a reconstruction of the history and use of the site to be developed, in line with the site's relevant research potential

(where no further work is recommended this section is not required). This strategy must include provision to incorporate the results of any earlier phases of archaeological work on a specific site, reappraising materials and artefacts recovered during earlier assessment and evaluation phases and, where appropriate, earlier excavation results - including, where possible, from neighbouring sites

10.3 *Map of the site in context at a regional or local level, showing other relevant sites and where appropriate connections and networks.*

11 Bibliography of sources used in the compilation of the PXA

12. Updated Project Design

12.1 Introduction including purpose of the UPD to provide details of a programme of analysis leading to the appropriate mechanism for the dissemination of the results of the project. Also, to provide a basis for costing the programme of analysis, publication and deposition of the archive.

12.2 Justification for the contents of the proposed programme of analysis and any theoretical approaches to be deployed, in relation to the site's statement of potential and proposal for publication/dissemination as appropriate:

- inclusion of main results in an overall synthetic volume only
- thematic paper on a specific research theme
- internet publishing through journal or proprietary website (stating whether all catalogues will be available and interactive)
- short illustrated site report for a journal
- section/chapter in edited monograph
- fully illustrated site monograph
- popular booklet (additional publication only and not to be the primary publication).

12.3 Proposal for analysis of the stratigraphic data concentrated on key feature groups.

12.4 Detail of illustrations required to support the stratigraphic analysis.

12.5 Detail of retention and discard strategy for the material archive.

12.6 Proposals for scientific dating (potentially an initial suite of dates and a second after provisional results from the artefact and ecofact analysis are received).

12.7 Proposals for a Bayesian analysis to refine chronologies, following consultation with Cadw regarding to the selection of contexts and samples for scientific dating.

12.8 Proposals, where relevant, for other forms of scientific analysis such as lipids, strontium or oxygen isotope analysis.

12.9 Details of illustrations required to support the artefact analysis.

12.10 Requirement for conservation works on material archive.

12.11 Proposals for further research, including archive visits and comparative analysis of other investigated relevant sites in order to contextualise the site data.

12.12 Details of resultant technical/archive report.

12.13 Publication report synopsis where relevant, including any additional illustrations required.

12.14 Proposals for monitoring and continued liaison with GAPS and CADW throughout the post-excavation analytical programme.

12.15 Staged programme and timetable for any proposed further work up to and including publication and archive deposition. Task list and Gantt chart.

Task breakdown for PXA

1. **Processing**

1.1 Environmental sample processing

1.2 Cleaning human remains

1.3 Bulk finds cleaning

1.4 Small finds cleaning

1.5 Artefact stabilisation

2. **Archival preparation**

2.1 Finds marking

2.2 X-raying metal objects

2.3 Archive box purchase

2.4 Boxing

2.5 Site record checking and cross-referencing

2.6 Compilation of list of archival sources

2.7 Records scanning

3. **Data assessment**

3.1 Zooarchaeological remains

3.2 Insects

3.3 Snails

3.4 Shells

3.5 Plant macrofossils

3.6 Pollen

APPENDIX 1 METHOD STATEMENT: STAGE 1 FINDS PROCESSING

Finds processing and assessment summary

At stage 1 the finds will be cleaned (usually but not always involving washing). At stage 2 the finds will marked, bagged and boxed. Once this is done in stage 3 the finds will be quantified and assessed; this involves the creation of an Excel spreadsheet into which are recorded numbers of items, weight and spot-dating and the finds are cross-referenced to the stratigraphic contexts from which they were derived. Having done this in stage 4 a report will be prepared on the assessment results. The work will be solely aimed at identifying significant assemblages for further future analysis as will be detailed in the Updated Project Design.
The following specification allows for the cleaning of bulk finds.

Washing and cleaning

Bulk artefacts (pottery, animal bone, glass, ceramic building material) are bagged up on-site and returned to the post-excavation department. The finds are washed and cleaned using two bowls (one to wash, one to rinse) and toothbrushes. The finds are placed in trays linked with newspaper – the site code, context number and (if applicable) the small find number is written either on the newspaper or on a tag attached to the tray with permanent marker. To increase the efficiency and speed of the finds' drying time, a drip-tray system is employed in

which finds are put on newspaper first before being placed in the tray. This ensures excess water is soaked up (and is particularly useful for large, heavy fragments such as architectural stone and ceramic building material).

Organic finds are processed differently and will depend on whether they have been recovered from waterlogged deposits; leather, shale, jet, wood and worked bone that has been recovered from waterlogged deposits needs to be kept dark, dry and cool. Objects are cleaned primarily with soft wet brushes and they are bagged (with water in the bags) and are put in an organics fridge.

All metalwork (including copper alloy, lead and iron) and oyster shell is dry-brushed. Delicate metal and non-metal small finds are dry-brushed and placed in crystal boxes in trays on acid-free tissue paper. Plaster/mortar are dry-brushed and placed in labelled trays.
Human remains (cremated and non-cremated) are processed differently and will require different cleaning methods depending on their state of preservation. Non-cremated articulated and disarticulated human remains in good condition will undergo the same processing as bulk finds, but the bones are not immersed in water. The human remains will only be marked depending on the requirements of the curator and county repository. Human remains in poor condition must not be wet-washed and will have to be dry-brushed for remains to stabilise.

Time estimates for finds washing and cleaning

It must be emphasised that finds washing is hugely dependent on a wide range of variables, including the original burial environment (acidic soils, different soil types e.g. clay versus sand) and previous activity on the site (agricultural activity such as ploughing may damage the finds).

Find type	**Weight**	**Time**
Prehistoric pottery	1kg	1-2 hours
Roman pottery	1kg	1-1.5 hours
Saxon pottery	1kg	1-1.5 hours
Medieval pottery	1kg	1 hour
Post-medieval pottery	1kg	1 hour
CBM & daub	1kg	1-1.5 hours
Animal bone (good condition)	1kg	1-1.5 hours
Animal bone (bad condition)	1kg	1-2 hours

Human bone (complete skeleton, good condition)	7-8kg	1-1.5 days
Human bone (bad condition)	1kg	1-2 days
Glass	1kg	1-1.5 hours
Metalwork	1kg	1-1.5 hours
Oyster shell	1kg	1-1.5 hours
Flint	1kg	1 hour
Stone	1kg	1 hour
Leather	1kg	1-1.5 hours
Archaeometallurgical waste	1kg	1 hour
Plaster/Mortar	1kg	1-2 hours
Clay Pipe	1kg	1-1.5 hours

APPENDIX 2 METHOD STATEMENT: STAGE 1 ENVIRONMENTAL PROCESSING

Environmental processing and assessment summary

For environmental samples in stage 1 the samples will be processed. In stage 2 this material will be dried, bagged and sorted. In stage 3 this material will be examined to establish whether or not they contain plant macrofossils, zooarchaeological remains, artefacts or metal working residue. Having done this in stage 4 they will be required to prepare a report on the assessment results. They will not be instructed to analyse the materials derived from the flots and retents at the assessment stage. The work will be solely aimed at establishing significant flots and retents for further future analysis as will be detailed in the Updated Project Design. The following specification allows for the processing and assessment of bulk environmental samples and for waterlogged materials from a General Biological Analysis sample (GBA).

General Biological Analysis sample

The colour, lithology, weight and volume of the sample will be recorded on the sample sheet. The sample will be then be processed. All samples will be floated on a 250-300 mm mesh and the heavy residues washed over a 0.5-1 mm mesh as required by SCCAS. The flot should be air dried.

The flot should be 100% sorted with all relevant material being recovered, once this process has been completed, the remaining material may be discarded. Any plant remains should be quantitively recorded. All ecofactual material should be removed as should relevant artefactual material. Earthworm and nematode capsules should be counted but not recovered. If charcoal-rich a 2mm sieve should be used, the resultant material should then be

subject to the same process outlined above. The data from the flot sorting should then be recorded into a spreadsheet (Excel) or database (Access).

Once dried the entire retent residue should be sorted. In order to ease sorting, the dried residues may be passed over a 4mm mesh, this also aids charcoal retention of a suitable size for ID. The dried residues should be described (colour, lithology, weight and volume of the individual fractions).

The <4mm fraction will be scanned with a magnet in order to pick up micro-slags, and 100% sorted for the recovery of artefacts and ecofacts.

The fine fraction will be sorted and any relevant material recovered. The sorted residues can then be discarded. Any resulting artefactual and ecofactual material should be recorded (abundance/actual quantities dependent on material and weighed).

Recording of the Environmental Data

Where possible quantify, counts of over 50 individuals per species can be referred to by levels of abundance, such as +=50-100, ++=100-200, +++=200-500 and ++++ to indicate greater than 500. If identification is not to species level then a distinction between cereals and weeds species (or non-economic taxa) should be made. The presence of chaff should be noted.
For long term storage, the plant remains should be stored in soda glass tubes with sample information, and identification (where relevant) clearly marked using pencil and a Tyvek label placed inside the tube.

Waterlogged Samples

Between 250 and 500ml of a 1l sub sample from the GBA is processed by placing the material in a 500µm sieve and washing the sample through until all of the sediment has been removed. The latter is essential or the fluid in which the sample is stored will become cloudy. Once clean the sample is removed from the sieve to an airtight jar and stored in ethanol (95% alcohol).

Paraffin Flotation

The remaining 9l of the GBA will be placed into a bucket filled with hot water to disaggregate the sample. A handful of the material is then placed in a 300µm sieve and washed until as much of the sediment as possible has been removed. The material is then tipped from the

washing sieve into a further sieve and allowed to drain and dry. Once the sample has been completely processed, it will then be left to dry for an hour. The sample is then tipped back into the bucket and enough paraffin to coat the sample is added –multiple buckets may be required if the sample is large. This will be then allowed to stand for 15 minutes and cold water added to the bucket.

The bucket is then allowed to stand for a further 15 minutes. At this stage any insect sclera should have risen to the surface of the water as the paraffin adheres favourably to the chitin which forms the exoskeleton of the beetle. The top 2cm of bucket is then poured off through a 300µm sieve and this process is repeated twice more.

At the end of this process, the flots within the sieve will be washed using domestic washing up-liquid until all traces of both the paraffin and detergent have been removed. The latter is essential as any trace of either left on the flot will render the storage medium cloudy. The sample is then stored in ethanol (95% alcohol) inside an airtight jar.

METHOD STATEMENT STAGES 2 AND 3 FINDS ASSESSMENT

Summary

The finds assessment involves the quantification, identification, dating and significance assessment of the recovered artefacts. The assessment of significance happens in stage 4 when the context of the finds can be taken into account as their significance is not solely based on the object's intrinsic interest. The finds assessment can only be compiled by a suitably-qualified finds specialist who can identify and spot-date a wide range of artefacts.

The finds assessment will adhere to a number of national guidelines, including CIfA (2017), Historic England, EAC (2014), Brown (2011) and Watkinson & Neal (1998) as well as the specific county museum's own standard requirements plus national and regional fabric codes (prehistoric through to post-medieval pottery). The finds assessment will make recommendations to be included in the UPD (updated project design). These may include further literary research and comparative analysis, AMS C14 dating, strontium or oxygen isotope analysis, Bayesian scientific methods plus illustration / photography.

The following specification allows for the quantification, identification and dating and significance assessment of the finds.

Stage 2

Certain types of find, when dry, are then marked; this can be dependent on the curator and the county repository. Finds, including pottery, CBM, animal bone, glass and clay tobacco pipe, are marked with the site code, context number, small find number and the museum accession number (if applicable). The finds are marked using permanent Indian ink (Winsor & Newton); for finds with rough surfaces (applicable to all types of pre post-medieval pottery), a small patch of acrylic or nail varnish is applied to provide a smoother surface.

Types of finds and ecofactual remains that are not marked include human bone, leather, shale, jet, all metalwork, plaster/mortar, oyster shell, slag and wood.

Once the finds are dry and marked, they are quantified and bagged in zip-lock self-sealable bags and the site code, context number, small find number and museum accession number is written on the bags. For small finds and delicate/fragile artefacts, 2 layers of acid-free ridged

foam is cut and inserted into the bag beforehand and the artefact is sandwiched between the two layers.

The non-metal artefacts, when bagged, are placed in acid-free archive boxes and they are ordered by material type and by context. Boxes should not weigh over 6kg. Metal artefacts and some organic finds are kept in Stewart tubs with a bag of silica gel and humidity strip indicators. WA Ltd's in-house archive labels are then put on the front of the box.

Time estimates for finds marking and bagging and boxing

Marking 30-40 seconds per artefact e.g. per bone, per pot sherd.

Bagging and boxing 1 box at 6 kg full capacity – 30-40 minutes.

Stage 3

Once processed (cleaned and dried stage 1 and marked stage 2) the finds will need to be assessed. In stage 3 preliminary recording and description of the assemblage is undertaken and an Excel spreadsheet is created. This stage is where the artefacts are quantified, weighed, spot-dated and where additional comments / notes are made. The Excel spreadsheet (or Access database) forms a critical part of the finds assessment and every finds report must have one. The preliminary recording is conducted by a suitably-qualified finds specialist, with a proven record and appropriate local knowledge.

Time estimates for preliminary recording

Recording and describing 1 box (6 kg) of finds = 1-3.75 hours dependent on the nature of the items.

Materials costs to be considered to PXA

In addition to the person costs there is a material cost for storage materials, including boxes, silica gel, acid free tissue and zip-lock bags, for the artefacts and the human bone. For example, finds and documentary archive boxes need to be acid free for long term storage. Appropriate temporary storage and monitoring of waterlogged artefacts is required, prior to conservation.

There will be some need to carry out X-ray photography of metal objects to be able to assess their significance.

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