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HORIZON NUCLEAR POWER

WYLFA NEWYDD, ANGLESEY

AREA 4,
ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT REPORT

DECEMBER 2021

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DATE ISSUED:	DECEMBER 2021
JOB NUMBER:	CL12283
SITE CODE:	117360
DEVELOPMENT CONSENT ORDER APPLICATION REF:	EN010007
REPORT VERSION NUMBER:	FINAL 1.0

HORIZON NUCLEAR POWER

WYLFA NEWYDD, ANGLESEY

ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT REPORT AREA 4, ARCHAEOLOGICAL POST-EXCAVATION ASSESSMENT REPORT

DECEMBER 2021

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EXECUTIVE SUMMARY

Wardell Armstrong LLP (WA) was commissioned by Horizon Nuclear Power to undertake the post-excavation assessment for archaeological excavations at the new nuclear power station at Wylfa Newydd, Anglesey, Wales, centred on National Grid Reference (NGR): SH 35260 93050. The excavation was required as part of the site preparation to support a Development Consent Order application. The excavation was divided into defined areas and this report details the results of the archaeological excavation at Area 4, which was undertaken in accordance with a Written Scheme of Investigation (WSI) (Horizon Nuclear Power (HNP 2015) and the Technical Update (HNP 2017). All documents were agreed with Gwynedd Archaeological Planning Services, the archaeological planning advisors to the Isle of Anglesey County Council.

The archaeological work was undertaken between the 1st November 2017 and the 18th April 2018 and comprised the excavation of 6,448m^2 of land within the 409 hectares of the Development Area.

The archaeological excavation within Area 4 revealed archaeological remains now considered to be of national significance. They comprised the remains of a squared ditch enclosure; its large V-shaped profile and associated palisade, suggestive of Roman construction. A metalled surface or trackway, and postholes, pits and gullies within the enclosure indicated the presence of possible temporary structures. These features supported by a small assemblage of Roman finds indicates that the enclosure probably related to a short-lived period of intensive military activity in the area, possibly reflecting historical accounts of the Roman invasion and subjugation of Anglesey that took place during the later 1st century AD.

Clusters of pits were recorded external to the northwest, northeast and southeast of the enclosure, probably created following the construction of the enclosure ditch and representing the domestic activity of the occupying garrison. Although recovered palaeoenvironmental material was scarce from the pits to identify specific processes being undertaken, at least two ovens were recorded along with quarry pits that were subsequently backfilled with domestic refuse. Two radiocarbon dates from a pit to the northeast, and another from inside the enclosure, has provided a broad date of mid-1st to early 4th century AD, though this probably does not represent continued use; rather initial intensive use in the 1st century AD with sporadic low-level use for the remainder of the Romano-British period. The enclosure was well-positioned on a hill with views across much of the surrounding landscape. The south side of the enclosure (which survives *in situ* below

hardstanding to the south) would have looked directly over the broadly contemporary settlement recorded in Areas 19 and 20 (Field O5), also excavated as part of the current phase of works.

Earlier activity possibly dating as early as the Bronze Age was evidenced by the recovery of residual flints from later features and the possible trace remains of at least two roundhouse eaves drip gullies within the Roman enclosure.

Apparent re-use of the enclosure is evidenced by the installation of internal palisade walls around the north and east. An early medieval date was indicated by a penannular brooch recovered from the upper deposits of the enclosure ditch and confirmed with numerous radiocarbon results dating the re-use broadly to the early 7th to late 9th century AD. The former east entrance of the enclosure was blocked by an extension of the palisade where the ditch had mostly in-filled. The re-use of the Roman military enclosure towards the later early medieval period may coincide with the Viking raids recorded to have taken place in the 9th century AD.

A stone-built structure was recorded overlying the northwest of the enclosure, probably dating to the late medieval or post-medieval period, indicating that the enclosure was probably not only out of use, but no longer visible by that time. The stone structure may have been an outbuilding or shepherd's hut relating to the later occupation of the area. A number of field boundaries were then installed, seeming to at least partially respect the position of the stone structure, recorded as double ditches which are probably the remains of clawddau, (substantial stone faced and earthen filled boundaries).

Crynodeb Area 4

Comisiynwyd Wardell Armstrong LLP (WA) *gan* Horizon Nuclear Power *i gyflawni asesiad ol-gloddio archaeolegol ar gyfer cloddfau archaeolegol ar safle arfaethedig gorsaf bŵer niwclear Wylfa Newydd, Ynys Môn, Cymru, wedi ei ganoli ar Cyfeirnod Grid Cenedlaethol (NGR): SH 36350 93450. Ymgymerwyd ar y rhaglen waith maes archaeolegol i gefnogi cais Orchymyn Cydsyniad Datblygu (EN010007). Rhannwyd y rhaglen gwaith maes i lecynnau diffiniedig ac mae'r adroddiad hwn yn manylu canlyniadau cloddfa archaeolegol yn Area 4. Cwblhawyd y gwaith yn unol â'r Cynllun Ymchwiliad Ysgrifenedig (CYY/WSI) (Horizon Nuclear Power (HNP) 2015), y Technical Update (HNP 2017). Cytunwyd pob dogfen â Gwasanaeth Cynllunio Archaeolegol Gwynedd, ymgynghorwyr cynllunio archaeolegol Cyngor Sir Ynys Môn.*

Cwblhawyd y gwaith maes archaeolegol Area 2 rhwng y 1af o Dachwedd 2017 a'r 18fed o Ebrill 2018, cloddiwyd rhanbarth o 6,448m² o'r Ardal Datblygu sy'n mesur 409ha.

Darganfyddwyd ffos lloc sgwâr, roedd y ffos yn fawr gyda phroffil siâp 'V' a phalisâd, nodweddion sy'n awgrymu adeiladwaith Rhufeinig. Roedd nodweddion yn y lloc, gan gynnwys arwyneb fetlin neu drac, tyllau pyst, pydewau, a rhigolau yn awgrymu presenoldeb adeileddau dros dro. Mae'r nodweddion hyn, gyda nifer o arteffactau Rhufeinig yn awgrymu bod y lloc yn gysylltiedig â chyfnod o weithgaredd dwys dros gyfnod byr, efallai yn adlewyrchu cofnodion hanesyddol o'r goresgyniad a'r darostyngiad Rhufeinig o Fôn yn y ganrif 1af OC.

Nodwyd clystyrau o bydewau yn allanol i'r lloc i'r gogledd-orllewin, gogledd-ddwyrain a'r de-ddwyrain, sy'n debygol o fod yn gysylltiedig ag actifedd domestig gan gariswn y meddiannu. Er bod deunydd palaeoamgylcheddol adenillwyd o'r nodweddion er mwyn adnabod eu pwrpas yn brin, canfodwyd dau bopty a dau bydew chwarel wedi eu hail llenwi â gwastraff domestig. Mae dyddiadau radiocarbon o bydew i'r gogledd-ddwyrain ac un arall o du mewn i'r lloc yn dyddio'r nodweddion o ganol y ganrif 1af OC i'r 4ydd ganrif gynnar. Ni chredir bod hyn yn cynrychioli actifedd cyson ond actifedd dwys yn y Ganrif 1af OC ac actifedd achlysurol am weddill y cyfnod Brythonig-Rufeinig.

Lleolwyd y lloc ar fryn gyda golygfeydd dros lawer o'r dirwedd leol. Bu ochr ddeheuol y lloc, sydd dal yn bresennol ac wedi ei gadw dan arwyneb caled, yn edrych dros anheddiad cyfoes nodwyd yn Area 19 a 20 (Cae O5) a gloddiwyd fel rhan o'r gwaith presennol.

Nodwyd gweithgaredd cynharach, efallai yn dyddio i'r Oes Efydd, mewn darganfyddiadau o fflint mewn nodweddion diweddarach ac olion o leiaf dwy rigol dripiau tai crwn tu mewn i'r lloc Rhufeinig.

Nodwyd ailddefnydd o'r lloc trwy dystiolaeth bod palisâd mewnol wedi ei adeiladu ar yr ochrau gogleddol a dwyrain. Awgrymir dyddiad canoloesol cynnar trwy ddarganfyddiad o dlws (brooch) fylchgron o ddyddodion uchaf ffos y lloc, cadarnhawyd hyn gyda nifer o ddyddiadau radiocarbon o'r 7fed ganrif gynnar i'r 9fed ganrif hwyr OC. Wrth adeiladu'r palisâd blocwyd fynedfa ddwyrain y lloc, mewn ardal lle oedd y ffos Rufeinig wedi ail-lenwi. Mae'n bosib bod ailddefnydd o'r lloc milwrol Rhufeinig yn ystod y canoloesoedd cynnar hwyr yn cyd-daro ac ymosodiadau gan y Llychlynwyr yn y 9fed ganrif OC.

Nodwyd gweddillion adeilad carreg ar ben y lloc yn y gogledd-orllewin. Mae'n debygol bod yr adeilad yn dyddio i'r canoloesoedd hwyr neu'r cyfnod ôl-ganoloesol, mae'n debyg nag oedd y lloc mewn defnydd nac yn weladwy pan ei adeiladwyd. Mae'n debyg mae adeilad allanol i brif adeilad neu gwt bugail, yn gysylltiedig â meddiannaeth diweddarach o'r safle, oedd y nodwedd. Roedd hefyd nifer o gloddiau yn yr ardal, i raddau yn parchu lleoliad yr adeilad, nodwyd y rhain fel parau o ffosydd cyflin.

ACKNOWLEDGEMENTS

Wardell Armstrong LLP (WA) thanks Horizon Nuclear Power for commissioning the project, and for all their assistance throughout the work.

WA also thanks Ian Halfpenney at CADW, Ashley Batten, Inspector of Ancient Monuments for North East Wales also at CADW (formerly of Gwynedd Archaeological Planning Service (GAPS), Sean Derby (GAPS) and Jenny Emmett, Senior Planning Archaeologist at GAPS.

Wessex Archaeology undertook the excavation and subsequent site summary report. Jones Bros Ltd supplied plant and welfare in addition to logistical support throughout this project.

The assessment report was written by Dave Laverty and Kevin Horsley, assisted by Michael Birtles and Michael Mann. The figures were produced by Helen Phillips and Valeria Tiezzi. The finds assessment was undertaken by Megan Stoakley and Sue Thompson, and the lithic assessment was undertaken by Miguel Gonzalez. The zooarchaeology assessment was undertaken by Megan Stoakley with shell identification by Lynne F. Gardiner. The environmental sample processing was undertaken by Megan Lowrie, Katherine Bostock, Jyoti Stuart, Paul Sherwood, Jessica McGreevy, Sophia Davies, Charles Rickerby and Sean Johnson, supervised by Freddie Sisson who also produced the palaeoenvironmental assessment. The radiocarbon dating was undertaken by Beta Analytic. Post-excavation processing of finds and environmental samples was managed by Lynne F. Gardiner, and the project managed by Frank Giecco. The report was initially edited by Damion Churchill, with this version by Lynne Gardiner.

1 INTRODUCTION

1.1 Project Circumstances and Planning Background

1.1.1 Between November 2017 and April 2018, Wessex Archaeology undertook an archaeological excavation in Area 4, Field E3 at Wylfa Newydd, Anglesey, Wales, centred on National Grid Reference (NGR): SH 35260 93050.

1.1.2 This excavation was excavated as part of a large scheme of works commissioned by Horizon Nuclear Power (the Client) to support a Development Consent Order application to construct a nuclear power station, related plant and ancillary structures and offsite facilities (EN010007).

1.2 Primary reference numbers (PRNs)

1.2.1 Historic Environment Record event numbers ('PRNs') were assigned following discussion between Wessex Archaeology, Nina Steele, Senior Historic Environment Record Archaeologist at Gwynedd Archaeological Trust (GAT) and Sean Derby (GAT).

1.2.2 PRN45392 has been assigned to the Wylfa Newydd project as a whole and further event numbers have also been assigned to 'noteworthy components' of the project. Further PRNs are presented in Table 1.1.

Table 1.1: primary reference numbers (PRNs) from Area 4

PRN	Description	Associated contexts/PRNs
PRN76009	Features pre-dating the main Romano-British enclosure	
PRN76010	Main Romano-British enclosure	
PRN76011	Features post-dating the Roman-British enclosure	
PRN76012	Discrete features outside the Romano-British enclosure	
PRN92122	Pit, later prehistoric	[4773], PRN76009
PRN92123	Pit, later prehistoric	[4947], PRN76009
PRN92046	Pit, later prehistoric	[4902], PRN76009
PRN92047	Pit, later prehistoric	[4398], PRN76009
PRN92048	Gully, later prehistoric	[4712], PRN76009
PRN92049	Gully, later prehistoric	[4722], PRN76009
PRN92050	Gully, later prehistoric	[4605], PRN76009
PRN92051	Pit, later prehistoric	[4696], PRN76009
PRN92052	Ditch, Roman	[41275]
PRN92053	Enclosure ditch, Roman	PRN76010
PRN92054	Trackway, Roman	{48803}, PRN76010
PRN92055	Postholes, Roman	[4367], [4533], [4836], PRN76010
PRN92056	Possible furnace, Roman	[4709]/[4710], PRN76010
PRN92057	Postholes, Roman	PRN76010
PRN92058	Pits, Roman	PRN76050

PRN	Description	Associated contexts/PRNs
PRN92059	Pits, Roman	PRN76012
PRN92060	Pits, Roman	PRN76012
PRN92061	Pits, Roman	PRN76012
PRN92062	Furnace, Roman	[4320]/[4322], PRN76012
PRN92063	Postholes, Roman	[4232], [4791], [4988], PRN76012
PRN92065	Metalled surface, Roman	PRN76012
PRN92064	Shallow pit/sunken floor, Roman	PRN76012
PRN92066	Stakehole, Roman	[4016], PRN76012
PRN92067	Posthole, Roman	[4628], PRN76012
PRN92068	Ditch, early medieval	[4742], PRN76011
PRN92069	Ditch, early medieval	[4522], PRN76011
PRN92070	Pit, early medieval	[4514], PRN76011
PRN92071	Posthole, early medieval	[4330], PRN76011
PRN92072	Extension to the palisade ditch, early medieval	[4427], PRN76011
PRN92073	Pit, early medieval	[4603], PRN76011
PRN92074	Pit, early medieval	[4583], PRN76011
PRN92075	Pit, early medieval	[4738], PRN76011
PRN92076	Clawdd, post-medieval	[41140], PRN76011
PRN92077	Clawdd, post-medieval	[41079], PRN76011
PRN92078	Double-ditched boundary, post-medieval	[4280], [4350], PRN76011
PRN92079	Stone revetment, post-medieval	PRN76011
PRN92080	Stone built structure, post-medieval	{41228}, PRN76011
PRN92081	Dry stone wall, post-medieval	{4244}, PRN76011
PRN92082	Construction cut, post-medieval	[4249], PRN76011
PRN92083	Land drain, post-medieval	{4882}, PRN76011
PRN92084	Land drains, industrial and modern	PRN76011
PRN92085	Cable trench, industrial and modern	[41190], PRN76011
PRN92086	Pit, industrial and modern	[41130], PRN76011
PRN92087	Pit, industrial and modern	[4967], PRN76011
PRN92088	Pit, industrial and modern	[4900], PRN76011
PRN92089	Ditch, uncertain	[4079]/[4081], PRN76011
PRN92091	Postholes, uncertain	[4136], [4138], [4144], PRN76011
PRN92090	Postholes, uncertain	[4132], [4142], PRN76011

1.3 Project Documentation

1.3.1 The project conforms to a brief prepared by Horizon Nuclear Power (HNP), which was prepared in consultation with the Gwynedd Archaeological Planning Service, the archaeological planning advisor to the Isle of Anglesey Council.

1.3.2 A WSI (HNP 2015) detailing a specific methodology based on the brief was agreed with the archaeological planning advisor prior to the fieldwork taking place. This is in line with government advice as set out in Section 5.8 of the National Policy Statement for Energy (EN-1) (Department for Energy and Climate Change 2011).

1.3.3 This report outlines the work undertaken on site at Area 4, the subsequent programme of post-excavation assessment (Wardell Armstrong 2019), and the results of this scheme of archaeological excavation.

1.4 Location and Geological Context

1.4.1 Area 4, located on the north Anglesey coast, occupies a north-east facing slope off the brow of a low hill that slopes down from 33.70m above Ordnance Datum (aOD) in the south-west to 25m aOD in the north-east.

1.4.2 The site situated in the south-west of the proposed development area (Figure 1), approximately 1.2km west of the village of Cemaes and the coast is 800 m to the north west. The site comprised a single field, Field E3, centred at National Grid Reference (NGR): SH 35260 93050.

1.4.3 The site was approximately 6,448m^2 in size, and comprised enclosed arable fields. A farmhouse had recently been demolished on the south side of the site, with trees, hard standing and a concrete wall remaining.

1.4.4 The underlying solid geology is mapped as mica schist and psammite of the New Harbour Group formed during the Ediacaran period between 541 to 635 million years ago. This is overlain by superficial deposits of Devensian till deposited up to 2 million years ago during the Quaternary period, in a local environment dominated by ice age conditions (BGS 2019).

1.4.5 The natural substrate observed during the works at Area 4 comprised mottled greyish-brownish-orange coloured clay with frequent poorly sorted pebbles and cobble inclusions throughout, which is consistent with the mapped geologies above.

1.5 Historical and Archaeological Background

1.5.1 An archaeological baseline assessment was produced to assess the known historical and archaeological background of the site and the surrounding landscape to a distance of 6km (Cooke *et al.* 2012). It is not intended to repeat that information here and what follows is a brief overview, for further details please refer to the original document.

1.5.2 There are no Scheduled Monuments or Listed Buildings within the site. The site contains part of Cestyll, a historic garden included on the non-statutory Register of Landscapes, Parks and Gardens of Outstanding or Special Historic Interest in Wales.

1.5.3 Twenty-three Scheduled Monuments, one Grade I, eight Grade II* and sixty-six Grade II Listed Buildings and two Registered Historic Park and Gardens are recorded within the wider scheme of works and the search area of 6km.

1.5.4 Seven hundred and thirty-three non-designated heritage assets are recorded within the immediate vicinity of the site.

1.5.5 ***Prehistoric (up to AD 43):*** To date no evidence for Palaeolithic (*c.*500,000-10,000 BC) activity has been found within this area.

1.5.6 The earliest evidence for human activity on Anglesey dates from the Mesolithic period (*c.*7000-4000 BC) in the form of flint scatters around coastal the edges, such as at Aberffraw, c.24km south of the site (Cooke *et al.* 2012).

1.5.7 A group of Neolithic and Early Bronze Age (*c.*2600-1600 BC) ceremonial monuments, comprising a single standing stone a group of three standing stones in a triangular arrangement (Scheduled Monuments AN80 and AN30) are located 2.5km south of the site.

1.5.8 Neolithic and Early Bronze Age standing stones, barrows and cairns are also found across the island. The change of communal burial practices to individual burials is evident in the form of urn burials containing cremated remains and inhumations within cists (*ibid.*).

1.5.9 Cist burials can also be found at Llanlleiana, approximately 2km east of the Wylfa Newydd Development Area, near Almwch; and at Rhosbeirio Farmyard, approximately 3km south-east of the Wylfa Newydd Development Area (*ibid.*).

1.5.10 A cremation cemetery dating from the early second millennium BC was found at Cefn Cwmwd, Rhostrehwfa; where one cremation contained the only faience bead discovered on the island to date (Cuttler *et al.* 2012).

1.5.11 Artefacts discovered dating to this period include isolated finds made of bronze, such as palstave axes, spearheads, flanged axes, or hoards of bronze objects (*ibid.*) have been discovered on Anglesey such as a Late Bronze Age hoard found near Llangwyllog (*ibid*) although none within the vicinity of the current site.

1.5.12 Few Bronze Age settlements have been identified on Anglesey. A number of the undated enclosures on Anglesey may date to the late prehistoric period, such as the cropmark feature found to the north of Llanfechell, located 1.4km southeast of the Wylfa Newydd Development Area (*ibid.*).

1.5.13 Hillforts and related fortifications continue from the latter part of the Bronze Age into the Iron Age (*c.*800BC-AD43). One of the largest promontory forts on the island is Dinas Gynfor (Scheduled Monument AN038), which is located almost 3km north-east of the Wylfa Newydd Development Area.

1.5.14 Evidence of small, enclosed settlement sites, consisting of a single or a cluster of roundhouses, hut sites, rectilinear enclosures and concentric enclosures which are sometimes palisaded are also located around Anglesey (Cuttler *et al.* 2012). These likely date to the Late Iron Age and Romano-British (AD43-410) periods (*ibid.*). Examples of known sites include farmsteads found at Cefn Du, Cefn Cwmwd and Melin y Plas which was discovered during the A55 archaeological works (*ibid.*).

1.5.15 While there is evidence of Later Bronze Age and Iron Age periods of settlement, there is little evidence of formalised burial practices (*ibid.*). Furthermore, although single inhumation burials and group burials are represented in mainland Wales, little evidence of this has been found on Anglesey (*ibid.*).

1.5.16 ***Roman (AD 43 to 410):*** Anglesey was invaded in *c.*AD60-61 by the Roman army and named Mona Insula (Jacobs 2015). This is evidenced by a number of short-lived settlements with ephemeral military establishments (*ibid.*), one of which, Tai Cochion, has been investigated north of Llanidan at the Menai Strait (*ibid.*).

1.5.17 Potential Roman watch towers have been recorded along the north-western coastline of Anglesey, as well as on Holyhead, and inland on the south-east of the island (*ibid.*). A hilltop enclosure located just over 900m from the Wylfa Newydd Development Area has been reinterpreted as a Roman fortlet (*ibid.).*

1.5.18 Evidence for significant Roman settlement was absent on the northern part of Anglesey until the discovery of the substantial settlements recorded in Areas 19 and 20 (Field O5) and Hot spot 15 which were excavated as part of this current phase of works and both within 300m of Area 4.

1.5.19 ***Early Medieval (AD410 – 1066):*** Evidence for early medieval settlement in Anglesey is largely based on documentary sources (Headland Archaeology, 2017). A church and accompanying community may have been founded during this period at Llanfechell, approximately 1.2km to the northeast of Area 4 (*ibid.*).

1.5.20 Archaeological excavations, such as those at the site of an early medieval cemetery at Ty Mawr on Holyhead, have established a close spatial relationship between early medieval settlement sites and cemetery sites on Anglesey (Jacobs 2015).

1.5.21 The remains of early medieval long cist burials were recorded approximately 1.5km south-east of the present church of St. Patrick, Llanbadrig (Jacobs 2015). Medieval cist burials were also recorded in the parish of Llanruddlad and at Llanfaethlu, within 1.5km of a later medieval parish church (*ibid.*).

1.5.22 It is thought that the use of long cist burials within north-west Anglesey is consistent with the wider Welsh Christian burial practices of the 8th to 9th centuries (*ibid.*). The fact that they are located remotely, away from the sites of later churches and farmsteads, could be indicative of a wider pattern of earlier medieval settlement within the later 8th century (*ibid.*).

1.5.23 An inscribed stone dating to the 6th century AD was discovered at Llanol farm, a 9th century incised cross-slab was discovered at Llanbadrig and a 9th to 10th century portable cast bronze handbell was discovered at Llanruddlad (*ibid.*). Artefacts such as these suggest an established ecclesiastical presence within the study area by the 9th century (*ibid.*).

1.5.24 A small, fortified site identified at Porth Wen may have been one of a number of defences constructed in response to Viking raids centred on Caer Gybi (near Holyhead) in the latter half of the 9th century (*ibid.*).

1.5.25 In an extent of 1352, the lands around Llanfechell are described as being '*held of St Mechell*' (Carr 1972). This could suggest that the area was once occupied by a *clas* church along with its associated canons (in Welsh *claswyr*) (Cooke *et al.* 2012). A *clas* church was a church and associated community which was headed by an abbot, which owned its own lands (*ibid.).* These churches were considered antiquated and debauched by the 12th century and were subsequently suppressed in the 13th century (*ibid.*).

1.5.26 ***Medieval (AD1066 – 1540):*** By the 12th century, the study area was located within the *Talybolion commote* (a recognised regional unit of royal administration) with a royal manorial centre located at Cemaes (Cooke *et al.* 2012).

1.5.27 By 1238 Cemaes also functioned as the location of one of the small royal courts of Gwynedd (Jacobs 2015). It has been suggested that the location of the royal court (*Llys*) occupied the present site of the farms of *Neuadd Fawr* and *Cemaes Fawr,* on the east side of Cemaes harbour (*ibid.*). This location lies less than 1km to the east of the Wylfa Newydd Development Area.

1.5.28 Castell Crwn, a small 12th century motte located approximately 3km to the southeast of the parish church at Llanrhwydrys, has been suggested as an alternative site for the court (*ibid.*).

1.5.29 The Talybolion commote was subsequently sub-divided into a number of smaller administrative centres called '*trefi*' (*ibid.*). Therefore, located within the study area during the medieval period the administration centres included:

- the ecclesiastical parishes of Llanfechell and Llanbadrig;
- the townships of Cemaes, Clegyrog, Llanfechell and Caerdegog; and
- the hamlet settlements of Cafnan, Tre'r Gof, Gwaunydog and Llanddygfael (*ibid.*).

1.5.30 The pattern of medieval settlement, characterised by largely unequal settlements with discrete areas of nucleation, has been predominantly identified through historical documentary research (*ibid.*).

1.5.31 This pattern influenced later post-medieval and early modern settlement characterised in the study area by agricultural land, intermittent farmsteads, small hamlets, and villages (*ibid.*).

1.5.32 Archaeological evidence indicates that the practice of open-field farming, with narrow strips of arable pasture within large unenclosed fields located within close proximity to settlements, was popular throughout Anglesey (*ibid.*). Surviving evidence of open farming has been identified in two areas to the north and west of the study area, centred on Mynachdy and Cafnan (*ibid.*). Furthermore, a survey of the Mynachdy Estate revealed evidence for ridge-and-furrow and associated land clearance cairns, terraces and field boundaries; while at Cafna, a series of open fields, pens and small enclosures were identified (*ibid.*).

1.5.33 There are no surviving remains of medieval domestic or agricultural buildings or structures above ground within the study area, although the foundations of domestic structures have been noted at Groesfechan, and possibly at Cappel Newsaint (*ibid.*).

1.5.34 Through the documentary research, a number of corn mills have been identified within the study area (*ibid.*). There is a notable concentration of mill sites at Cefn Coch, approximately 2km to the south-west of the Wylfa Newydd Development Area (*ibid.*). A documentary reference from 1430, coupled with current place name evidence, suggests that the earliest known fulling mill on Anglesey was in operation at Llanfechell (*ibid.*).

1.5.35 From the 12th century onwards a series of churches and chapels were constructed on Anglesey (*ibid.*). Some remains of the medieval building fabric still survive within six of the parish churches, including St. Patrick's Church in Llanbadrig, and the Church of St. Rhwydrys in Llanrhwydrys (*ibid.*).

1.5.36 The distribution of medieval churches and settlement sites within the study area reveals two distinct patterns of activity (*ibid.*). At Llanfechell and Bodewryd the parish churches are situated at the centre of each village or hamlet, whereas the churches located in Llanfflewyn, Llanbadrig and Llanrhwydrys occupy positions on the edges of known settlement sites (*ibid.*).

1.5.37 Within the study area this is illustrated best in the association between holy wells and churches on the edge of settlements, such as St. Patrick's Church in Llanbadrig and adjacent Ffynnon Badrig in Holy Well (*ibid.*).

1.5.38 ***Post-medieval to Modern (AD1540 – present):*** During the 17th and 18th centuries, Cemaes and Cemlyn Bay became principal centres of shipbuilding, fishing and later brickmaking and copper mining (*ibid.*). During the 17th century, a small number of landowners controlled larger areas of land on Anglesey and changed the landscape from arable farmland to estates (*ibid.*). One of the earliest of these estates was the estate of Caerau, which comprised a large 17th century house and gardens (*ibid.*).

1.5.39 Although the rural landscape established during the medieval period continued into the post-medieval period, these changes in proprietorial patterns resulted in a number of new houses and farmsteads (*ibid.*).

1.5.40 Some examples are *Plas Bodewryd*, built in the early 16th century; *Wylfa House*, recorded in 1660; *Cafnan Farm*, recorded in 1631; *Simdda-Wen*, recorded in the later 17th century; *Porth-y-pistyll*, recorded by 1735; and *Yr Wylfa Wen, Yr Wylfa Newydd* and *Yr Wylfa Goch*, which were recorded in the later 18th century (*ibid.*).

1.5.41 A further number of undated Post-medieval farms were also created during this period, including *Galen Ddu*, *Pen Pistyll*, *Bryn Tinon* and *Tre'r Gof Isaf* (*ibid.*).

1.5.42 Post-medieval farm buildings and cottages associated with smallholdings typically comprised one or two-storey farmhouses with rubble-built walls, slate roofs with slate gable coping and square chimney stacks (*ibid*). A small proportion of these buildings, such as *Wylfa Farm* were constructed with enhanced decoration, such as classical gatepiers (*ibid.*).

1.5.43 In the 19th century, small-scale gentrification resulted in the construction of large country houses and farmhouses being constructed or extensively remodelled (*ibid.*). Within the study area, examples of this remodelling can be observed at *Plas Cemlyn* and *Park Lodge* (*ibid.*).

1.5.44 Agricultural land on Anglesey also underwent improvements during the post-medieval period which increased the agricultural potential of land (*ibid.*). A good example of this was the draining of bog-land at *Cors-Tre'r Gof* and *Cors'r Wylfa* in 1791 (*ibid.*).

1.5.45 With the rise of the Industrial Revolution, the amount of industrial activity on Anglesey dramatically increased from the late 18th century onwards (*ibid.*). During this period Cemaes Bay became the most important landing place on Anglesey's north coast and was the centre for fishing, shipbuilding and the salting of herrings (*ibid.*).

1.5.46 The later 18th century also marked a period of increasing mining activity along with the development of several copper and ironstone mines at Porth Llanlleiana, Porth Padrig and Carmel Head (*ibid.*).

1.5.47 By the 1920s the demand for bricks rapidly declined which led to the subsequent closure of clay and brickworks at Porth Llanlleiana and Porth Wen (*ibid.*). This was followed by the decline of copper mining and quarrying as part of deindustrialisation (*ibid.*). However, Edwardian interest in Anglesey greatly increased as new wealthy classes desired new rural properties in addition to their main homes elsewhere (*ibid.*).

1.5.48 As a result of this Wylfa, Galen Ddu, and Cestyll all underwent dramatic redevelopment with documentary evidence stating that the latter was undertaken by the Hon. Violet Vivian (the daughter of Lord Vivian of Bodmin, Cornwall), who was given Cestyll in 1918 as a gift from her uncle, the Hon. William Walter Vivian (*ibid.*). Other houses were also rebuilt during this period in the typical large square house with walled garden pattern that was popular throughout other parts of Wales, England and Scotland (*ibid.*).

1.5.49 With the arrival of the Second World War, a Chain Home radar defence station was established at Wylfa which was one of over 100 built throughout the UK (*ibid.*). Two tall wireless masts were constructed close to the cliff edge near Porth Gwartheg and a semi-circular ring of low, dome-shaped, bunker-like structures ran from Wylfa

House to Porth-y-Pistyll (*ibid.*). Due to the large number of staff needed to man these stations, many other structures within the vicinity were requisitioned to meet demand for accommodation (*ibid.*).

1.5.50 In 1960, the Central Electricity Generating Board (CEGB) applied for consent to build the existing Power Station with consent being granted in late 1961 (*ibid.*). In 1963 work began on the construction of the two Magnox reactors (*ibid.*). The construction of the Power Station persisted throughout the 1960s, with Wylfa being the last and largest of this design of reactor (*ibid.*). The Existing Power Station was officially commissioned in 1972 (*ibid.*).

1.5.51 Construction of the Power Station was a massive undertaking, which included deep excavations for the cooling water pump house, reactor building, turbine hall and overflow (*ibid.*). During the early construction phase the site was levelled into two platforms, which involved the removal of material (both drift and rock) from high areas and the deposition of this material in the low areas (*ibid.*).

1.5.52 The excavation undertaken for the reactor building reached 13m below the existing ground level, with a 7m deep excavation needed for the turbine hall (*ibid.*). During this construction period, work camps were established in the areas to the south and east of the existing Power Station (*ibid.*). Once construction was complete, the work camps were dismantled, with banks of earth being disposed of in this area which were then planted with trees to create a screening from the landward viewpoint (*ibid.*).

1.6 Documentary Research

1.6.1 An archaeological desk-based assessment was prepared by Cooke *et al.* (2012), which set out the archaeological and historical background of the site and provided an assessment of the significance of all known and potential heritage assets up to 6km from the area of investigation to support the site preparation and clearance phase of works. An updated desk-based cultural baseline assessment was also prepared by Jacobs (2015) to support the DCO application.

1.7 Geophysical Survey

1.7.1 The geophysical survey undertaken in 2011 by Gwynedd Archaeological Trust (Hopewell 2011a-b) revealed two anomalies within Field E3, including a possible modern former field boundary (A-01) and a partial possible field boundary or enclosure bank (A-02) of uncertain origin (Hopewell 2012).

1.8 Archaeological Evaluation

1.8.1 The trial trench evaluation subsequently confirmed the presence of archaeology suggested by the geophysical survey, with 26 trenches excavated across Field E3 (Wessex Archaeology 2018). The trenches were 1.8 m wide and between 30m and 50m long. The trial trenching revealed a large enclosure ditch, which was not fully excavated. A radiocarbon result produced from a sample taken from the ditch returned a date of cal. AD 253-396 (UBA- 32268). Pits, postholes and gullies were also recorded within the enclosure along with a surface. Outside the enclosure to the immediate west, metalworking slag and 2nd century AD Roman pottery were retrieved, while several undated field boundary ditches were also recorded further beyond the enclosure.

2 EXCAVATION METHODOLOGY

2.1 Standards and Guidance

2.1.1 The archaeological excavation was undertaken following the Chartered Institute for Archaeologists (CIfA) *Standard and guidance for archaeological excavation* (2014a), and in accordance with the Wessex Fieldwork Recording Manual (2015).

2.1.2 The fieldwork programme was followed by an assessment of the data as set out in the *Standard and guidance for archaeological excavation* (CIfA 2014a) and the *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b), as well as the guidelines from Historic England (2015).

2.2 Archaeological Excavation

2.2.1 The archaeological excavation comprised the strip map and sample of an area measuring 6,448m^2 situated across Field E3. Defined areas were identified for archaeological excavation based on the results of the previous geophysical survey and trial trench evaluation.

2.2.2 The excavation revealed a large Roman squared enclosure at the top of the hill. There was some evidence for internal structures, and further buildings to the immediate west. Numerous pits and ditches were recorded in the land surrounding the enclosure; the majority of these did not have an obvious function although several were clearly ovens or kilns.

2.2.3 The general aims of these investigations were:

- *to ensure the adequate recording of any archaeological remains revealed by the strip map and sample work;*
- *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;*
- *to determine (so far as possible) the stratigraphic sequence and dating of the deposits or features identified;*
- *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;*
- *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;*

- *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.*

A Technical Update to the Written Scheme of Investigation for the investigation of Field E3 (HNP 2017) specifically states the following aims:

- *to address archaeological research objectives posed by the Research Framework for the Archaeology of Wales (CIfA Cymru/Wales 2017).*
- *to establish the true nature and function of the various archaeological remains present, specifically to identify the presence of any agricultural, domestic, industrial or ritual activity and the character of such;*
- *to establish the condition, age and stratigraphic sequence, of any archaeological / historical remain identified;*
- *to gain information on the past environment of the landscape surrounding the investigation area via the recovery, and study, of micro and macro fossils from the feature fills;*
- *to understand how the remains seen within the excavation area relate to other known features across the landscape (chronologically, stratigraphically as well as spatially), with particular reference to the prehistoric activity in fields A1, A3 and A9.*

2.2.4 Deposits considered not to be archaeologically significant were removed by a 360˚ tracked mechanical excavator with a toothless ditching bucket, under close archaeological supervision. The area was subsequently cleaned by hand. All possible features were inspected, and selected deposits were excavated by hand to retrieve artefactual material and environmental samples. Once completed all features were recorded according to the Wessex standard procedure as set out in the Fieldwork Recording Manual (Wessex Archaeology 2015).

2.2.5 All finds encountered were retained on site and returned to the Wardell Armstrong Carlisle office where they were identified, quantified and dated to period. A *terminus post quem* was then produced for each stratified context under the supervision of the Wardell Armstrong Finds Officer, and the dates were used to help determine the broad date phases for the site. All finds were cleaned and packaged according to standard guidelines (Watkinson and Neal 2001). Please note, the following categories of material will be discarded after a period of six months following the submission of this report, unless there is a specific request to retain them (and subject to the collection policy of the relevant depository):

- modern pottery;
- material that has been assessed as having no obvious grounds for retention.

2.2.6 On completion the excavated area was reinstated by replacing the excavated material in the reverse sequence of which it was removed. Topsoil and subsoil were excavated and stored separately to prevent mixing.

3 SITE ARCHIVE

3.1 Archive Location

3.1.1 A full professional archive has been compiled in accordance with the project specification, and the Archaeological Archives Forum recommendations (Brown 2011). The archive will be deposited with the Oriel Ynys Môn, with copies of the report sent to the Gwynedd Archaeological Trust HER, available upon request. The archive can be accessed under the unique project identifier WA19/CL12283/Area 4/35-2016.

3.2 Archive Quantification

3.2.1 The Site Archive comprising the material and documentary archives is as follows (Table 3.1).

Table 3.1: quantification of excavation data

Category	Quantification
Context Sheets	1271
Small finds	9
Bulk finds	5.322kg
Environmental samples	170 (4280 litres)
Monochrome film	None
Digital photographs	3,267
Rectified photographs	115
Hand drawn plans	56
Hand drawn sections	392
GPS survey pre-excavation plans	Yes
GPS survey excavation plans	Yes
TST surveyed excavation plans	No

4 ARCHAEOLOGICAL EXCAVATION RESULTS

4.1 Introduction

4.1.1 The excavation of Area 4 was undertaken between the 1st November 2017 to 18th April 2018, in Field E3 of the proposed development site (Figure 2). The area of investigation was located to target features recorded during the previous geophysical survey and trial trenching evaluation.

4.1.2 The phases as identified on site have been aligned with the Periods as discussed in the chapters of the Wales Research Framework (CIfA Cymru/Wales 2017), to bring together the archaeology recorded across the excavation areas within the Development Zone (see Table 4.1). The plan of the excavation area has been phased accordingly (Figures 3).

Table 4.1: periods adopted during the phasing of the Wylfa Newydd post-excavation assessments based upon the Wales Research Framework

Period	Dates	Area 4 Phasing
0 Natural		
1 Palaeolithic to Mesolithic	250 000 – 4000 BC	
2 Neolithic to Early Bronze Age	4000 – 1500 BC	
3 Late Bronze Age to Iron Age	1500 BC – AD 43	1
4 Roman	AD 43 – 410	2.1-2.2
5 Early Medieval	AD 410 – 1100	3
6 Medieval	AD 1100 – 1539	
7 Post-medieval	AD 1539 – 1750	4
8 Industrial and Modern	AD 1750 – present	5
Undated		

4.1.3 Aside from a small number of features which may reflect an initial Phase 1 of later prehistoric activity, the majority of the archaeology at Area 4 broadly dated to the Roman period. The Roman activity almost certainly reflects a short but intensive installation and use of an enclosure for military purposes. However, Phase 2.1 suggests an earlier enclosure which may have been open for a short time but was subsequently backfilled and replaced with a larger more permanent squared enclosure in Phase 2.2, with an entrance visible to the east. Phase 2 also included a large number of discrete cut features, including ovens or furnaces, structural post-holes and three distinctive groups of pits external to the enclosure, the majority likely representing waste disposal relating to the activity of a possible occupying garrison. In Phase 3, the enclosure was modified with segments of palisade probably during the early medieval period (7th – 9th century AD), indicating a re-use of the visible defensive features of the earlier Roman enclosure. Following an

abandonment of the enclosure, probably no later than the 9th century AD, Phase 4 activity does not emerge until the post-medieval period. Perpendicular field boundaries were recorded cutting the uppermost fills of the no longer visible squared enclosure. The field boundaries were largely represented by double-ditches which may relate to former clawddau. A small stone structure, and possible second, was observed to the northwest of the enclosure where the field boundaries intercepted one another, probably the remains of at least one shepherd's hut or outbuilding also probably dating to the post-medieval period. A small amount of modern activity including dumps of building material and cable trenches probably related to the building to the south reflect a final fifth Phase of activity.

4.1.4 The results are detailed below, deposit numbers are given in **(parenthesis)**, cut numbers are given in **[square brackets],** and structure numbers are given in **{braces}**. Not all contexts have been discussed throughout the stratigraphic narrative, however, a summary Context Table is provided for reference in Appendix 1 of this report.

4.2 Results

4.2.1 Area 4 measured a total of 6,448m^2 (Figure 2). An average of 0.15m, mid-greyish brown clayey silt topsoil **(4001)**, along with a further average of 0.15m of mid-greyish brown sandy-silt subsoil **(4002)**, was removed to reveal the archaeological horizon cut into the natural geological substrate **(4003)**. The natural geological substrate **(4003)** comprised a mottled greyish/brownish yellow clay with frequent poorly sorted pebbles and cobbles, representing glacial till; consistent with the mapped geology in section 3.1.3.

4.3 Phase 1 – Later Prehistoric

4.3.1 Pre-Roman activity at the site was represented by a disparate group of pits and three curvilinear ditches thought to be the partial remains of three possible roundhouses, recorded within and truncated by the later Roman enclosure **[41271]** (Figure 4). The features possibly represent low-level later prehistoric settlement. Background activity probably dating from at least the Bronze Age is suggested by four fragments of worked flint and chert recovered from the area.

4.3.2 The earliest pit **[4773]**, PRN92122, was located to the centre of the excavated area (Figure 4). The shallow sub-circular pit measured 2m by 1.3m in plan and up to 0.25m deep and contained dark brownish grey sandy silt **(4774)**. No finds were

recovered, and no environmental samples taken. Another possible earlier pit **[4947]**, PRN92123, was recorded to the immediate south. The southern edge of the pit **[4773]**, and almost the entirety of pit **[4947]** were cut by another sub-circular pit **[4902]**, PRN92046, measuring 3.5m by 2m and up to 0.48m deep (Figure 5; section 4311, Plate 1). The larger pit contained fills suggestive of having been used to dispose of waste. A thin deposit **(4904)** was recorded in the base of the pit, overlain by two bands of dark brownish grey sandy silt **(4903)** and **(4776)**, the former of which contained animal bone and single fragment of flint debitage. An environmental sample **<4078>** was taken of the uppermost fill **(4776)**.

4.3.3 A third pit **[4398]**, PRN92047, was located to the southeast of the site, amongst a group of later pits of generally similar proportions (Figure 4). However, a markedly different soil profile was recorded in this pit **[4398]**, as well as containing the only example of a lithic tool from the site. A flint scraper **SF4015** was recovered from the mid-yellowish brown sandy primary fill **(4399)**, suggesting the pit **[4398]** may have had of earlier origins and may represent the earliest feature identified on site. Dark greyish brown sandy silt **(4400)** had been deposited over the primary fill, again suggestive of waste dumping. This was overlain by a possible backfill deposit **(4510)**, comprising mixed mid-greyish brown/yellowish brown sandy clay, from which environmental sample **<4035>** was taken, overlain by a thin band of sub-rounded stones **(4511)**. The pit was sealed with a mid-greyish brown sandy silt **(4512)**, from which environmental sample **<4034>** was also taken. No further finds were recovered from the pit.

4.3.4 Three curvilinear gullies **[4712]** (PRN92048), **[4722]** (PRN92049), and **[4605]** (PRN92050) appeared to be grouped *c.*9m southeast of the two pits **[4773]** and **[4902]** (Figure 4).

4.3.5 All three curvilinear gullies are thought to be the partial remains of roundhouses and appear to be in relative isolation of other discrete features also recorded in their vicinity. In all three instances, the partial remains would likely represent the southern side of each roundhouse, with tentative diameters suggested as being *c.*4m.

4.3.6 Stratigraphically, gully **[4712]** was recorded as predating the later Roman enclosure **[41271]** (Figure 3). Gully **[4712]** extended westward for 4m with moderate concave sides, measuring only 0.17m wide and 0.05m deep. It was filled with a pale greyish silty clay **(4713)**.

4.3.7 Gullies **[4722]** and **[4605]** represent the better-preserved examples of possible roundhouses.

4.3.8 The easternmost curvilinear gully **[4722]** measured 5m long by 0.35m wide with a maximum depth of 0.1m and was aligned roughly east to west. The profile of gully **[4722]** was concave with a rounded base, filled with a mid-greyish brown silt **(4723)** with moderate amounts of small sub-angular and sub-circular stone and gravel inclusions (Plate 2). No environmental samples were taken of gully **[4722]**, however a fragment of chert debitage **SF4018** was recovered from the fill **(4723)**.

4.3.9 Curvilinear gully **[4605]** appeared in plan in much the same shape and size as gully **[4722]** suggesting they were broadly contemporary. Located 1.5m to the west of gully **[4722]**, it measured a maximum of 6m long by 0.5m wide with a maximum depth of 0.22m (Figure 5 Section 4232b). Although up to three fills were detected along the feature, this was inconsistent and for the majority a dark greyish brown silty clay was observed containing no finds.

4.3.10 An irregular pit **[4696]**, PRN92051, was recorded beneath the centre of gully **[4605]**, which measured up to 1.45m long by 0.9m wide with a maximum depth of 0.08m. However, the relationship between the gully and pit could not be determined on site, although it is suggested that the two features were broadly contemporary. The profile of the pit was one of gentle inward sloping sides with an almost flat base, filled with a mid-greyish brown clayey silt **(4697)**, from which a small amount of burnt bone was recovered.

4.3.11 No environmental samples were taken from the curvilinear gullies.

4.4 Phase 2 - Roman

4.5 Phase 2.1

4.5.1 The earliest phase of Roman activity comprised a west-northwest to east-southeast aligned linear ditch **[41275]**, PRN92052, located towards the western part of the site (Figure 6). The broadly V-shaped ditch measured 16.02m in length, 3.15m wide and had a maximum depth of 1.67m (Figure 7, section 4356 and 4360, Plate 3).

4.5.2 The ditch appeared to terminate at its west-northwest end, in a rounded terminus. However, the terminus itself was not excavated.

4.5.3 An intervention cut **[41168]** close to the terminus of the feature provided the only full sequence of deposits relating to the feature. Primary and secondary deposits

(41175) and **(41186)** comprised dark greyish brown stony silts suggestive of having formed in waterlogged conditions, with the accumulation of deposits firstly against the north side of the ditch, quickly followed by the south; the evidence suggesting that the ditch was open for a short period of time with possible activity ongoing to either side of the ditch. Sample **<4156>** was taken of the earliest deposit **(41175)**. Another subsequent deposit **(41185)**, again comprising greyish brown silty material formed against the north side of the ditch from which sample **<4155>** was taken. Stony yellowish-brown silty clay **(41184)** was recorded as sealing the initial deposits, possibly representing a slight collapse of the ditch sides or a deliberate dump or backfill. Environmental sample **<4154>** was taken from this deposit.

4.5.4 These lowest deposits comprise the first *c.*0.60m of the ditch and relate to its earliest use, suggesting an initial seasonal formation of wind and water-borne soils followed shortly by sediments likely relating to human activity in close proximity.

4.5.5 A series of deposits subsequently formed above the earliest fills. Deposits of dark greyish brown silty clays containing a moderate amount of sub-rounded/sub-angular cobbles **(41176)**, **(41174)/(41181)** and **(41173)**, formed, possibly representing episodes of erosion. Environmental samples **<4153>** and **<4152>** were taken of **(41176)** and **(41174)** respectively. Mid to dark yellowish-brown silty clays **(41172)** and **(41171)** contained sparse stones but were thought to represent deliberate dumping. Charcoal fragments were noted in both dumping deposits. Two subsequent deposits comprising heavily mixed dark brown and yellowish-brown silty clays **(41170)** and **(41169)** were recorded as sealing the ditch; both thought to represent the backfilling of the ditch.

4.5.6 A monolith sample **<4167>**, comprising environmental sample numbers **<4139>**, **<4129>** and **<4128>**, was taken from the earliest to the latest deposits in the ditch. A geoarchaeological assessment (Allen 2020) was undertaken to assess the soil profile of ditch **[41275]**, and detailed descriptions of the deposits can be found there (see Appendix 6).

4.5.7 The east-southeast end of the ditch **[41275]**, represented by cut **[41213]** was cut by the later enclosure ditch **[41271].** A slot cut **[41214]**, was excavated to a maximum depth of *c.*0.60m to reveal the relationship between the two features (Figure 6). The four deposits **(41219)**, **(41220)**, **(41221)** and **(41222)** recorded in cut **[41213]** of the earlier ditch **[41275]** appear to broadly correspond with the four uppermost deposits

(41172), **(41171)**, **(41170)** and **(41169)** respectively of cut **[41168]** further west, suggesting relatively uniform episodes of backfilling across the ditch **[41275]**.

4.5.8 Numerous fragments of charcoal and fired clay were recorded in the uppermost fill **(41222)**, which was sampled accordingly; sample **<4172>**. No other finds were recovered from ditch **[41275]**.

4.5.9 No further features can be attributed with any accuracy by association to the first sub-phase of Roman activity at Area 4.

4.6 **Phase 2.2**

4.6.1 The remains of a large ditched enclosure **[41271]**, PRN92053, were located in roughly the centre of the excavated area (Figure 6, Plate 4). The remains of the north and eastern enclosure ditches were revealed at a maximum height of 32m aOD at its north-western corner, occupying the top of a small hill.

4.6.2 The observable east-to-west span of the enclosure measured *c.*46m. Only *c.*52m of the north-to-south span of the ditch was visible, though it is thought to continue for some distance southwards. An entrance, 7.7m wide, was observed in the east side of the enclosure ditch. Based on the position of the east entrance, the span of the enclosure north-to-south is estimated at somewhere between *c.*60-70m suggesting that the enclosure would likely have been roughly rectangular in shape. The combination of the generally V-shaped profile ditch (see below) and the round cornered, rectangular "playing card" shape in plan, reflect a distinctly Roman military design.

4.6.3 Six interventions were investigated across enclosure ditch **[41271]**, with their primary cuts being (anti-clockwise from the south-east), **[4037] Intervention A**, terminus **[4513] Intervention B** (Figure 8; Section 4301), terminus **[4474] Intervention C** (Figure 9; Section 4340), **[4849] Intervention D**, **[4905] Intervention E** and **[41102]** (Figure 9; Section 4346 and 4319) and **Intervention F** (Figure 10; section 4348, 4350 and 4352, Plate 5).

4.6.4 The enclosure ditch **[41271]** measured a maximum of 6.2m wide and up to 2.53m deep. A consistent profile was encountered along the length of ditch, comprising a generally sharp break of slope, steep, roughly convex sides and a narrow flat base. In some areas, as in cuts **[4037]** and **[4849]** a sharp, more pointed, base was observed.

4.6.5 A generally consistent soil profile was recorded throughout the fills of enclosure ditch **[41271]**. Soil horizons that reflect a change in use have attempted to be identified and are done so broadly, using **Intervention F** (cut **[41102]**) as the main exemplifier so as to provide a clearer narrative (Figure 10; section 4348, 4350 and 4352).

4.6.6 A geoarchaeological assessment of monolith samples taken of profiles of cut **[4513]**, **Intervention B**, cut **[4905]**, **Intervention E**, and cut **[41102]**, **Intervention F**, has been undertaken separately (Allen 2020). Although the results of that assessment have provided some clarity as to the character of the various soil profiles, the data will not been repeated here and has not affected the stratigraphic understanding of the enclosure ditch. For the detailed assessment of those profiles, please refer to Appendix 6.

4.6.7 Only the deposits in the enclosure ditch **[41271]** thought to pertain to the Romano-British period are discussed in this section.

4.6.8 Natural slumping **(41111)**, **(41125)**, **(41123)** of the ditch sides occurred following the establishment of the enclosure ditch **[41271]**, comprising thin bands of mid to dark yellowish brown sandy clays, similar to the natural substrate and mixed with darker silty clays. An environmental sample **<4136>** was taken of the earliest **(41125)** of these deposits in **Intervention F**. Slumping of the ditch sides was identified in every intervention, such as in **Intervention A (4239)** where sample **<4020>** was taken. A radiocarbon date of cal. AD 17-74 (UBA-36084) was determined from five Sambucus and Rubus seeds recovered from this basal deposit (Wessex Archaeology 2018, 6), which is consistent with the arrival of the Roman army in the area and the proposed establishment of the ditched enclosure.

4.6.9 Deposits comprising generally mid-grey/bluish grey clays formed in the base of the ditch in every intervention. Lenses of humic/peat like soils had developed in clearly waterlogged (or anaerobic) conditions, allowing for the preservation of wood, such as in sample **<4135>** from **(41107)** of **Intervention F,** where this was thickest at 0.88m, and in deposit **(4234)** of **Intervention A** from which environmental sample **<4017>** was taken.

4.6.10 Animal bone survived in these waterlogged deposits, recovered from **(4231)** and **(4234)** of **Intervention A**, **(41069)** and **(41065)** of **Intervention E**. Material was more abundant in **Intervention B**; terminus **[4513]** of the east entrance into the enclosure

(Figure 8 Section 4301). Animal bone was recovered from fill **(41118)** from which sample **<4162>** was taken, and from fill **(41115)**. A relatively large amount of surviving organic material was recovered from the uppermost of the initial deposits overlying **(41115)**. Animal bone and an intact dandelion flower head **SF4030** was recovered from sample **<4160>** of fill **(41095)**. Environmental sample **<4120>** was taken of a fill **(41088)** containing wood. A small bundle of hay or straw **SF4025** interpreted as possible thatch (Wessex Archaeology 2019, 6) and other plant/organic material **SF4026** were recovered from the uppermost clayey fill **(41071)**.

4.6.11 That ecofactual remains from the entrance terminal suggest deliberate dumping related to maintenance or clearance in and around the enclosure.

4.6.12 Secondary deposits, generally comprising dark yellowish grey and brownish grey silty clay with pebbles, were commonly found throughout the enclosure ditch. The secondary deposits probably indicate a combination of episodes of silting and collapsing ditch edges, representative of an extended period of abandonment.

4.6.13 A mid-brownish grey silty clay deposit **(41124)**, containing stones, recorded in **Intervention F**, probably represents initial collapse of the ditch along its inside edge following abandonment of the enclosure (Figure 10; section 4348, 4350 and 4352). The large stones hint at an internal bank, possibly revetted with stone. Similar deposits containing large sub-rounded and/or sub-angular stone were recorded sealing the initial clayey deposits in other interventions. Large stones in a mid-reddish brown sandy clay matrix **(4166)** and **(4515)** from Intervention **A** and **Intervention B**, respectively, also contained animal bone. Deposit **(4515)** directly overlay the dumping deposits **(41071)** and **(41088)** containing the possible thatch (see above). Large stones recorded in deposits **(41074)** and **(41076)** in **Intervention C** (Figure 9; Section 4340), may represent a different episode of collapse following abandonment.

4.6.14 A possible re-cut **[4158]** recorded on site in cut **[4037]** of **Intervention A**, has been reinterpreted as an abrupt soil horizon. The “re-cut” does not appear well-defined, and simply follows the profile of the preceding deposit **(4174)**. A large amount of stone was interpreted on site as the base of a dry-stone wall **{4175}** constructed along the course of the enclosure ditch **[41271]**. However, the stone likely represents the largescale final disintegration of the remaining bank or revetment discussed earlier. It is unclear when this probable final disintegration occurred, but a late Roman/sub-Roman date is suggested, as it likely predates the early medieval

palisade walls. This later stone collapse was identified mostly around the east entrance in **Intervention A**, **B**, **C** and **D** (Plate 6). In **Intervention D**, the collapse of the stone fabric of the bank/revetment had been preceded by the slumping of the bank sediment **(41046)** and **(4937)**, forcing the stones to tumble to the external side of the ditch as seen in Plate 6.

4.6.15 In **Intervention F**, where the enclosure ditch was deepest and widest, six deposits of pale yellowish grey and greyish brown silty clays containing occasional concentrations of pebbles **(41108)**, **(41109)**, **(41110)**, **(41137)**, **(41136)** and **(41135)** were recorded (Figure 10; section 4348, 4350 and 4352).

4.6.16 Although, no two deposits between interventions could be accurately correlated, a clear pattern of clayey waterlogged deposits overlain by deposits relating to an extended period of abandonment has been identified.

4.6.17 Late Roman activity in close proximity to the enclosure ditch is suggested by the presence of animal bone, typically in poor condition, in a number of secondary deposits. Miscellaneous fragments of possible sheep bone, and a probable canine bone were recovered from deposit **(41135)** in **Intervention F**. Cow bones were recovered from **(4166)** in **Intervention A**, **(4516)** and **(4575)** in **Intervention B** and **(4940)** and **(4939)** in **Intervention E**. Fired clay was also present in some of these deposits; **(4516)**, **(4574)** and **(4939)**. Possible daub fragments were also recovered from the uppermost deposit **(4039)** in **Intervention A**, and from an upper deposit **(4475)** in **Intervention C**. Romano-British pottery, reportedly recovered from deposit **(4475)**, (Wessex Archaeology 2019), has subsequently gone missing.

4.6.18 A radiocarbon date of cal. AD 253-396, 1710±26 (UBA-32268) was procured from deposit 14333 of the enclosure ditch during the trial-trench evaluation (Wessex Archaeology 2018, 67). Deposit 14333 probably correlates to deposit **(4475)** within **Intervention C**.

4.6.19 No other identifiable Roman material culture was recovered from the enclosure ditch.

4.6.20 In **Intervention F**, it has been established that towards the end of the Romano-British period, the ditch was probably still visible to a maximum depth of 0.68m. Elsewhere, the ditch had probably almost entirely silted up, particularly notable around the eastern entrance, although the shallow remains of a bank may have been visible into the early medieval period.

4.6.21 There were two main areas of features associated with the enclosure ditch, and both are likely to relate to this phase of use based on their position within and around the enclosure. Features including a trackway **{4880}**, PRN92054, and a number of generally ephemeral possible structural elements such as postholes were recorded within the enclosure. External to the enclosure, were a wider range of cut features including large pits to the northwest, northeast and southeast of the enclosure. Amongst those pits to the northwest were two possible occupational surfaces comprising feature group **[4309]** and shallow pits **[4298]/[4300]**.

4.6.22 The remains of a large, irregularly shaped cobbled or metalled trackway **{4880}** was observed within the enclosure, aligned east to west, from at least the centre of the enclosure to the entrance, curving southwards beyond the southernmost enclosure ditch terminus **[41271]** (Figure 6, Plate 7). The metalled trackway had an observable length of 19m, with a maximum width of 9.28m, before continuing west past the limit of excavation (Figure 8; Section 4289). The trackway was probably created to stabilise a well-worn route through the enclosure; comprising a thin layer of small pebbles **{4877}** further sealed with larger cobbles **{4678}** to a maximum depth of 0.30m, both within generally mid-brownish grey sandy silt fills.

4.6.23 A large assemblage of finds was recovered from the trackway, including Roman pottery from fills **(4921)**, **(4984)**, **(4985)** and **(4987)**. Burnt clay and slag from **(4984)** and **(4986)** in the northern half of the trackway, suggest possible furnace waste. Animal bone was also recovered from fills **(4711)**, **(4876)**, **(4921)**, **(4986)**, **(41007)** and **(41019)**. Environmental samples **<4104>**, **<4106>** and **<4105>** were taken of fills **(4711)**, **(41018)** and **(41019)** respectively.

4.6.24 The easternmost end of the trackway **{4880}** tapered away less than half a metre beyond the enclosure entrance. Three postholes, PRN92055, **[4367]**, **[4533]** and **[4836]** were observed around the entrance, suggesting a possible gate. The posthole **[4367]** to the north of the metalled trackway **{4880}** was positioned *c*.0.30m from the northern ditch terminus, and two postholes **[4533]** and **[4836]** to the south were positioned at the same approximate distance from the southern terminus. The postholes ranged in diameter between 0.67-0.88m. A maximum depth of 0.32m was observed in posthole **[4367]**. Burnt bone was recovered from the dark greyish brown silty fill **(4534)** of posthole **[4533]**. No further finds were recovered from these three postholes.

4.6.25 A single potential furnace **[4709]/[4710]**, PRN92056, was also recorded, immediately north of, and seemingly deliberately surrounded by the metalled trackway **{4880}**, suggesting a frequently occupied area (Figure 6). The furnace comprised the main bowl furnace chamber **[4710]** and a flue **[4709]**. It was roughly a figure-of-eight-shaped in plan and measured 1.95m in length and up to 0.60m wide and 0.40m deep. The natural geology into which the furnace had been cut had been visibly heat-affected **(4719)** within the main chamber. A number of burnt, ashy deposits and re-deposited natural layers were recorded within the furnace suggestive of multiple uses. No finds were recorded within the furnace, though environmental samples **<4070>** and **<4069>** were taken of the primary fill **(4718)** and the uppermost fill **(4715)** of the main chamber respectively. Environmental samples **<4072>** and **<4071>** were also taken of the primary fill **(4721)** and uppermost fill **(4716)** of the flue.

4.6.26 Twenty-two probable postholes were identified within the enclosure, PRN92057, including **[4209]**, **[4211]**, **[4215]**, **[4217]**, **[4235]**, **[4237]**, **[4562]**, **[4611]**, **[4636]**, **[4638]**, **[4643]**, **[4674]**, **[4681]**, **[4683]**, **[4685]**, **[4690]**, **[4692]**, **[4733]**, **[4735]**, **[4805]**, **[4825]** and **[4839]** representing possible structures. The postholes had a maximum diameter of 0.82m and were up to 0.30m deep. However, most were severely truncated and generally only ephemeral remains of the features were observed. Some spatial alignments between postholes were noted (e.g. postholes **[4211]**, **[4733]**, **[4692]** and **[4685]**) possibly relating to a number of post-built structures formerly located within the enclosure.

4.6.27 Eight pits were also located within the enclosure, PRN92058, including **[4641]**, **[4650]**, **[4737]**, **[4825]** and a group of intercutting pits **[4596]**, **[4598]**, **[4600]**, **[4652],** together with a possible narrow gully **[4655]**. The latest pit **[4600]** in the group was the deepest, with a depth of 0.55m and a diameter of 1.20m. The pit contained a primary fill **(4602)** comprising redeposited natural relating to the collapse of the pit sides probably immediately after excavation, overlain by a charcoal-rich backfill **(4601)** containing burnt stones. This pit, and the others, shared a pattern of probable waste disposal. A charred oat grain recovered from environmental sample **<4059>** taken of the upper deposit **(4601)**, provided a date of cal. AD 66-222 (Beta-553514). The earlier end of the date broadly correlates with the radiocarbon date produced from the basal deposit in **Intervention A** of the enclosure ditch **[41271]**.

4.6.28 A total of a further 103 sub-circular cut features were recorded external to the large enclosure ditch **[41271]** (Figure 6). Although little, or no, dateable material was recovered from the features, it is likely that most, if not all, of these features relate to the same broad period of Roman activity as those observed within the ditched enclosure.

4.6.29 Three concentrations were observed to the northwest, northeast and southeast of the enclosure. Of the 88 pits, 61 were determined to have probably been rubbish pits, whereas 27 showed silting, suggestive of having been left open with no evidence of intentional backfilling. Two sub-circular cut features were probably furnaces and a further 13 smaller circular features were determined to be postholes.

4.6.30 ***Rubbish Pits:*** The rubbish pits in all three areas generally contained more than one fill, and where only a single fill was recorded, it was described as being of a mixed nature with charcoal inclusions, reflecting an episode of deliberate backfilling. The rubbish pits typically comprised steep concave sides with broadly flat bases, ranging in diameter between 0.45 and 3.80m, with observed depths of between 0.06 and 0.75m.

4.6.31 To the northwest, the rubbish pits included pits **[4047]**, **[4067]**, **[4077]**, **[4087]**, **[4108] [4110]**, **[4251]**, **[4254]**, **[4259]**, **[4307]**, **[4310]** (Figure 8; Section 4174b), **[4312]**, **[4483]** (Plate 8), **[4517]** and **[4777],** PRN92059. To the northeast, they included **[4183]**, **[4185]**, **[4187]**, **[4212]**, **[4219]**, **[4437]**, **[4452]**, **[4460]**, **[4505]**, **[4573]**, **[4576]**, **[4578]**, **[4580]**, **[4959]**, **[4975]**, **[4977]**, **[41032]**, **[41034]**, **[41036]** and **[41038]**, PRN92060. And a more tightly concentrated group to the southeast of the enclosure entrance, including pits **[4189]**, **[4242]**, **[4268]**, **[4270]**, **[4275]**, **[4277]**, **[4316]**, **[4318]**, **[4325]**, **[4328]**, **[4356]**, **[4394]**, **[4401], [4417], [4424]**, **[4430], [4439]**, **[4444]**, **[4497]**, **[4529]**, **[4539]**, **[4630]**, **[4657]**, **[4665]**, **[4669]**, and **[4662]**, PRN92061.

4.6.32 For the most part, the external rubbish pits were relatively large, possibly related to the disposal of substantial amounts of waste and tended to respect the position of other rubbish pits suggesting a formal pattern of disposal. However, an intercutting group of smaller, possibly single-use waste pits **[4576]**, **[4578]** and **[4580]** (Figure 8; Section 4227) containing a large amount of charcoal were observed to the immediate east of the northeast corner of the enclosure ditch **[41271]** (Figure 6). No finds were recovered from these pits, but oak charcoal from sample **<4052>** from the

fill **(4579)** of pit **[4578]** provided a radiocarbon date of cal. AD 130-326 (Beta-553521).

4.6.33 A probable furnace **[4320]/[4322]** was also observed amongst the southeast group of pits (Figure 6), PRN92062. The furnace comprised a sub-circular concave heat-affected bowl **[4320]**, containing dark grey silty clay **(4321)** mixed with charcoal from which sample **<4025>** was taken (Figure 8; Section 4142a). A possible flue **[4322]** extended for 1.1m to the northwest of the bowl, and contained a similar heat-affected, charcoal-rich fill **(4323)**. No finds were recovered from the furnace though it is likely that the feature was associated with the surrounding pits.

4.6.34 Burnt clay, burnt bone and charcoal-rich fills, probably derived from firepits or hearths, were recorded in at least six of the rubbish pits across the site. These included pits **[4110]**, from which environmental sample **<4041>** was taken of fill **(4111)/(4436)**, and pit **[4254]**, from which environmental samples **<4024>** of the primary fill **(4258)** was taken as well as samples **<4021>** and **<4022>** of deposits **(4257)** and **(4256)** respectively. Both were in the group to the northwest.

4.6.35 Amongst the northeast group of pits was a large number that contained charcoal. Notably, one pit **[4977]** contained heat-affected stones within a dark greyish silty charcoal-rich fill **(4978)**, from which burnt bone and charcoal was recovered and environmental sample **<4090>** taken.

4.6.36 To the southeast, pits **[4242]** and **[4439]**, the latter in close proximity to furnace **[4320]/[4322],** also contained hearth waste.

4.6.37 There were very few stratigraphic relationships, generally suggesting that the pits were broadly contemporary. Where one pit cut another, it is likely because they were in an area frequently used for rubbish deposition.

4.6.38 To the north-west of enclosure ditch **[41271]**, sub-circular pit **[4112]** cut pit **[4110]** (Figure 6). Pit **[4112]** measured 2.58m by 2.34m with a maximum depth of 0.62m. Its primary fill **(4393)** comprised light greyish-brown silty-sandy gravel with a maximum thickness of 0.36m. The primary fill **(4393)** was sealed by a 0.4m thick deposit of mid-greyish-brown silty clay **(4113)** which contained infrequent, poorly sorted, small sub-angular and sub-circular stone inclusions. A single sherd of Samian pottery was recovered from fill **(4113)**. Pit **[4112]** was the only pit external to the enclosure found to contain Roman pottery.

4.6.39 Rubbish pits **[4417]** and **[4401]** to the southeast, were cut by pit **[4430]**, and contained waste deposits sealed by deliberate backfilling. Post-medieval finds, including a clay tobacco pipe from the primary fill of pit **[4417]**, were certainly intrusive due to a ceramic field drain cutting through the feature.

4.6.40 ***Open Pits:*** Amongst the rubbish pits to the northwest and northeast were 27 pits which appeared to have been left open to silt up over a period of time. None of the pits contained finds, nor did they show evidence of burning. Although the purpose of these pits remains unclear, it is likely that they were contemporary with the other Phase 2 features in the area.

4.6.41 The open pits were between 0.87-2.90m in diameter and between 0.09-0.72m deep. The profiles of the pits were generally concave but with moderate to shallow sides and rounded bases.

4.6.42 To the northwest the open pits included **[4004]**, **[4006]**, **[4010]**, **[4024]**, **[4027]**, **[4029]**, **[4040]**, **[4042]**, **[4049]**, **[4054]**, **[4097]**, **[4130]**, **[4332]**, **[4375]**, and **[4795]** (Figure 6). Environmental samples **<4007>** of fill **(4051)** and **<4010>** of fill **(4098)** were taken of pits **[4049]** and **[4097]** respectively. Pit **[4049]** contained a single stakehole **[4052]**, possibly from a stake driven into its base when the pit was open (Plate 9). A smaller pit **[4022]** cut the southwest edge of pit **[4024]**.

4.6.43 To the northeast, open pits include **[4179]**, **[4181]**, **[4194]**, **[4196]**, **[4198]**, **[4221]**, **[4480]**, **[4493]**, **[4536]**, **[4807]** and **[4954]**. Only sample **<4114>** was taken of the fill **(4197)** of pit **[4196]**.

4.6.44 ***Postholes:*** Thirteen possible postholes were also identified. Three possible postholes, PRN92063, **[4232]**, **[4971]** and **[4988]** were recorded in a curvilinear arrangement to the immediate south of pit **[4310]**, in the midst of the northwest pit group, with two more postholes **[4094]** and **[4414]** to the east (Figure 6). Another posthole **[4945]** was recorded immediately south of the stone-filled pit group and occupation area **[4309]**. The postholes measured between 0.37-0.50m in diameter and up to 0.21m deep. No finds were recovered, but environmental samples **<4176>** of fill **(4233)**, **<4088>** of fill **(4972)** and **<4087>** of fill **(4989)** were taken of postholes **[4232]**, **[4971]** and **[4988]** respectively.

4.6.45 The postholes are thought to be associated with the possible occupational surfaces, feature group **[4309]** and deposit **(4299)**, recorded nearby (Figure 6).

4.6.46 Feature group **[4309]**, PRN92065, aligned roughly north-west to south east and measuring 13.2m long by 6m wide with a maximum depth of 0.17m, was observed to the west-south-west of enclosure ditch **[41271]** (Figure 6, Plate 10). This metalled surface comprised three layers **(4862)**, **(4478)** and **(4306)** and overlaid a cluster of earlier pits **[4831]**, **[4826]**, **[4923]** and **[4891]** (Figure 8; Section 4292). The primary layer **(4862)** consisted of a 0.05m thick deposit of packed small sub-rectangular stones, predominantly of gravel size, with a small number of cobbles and two boulder sized stones. No finds were recovered from this deposit, however sample **<4074>** was taken for environmental analysis.

4.6.47 The central deposit of the occupational surface **(4478)** comprised a 0.12m thick layer made up of an abundance of sub-rectangular stone inclusions of various sizes, primarily of gravel sized stones with infrequent boulder size stones. No environmental samples were taken from this deposit, however a possible stone tool **(SF4021)** was recovered.

4.6.48 Finally, a 0.17m thick uppermost deposit **(4306)** of sub-angular stone inclusions of gravel and cobble size sealed the metalled surface. No environmental samples were taken of deposit **(4306)**. Two possible stone tools **SF4004** and **SF4007**, a rim sherd of a possible mortaria **(SF4010)** and a fragment of chert **(SF4011)** were recovered from this deposit. A shell was also recovered and is discussed in the Zooarchaeology assessment (section 6.4). A sherd of Black Burnished ware (BB1) was recovered from a stony layer 118917 in Trench 1189, which corresponds with deposit **(4306)** (Wessex Archaeology 2018).

4.6.49 To the immediate northeast were two shallow pits or sunken floors **[4298]** and **[4300]**, PRN92064, containing stone-filled deposits, or possible metalled surfaces **(4299)** and **(4301)** respectively. Again, it is suggested that these deposits represent the remains of occupational surfaces with ill-defined edges. However, little survived to indicate the position of a structure or suggest what functions were being carried out in these areas.

4.6.50 A small possible stakehole **[4016]**, PRN92066, was also recorded to the immediate south of pits **[4004]** and **[4006]** (Figure 6). It measured 0.18m in diameter and up to 0.05m deep. It is only due to its appearance amongst a tight group of other broadly dated features that it is included in this phase.

4.6.51 A small posthole **[4628]**, **PRN92067,** positioned to the immediate north of rubbish pit **[4630]**, was located immediately to the east of the northernmost enclosure ditch terminus **[41271]** (Figure 6). The posthole measured 0.30m in diameter and 0.18m in depth. Three much larger possible postholes **[4240]**, **[4371]** and **[4385]**, located immediately to the east of the southernmost enclosure ditch terminus **[41271]**, had steep concave sides and roughly rounded bases. The features measured between 1.40-1.90m in diameter and up to 0.55m deep. In all three instances, large stones had been dumped in the bottom, possibly acting as pads to large timber posts. Their alignment, parallel to the southern terminus of the enclosure ditch **[41271]**, suggests some form of partition or structure between the enclosure and the rubbish pits.

4.6.52 No finds were recovered from any of the postholes; their disparate nature precludes any meaningful suggestion of possible structures.

4.7 Phase 3 – Early Medieval

4.7.1 A third phase of activity recorded within the ditched enclosure **[41271]**, probably indicates the re-use of the feature. Based on the evidence from the late Roman period, the enclosure ditch **[41271]** was probably at least partially visible to the north, and possibly elsewhere, making the hilltop a potentially defensible location. At least four possible palisade ditch slots **[4522]**, **[4427]**, **[4724]** and **[41016]** were recorded around the inside edge of the northern and eastern enclosure ditches, in some instances cutting the upper deposits (Figure 11). A possible fifth palisade ditch slot **[41156]** was observed in section, cut into enclosure ditch **[41102]** in **Intervention F** (Figure 10; Section 4348, 4350 and 4352).

4.7.2 Two possible palisade ditches were observed running parallel to the eastern side of the enclosure ditch **[41271]** (Figure 11). The northernmost palisade ditch **[4742]**, PRN92068, measured 13.6m long by 0.57m wide with a maximum depth of 0.32m. The profile of the palisade ditch comprised sharp steep sides and a roughly flat base (Plate 11).

4.7.3 The primary fill **(4725)** comprised a 0.32m thick deposit of dark brown sandy silt with a grey hue, with regular poorly sorted sub-rounded gravel and cobble inclusions which ranged in size from 2mm to 200mm. A Samian pottery sherd **(SF4016)** was

recovered from the primary fill **(4725)**, although this is likely to be intrusive. An environmental sample **<4060>** was also taken.

4.7.4 The secondary fill **(4726)**, a 0.22m thick deposit of dark brown sandy silt with a grey hue, was only observed in the southern end of the ditch **[4724]** (Figure 12; Section 4263a). Large cobbles were also present within this fill but to a lesser extent than **(4725)**. A concentration of burnt bone and charcoal was observed within northern section of fill **(4726)** with. An oat grain from environmental sample **<4061>** provided a radiocarbon date of cal. AD 608-688 (Beta-553515) for the secondary fill **(4726)**.

4.7.5 The southernmost palisade ditch **[4522]**, PRN92069, measured 9.92m long by 0.45m wide with steep inward sloping sides and an almost flat base at a maximum depth of 0.25m (Figure 12; Section 4212c). A single infilling deposit was recorded in two separate cuts. Fill **(4523)** comprised a 0.25m thick deposit of mid-brown sandy silt with a greyish hue and sparse sub-rounded poorly sorted stone and cobble inclusions, ranging in size 20mm to 100mm.

4.7.6 Fill **(4532)** had a maximum thickness of 0.2m and comprised a dark-brown sandy silt with a greyish hue and sparse sub-rounded poorly sorted stone and cobble inclusions, ranging in size 20mm to 200mm, along with a small amount of charcoal. No finds were recovered from either fill but a barley grain from the **(4532)** provided a date of cal. AD 661-774 (Beta-553520), broadly similar to the other palisade ditch slot **[4724]**.

4.7.7 A large pit **[4514]**, PRN92070, was cut into the eastern entrance, truncating both the edge of the silted up southern enclosure ditch terminus **[4513]** (Figure 8; Section 4301) and the trackway **{4880}** (Figure 11). The partial remains of earlier postholes **[4533]** and **[4836]** were visible in the base of the pit **[4514]**. The shallow pit measured roughly 5m in diameter and up to 0.40m deep with irregular edges. The dark greyish brown silty clay fill appeared very mixed and stony, suggesting that the pit was backfilled deliberately, probably with stones derived from the disturbed trackway. A small amount of animal bone was recovered suggesting it may have been a waste pit. Environmental samples **<4081>** and **<4082>** were taken of **(4547)** and **(4548)** respectively, the primary and secondary fills of the pit.

4.7.8 A posthole **[4330]**, PRN92071, recorded 0.8m to the north of the pit, also cut through the metalled trackway **{4880}**. It is possible the east entrance was again used as a gated entrance for a short time.

4.7.9 A possible extension **[4427]**, PRN92072, of the palisade ditch slot **[4522]**, appeared to extend northwards, cutting the trackway **{4880}**, thereby sealing off the former east entrance of the silted-up enclosure ditch **[41271]** entirely.

4.7.10 A small pit **[4603]**, PRN92073, cut into the uppermost deposit **(4951)** of the northern terminus in **Intervention C**, measured 0.51m in diameter and 0.10m deep (Figure 9; Section 4340). An oat grain recovered from the environmental sample **<4054>** of the charcoal rich fill **(4604)**, produced a radiocarbon date of cal. AD 668-882 (Beta-553519). The pit likely represents the remains of cooking waste and the date corresponds with the radiocarbon dates produced from the palisade trenches.

4.7.11 At least two other pits **[4583]**, PRN92074, and **[4738]**, PRN92075, cut into the metalled trackway **{4880}**, within the enclosure may be associated with the early medieval activity (Figure 11). Environmental sample **<5043>** was taken of the secondary fill **(4584)** of pit **[4583].**

4.7.12 Deposits subsequently formed over the still open remains of the enclosure ditch **[41271]**, recorded in **Intervention F** (Figure 10; Section 4348, 4350 and 4352). An initial band of dark greyish brown silty clay **(41134)** possibly formed following the short re-use of the enclosure, sealing the fill of palisade ditch slot **[41156]**. A copper alloy penannular brooch **SF4031**, dated to *c.*6th - 7th century AD, was recovered from **(41134)**, and a charred wheat grain from environmental sample **<4132>** provided a radiocarbon date of cal. AD 668-864 (Beta-553518).

4.7.13 Subsequent deposits **(41133)**, **(41132)** and **(41131)** recorded in **Intervention F** suggest that the ditch continued to silt naturally, and the sterile nature further indicates that the enclosure probably remained largely unused for the remainder of the early medieval and medieval periods.

4.8 Phase 4 – Post-medieval

4.8.1 Most of the post-medieval features comprised ditches thought to represent former clawdd type field boundaries. These boundaries included ditches **[41140]**, PRN92076, and **[41079]**, PRN92077, on a parallel northeast to southwest alignment, as well as parallel ditches on perpendicular northwest to southeast alignments, including **[4104]**, **[4134]**, **[4140]** and **[4124]** (Figure 13). The perpendicular parallel boundary ditches adjoined ditch **[41140]**. A possible earlier double ditched boundary, PRN92078, was detected, including ditches **[4280]** and **[4350]**, which cut across earlier features including the enclosure ditch **[41271]**. The earlier double

ditched boundary followed the northern extent of the enclosure ditch **[41271]**, continuing on a roughly northeast to southwest alignment, possibly adjoining ditch **[4124]**, though no relationship was established between them.

4.8.2 It was recorded in section that ditches **[4280]** and **[41273]** post-dated the silting up of the enclosure ditch **[41271]** (Figure 14; Section 4369), which was unlikely to have been visible when they were established.

4.8.3 The boundary ditches were all similar in profile, comprising a sharp break of slope and a shallow rounded base (Figure 14; Section 4117, Plate 12). They measured between 0.40-3.60m in width and up to 0.77m deep, depending on the level of later horizontal truncation. Interventions across the boundary ditches suggest that the ditches were left open to silt up, and most then showed evidence of having been later backfilled, probably following another rearrangement.

4.8.4 A possible stone revetment, PRN92079, was recorded in association with ditch **[41273]**, though this was not visible in plan. Stone revetments were typically added to clawdd banks for support. A large amount of small sub-rounded and sub-angular stone mixed into the fill of ditch **[4280]** probably derived from the disturbed Romano-British deposits, such as **(4299),** to the immediate north of the ditch.

4.8.5 The remains of a small stone-built structure **{41228}**, PRN92080, were located to the northwest corner of the enclosure ditch **[41271]** (Figure 13). The structure **{41228}** was roughly rectangular and measured 2.45m east to west and 1.57m north to south, though the north facing elevation of the structure had been entirely demolished. The dry-stone walls survived up to two courses high, at 0.77m. The structure cut into the uppermost deposit **(41234)** of the enclosure ditch **[41271].** It is likely that the structure had been a small shepherd's hut constructed when the enclosure was no longer visible.

4.8.6 It is suggested that there was a relationship between the stone structure and the post-medieval boundary ditch **[4280]**, with the structure set against the clawdd bank.

4.8.7 Although a number of interventions across the top of the enclosure ditch to the immediate east of the stone structure **{41228}** were excavated to locate the continuation of the post-medieval ditches **[4280]** and **[41273]**, the deposits were found to be so homogenous that no individual features could be accurately identified.

4.8.8 The remains of what is thought to be a segment of dry-stone wall **{4244}**, PRN92081, were recorded 6m to the south of structure **{41228}** (Figure 13). Large sub-angular stones were recorded over a wide area, though a possible foundation layer of stones **{4246}** was identified in cut **[4245]**. The cut measured 5.10m in length on a roughly east-northeast to west-southwest alignment, with a width of 0.65m. The dry-stone wall foundation layer **{4246}** and structural remains **{4244}** had a maximum combined height of *c.*0.30m. A sherd of stamped red earthenware pot was recovered from between the foundation stones **{4246}**, and although this could be a later intrusive find, it is thought to date the demolition of the wall.

4.8.9 An L-shaped construction cut **[4249]**, PRN92082, was located to the immediate north of **{4244}**. The sharp, squared nature of the cut and the stony fills recorded within it are probably the remains of a post-medieval dry-stone wall. The construction cuts **[4245]** and **[4249]** may well be contemporary, representing another shepherds hut or agricultural outbuilding.

4.8.10 A stone-capped hollow channel land drain **{4882}**, PRN92083, within a cut **[4881]**, located to the south of boundary ditch **[41140]**, extended for approximately 3.90m and was up to 0.75m wide. The drain likely relates to later post-medieval drainage systems; its apparent termination at the edge of the enclosure ditch is probably the incidental result of later ploughing or damage sustained during the stripping of the excavation area.

4.9 Phase 5 – Industrial and Modern

4.9.1 Criss-crossing ceramic tile land drains thought to date broadly to the 19th and 20th century were installed across the site, PRN92084, following the removal of the former post-medieval field boundaries. A sherd of Roman pottery, recovered from a modern cable trench **[41190]**, PRN92085, cut across the enclosure ditch from the southwest to the northeast, probably derived from Romano-British occupational layer **(4922)**. A haul road **[41236]** used during the current phase of works curved from the south of the site, over the northwest corner of the enclosure ditch **[41271]** and across to the northeast of the site. The portion sealing the enclosure ditch was removed for access to the archaeology.

4.9.2 Three sub-circular pits **[4900]**, **[4967]** and **[41130]** dated to the late post-medieval to modern periods (Figure 15).

4.9.3 The largest pit **[41130]**, PRN92086, measuring approximately 4m in diameter and up to 0.98m deep, truncated the edge of former boundary ditch **[41140]** towards the northeast corner of the former enclosure ditch **[41271]** in **Intervention F** (Figure 10; Section 4348, 4350 and 4352). The pit is thought to have been the base of a post, possibly a former telegraph pole, and contained large lumps of concrete.

4.9.4 A smaller pit **[4967]**, PRN92087, located 14.5m to the southwest of pit **[41130]**, measured 3m by 2m and up to 0.35m deep. The pit also contained concrete and may be associated with the other pit.

4.9.5 Pit **[4900]**, PRN92088, immediately adjacent to pit **[4967]**, contained modern rubbish including iron hinges and glass probably relating to modern building work.

4.10 Unphased Features

4.10.1 A ditch segment **[4079]/[4081]**, PRN92089, aligned north to south, to the west of post-medieval ditch **[4124]**, measured 12m in length, with concave sides and a rounded base (Figure 15). No finds were recovered from its homogenous silty fill.

4.10.2 Two probable postholes, PRN92090, **[4132]** and **[4142]** were located to the north of the enclosure ditch **[41271]**, and to the immediate east of the post-medieval field boundary ditch **[4140]** (Figure 15). Posthole **[4132]** measured 1.05m in diameter and 0.43m deep; posthole **[4142]** to the west measured 0.85m in diameter and 0.22m deep. Both postholes had near vertical sides and a flat base. Arrangements of stones within each posthole suggest that they supported the base of posts (Plate 13), but no finds or environmental samples were recovered.

4.10.3 Three postholes **[4136]**, **[4138]** and **[4144]**, PRN92091, measuring a maximum of 0.48m in diameter and up to 0.18m in depth, were recorded in a small isolated group to the extreme north of the excavation area (Figure 15). Although these postholes resembled features associated with the Roman phase pit groups, their isolation precludes them from association with any phase at this time.

4.10.4 In total, 14 recorded pits have been determined to be tree bole hollows, characterised by ill-defined edges, with irregular bases and predominantly ephemeral shallow sides. These naturally derived pits include **[4012]**, **[4014]**, **[4018]**, **[4020]**, **[4033]**, **[4044]**, **[4060]**, **[4146]**, **[4191]**, **[4203]**, **[4207]** and **[4613]**. Only the fill **(4061)** of cut **[4060]** was environmentally sampled **<4011>**, and no finds were recovered from any of these features.

4.10.5 Many of these proposed tree bowl hollows were located within the pit groups and were initially presumed to be related. However, these features cannot be presumed to be contemporary based on current evidence. Tree clearance may well have been undertaken prior to the construction of the ditched enclosure, although this cannot be confirmed at present.

5 ARTEFACT AND SMALL FINDS ASSESSMENT

5.1 Introduction

5.1.1 An assessment of hand-collected artefactual material from the excavation at Area 4 at Wylfa Newydd, was undertaken along with artefacts recovered from the environmental sample processing (Table 5.1). The material examined included pottery, fired clay, lithics, stone, clay pipe, industrial waste, iron, glass and ecofactual remains. The tabulated data shows all expected finds with the information derived from site registers; some of these finds were absent from the archive and are shown in Table 5.1.

5.1.2 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 conform to the deposition guidelines recommended by Brown (2011), EAC (2014) and Oriel Ynys Môn. The project has the unique identifier WA19/CL12283/Area 4/35-2016.

5.1.3 The material archive has been assessed for its local, regional and national potential in line with the archaeological research framework for Wales (CIfA Cymru/Wales 2017).

5.2 Methodology

5.2.1 The material was cleaned prior to examination; this was either through washing robust material, such as pottery, animal bone and flint, whilst fragile finds were left to dry then dry-brushed. Metal finds were sent for x-radiography. Material recovered from the environmental samples was retrieved as per the methodology stated in the environmental section.

5.3 Pottery

5.3.1 *Methodology*

5.3.2 The pottery was examined with a x10 hand lens and recorded according to published national guidelines (PCRG, SGRP & MPRG 2016). Where possible, mnemonic fabric codes were assigned using (for Roman pottery) the National Roman Fabric Reference Collection (Tomber & Dore 1998) and the Roman Potsherd Atlas online (RPA 2019).

The post-medieval pottery had mnemonic fabric codes assigned when they could be identified; this was undertaken using material published by MOLA (2015).

5.3.3 ***Roman Pottery***

5.3.4 A total of 28 sherds of Roman pottery, with a combined weight of 215g, was recovered from 11 contexts (Table 5.2). The pottery was in poor to moderate condition and was often abraded.

5.3.5 Fabrics comprise Mancetter-Hartshill white ware (MAH WH), samian ware (SAM / LMV SA) and coarse oxidised ware (CO OX). The vessel types include fragments of Mancetter-Hartshill hammer head mortaria and a single sherd of possible cheese press or strainer, samian ware bowls, a possible cup and dishes. The coarse oxidised ware sherds are undiagnostic but could form parts of jars or flagons.

5.3.6 Interestingly, no black burnished ware (DOR BB1 / BB2) or amphora sherds (BAT AM 1 / 2) were present among the small Roman pottery assemblage.

5.3.7 The pottery assemblage spans the late 1st to 3rd centuries.

5.3.8 Although abraded, the Roman pottery warrants further analysis as part of the wider project, including illustration of diagnostic sherds as well as comparative research with other archaeological sites at Wylfa and in the wider vicinity.

5.3.9 ***Post-medieval Pottery***

5.3.10 Two sherds of post-medieval ceramics were recovered from two contexts, with a total weight of 8g (Table 5.3). Eight sherds from fill **(41007)** of trackway **[4996]** were missing from the archive. The fragments were in moderate condition.

5.3.11 The post-medieval pottery comprised small body sherds of glazed red earthenware (CRE, BUCK). The sherds are undiagnostic but likely originate from storage jars of late 18th to 19th century date. A modern ceramic wall tile fragment was also recovered.

5.3.12 No further work is warranted on the post-medieval ceramics.

5.3.13 ***Fired Clay***

5.3.14 A total of 83 fragments of fired clay weighing 775g were recovered from 13 contexts (Table 5.4). Six fragments weighing 11g were missing from the assemblage. The fired clay fragments were in poor condition.

5.3.15 The fired clay comprised undiagnostic fragments of possible daub. The fragments were largely oxidised to a mid-orange and occasionally reduced. The fragments were

a sandy fabric with frequent inclusions. Occasional heavily fired and vitrified fragments were noted.

5.3.16 It is difficult to assign a date to the fired clay. Similar material has been recovered from several of the other sites associated with the project, which suggests a prehistoric to Roman date for this assemblage.

5.3.17 Over 3,190g of fired clay fragments were recovered from 38 environmental samples. The fired clay comprised abraded fragments of possible daub of a mid-orange sandy fabric which retained areas of surface.

5.3.18 Further analysis is warranted when it should be considered alongside similar material from the wider project.

5.3.19 ***Clay Tobacco Pipe***

5.3.20 A single fragment of clay tobacco pipe was recovered from context (**4418**), weighing 2g (Table 5.5). The clay pipe was in moderate condition. A clay pipe fragment was recovered from sample **<4171>** deposit **(41187)** of burnt material. This has not been commented upon.

5.3.21 The clay pipe comprised an unmarked stem fragment with a central bore measuring 1.5 mm. The measurement of clay tobacco pipes can be used as a rough date guide, and the size suggests a 19th century date (Table 5.6, Kipfer 2006). No maker's mark or decoration was noted.

5.3.22 No further work is recommended.

5.3.23 ***Glass***

5.3.24 A single large shard of glass was recovered from context **(41128)**, weighing 60g (Table 5.7). The glass was in good condition.

5.3.25 The glass comprised a large rim shard of a clear glass jar. The rim was lipped but not screw-topped. It was likely late 19th to early 20th century in date (Licence 2015).

5.3.26 No further work is recommended.

5.3.27 ***Iron***

5.3.28 A single iron artefact was recovered from a fill **(4986)** of the trackway **{4880}** (Table 5.8). The iron weighed 35g and was highly corroded with surface concretions.

5.3.29 The object was a possible large nail. It has been x-rayed (X-ray references K20/5).

5.3.30 It is difficult to date this object and therefore a broad date of Roman to post-medieval date is appropriate.

5.3.31 No further work is recommended.

5.3.32 ***Industrial Waste***

5.3.33 Eight fragments of possible industrial waste, weighing 256g, were recovered from two contexts (Table 5.9). Four of these fragments were missing.

5.3.34 The possible slag material from context **(41007)** comprised a crumbly burnt material with small inclusions of fired clay. This material is likely the remnants of burnt ground rather than industrial waste.

5.3.35 Further work may be recommended, which may include XRF analysis.

5.3.36 ***Stone***

5.3.37 Ten fragments of stone were recovered from three contexts during the excavation at Area 4, weighing 437g (Table 5.10). Only three fragments from context **(4579)** were present in the finds assemblage for assessment. This might be because they have been previously assessed as natural and discarded.

5.3.38 The fragments recovered from context **(4579)** were heavily heat affected but do not appear to be worked.

5.3.39 No further work is recommended.

5.3.40 ***Lithics*** **by M. Gonzalez**

5.3.41 Nine lithic artefacts were recovered from three contexts as bulk finds with a combined weight of 119g (Table 5.11). One was missing from the assemblage. Only worked objects have been assessed.

5.3.42 The assemblage recovered from Area 4 is made up of four (23.87g) worked lithics; cf. Table 5.12. The lithics have been rapidly assessed, quantified and individually assigned to a broad category according to debitage, core or tool type with a further distinction made using sub-category field.

5.3.43 The condition of the assemblage is good, with no signs of re-cortication displaying only some degree of edge damage.

5.3.44 The assemblage comprises two tertiary flakes of black chert **SF4018 (4723)**, and two beige fine-grained flints; a primary flake and side scraper over a flake **SF4015 (4399)**.

5.3.45 The assemblage is likely to be residual and is chronologically non-diagnostic, although the scraper may suggest that pit **[4398]** may be the earliest feature identified at Area 4. No further work is recommended.

5.4 Small Finds

5.4.1 A total of eleven small finds with a combined weight of 3659g, were recovered from eight contexts (Table 5.13). The small finds comprise stone, lithic and metal artefacts and were in poor to good condition.

5.4.2 ***Copper Alloy***

5.4.3 A complete penannular brooch was recovered as **SF4031 (41134)**. It weighed 10g and was in good condition.

5.4.4 The brooch measures 40mm x 38mm and has flared terminals with simple punched dot decoration on two lines along the edges of each terminal. The main brooch ring appears to be hammered into shape while the 57mm straight pin, which is still in place, appears to be cast metal. The brooch has been x-rayed (XRK20/3).

5.4.5 The brooch is Booth's Type H which has a broad date of late Roman to early medieval but is perhaps most likely 6th to 7th century (Booth 2014).

5.4.6 Further work is warranted.

5.4.7 ***Lithics***

5.4.8 The lithic small finds **SF4015** and **SF4018** are discussed previously along with the lithics from the bulk finds.

5.4.9 ***Iron***

5.4.10 A single iron small find was recovered **SF4033 (41246)** weighing 27g. It was highly corroded.

5.4.11 The iron comprised a U-shaped object (XRK20/3) of unidentified purpose.

5.4.12 A broad date of Roman to post-medieval has been attributed.

5.4.13 Further work may be recommended.

5.4.14 ***Stone***

5.4.15 Five stone small finds were recovered with a total weight of 3609g. The stone small finds were in good condition.

5.4.16 The stone small finds comprised rounded pebbles. Two of the stones, **SF4000** and

SF4004, were elongated pebbles which have been adapted for use as whetstone or grinding stones. A flat oval stone **SF4021** was a likely grinding stone. Similar objects were recovered from the A55 road building scheme (Smith 2012) with a prehistoric to Roman date.

5.4.17 Two of the stones are likely unworked, naturally worn stones (**SF4001** and **SF4007**).

5.4.18 Further work on the worked stone is recommended, including illustration / photography and comparative research with other archaeological sites at Wylfa and in the wider vicinity.

5.4.19 ***Ecofactual Remains***

5.4.20 It was noted that nine ecofactual Small Finds were recovered during the excavation. However, only three were received by Wardell Armstrong; all three were from fills of ditch **[4513]**. Not received by Wardell Armstrong were **SF4012** (animal bone and preserved wood), **SF4019** (animal bone), **SF4020** (animal bone), **SF4028** (worked wood), **SF4029** (animal bone) and **SF4032** (tusk).

5.4.21 The fills from which these remains originated were waterlogged. Although currently curated on site and in post-excavation they have suffered from the removal from their anoxic environment.

5.4.22 **SF4025**, from **(41071)**: bundle of straw/thatch. This has now separated from its clayey matrix and is floating in the water it was contained in. The average length of the straw fragments is *c.*12cm.

5.4.23 **SF4026**, from **(41071)**: organic plant material. This has been contaminated with spores and cannot be assessed.

5.4.24 **SF4030**, from **(41095)**: dandelion flower. This flower had retained its yellow colour when observed on site and has suffered due to the introduction of oxygen. The petals have since degraded. The appearance of the non-economic plant in situ suggested that the area was not well maintained. This, together with the inclusion of straw (from **SF4025** in the same feature), suggests that this was an area for dumping waste.

5.4.25 Although no further work is required on these Small Finds they should be considered when analysing the palaeoenvironmental remains. They should be retained until the archive is ready for deposition and they can be discarded. The plant material from

SF4026 should be considered for immediate discard due to the contamination with spores.

5.5 Statement of Potential and Recommendations

5.5.1 The finds assemblage includes artefacts which date from the prehistoric to post-medieval periods. The finds are of local and regional significance and of high archaeological potential.

5.5.2 The brooch of likely early medieval date is of particular significance.

5.5.3 Further work is warranted on the Roman and early medieval finds.

Table 5.1: Distribution of finds by context

C	<>	Context Description	Pottery	FC	CBM	Lithics	Stone	CTP	IW	Fe	Gl	Clinker
4002		Subsoil	yes									
4039	4012	VOID		yes								
4098	4010	Secondary fill of ditch terminus 4097			yes							
4113		Fill of pit cut 4112	yes									
4234	4017	Fill of ditch cut 4037										yes
4242		Cut of posthole		yes								
4246		Fill of construction cut 4245	yes									
4256	4022	Fill of firepit 4254		yes								
4256	4178	Fill of firepit 4254			yes							
4257	4254	Fill of firepit 4254		yes								
4258	4024	Fill of firepit 4254		yes								
4291	4036	Fill of pit cut 4290							yes			
4306		Stony deposit		yes		yes	yes					
4308	4040	Fill of pit cut 4307			yes				yes			
4343	4032	Redeposited natural in pit 4251		yes								
4346	4030	Fill of pit cut 4251		yes								
4349	4033	Fill of pit cut 4242			yes							
4418		Fill of pit cut 4417						yes				
4419	4044	Fill of pit cut 4417		yes	yes*							
4420	4038	Fill of pit cut 4310	yes									
4431	4050	Fill of pit cut 4430			yes							
4446	4051	Fill of pit cut 4444			yes				yes			
4455	4042	Fill of possible palisade cut 4454			yes							
4475		Fill of ditch cut 4474		yes								
4484	4046	Fill of pit cut 4483			yes							
4516		Fill of ditch cut 4513		yes								
4547	4081	Fill of pit cut 4546							yes			
4548	4082	Fill of pit cut 4546			yes							
4579		Fill of pit cut 4578					yes					
4601	4059	Fill of pit cut 4600							yes			
4601	4058	Fill of pit cut 4600							yes			

C	<>	Context Description	Pottery	FC	CBM	Lithics	Stone	CTP	IW	Fe	Gl	Clinker
4610	4062	Fill of gully cut 4714			yes							
4635	4056	Fill of gully cut 4634										
4661	4058	Fill of pit cut 4657		yes								
4664		Fill of pit cut 4662		yes								
4687		VOID	yes									
4695		Fill of ditch cut 4694	yes									
4696		Cut of pit		yes								
4715	4069	Fill of furnace cut 4710			yes							
4718	4070	Fill of furnace cut 4710			yes							
4778		Fill of pit cut 4777	yes									
4801		Fill of ditch terminus 4800	yes									
4828	4073	Fill of pit cut 4826		yes								
4866		Fill of palisade/ gully cut 4865	yes									
4894	4079	Fill of pit cut 4891		yes								
4903		Fill of pit cut 4902				yes						
4921		Fill of trackway 4916	yes									
4928	4098	Fill of ditch cut 4474			yes							
4937	4093	Fill of ditch 4849		yes	yes*							
4937	4114	Fill of ditch 4849			yes*							
4939	4080	Fill of ditch 4905			yes							
4941	4165	Fill of ditch 4905										
4943	4146	Fill of ditch 4905										
4952	4096	Fill of ditch cut 4474										
4957	4043	Fill of pit 4954										
4976	4103	Fill of pit 4975			yes							
4978	4090	Fill of pit 4977										
4983		Fill of enclosure ditch 4513	yes									
4984		Fill of trackway 4995	yes	yes								
4986		Fill of trackway 4987		yes						yes		
4987		Cut of trackway	yes									
4994	4089	Fill of pit 4993			yes							
41007		Fill of trackway 4996	yes	yes					yes			

C	<>	Context Description	Pottery	FC	CBM	Lithics	Stone	CTP	IW	Fe	Gl	Clinker
41011	4091	Fill of ditch cut 41010										
41015		Fill of ditch 4905	yes									
41018	4106	Fill of trackway 4996										
41046	4115	Fill of ditch 4849		yes								
41048	4118	Fill of ditch 4849		yes								
41050	4116	Fill of ditch 4849		yes								
41110	4134	Fill of enclosure ditch 41102							yes			
41128		Fill of pit 41130									yes	
41185	4155	Fill of ditch 41168										
41187	4171	Deposit of burnt material			yes			yes				
41190		Cut of modern cable trench	yes									
41222	4172	Fill of enclosure ditch 41213			yes							
41230		Fill of construction cut 41255		yes								
41258	4179	Fill of drain 41257			yes							

Key: C= context, <>= sample number, FC = fired clay, CBM = ceramic building material, CTP = clay tobacco pipe, IW = industrial wate; Fe = iron; Gl = glass

Table 5.2: Roman pottery data

Context	Qty	Wgt (g)	Comments	Fabric code
4002	1	6	Samian body sherd	SAM
4113	1	10	Samian base sherd. Small dish/ cup	SAM
4687	1	4	Oxidised ware. Rim sherd. Abraded	CO OX
4695	1	4	Samian ware body sherd	SAM
4778	3	40	Samian body sherds. Refitting	SAM
4866	1	3	Samian body sherd	SAM
4921	1	12	Mortaria. Mancetter Hartshill hammer head rim sherd	MAH WH
4983	5	61	Mortaria. Mancetter Hartshill hammer head rim sherd. Abraded	MAH WH
4983	1	4	Samian body sherd	SAM
4984	1	5	Mancetter Hartshill? Cheese press/ strainer. Abraded	MAH WH
4984	3	10	Samian. Rim sherds	SAM
4987	1	38	Mortaria. Mancetter Hartshill hammer head rim sherd. Abraded	MAH WH

Context	Qty	Wgt (g)	Comments	Fabric code
4987	1	2	Oxidised ware. Body sherd. Abraded.	CO OX
4987	6	14	Samian ware body sherds. Abraded.	SAM
41190	1	2	Oxidised ware. Body sherd. Abraded.	CO OX
TOTAL	**28**	**215**		

Key: MAH WH = Mancetter Hartshill mortaria, CO OX = coarse oxidised ware; SAM = samian ware or *Terra sigillata*

Table 5.3: Post-medieval pottery data

Context	Qty	Wgt (g)	Comments	Fabric code
4246	1	3	Red earthenware. Stamped	CRE
4801	1	5	Buckley type red earthenware body sherd. Black glaze	BUCK
41007	8	25	Missing	
TOTAL	**2**	**8**	*Assessed sherds only*	

Key: CRE = coarse red earthenware, BUCK = Buckley-type coarse red earthenware

Table 5.4: Fired clay data

Context	<>	Qty	Wgt (g)	Comments
4039	4012	1-10	<1	
4242		18	77	
4256	4022	1-10	<1	
4258	4024	51-150	367	
4306		1	8	
4346	4030	1-10	5	
4343	4032	51-150		
4418		8	83	
4419		28	392	
4475		3	11	
4516		4	123	
4664		3	10	Missing
4696		3	1	Missing
4937		2	9	
4984		4	24	
4986		1	12	

Context	<>	Qty	Wgt (g)	Comments
41007		8	25	
TOTALS		**27**	**764**	Assessed material only

Key: <>= sample number

Table 5.5: Clay tobacco pipe data

Context	Qty	Wgt (g)
4418	1	2

Table 5.6: Clay tobacco pipe internal stem diameters (from Kipfer 2006)

Stem-Hole Diameter (in/XX)	Conversion (mm) 1 inch = 25.4mm 1/64 (inch) = 0.4mm	Dates
9/64	9 x 0.4mm = 3.6	1590 – 1620
8/64	8 x 0.4mm = 3.2	1620 – 1650
7/64	7 x 0.4mm = 2.8	1650 – 1680
6/64	6 x 0.4mm = 2.4	1680 – 1720
5/64	5 x 0.4mm = 2	1720 – 1750
4/64	4 x 0.4mm = 1.6	1750 - 1800

Table 5.7: Glass data

Context	Qty	Wgt (g)	Period	Comments
41128	1	60	Post Med - Modern	Clear glass jar rim

Table 5.8: Iron (fe) data

Context	Qty	Wgt (g)	Period	Comments
4986	1	35	Roman - Post Med	Highly corroded. Nail

Table 5.9: Industrial waste data

Context	Qty	Wgt (g)	Comments
4984	4	24	Missing
41007	4	232	

Table 5.10: Stone data

Context	Qty	Wgt (g)	Comments
4306	1	34	Missing
4418	6	91	Missing
4579	3	312	Burnt stone fragments

Table 5.11: Lithics data

Context	Qty	Wgt (g)	Comments
4306	7	101	
4418	1	14	Missing
4903	1	4	
TOTAL	8	105	*Assessed totals only*

Table 5.12: Worked lithics assessment

Context	Raw Material							Measures				Class	Category	Subcategory
	Type	Colour	Lustre	Texture	Opacity	Cortex	Patination	L	W	T	Wgt (g)			
4903	Flint	Beige	Shiny	Medium	Opaque	CoD	Medium	25.5	23.9	7.2	4.02	Debitage	Flake	Primary flake
4306	Chert	Black	Dull	Medium	Opaque	Nco	None	34.7	23.6	7.8	6.43	Debitage	Flake fragment	Tertiary flake frag.
4723	Chert	Black	Dull	Medium	Opaque	Nco	None	20.2	27.3	4	2.28	Debitage	Flake	Tertiary flake
4399	Flint	Beige	Dull	Fine	Opaque	NcoD	Light	35	25.7	12.4	11.14	Retouched tool	Scraper	Side scraper

Key: L= length, W = width, T = thickness , Nco = no cortex observed

Table 5.13: Small finds data

Context	SF	Material	Qty	Wgt (g)	Period	Comments
4038	4000	Stone	1	479		Whetstone/ rubbing stone. Roughly rectangular. Dark grey mudstone? Flat worn base150x45x35mm
4166	4001	Stone	1	530		Rounded pebble. Quartz veins. Pale coloured. Natural wear? 110x80x30mm
4306	4004	Stone	1	835		Elongated pebble. Coarse sandstone. Rubbing stone 155x70x40mm
4306	4007	Stone	1	94		Pebble. Flat based. Natural? 60x30x30mm
4574	4012	Animal bone and wood				Not received
4399	4015	Lithic	1	12	Prehistoric	Flint. Retouched tool
4723	4018	Lithic	1	1	Prehistoric	Chert. Debitage
4541	4019	Animal bone				Not received
4016	4020	Animal bone				Not received
4478	4021	Stone	1	1671		Rubbing stone. Flat oval 200mm x 110mm x 30mm
41071	4025	Bundle of straw				
41071	4026	Plant material				Heavily contaminated with spores
41077	4028	Worked wood				Not received
	4029	Animal bone				Not received
41100	4031	Cu	1	10	Roman to early Med	Penannular Brooch. Flared terminals. Complete with pin. Booth Type H
41095	4030	Dandelion				
41246	4033	Iron	1	27	Roman to Post Med	
		TOTAL	**9**	**3659**		

6 PALAEOENVIRONMENTAL ASSESSMENT

6.1 Introduction

6.1.1 One hundred and forty-one bulk samples were taken during the excavation of Area 4. A total weight of 4387kg (2549l) of sediment was processed for this stage of works. Further details for each sample can be found in Table 6.1. Those that are marked as *?void* indicates that they were never received at Wardell Armstrong and may have been discarded on site.

6.1.2 A total of 902 fragments of animal bone, weighing 2,932g, were recovered from 45 contexts during the archaeological investigation at Area 4, Wylfa Newydd (Table 6.2). A small quantity of animal bone, weighing c.944g, was recovered from 51 environmental samples (Table 6.3). A single shell was recovered from context **(4306)**, weighing 5g.

6.2 Methodology

6.2.1 This report presents the results of the assessment of the environmental samples, palaeobotanical and charcoal remains in accordance with Campbell *et al.* (2011).

6.2.2 The bulk environmental samples were processed at Wardell Armstrong LLP. The colour, lithology, weight and volume of each sample was recorded using standard Wardell Armstrong pro forma recording sheets. cf. Table 6.1. 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 artefactual and ecofactual material removed, the retent residues were discarded as they contained only modern contaminants and geology.

6.2.3 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. Table 6.4. Once fully sorted and all relevant material removed the flots were discarded.

6.2.4 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.

6.2.5 Plant remains were identified using Cappers et al. (2012), Cappers and Bekker (2013), Cappers and Neef (2012), Jacomet (2006) and the author's reference collection. Nomenclature for plants followed Stace (2010) and Cappers and Neef (2012) for cereals. Charcoal was identified to species using Hather (2000), Schweingruber (1982) and the author's reference collection where nomenclature followed Stace (2010).

6.2.6 Guidelines adhered to for zooarchaeological assessment include 'Animal Bones & Archaeology: recovery to archive (Baker & Worley 2019) plus reference material from Schmid (1972), Serjeantson (1996), Hillson (1992) and Ruscillo (2015). Identification of avian species was aided by Serjeantson (2009). The author's in-house skeletal reference collection and technical manual were also used to aid identification of species. The material was also assessed on its potential for age estimation, sex determination and measurements for withers heights.

6.3 Results

6.3.1 Sandy/silty clays dominated the samples' sediment matrix with lesser quantities of sand/silt sediments, further data can be observed in Table 6.1.

6.3.2 Flot and finds data is presented in Table 6.4.

6.3.3 Artefactual material recovered from the dried residues were minimal but contained examples of clay pipe, fired clay, industrial waste, ceramic building material (CBM) and pottery.

6.3.4 ***CPR:*** Charred plant remains (CPR) were present in forty-nine samples and were identified as wheat (*Triticum* sp.), oat (*Avena* sp.) and barley (*Hordeum* sp.) grains in a good state of preservation. From these forty-nine samples five contained assemblages of over 50 grains, these were: **<4036>** from the fill **(4291)** of pit **[4290]**, **(4604) <4054>** from in situ burning in pit **[4603]**, **<4132>** from an upper fill **(41134)** of enclosure ditch **[41102]**, **(41229) <4174>** and **(41230) <4175>** both from the backfill within a collapsed structure **{41228}** within construction cut **[41255]**.

6.3.5 ***Charcoal:*** Charcoal was present in 99 samples which was in a good state of preservation and the majority examined for radiocarbon potential was identified as oak (*Quercus* sp.). From these 99 samples 10 yielded assemblages over 10g, these were: **(4214) <4014>** from the fill of pit/posthole **[4211]**, (**4307) <4040>** from the cut of a pit, **(4579) <4052>** from the fill of burnt pit **[4578]**, **(4604) <4054>** from in situ burning in pit **[4603]**, **(4718) <4070>** from the bottom fill of furnace **[4710]**, **(4978) <4090>** from the fill of uncategorised feature **[4977]**, **(41011) <4091>** from the fill of gully **[41010]**, **(4475) <4097>** from the fill of uncategorised feature **[4474]**, **(41014) <4099>** from the tertiary fill of uncategorised feature **[4474]**, **(4976) <4103>** from the fill of pit **[4975]**.

6.3.6 ***Shell:*** Shell was present in two flots with a combined weight of 1g and comprised small, indeterminate terrestrial mollusc fragments.

6.3.7 ***Bone:*** Small fragments of animal bone were present in 51 samples and any relevant pieces will have been discussed in the zooarchaeology section of this report.

6.3.8 ***Magnetic Matter:*** Magnetised material was present in 100 samples and was examined under a microscope (x45 magnification) and comprised small natural and heat affected stone; no microslags were present.

6.3.9 ***Wood:*** Wood was present in 11 samples and all from the fills of ditches and one pit. It was made up predominantly of roots with other small fragments mixed in.

6.4 Zooarchaeology

6.4.1 Although the animal bone ranges from very poor to good condition, the vast bulk of the material is in very poor to poor condition, with flaking cortical bone surfaces and friable fragments. The burnt bone tends to be highly fragmentary and chalky to touch.

6.4.2 Hand-Collected Animal Bone (Table 6.2). The minimum number of individuals (MNI) observed was 54. It should be noted that this will probably change, pending further analysis, as many of the fragments comprise teeth, which may have originated from one animal. Breakdown of species is as follows: *Bos* sp. (28), Large-sized Ungulates (equivalent to horse or cattle-sized mammals) and *Ovis*/*Capra* sp. (7 each), *Sus* sp. (4), medium-sized ungulates (equivalent to sheep or goat sized mammals) (3), *Equus* sp. (2), *Canis* sp. (1), *Cetacea* sp. (1) and small mammals (small cat to rodent sized mammals) (1). Animal bone from two contexts could not be identified to species.

Tiny limb bone fragments from possibly avian and rodent species were observed in samples **<04102>** and **<04147>**.

6.4.3 The vast majority of the anatomical elements comprised teeth fragments, although a small proportion of limb bone fragments were recorded (largely humerae and metapodials) as well as rib fragments, phalanges, scapular fragments, cranial and mandibular portions as well as vertebrae.

6.4.4 The vast majority of the animal bone originates from adults, although a non-adult *Ovis*/*Capra* mandible was recorded from context **(41065)** of the enclosure ditch **[41271]**.

6.4.5 Butchery marks, pathologies and canid / rodent gnaw-marks were not observed in the assemblage. This identification was hampered by the poor condition of the bone.

6.4.6 The potential for sex determination, age estimation and measurements for withers heights for this assemblage is limited; some age estimation analyses could be undertaken on the teeth and only two complete bovine phalanges recovered from context **(4790)** and **(41001) <04092>** can be measured for withers heights. Some of the animal bone in moderate to good condition may be suitable for radiocarbon dating.

6.4.7 A small to moderate-sized amount of burnt and unburnt animal bone was recovered from 51 environmental samples, weighing a total of 944g (Table 6.3). The animal bone is in poor condition; most of the bone is very small and highly fragmented. Bone from 25 samples was unidentifiable. Species identification and anatomical element identification was possible, with bones and teeth from bovids, *ovis*/*capra*, canids, equids and large-sized ungulates observed in the assemblage. Possible avian and rodent bones were also observed in two samples. Bones recovered include phalanges, vertebrae, limb bone fragments (ulnae and tibiae), cranial and mandibular fragments as well as teeth.

6.4.8 A single limpet shell (*Patella vulgate*), weighing 5g, was recovered from stony deposit **(4306)** sealing feature **[4309]**.

6.5 Radiocarbon Results

6.5.1 One charcoal sample and six charred cereal grains were submitted to Beta Analytic for radiocarbon determination.

6.5.2 The samples were treated according to Beta Analytics methodology (Beta Radiocarbon Dating unpub.). The production of the radiocarbon age followed Riemer *et al.* (2013) calibrated to the calendar timescale following Bronk Ramsey (2009).

6.5.3 A sample of oak (*Quercus* sp.) charcoal from **<4052>** from the fill **(4579)** of a probable rubbish pit **[4578]** provided a radiocarbon age of 1800±30 BP (Beta-553521, 95.4% probability cal. AD 130-326) *cf.* Table 6.5.

6.5.4 Two wheat (*Triticum* sp.) grains were submitted for dating. One from **<4104>** from the secondary fill **(4711)** of trackway **[4916]** provided a radiocarbon age of 1550±30 BP (Beta-553516, 95.4% probability cal. AD 422-574). The second was from **<4132>** which came from an upper fill **(41134)** of ditch enclosure **[41102]** provided a radiocarbon age of 1260±30 BP (Beta-553518, 95.4% probability cal. AD 668-864).

6.5.5 One barley (*Hordeum* sp.) grain was submitted for dating from **<4049>** of fill **(4532)** from palisade **[4522]** and provided a radiocarbon age of 1280±30 BP (Beta-553520, 95.4% probability cal. AD 661-774).

6.5.6 Three oat (*Avena* sp.) grains were submitted for dating. The first from **<4054>** of fill **(4604)** of *in situ* pit burning **[4603]** provided a radiocarbon age of 1230±30 BP (Beta-553519, 95.4% probability cal. AD 668-882). The second from sample **<4059>** which came from the deliberate backfill **(4601)** of pit **[4600]** provided a radiocarbon age of 1880±30 BP (Beta-553514, 95.4% probability cal. AD 66-222). The last was from sample **<4061>** of fill **(4726)** from palisade terminus **[4724]** and provided a radiocarbon age of 1370±30 BP (Beta-553515, 95.4% probability cal. AD 608-688).

6.6 Discussion

6.6.1 Of the large CPR assemblages discussed in section 6.3.4 the only one that is relevant to the feature in which it was found is **<4054>**. This was likely a result of in situ burning within the pit and could have been remains from a food preparation area.

6.6.2 Samples **<4036>** and **<4132>** were all likely to be deposits in backfill either as part of rubbish deposits, or in the case of **<4174>** and **<4175>**, backfilling with mixed deposits when the wall was constructed. These deposits, when linked with **<4054>**, human activity, included the husbandry of different crop types as a food source.

6.6.3 The charcoal discussed in 6.3.5 seems to have been deposited as rubbish into pits after burning. The exception to this is **<4054>**, **<4052>** and **<4070>** which all came from burning deposits. Samples **<4052>** and **<4054>** are from burnt pits and as in

6.6.1 could be part of food preparation. Sample **<4070>** was taken from the bottom of a furnace and, like the vast majority of the charcoal from Area 4, was oak. This links in with Wylfa and the wider Anglesey landscape where we find oak used as a fuel source such as at Cefn Cwmwd (Gale in Cuttler *et al*., 2012, pp.217-219).

6.6.4 The wood, being mainly roots, is most likely present as a result of bioturbation and offers no meaningful insight into human activity at Area 4.

6.6.5 The magnetised material offers no further discussion due to no microslags being present.

6.6.6 The animal bone assemblage from Area 4 likely comprises domestic food waste; the teeth fragments likely represent casual loss. The inclusion of a Cetacean rib fragment is interesting, but not surprising given the coastal location of the site.

6.6.7 While it is not possible to assign animal bone to a chronological period by visual examination, their recovery in conjunction with Roman artefacts may indicate that they are of a contemporary date.

6.7 Statement of Potential and Recommendations

6.7.1 The ecofactual material offers the potential to provide further insight into crop and fuel management across Anglesey and North Wales when put into wider context. It is recommended that those charred plant and charcoal assemblages listed in paragraphs 6.3.4 and 6.3.5 are analysed fully. The plant material should be examined to get a refinement of species, if not sub-species. And charcoal should be analysed following procedures stated by Huntley (2010: 57-60).

6.7.2 No further work is required on the animal bone assemblage although it should be included into a Wylfa site-wide synthesis.

6.7.3 ***Radiocarbon suitability***

6.7.4 Material from samples listed in 6.3.4 and 6.3.5 may be suitable for radiocarbon determination. 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.

6.7.5 The animal bone in moderate to good condition may be appropriate for AMS C14 analysis.

6.7.6 If there is charcoal and CPR present within a context listed in Tables 6.2 but not stated within sections 6.3.4 or 6.3.5 these can undergo further assessment to gauge their suitability for submission.

6.7.7 Care must be employed for selection as this must also be based on the suitability of the feature, for example, a tertiary pit fill or secondary fill of gully would be unlikely to provide a usable date for the feature.

6.7.8 The magnetic matter from all samples may be discarded.

6.7.9 ***Retention and discard***

6.7.10 At this stage all ecofactual material should be retained until initial radiocarbon dates have been obtained and further analytical work has been undertaken.

Table 6.1: Sample data

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
4065	4001		4064	VOID Sample not located? Fill of pit cut 4064					
4059	4002		4057	VOID Sample not located? Fill of ditch 4057					
4048	4003	4	4047	Fill of pit cut 4047	clayey silt	50	29	7638	5400
4055	4004		4054	VOID Sample not located? Fill of pit cut 4054					
4056	4005		4054	VOID Sample not located? Fill of pit cut 4054					
4053	4006		4049	VOID Sample not located? Fill of stakehole cut 4052					
4051	4007	4	4049	Secondary fill of pit 4049	sandy clay	46	25	11138	7300
4088	4008		4087	VOID Sample not located? Fill of pit cut 4087					
4090	4009	4	4089	Secondary fill of pit cut 4089	silty clay	50	27	6791	4660
4098	4010	4	4097	Secondary fill of ditch terminus 4097	silty clay	45	25	13860	7500
4061	4011		4060	VOID Sample not located? Fill of pit cut 4060					
4039	4012	4	4158	VOID Deposit not found? Secondary fill of ditch	silty clay	54	29	14698	9200
	4013			VOID Sample not located?					
4214	4014	2	4211	Fill of pit cut 4211	silty clay	25	14	5797	4320
4190	4015	2	4189	Fill of pit cut 4189	sandy clay	28	16	5079	6600
4231	4016	4	4037	Fill of ditch cut 4037	silty clay	26	17	2970	2600
4234	4017	4	4037	Fill of ditch cut 4037	silty clay	31	22	3959	3080
4084	4018	1	4083	Fill of posthole cut 4083	sandy clay	14	6	2374	1600
4038	4019		4037	VOID Sample not located? Fill of ditch cut 4037					
4239	4020	4	4037	Fill of ditch cut 4037	clay	39	18	14447	8300
4257	4021	3	4254	Fill of firepit 4254	silty clay	11	8	3746	3300
4256	4022	4	4254	Fill of firepit 4254	clay	46	28	15423	9600
4260	4023	1	4259	Fill of pit 4259	silty sand	11	6	1556	1000
4258	4024	4	4254	Fill of firepit 4254	sandy clay	50	29	14709	10000
4321	4025		4320	VOID Sample not located? Fill of furnace cut 4320					
4341	4026	6	4251	Fill of pit cut 4251	clay	78	39	16523	10600
4342	4027		4251	VOID Sample not located? Fill of pit cut 4251					
4344	4028		4251	VOID Sample not located? Clay lining layer of pit 4251					
4345	4029		4251	VOID Sample not located? Burnt charcoal layer in pit 4251					
4346	4030	1	4251	Fill of pit cut 4251	sandy clay	17	6	2548	1800

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
4381	4031	4	4379	Fill of palisade extension cut 4379	sandy clay	34	18	12133	7800
4348	4032	4	4242	Fill of posthole cut 4242	sandy clay	38	24	10406	7100
4349	4033	3	4242	Secondary fill of posthole 4242	sandy clay	29	17	7899	5500
4512	4034	4	4398	Fill of pit cut 4398	sandy clay	54	32	10402	7600
4510	4035	2	4398	Fill of pit cut 4398	sandy silt	26	16	4406	2800
4291	4036	1	4290	Fill of firepit cut 4290	sandy clay	12	8	4730	2800
4416	4037	1	4290	Fill of firepit cut 4290	silty clay	10	6	3803	300
4420	4038	1	4310	Fill of pit cut 4310	silty clay	10	6	3207	1700
4311	4039	1	4310	Fill of pit cut 4310	sandy clay	13	8	4722	3000
4308	4040	1	4307	Fill of pit cut 4307	silty clay	12	6	4857	3400
4436	4041	4	4110	Fill of pit cut 4110	sandy clay	42	17	7191	4700
4455	4042	4	4454	Fill of possible palisade cut 4454	sandy clay	34	21	11250	6800
4457	4043	4	4954	Fill of palisade extension cut 4456	clay	29	14	13834	7900
4419	4044	4	4417	Fill of pit cut 4417	clay	54	28	17616	12600
4484	4045		4483	VOID Sample not located? Fill of pit cut 4483					
4469	4046	1	4468	Fill of pit cut 4468	silty clay	8	5	2605	2000
4484	4046	1	4483	VOID duplicate sample? Secondary fill of pit	clay	3	1	398	280
4507	4047	4	4302	Fill of pit cut 4302	silty clay	49	27	14167	8000
4523	4048	4	4522	Fill of palisade cut 4522	sandy clay	36	23	13914	9200
4532	4049	4	4522	Fill of palisade cut 4522	sandy clay	25	17	8872	4600
4431	4050	1	4430	Fill of pit cut 4430	silty clay	14	8	4301	4000
4446	4051	4	4444	Fill of pit cut 4444	sandy clay	48	28	6310	4460
4579	4052	1	4578	Fill of pit cut 4578	sandy clay	12	6	4409	2800
4584	4053	4	4583	Fill of pit cut 4583	sandy clay	64	36	20020	17100
4604	4054	1	4603	Fill of pit cut 4603	silty clay	8	6	1904	1700
4631	4055	1	4630	Fill of pit cut 4630	sandy clay	12	7	4494	2700
4635	4056	2	4634	Fill of gully cut 4634	sandy clay	20	13	7166	4900
4625	4057	2	4624	Fill of gully cut 4624	sandy clay	23	16	6915	5700
4661	4058	4	4657	Fill of pit cut 4657	clayey sand	50	30	17379	10850
4601	4059	4	4600	Fill of pit cut 4600	sandy clay	45	27	28386	17000
4725	4060	2	4724	Fill of palisade terminus cut 4724	sandy clay	19	10	6392	4000
4726	4061	2	4724	Fill of palisade terminus cut 4724	sandy clay	19	11	5935	3200

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
4610	4062	1	4714	Fill of gully cut 4714	clay	9	6	4019	2475
4615	4063	1	4714	Fill of gully cut 4714	sandy clay	5	3	2351	1400
4428	4064	2	4427	Fill of palisade extension cut 4427	clayey sand	22	14	5338	3400
4698	4065	4	4737	Fill of pit cut 4737	silty clay	52	27	4936	6800
4778	4066	4	4777	Fill of pit cut 4777	sandy clay	49	25	12097	9200
4781	4067	1	4780	Fill of gully cut 4780	silty sand	10	6	3867	2600
4558	4068	4	4543	Fill of ditch cut 4543	sandy clay	37	20	7825	4600
4715	4069	3	4710	Fill of furnace cut 4710	clay	45	21	22640	14500
4718	4070	4	4710	Fill of furnace cut 4710	sandy clay	63	30	25242	16220
4716	4071	1	4709	Fill of furnace flue cut 4709	clayey sand	10	6	4232	3300
4721	4072	1	4709	Fill of furnace flue cut 4709	silty clay	6	2	2377	1600
4828	4073	4	4826	Fill of pit cut 4826	sandy clay	54	28	12724	8850
4862	4074	4		Deposit floor surface	sandy clay	45	27	23219	14800
4815	4075	2	4831	Fill of pit cut 4831	sandy clay	23	12	7699	4900
4894	4076	4	4891	Secondary fill of pit/posthole	sandy clay	42	23	8988	5400
4914	4077	4	4913	Fill of possible palisade/ gully 4913	clay	33	30	9718	6900
4776	4078	3	4902	Fill of pit cut 4902	silty sand	34	23	15026	10300
4894	4079	2	4891	Secondary fill of pit/posthole (Same deposit as sample <4076>)	silty sand	19	10	7742	4900
4939	4080	4	4905	Fill of ditch 4905	clay	42	25	7247	9800
4547	4081	4	4546	Fill of pit cut 4546	clay	40	24	13873	12400
4548	4082	4	4546	Fill of pit cut 4546	sandy clay	41	21	23641	13200
4925	4083	2	4923	Fill of posthole cut 4923	clayey sand	12	18	3323	2200
4946	4084	1	4945	Fill of posthole cut 4945	sandy clay	7	3	2729	2000
4970	4085	4	4969	Fill of gully 4969	silty clay	9	8	2078	1900
4545	4086	4	4544	Fill of pit cut 4544	clay	57	24	15097	13200
4989	4087	1	4988	Fill of posthole 4988	silty clay	11	5	3183	2300
4972	4088	1	4971	Fill of posthole 4971	sandy clay	8	4	1565	1300
4994	4089	4	4993	Fill of pit 4993	clay	41	21	8061	3020
4978	4090	4	4977	Fill of pit 4977	silty clay	34	30	10560	6900
41011	4091	1	41010	Fill of gully cut 41010	silty clay	15	8	6577	4000
41001	4092	3	4849	Fill of ditch 4849	clay	31	17	6012	4470
4937	4093	3	4849	Fill of ditch 4849	clay	52	22	19875	14200

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
4951	4094	4	4474	Fill of ditch cut 4474	sandy clay	48	29	5047	4600
4927	4095	4	4427	Fill of ditch cut 4474	sandy clay	45	27	18826	11300
4952	4096	4	4474	Fill of ditch cut 4474	clay	48	29	11655	7300
4475	4097	4	4474	Fill of ditch cut 4474	sandy clay	47	26	12364	8400
4928	4098	4	4474	Fill of ditch cut 4474	sandy clay	48	28	18274	10000
41014	4099	1	4474	Fill of ditch 4474	clay	12	7	3587	3000
4943	4100		4905	VOID Sample not located					
41012	4101	4	4474	Fill of ditch 4474	sandy clay	41	23	9208	12100
41015	4102	4	4905	Fill of ditch 4905	clay	45	27	6231	4280
4976	4103	4	4975	Fill of pit 4975	clay	48	26	16786	11500
4711	4104	2	4916	Fill of trackway cut 4916	sandy clay	24	15	7944	5500
41019	4105	4	4916	Fill of trackway 4916	silty clay	24	16	7954	5000
41018	4106	4	4996	Fill of trackway 4996	sandy clay	55	32	27686	22000
41017	4107	1	41016	Fill of possible palisade/ gully 41016	clay	18	7	5867	3450
41039	4108	1	41038	Fill of pit 41038	clay	4	2	1245	700
41040	4109	3	41032	Fill of pit 41032	sandy clay	45	24	4619	3200
41071	4110		4513	Bundle of straw/thatch (SF4025)					
41071	4111		4513	Organic plant material (SF4026)					
41077	4112	1	4513	Fill of ditch 4513	clay	4	1	198	150
4171	4113		4170	VOID Sample not located					
4197	4114	4	4196	Fill of pit cut 4196	silty clay	22	21	18249	12700
41046	4115	2	4849	Fill of ditch 4849	clay	7	2	1575	700
41050	4116	1	4849	Fill of ditch 4849	clay	10	5	2282	1300
41051	4117	2	4849	Fill of ditch 4849	sandy clay	29	14	9720	6000
41048	4118	2	4849	Fill of ditch 4849	silty sand	26	13	6512	3800
41071	4119	2	4513	Fill of ditch 4513	sandy clay	21	10	3060	2800
41088	4120	1	4513	Fill of ditch 4513	silty sand	9	5	1131	1100
4515	4121	1	4513	Fill of ditch cut 4513	clay	7	3	133	300
41161	4123	1	41139	Fill of enclosure ditch 41139	sandy clay	14	8	1199	1000
	4124			Monolith Sample 4170					
	4125			Monolith Sample 4170					
	4126			Monolith Sample 4170					

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
	4127			Monolith Sample 4170					
	4128			Monolith Sample 4167					
	4129			Monolith Sample 4167					
	4130			Monolith Sample 4164					
	4131			Monolith Sample 4164					
41134	4132	4	41102	Fill of enclosure ditch 41102	sandy clay	48	33	13199	8900
41135	4133	4	41102	Fill of enclosure ditch 41102	clay	51	31	12559	11000
41110	4134	4	41102	Fill of enclosure ditch 41102	silty clay	60	38	23010	15100
41107	4135	4	41102	Fill of enclosure ditch 41102	clay	44	32	1430	600
41125	4136	4	41102	Fill of enclosure ditch 41102	clayey sand	60	29	13283	8200
	4137			Monolith Sample 4169					
	4138			Monolith Sample 4169					
	4139			Monolith Sample 4167					
	4140			Monolith Sample 4164					
	4141			Monolith Sample 4169					
	4142			Monolith Sample 4169					
	4143			Monolith Sample 4169					
	4144			Monolith Sample 4169					
41188	4145	3	4905	Fill of enclosure ditch 4905	silty clay	39	21	7512	8500
4943	4146	4	4905	Fill of ditch 4905	silty clay	52	30	12132	8300
41065	4147	4	4905	Fill of ditch 4905	silty clay	51	34	4444	2000
41067	4148	4	4905	Fill of ditch 4905	clay	51	30	3324	2500
41066	4149	1	4905	Fill of ditch 4905	sandy clay	6	2	1224	750
41069	4150	1	4905	Fill of ditch 4905	clay	5	3	1321	700
41189	4151	1	4905	Fill of enclosure ditch 4905	clay	7	5	1533	900
41174	4152	2	41168	Fill of ditch 41168	silty clay	20	12	2153	1100
41176	4153	1	41168	Fill of ditch 41168	clay	8	3	1557	1000
41184	4154	4	41168	Fill of 41168	clay	38	20	12028	7900
41185	4155	3	41168	Fill of ditch 41168	silty clay	33	15	11689	6500
41175	4156	4	41168	Fill of ditch 41168	clay	35	19	14427	8000
4516	4157	4	4513	Fill of ditch cut 4513	silty clay	48	32	5754	3000
4973	4158	4	4513	Fill of enclosure ditch 4513	silty clay	50	33	4270	3300

C	<>	TQ	Cut	Desc	Matrix	PW	PV	SW	SV
4575	4159	4	4513	Fill of ditch cut 4513	silty clay	23	32	3078	2300
41095	4160	4	4513	Fill of ditch 4513	silty clay	48	32	2502	1400
4186	4161	4	4185	Fill of pit cut 4185	silty clay	47	37	4216	4700
41118	4162	4	4513	Fill of ditch 4513	silty clay	65	30	12428	7300
41119	4163	1	4513	Fill of ditch 4513	clay	10	5	2207	1000
	4164			Monolith Sample					
4939	4165	4	4905	Duplicate? Sample not indicated on context sheet.	sandy clay	48	28	22005	12800
4941	4166	2	4905	Fill of ditch 4905	sandy clay	19	12	7700	5600
	4167			Monolith Sample					
4940	4168	1	4905	Fill of ditch 4905	silty clay	10	7	3137	2000
	4169			Monolith Sample					
	4170			Monolith Sample					
41187	4171	1		Deposit of burnt material	sandy silt	6	4	1362	980
41222	4172	4	41213	Fill of enclosure ditch 41213	silty clay	40	24	10393	6100
41216	4173	4		Metalled surface	sandy clay	60	32	35218	18850
41229	4174	3	41255	Fill of construction cut 41255	silty sand	35	24	6317	5000
41230	4175	4	41255	Fill of construction cut 41255	sandy clay	39	28	13877	12100
4233	4176	1	4232	Fill of posthole cut 4232	silty clay	7	5	2753	1800
41250	4177	1	41249	Fill of pit 41249	silty clay	13	7	2426	2000
4256	4178	4	4254	Fill of pit 41259	silty clay	59	28	21081	12000
41258	4179	1	41257	Fill of drain 41257	silty clay	12	7	2705	1720

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

Table 6.2: Quantification of animal bone by context

Context	Species	Includes Elements	MNI	Butch	Gnaw	Path	Age	Sex?	Measure?	Condition
4038	*Bos* sp.	Tooth, rib, vert	1	N	N	N	A	N	N	Poor
4166	*Bos* sp.	Tooth, MT frag (very small)	1	N	N	N	A	N	N	Poor
4231	*Ovis/Capra* sp.	Partial limb bones	1	N	N	N	A	N	N	Poor
4234	*Bos* sp.	Multiple tooth frags	1	N	N	N	A	N	N	Poor
4331	Large-sized ungulate	Distal limb epiphysis	1	N	N	N	A	N	N	Poor
4360	*Patella vulgata*	Limpet								Moderate
4383	*Ovis/Capra* sp.	Tooth	1	N	N	N	A	N	N	Poor
4418	*Bos* sp.	Tooth	1	N	N	N	A	N	N	Poor
4425	*Bos* sp.	Distal MT portion	1	N	N	N	A	N	N	Poor
4425	Medium-sized ungulate	Limb bone frags	1	N	N	N	A	N	N	Poor
4498	*Bos* sp.	Tooth	1	N	N	N	A	N	N	Very poor
4515	*Cetacea* sp.	Rib	1	N	N	N	A	N	N	Poor
4515	Large-sized ungulate	Rib portion, tib (?) portion	1	N	N	N	A	N	N	Poor
4516	*Bos* sp.	Rib, tooth	1	N	N	N	A	N	N	Poor
4516	Medium-sized ungulate	Limb bone frags	1	N	N	N	A	N	N	Poor
4534	Unidentifiable	Tiny burnt fragments	-	N	N	N	-	N	N	Very poor
4541	*Bos* sp.	Scapula, teeth, tiny limb bone frags	1	N	N	N	A	N	N	Very poor
4547	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Very poor
4548	Large-sized ungulate	Limb bone portion, teeth frags	1	N	N	N	A	N	N	Poor
4659	*Bos* sp.	Ulnar portion	1	N	N	N	A	N	N	Poor
4659	*Ovis/Capra* sp.	Tooth	1	N	N	N	A	N	N	Poor
4661	*Bos* sp.	Tooth, miscellaneous limb bone frags	1	N	N	N	A	N	N	Poor
4661	Small Mammal	Rib - burnt	1	N	N	N	A	N	N	Poor

Context	Species	Includes Elements	MNI	Butch	Gnaw	Path	Age	Sex?	Measure?	Condition
4664	*Sus* sp.	Tooth	1	N	N	N	A	N	N	Poor
4664	Medium-sized ungulate	Miscellaneous limb bones, burnt and unburnt	1	N	N	N	A	N	N	Very poor
4687	*Bos* sp.	Teeth	1	N	N	N	A	N	N	Poor
4696	Unidentifiable	Tiny burnt fragments	-	N	N	N	-	N	N	Very poor
4711	*Equus* sp.	Teeth frags	1	N	N	N	A	N	N	Very poor
4790	*Bos* sp.	Phalange	1	N	N	N	A	N	Y	Moderate
4790	*Ovis/Capra* sp.	Tooth	1	N	N	N	A	N	N	Poor
4852	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Poor
4866	Large-sized ungulate	Partial vert fragment	1	N	N	N	A	N	N	Poor
4868	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Poor
4876	*Bos* sp.	Mandibular frags and teeth	1	N	N	N	A	N	N	Moderate
4903	Large-sized ungulate?	Limb bone frags, cranial portion	1	N	N	N	A	N	N	Very poor
4921	*Bos* sp.	Tooth frags	1	N	N	N	A	N	N	Very poor
4937	*Equus* sp.	Teeth frags	1	N	N	N	A	N	N	Poor
4937	*Bos* sp.	Distal MT portion	1	N	N	N	A	N	N	Poor
4938	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Poor
4939	*Bos* sp.	Tooth, miscellaneous limb bone frags	1	N	N	N	A	N	N	Poor
4940	*Bos* sp.	Scapular frag, tooth frag	1	Y	N	N	A	N	N	Poor
4962	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Poor
4986	*Bos* sp.	Distal humerus portion, partial phalange, rib, distal tib portion, miscellaneous limb bone frags	1	N	N	N	A	N	N	Poor
41007	Large-sized ungulate	Limb bone frags	1	N	N	N	A	N	N	Poor

Context	Species	Includes Elements	MNI	Butch	Gnaw	Path	Age	Sex?	Measure?	Condition
41011	*Bos* sp.	Partial MT, limb bone frags, rib frags, portion of mandible	1	N	N	N	A	N	N	Very poor
41011	*Ovis*/*Capra* sp..	Tooth	1	N	N	N	A	N	N	Poor
41015	*Ovis*/*Capra* sp..	Distal humerus portion	1	N	N	N	A	N	N	Very poor
41019	*Bos* sp.	Teeth, scapular frag, limb bone frag	1	N	N	N	A	N	N	Very poor
41062	*Bos* sp.	Mandibular frags and teeth	1	N	N	N	A	N	N	Poor
41065	*Ovis*/*Capra* sp.	Mandible	1	N	N	N	N-A	N	N	Moderate
41065	*Canis* sp.	Almost-complete radius	1	N	N	N	A	N	N	Moderate
41065	*Bos* sp.	Partial radius, MT, mandibular ramus, cranial portion	1	N	N	N	A	N	N	Moderate
41069	Large-sized ungulate	Limb bone portion	1	N	N	N	A	N	N	Moderate
41095	*Sus* sp.	Mandible	1	N	N	N	A	N	N	Moderate
41115	*Sus* sp.	Tusk	1	N	N	N	A	Y	N	Mod-good
41118	*Sus* sp.	Distal humerus portion	1	N	N	N	A	N	N	Moderate
41252	*Bos* sp.	Teeth frags	1	N	N	N	A	N	N	Moderate
			54							

Table 6.3: Quantification of bone from samples by context number

Context	<E>	ID
4039	4012	-
4084	4018	Tooth frags, bovine??
4110	4134	Bovid tooth frags*B*
4125	4136	Probable ovid/caprid ulna, incomplete
4231	4016	Bovid tooth, ovid/caprid vertebrae
4233	4176	Not identifiable
4234	4014	Cranial portion from bovid/equid
4256	4178	Not identifiable
4260	4023	Not identifiable
4343	4032	Not identifiable
4381	4031	Not identifiable
4399	4035	Not identifiable
4420	4038	Bovid/Ovid tooth fragment
4428	4064	Not identifiable, tooth frags from either ovid/bovid
4455	4042	Tooth frags from either ovid/bovid
4484	4046	Not identifiable
4515	4121	Limb bone frags from large-sized ungulate
4523	4048	Not identifiable
4601	4059	-
4610	4062	Not identifiable
4635	4056	-
4661	4058	Frags from large and medium-sized ungulate
4711	4104	Ovid/Caprid tooth and limb bone frag
4715	4069	Not identifiable
4718	4070	Not identifiable
4725	4060	Not identifiable
4726	4061	Not identifiable
4726	4061	Not identifiable
4828	4073	Not identifiable
4801	4089	Not identifiable
4914	4077	Not identifiable

Context	<E>	ID
4928	4098	Not identifiable
4937	4114	Ovid/Caprid tooth frags
4939	4080	Limb and tooth frags from large-sized ungulate
4939	4080	Not identifiable
4939	4165	Most frags identifiable, possible limb bone fragment from large-sized ungulate
4952	4096	Bovid tooth frags
4957	4043	Not identifiable
4970	4085	Bovid tooth frags
4978	4090	Not identifiable
4978	4090	Not identifiable
41001	4092	Includes 10 bovid teeth, complete phalange, mandibular frags
41011	4091	Not identifiable
41015	4145	-
41015	4102	Ovid tooth, avian limb bone
41015	4102	Large-sized ungulate, avian limb bone frag?, bovid tooth fragments
41018	4106	Equid tooth
41019	4105	Limb bones from large-sized ungulate
41019	4105	Not identifiable
41050	4116	Not identifiable, unburnt
41065	4147	Ovid/Caprid astragalus, rodent bone??
41067	4148	Ovid/Caprid phalange
41134	4132	Not identifiable
41134	4132	Vert from juvenile bovid, rib from medium-sized ungulate, rib and tooth from large-sized ungulate
41135	4133	Includes canid canine, ovid/caprid phalange, miscellaneous limb bone frags
41187	4171	Not identifiable
41189	4151	Possible mandible portion from large-sized ungulate
41258	4179	Not identifiable

Table 6.4: Flot and finds information

		Flot						Retent								
C	<>	WF	VF	CPR	Ch	Bo	Sh	Bo	CBM	Ch	CP	FC	IW	MM	Pot	Wo
4048	4003	61.3	120							<1				4		
4051	4007	1	5							<1				<1		
4090	4009	6.2	25							<1				31		
4098	4010	1.5	17	6					8	<1				<1		
4039	4012	64.9	65	3				<1		<1		<1		<1		
4214	4014	7.4	25		0.1			18		18				<1		701
4190	4015	4	10	4						7				9		
4231	4016	193.8	1000			3.45		13								6
4234	4017	602.6	2500													
4084	4018	1.1	3					2		<1				1		
4239	4020	21.5	120													
4257	4021	1.4	10									146		<1		
4256	4022	10.4	20	1					13			<1		5		
4260	4023	0.4	2					6		6				23		
4258	4024	10.2	20	2						<1		367		6		
4341	4026	11.7	25							<1						
4346	4030	0.2	1							<1		5		5		
4381	4031	0.8	7					<1		<1				2		
4343	4032	7.8	20	28	0.09			<1		<1		24		16		
4349	4033	0.3	1						1	2				1		
4400	4034	2.2	10							7				23		
4399	4035	2.1	7					<1		<1				5		
4291	4036	8.7	30	(+++++)	0.05					<1			2			
4416	4037	2.3	10	14												
4420	4038	0.2	1					3		<1				3	1	
4311	4039	5.5	10													
4307	4040	0.4	2						5	30			13	10		
4436	4041	0.1	<1											<1		
4455	4042	20	42	8				<1	5	<1						
4957	4043	0.2	<1					<1		<1			148	<1		

		Flot						Retent								
C	<>	WF	VF	CPR	Ch	Bo	Sh	Bo	CBM	Ch	CP	FC	IW	MM	Pot	Wo
4419	4044	8	15						179	6				10		
4469	4046	3.9	10	4						<1				4		
4484	4046	1.7	2					6	<1							
4507	4047	0.5	3													
4523	4048	9.5	20	6	0.07			<1		<1				<1		
4532	4049	9.2	25	11	0.09					8				9		
4431	4050	0.6	2						425					<1		
4446	4051	4.8	10						<1	<1			79	10		
4579	4052	5.4	15							10				<1		
4584	4053	0.7	5				1		9	2				11		
4604	4054	46.5	140	(+++)	19.78					14						
4631	4055	2	5	9						<1						
4635	4056	34.1	90	5				<1		<1			51			
4625	4057	0.5	3	5						7				<1		
4661	4058	3	15	2				15		4		2		34		
4601	4059	143	230	1	<0.01	0.09		<1		<1			271	18		
4725	4060	1.3	13	12				2		<1				2		
4726	4061	30.5	45	24				22		8				12		
4610	4062	0.8	5	1				<1	<1					<1		
4615	4063	0.6	2											<1		
4428	4064	4.3	25	2				<1		<1				<1		
4698	4065	4	10							7				10		
4778	4066	0.8	6			<0.01				8				9		
4781	4067	2.5	10	3						<1				<1		
4558	4068	17	35							<1				<1		
4715	4069	4	15					<1	78	<1			<1	2		
4718	4070	1	5					25	247	14			494	7		
4716	4071	1.2	5	4						9				12		
4721	4072	0.2	2							<1				<1		
4828	4073	7.3	25					<1				107		5		
4862	4074	7.1	20											<1		

		Flot						Retent								
C	<>	WF	VF	CPR	Ch	Bo	Sh	Bo	CBM	Ch	CP	FC	IW	MM	Pot	Wo
4815	4075	5.6	15											<1		
4894	4076	0.6	2							<1				15		
4914	4077	1.1	10	20				7		9				16		
4776	4078	0.3	2							6						
4894	4079	1.2	7									906		<1		
4939	4080	18.8	30	13				35	9	8				9		
4547	4081	4.7	15										7	31		
4548	4082	5.3	13						<1	<1				<1		
4925	4083	2	5											1		
4946	4084	0.3	2							<1				<1		
4970	4085	0.4	2	5				20		7				9		
4545	4086	25.6	55							2				<1		
4989	4087	0.6	2							5				4		
4972	4088	0.2	1													
4994	4089	7.1	20						<1	6				6		
4978	4090	0.8	5					37		10			355	12		
41011	4091	2.6	13	1				<1		10			53			
41001	4092	442.4	1500					381								818
4937	4093	2.5	15						446	7				10		
4951	4094	1.5	10	4						7				<1		
4927	4095	2.3	6							<1				<1		
4952	4096	8.1	25					3		<1			9	<1		
4475	4097	8	15							18				6		
4928	4098	0.2	1					<1	7	<1						
41014	4099									25						
41012	4101	10	15							<1				7		
41015	4102	42.1	140					21		<1						209
4976	4103	3	15						56	10				7		
4711	4104	0.2	2	3				11		8				7		
41019	4105	6.4	20	15				32		3				4		
41018	4106	16.1	45	2				22		<1			3017			

		Flot						Retent								
C	<>	WF	VF	CPR	Ch	Bo	Sh	Bo	CBM	Ch	CP	FC	IW	MM	Pot	Wo
41017	4107	3.7	20											<1		
41039	4108	2.1	13		0.22					4				<1		
41040	4109	3.4	15							<1				<1		
41077	4112	2.1	15			<0.01										10
4937	4114	2.7	10					2	263	<1				<1		
41046	4115	8	25							<1		3				
41050	4116	7.5	20					3				<1				
41051	4117	4.8	15													
41048	4118	7.4	35							<1		2		<1		
41071	4119	28.9	90													5
41088	4120	22.5	60											<1		<1
4515	4121	20.2	100					13		<1						
41161	4123	1.2	10							<1				<1		89
41134	4132	22.9	70	62				121		<1				3		
41135	4133	1	10	11				17		<1				5		
41110	4134	87.2	320					24					566			
41107	4135	83	320							5				<1		416
4125	4136	2.3	6					16		2						
41015	4145	2.4	15	9				2		1				4		
4943	4146	8.3	35										345	<1		
41065	4147	11	100					6		5				4		
41067	4148	46.1	240					4		<1				<1		
41066	4149	3.5	25													
41069	4150	1.2	15													
41189	4151	33.6	160					9								
41174	4152	0.6	5							<1				<1		
41176	4153	3.6	5													
41184	4154	5.8	10	1						<1				<1		
41185	4155	0.2	1										5			
41175	4156	0.8	3				<0.01									
4516	4157	0.3	2											<1		

		Flot						Retent								
C	<>	WF	VF	CPR	Ch	Bo	Sh	Bo	CBM	Ch	CP	FC	IW	MM	Pot	Wo
4973	4158	4.3	35	1						1				2		
4575	4159	104.1	440	2						<1				<1		
41095	4160	912.9	4000							<1						278
4186	4161	193.5	700													50
41118	4162	103.1	300													
41119	4163	9.6	35							<1				<1		
4939	4165	30.6	45	32				40					4			
4941	4165	0.2	<1							7				7		
4940	4168	0.1	<1	2										<1		
41187	4171	8.4	35	17	0.35			4	<1	5	1			4		
41222	4172	6	13	7					56				<1			
41216	4173	7.2	40	45						<1				3		
41229	4174	26.6	60	80										<1		
41230	4175	63.2	110	80						<1				<1		
4233	4176	2.7	10	2				<1		<1						
41250	4177	3.6	30	15						<1				7		
4256	4178	11.8	35	24	0.11			<1	<1	<1				<1		
41258	4179	9.7	80	29				<1	<1	6				<1		

Key: C=context; <>=sample number; WF=weight of flot(g); VF=volume of flot(ml); CPR=count of charred plant remains; Ch=charcoal(g); Bo=bone(g); Sh=shell(g); CBM=ceramic building material(g); CP=count of clay pipe pieces; FC=fired clay(g); IW=industrial waste(g); MM=magnetised material(g); Pot=count of pottery sherds; Wo=wood(g)

Table 6.5: Radiocarbon results

Lab code	Sample id	Context description	Material submitted	Radiocarbon age BP	1σ 68.2%	Relative Probability	2σ 95.4%	Relative Probability
Beta-553521	A4_(4579)_<4052>	Burnt pit [4578]	charcoal (oak)	1800±30	calAD 208-252	34.7%	calAD 130-260	79%
					calAD 140-196	33.5%	calAD 279-326	16.4%
Beta-553516	A4_(4711)_<4104>	Secondary fill of trackway [4916]	Cereal grain (wheat)	1550±30	calAD 430-492	50%	calAD 422-574	95.4%
					calAD 529-550	15.7%		
					calAD 512-516	2.5%		
Beta-553518	A4_(41134)_<4132>	Tertiary fill of ditch enclosure [41102]	Cereal grain (wheat)	1260±30	calAD 690-750	59.3%	calAD 668-778	85.1%
					calAD 760-770	8.9%	calAD 790-828	6%
							calAD 838-864	4.3%
Beta-553520	A4_(4532)_<4049>	Palisade fill [4522]	Cereal grain (barley)	1280±30	calAD 681-721	40.8%	calAD 661-774	94.5%
					calAD 740-766	27.4%		
Beta-553519	A4_(4604)_<4054>	*in situ* pit burning [4603]	Cereal grain (oat)	1230±30	calAD 790-830	22.1%	calAD 760-882	62.8%
					calAD 714-744	20.3%		

Lab code	Sample id	Context description	Material submitted	Radiocarbon age BP	1σ 68.2%	Relative Probability	2σ 95.4%	Relative Probability
					calAD 836-866	16.4%	calAD 668-751	32.6%
					calAD 766-778	9.3%		
Beta-553514	A4_(4601)_<4059>	Deliberate backfill of pit [4600]	Cereal grain (oat)	1880±30	calAD 74-140	59.3%	calAD 66-222	95.4%
					calAD 196-208	5.9%		
					calAD 159-166	3%		
Beta-553515	A4_(4726)_<4061>	Fill of palisade terminus [4724]	Cereal grain (oat)	1370±30	calAD 643-670	68.2%	calAD 608-688	95.4%

7 DISCUSSION

7.1 Interpretation

7.1.1 The archaeological excavation of Area 4 in Field E3, within the proposed development site of a new nuclear power station at Wylfa Newydd, Anglesey, covered 6,448m^2 of the proposed 409 hectare Development Area.

7.1.2 The purpose of the excavation was to establish the nature and extent of below ground archaeological remains and, in turn, determine how the archaeological remains can expand our understanding of the archaeology of the Isle of Anglesey with regard to the regional research framework of Wales (CIfA Cymru/Wales 2017).

7.1.3 The excavation was located to target the remains of a large enclosure identified during previous trial trench investigations (Wessex 2018).

7.1.4 The phasing identified at Area 4 has been aligned with the Periods discussed in the Wales Research Framework (CIfA Cymru/Wales 2017), to bring the archaeology recorded across the Development Area together.

7.2 Phase 1 – Later Prehistoric

7.2.1 Pre-Roman activity at the site was represented by a disparate group of pits and partial curvilinear gullies, mostly within the Roman enclosure. A small and tentative assemblage of finds certainly suggests background prehistoric activity and the recovery of an undated flint scraper from pit **[4398]** may suggest that this was the earliest feature identified on site. However, it is difficult to ascertain whether or not the features themselves relate to later prehistoric activity and, if so, how much earlier this activity may have been prior to the construction of the military enclosure.

7.3 Phase 2 – Roman

7.3.1 The most prominent phase of activity at Area 4 appears to have occurred during the Roman period, comprising a ditched enclosure constructed upon a rise in the landscape, possibly overlooking the settlement in Field O5 to the south.

7.3.2 A substantial ditch **[41275]** on a west-northwest to east-southeast alignment and predating the enclosure was located to the west of the field. The ditch was linear, with a rounded termination at its west-northwest end with no further evidence of a turn or a continuation of the ditch elsewhere. The ditch **[41275]** was stratigraphically earlier than the enclosure **[41271]** although its size and form was very similar, suggesting that it served a similar purpose or possibly even belonged to an earlier

enclosure. No finds were recovered from the earlier ditch to suggest a date for its establishment, and little meaningful palaeoenvironmental information could be drawn from it at this stage.

7.3.3 The sequence of deposits in the earlier ditch **[41275]** suggests that it was open for at least a few years owing to possible seasonally accumulated primary deposits and, later, possible grass and herbaceaous vegetation growing during the accumulation of the tertiary deposits (Allen 2020, 4). This must have occurred prior to the establishment of the later enclosure **[41271]** as it was recorded that it had cut through from the uppermost deposit of the former which could not have happened until the ditch had been entirely filled. A single radiocarbon date of cal. AD 17-74 (UBA-36084) taken of the earliest fill in the later enclosure ditch **[41271]** suggests a possible *terminus ante quem* for the earlier ditch as well as date of establishment of the later one.

7.3.4 The enclosure ditch established around a hilltop position would have been a formidable structure. The combination of shape, profile, a possible internal revetted bank and a suggested mid-1st century AD date, not only implies that the enclosure was probably Roman, but that it relates to the invasion of Anglesey. Only a small assemblage of Roman material culture was recovered from the site, and none of it from the enclosure ditch. However, this may be due to the short period of time the enclosure was occupied for its original purpose following establishment.

7.3.5 The geoarchaeological assessment indicates that the primary deposits were largely below the seasonal groundwater table. It is suggested that the primary deposits, although in places considerably thick (up to *c.*0.90m deep), they probably represent only several decades (30-60 years) of accumulation (Allen 2020, 7), before evidence of abandonment was recorded.

7.3.6 A large number of discrete cut features including possible waste pits and several ovens were recorded in and around the enclosure, and are likely to be contemporary, representing the domestic functioning of a possible garrison installed there.

7.3.7 Two radiocarbon results providing a Roman date were procured from the fills of two of those features. An oat grain from a waste pit **[4600]** inside the enclosure dated to cal. AD 66-222 (Beta-553514). Whereas charcoal from the fill of a probable cooking waste pit **[4578]** immediately outside the northeast corner of the enclosure dated to

cal. AD 130-326 (Beta-553521). Roman pottery recovered from across the site possibly tightens the timespan of the use of the military camp to between the 1st and 3rd century AD, closely comparable with the first radiocarbon date.

7.4 Phase 3 – Early Medieval

7.4.1 There is little evidence to suggest a continuity of use of the ditched enclosure beyond its early Roman inception. A single radiocarbon date derived from the metalled surface **(4711)**, thought to have been initially laid during the Roman use of the enclosure, provided a date of cal. AD 422-574 (Beta-553516). However, the recovery of grains from the stone surface cannot be relied upon to suggest anything other than general activity dating to the 5th to 6th century AD. The trackway is likely to have been exposed over a considerable period of time, possibly being repaired and extended during its use.

7.4.2 A clear re-use of the enclosure, once more as a possible defensible space, is evidenced by the installation of palisades around the north and east of the internal edges of the ditch. Barley and oat grains from two separate segments of the palisade trench provided two closely comparable radiocarbon dates of early 7th to late 8th century AD.

7.4.3 Much of the enclosure ditch **[41271]** was also still visible at this time; enough to facilitate the positioning of the palisades. The enclosure ditch to the north, as seen in **Intervention F** appears to have only been up to 0.67m deep at the time the palisades were installed. The uppermost deposit at that time in this part of the enclosure ditch was fill **(41135)**. The deposit **(41134)** that accumulated subsequently, during the proposed early medieval re-use of the enclosure, was found to contain a copper alloy penannular brooch **SF4031**. Specialist assessment of the find (see Section 5 of this report) has determined the brooch to be Booth Type H, a type thought to have developed between the Late Roman and early medieval period, *c.*6-7th century (Booth 2014). A wheat grain from the same deposit **(41134)** produced a radiocarbon date of cal. AD 668-864 (Beta-553518).

7.4.4 A palisade trench **[41016]** running parallel to the northern extent of the enclosure ditch **[41371]** is thought to be associated with the early medieval re-use of the enclosure; another possible palisade trench **[41156]** was also detected, though only in section (Figure 10 section 4348, 4350 and 4252). However, the re-use may have continued for a long period of time, evidenced by the silting up of the enclosure

ditch and the later extension of the palisade to seal the former east entrance once it had presumably become redundant. The palisade trench, particularly to the east, was recorded as clearly truncating the silted-up edges of the ditch in that location.

7.4.5 Two potential rubbish pits located within the enclosure have been assigned to the early medieval period on stratigraphic grounds. Externally, a large shallow pit was recorded across the former east entrance, possibly centred around the position of an earlier posthole. This may suggest attempts to modify and repair a gate. A possible posthole was also observed in the former entrance and a further smaller pit to the immediate north had been cut into the top of the former enclosure ditch. A radiocarbon date of cal. AD 668-882 (Beta-553519) was produced from an oat grain in the fill of the pit, which very closely aligns with the radiocarbon result from the deposit containing the brooch.

7.5 Phase 4 and 5 – Post-medieval to Modern

7.5.1 A large thinly laminated deposit **(41078)** and several small pits were identified as probably being of later post-medieval date relating to both domestic waste disposal (probably associated with the farm to the immediate south) and pastoral activity. The partial remains of a stone-built hollow channel drain was also recorded. These discrete features were all located at the centre of the excavation area. Although they were found within the former Roman enclosure, they are not thought to be related to this earlier activity. A posthole or small pit **[4800]** contained a sherd of pottery dating no earlier than the late 18th century.

7.5.2 The majority of the post-medieval archaeology recorded at the site related to the apportionment of fields. There was no evidence that the Roman enclosure was still visible at the point the boundaries were created as they clearly cut the upper deposits of the large enclosure ditch and do not appear to have respected its alignment. The boundaries that were recorded at Area 4 generally comprised parallel ditches. The alignments of the boundaries suggest rectangular field strips on a northwest to southeast orientation, to the north, with a larger open field to the south.

7.5.3 The only instance where a parallel boundary was not clearly observed, was adjacent to ditch **[41140]**, though a small ditch segment **[41079]** located at its southern end is probably the only surviving remains of a ditch which once extended further north. Horizontal truncation from later ploughing and during the stripping of the excavation

area was well described on site and is a likely cause of the loss of this boundary. It is likely that the parallel ditches represent traditional Welsh boundaries known as clawddau. Other examples of this method of boundary construction were observed in Fields L8, L12 and L16 (Area 2) within the development area.

7.5.4 Also observed were the remains of two stone-built structures cut into the northwest corner of the ditched enclosure. Structure **{41228}** was the best preserved, though only the foundations of three walls had survived. The structure was roughly square in plan and of dry-stone construction. Its position suggests that it may have abutted the boundary indicated by ditches **[4280]** and **[41273]**. A fragment of 19th century pottery was recovered from the foundation level of the structure. To the south, on other side of the same boundary, were the fragmented remains of another similar structure **{4244}**, represented by only a single partial wall and a wide area of rubble. It seems likely, given the pastoral activity, that the structures represent shepherd's huts or other similar structures.

7.5.5 Two large pits, backfilled with concrete and other modern material, represent the remains of 20th century telegraph poles.

8 STATEMENT OF POTENTIAL

8.1 Significance

8.1.1 There is the potential for the archaeological features recorded in Field E3 at Area 4 to contribute to the understanding of the archaeology on the Isle of Anglesey regarding the research framework of Wales (CIfA Cymru/Wales 2017). The archaeological remains encountered within Area 4 are now considered to be nationally significant.

8.1.2 A broad confirmation of the date and character of the archaeology at Area 4, and their stratigraphic relationships, has been presented in this assessment.

8.1.3 Archaeological features reflecting possible later prehistoric activity, a Roman enclosure and its re-use in the early medieval period, as well as post-medieval pastoral activity have been identified at the site.

8.1.4 As with some of the other excavation areas including Area 2 (Field L8, L9, L11, L12 and L16) at the Wylfa Newydd site, there is a dearth of cultural material recovered from the archaeological features of all phases. This is particularly notable in the later prehistoric and Roman periods. No prehistoric pottery was recovered from Area 4, though it is possible that the Roman enclosure was located within an area once occupied by small-scale later prehistoric settlement. Limited evidence of possible roundhouses and waste pits are hinted at, mostly within the enclosure. Although this theory is difficult to prove, an Iron Age settlement was recorded in Areas 19 and 20 (Field O5), which the enclosure would have had direct views of (in this sense, the Roman enclosure was positioned to possibly monitor the local populace). There has been a dearth of later prehistoric pottery across the project area as a whole. Across North West Wales, sites have been largely characterised as being later prehistoric based on the character of their features, where diagnostic artefacts such as Roman pottery and coins have typically weighted site chronologies towards the Romano-British period (CIfA Cymru/Wales 2017). The suggestion is that the local population in Anglesey may have been largely aceramic in the Iron Age; a trend noted from Ireland, the Isle of Man, Wales, northern England and lowland Scotland (Harding 2017, 27).

8.1.5 The Roman enclosure had likely been abandoned following its use in the Roman period, and the enclosure ditch almost entirely silted up. However, it was still at least partially visible in the early medieval period, sometime between the 7th and late 9th

centuries AD when it was apparently re-used as a defensible enclosure. The evidence suggests that palisade walls were erected around the inside of the enclosure ditch.

8.1.6 A small fortified site has been identified at Porth Wen, Anglesey, which may be one of a number of defences constructed in response to these Viking raids, centred on Caer Gybi (near Holyhead) in the latter half of the 9th century (Jacobs 2015). It may be that the defended site at Area 4 relates to the same period of activity.

8.1.7 Re-use of known later prehistoric and Romano-British sites appear to be relatively common across North West Wales (Edwards *et al*. 2005). The probable settlement and large ring-ditch (the remains of a possible henge monument) at Area 2, appears to show low-level activity in the early medieval period, and evidence of the re-use of structures was detected at later prehistoric sites such as Ty Mawr, Holyhead (Smith 1978) and Carrog, Llanbadrig (Smith *et al*. 2014) on Anglesey.

8.1.8 Other evidence of early medieval activity was identified across the Development Area, notably in Field L1 (Area 12), where a possible grain dryer kiln was recorded suggesting settlement in close proximity, and also to the southeast of Field L1 and into Field L20 (Area 14) where possible fire waste pits were radiocarbon dated to the 8th to 10th century AD, and a rectilinear field system there may also have early medieval origins.

8.1.9 Of particular significance is the recovery a penannular brooch from what is thought to be the primary sediment layer relating to the early medieval re-use of the ditched enclosure. A wheat grain from the same deposit has been scientifically dated to the 7th to 9th century AD (Beta-553518), reflecting when the brooch was probably discarded. However, the date also closely corresponds with the predetermined chronology for such brooch types, being post-Roman to early medieval (Booth 2014). A similar Type H brooch was found at Pant-Y-Saer, Anglesey, *c.*17.5km to the southeast of Area 4 (geographically the closest Type H brooch to Area 4), thought to be the earliest example of that type dating close to the Roman period up to 7th century AD (Laing 1993). However, re-assessment suggests that the Pant-Y-Saer brooch is more likely to be to the latter side of that date range based on other examples from around Britain (Booth 2014). A tighter chronology suggests that Type H brooches probably dated to the 7th century AD but were in circulation for upwards of two or three centuries before deposition (Laing 1993 and Booth 2014). Detailed analysis of the brooch from Wylfa Newydd Area 4 in combination with the scientific

evidence provided by this assessment, should be undertaken regarding its national important significance.

8.2 Recommendations

8.2.1 The archaeology recorded at Area 4, considered of national significance, can expand our understanding of the archaeological record of the Isle of Anglesey regarding three key periods within the research framework of Wales (CIfA Cymru/Wales 2017). These include the Roman, early medieval and post-medieval periods. The evidence towards the later prehistoric is somewhat limited, though the data should be compared and combined with the datasets from other excavation areas in the Development Area to enhance their value.

8.2.2 Full analysis of the palaeoenvironmental, ecofactual and artefactual datasets should be undertaken, particularly in regard to the Roman archaeology identified at Area 4. The assessment has not been able to confirm the later prehistoric period with any certainty through scientific dating. Although a range of radiocarbon dates were commissioned as part of the assessment phase, further specialist analysis should be undertaken including further absolute dating methods. The ecofactual remains also have the potential to inform crop and fuel management and provide insight in the wider context of Anglesey and North Wales.

8.2.3 A geoarchaeological report was produced for the assessment of four monolith samples taken of the Roman enclosure and an earlier ditch (Allen 2020). Geoarchaeological descriptions of the ditch profiles have enhanced the sediment and soil build-up as initially described and interpreted on site. Three of the four profiles, including both ditches, were subsequently sub-sampled for pollen and diatoms. However, an assessment of the pollen and diatoms could not be undertaken during the geoarchaeological assessment due to the lockdown of laboratories during the coronavirus pandemic of 2020 (*Ibid*., 10). This should be undertaken as a priority during any subsequent phase of assessment or analysis.

8.2.4 The results of the Area 4 archaeological excavation should be incorporated along with the results of wider Wylfa Newydd scheme and the results disseminated to interested parties and the public. To enhance the work undertaken in this assessment further, there is a need to combine the various datasets already produced into a searchable database that can allow the information to be unified

and interrogated in a rapid and meaningful manner from which detailed analysis could then be undertaken. This could also assist in producing an accessible resource for digital deposition and public dissemination. This should be done through the 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.

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APPENDICES

APPENDIX 1: CONTEXT INDEX

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4000				VOID					
4001		0		Topsoil					
4002		0		Subsoil		Pot			
4003		0		Natural geological substrate					
4004		4	2.2	Cut of pit	Northwest group of pits and postholes				
4005		4	2.2	Fill of pit cut 4004	Northwest group of pits and postholes				
4006		4	2.2	Cut of pit	Northwest group of pits and postholes				
4007		4	2.2	Fill of pit cut 4006	Northwest group of pits and postholes				
4008				VOID					
4009				VOID					
4010		4	2.2	Cut of pit	Northwest group of pits and postholes				
4011		4	2.2	Fill of pit cut 4010	Northwest group of pits and postholes				
4012		4	2.2	Cut of pit	Northwest group of pits and postholes				
4013		4	2.2	Fill of pit cut 4012	Northwest group of pits and postholes				
4014		4	2.2	Cut of pit	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4015		4	2.2	Fill of pit cut 4014	Northwest group of pits and postholes				
4016		4	2.2	Cut of stakehole	Northwest group of pits and postholes				
4017		4	2.2	Fill of stakehole cut 4016	Northwest group of pits and postholes				
4018		4	2.2	Cut of pit	Northwest group of pits and postholes				
4019		4	2.2	Fill of pit cut 4018	Northwest group of pits and postholes				
4020		4	2.2	Cut of pit	Northwest group of pits and postholes				
4021		4	2.2	Fill of pit cut 4020	Northwest group of pits and postholes				
4022		4	2.2	Cut of pit	Northwest group of pits and postholes				
4023		4	2.2	Fill of pit cut 4022	Northwest group of pits and postholes				
4024		4	2.2	Cut of pit	Northwest group of pits and postholes				
4025		4	2.2	Fill of pit cut 4024	Northwest group of pits and postholes				
4026		4	2.2	Fill of pit cut 4024	Northwest group of pits and postholes				
4027		4	2.2	Cut of pit	Northwest group of pits and postholes				
4028		4	2.2	Fill of pit cut 4027	Northwest group of pits and postholes				
4029		4	2.2	Cut of shallow pit	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4030		4	2.2	Fill of pit cut 4029	Northwest group of pits and postholes				
4031		4	2.2	Cut of ditch terminus	Same as ditch cut 4412				
4032		4	2.2	Fill of ditch terminus cut 4031					
4033		4	2.2	Cut of pit	Northwest group of pits and postholes				
4034		4	2.2	Fill of pit cut 4033	Northwest group of pits and postholes				
4035		4	2.2	Cut of pit	Northwest group of pits and postholes				
4036		4	2.2	Fill of pit cut 4035	Northwest group of pits and postholes				
4037	41271	4	2.2	Cut of ditch					
4038	41271	4	2.2	Fill of ditch cut 4037		Bone; Whetstone SF4000	4019		
4039	41271	4	2.2	Fill of possible re-cut 4158			4012		
4040		4	2.2	Cut of pit	Northwest group of pits and postholes				
4041		4	2.2	Fill of pit cut 4040	Northwest group of pits and postholes				
4042		4	2.2	Cut of pit	Northwest group of pits and postholes				
4043		4	2.2	Fill of pit cut 4042	Northwest group of pits and postholes				
4044		4	2.2	Cut of pit	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4045		4	2.2	Fill of pit cut 4044	Northwest group of pits and postholes				
4046		4	2.2	Fill of pit cut 4040	Northwest group of pits and postholes				
4047		4	2.2	Cut of pit	Northwest group of pits and postholes				
4048		4	2.2	Fill of pit cut 4047	Northwest group of pits and postholes		4003		
4049		4	2.2	Cut of pit	Northwest group of pits and postholes				
4050		4	2.2	Fill of pit cut 4049	Northwest group of pits and postholes				
4051		4	2.2	Fill of pit cut 4049	Northwest group of pits and postholes		4007		
4052		4	2.2	Cut of stakehole	Northwest group of pits and postholes				
4053		4	2.2	Fill of stakehole cut 4052	Northwest group of pits and postholes		4006		
4054		4	2.2	Cut of pit	Northwest group of pits and postholes				
4055		4	2.2	Fill of pit cut 4054	Northwest group of pits and postholes		4004		
4056		4	2.2	Fill of pit cut 4054	Northwest group of pits and postholes		4005		
4057		7	4	Cut of ditch					
4058		7	4	Fill of ditch 4057					
4059		7	4	Fill of ditch 4057			4002		
4060		4	2.2	Cut of pit	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4061		4	2.2	Fill of pit cut 4060	Northwest group of pits and postholes		4011		
4062		7	4	Cut of ditch	Same as ditch 4140				
4063		7	4	Fill of ditch cut 4062					
4064		7	4	Cut of ditch	Same as ditch 4057				
4065		7	4	Fill of ditch cut 4064			4001		
4066	41271	4	2.2	Fill of ditch cut 4037					
4067		4	2.2	Cut of pit	Northwest group of pits and postholes				
4068		4	2.2	Fill of pit cut 4067	Northwest group of pits and postholes				
4069		4	2.2	Fill of pit cut 4067	Northwest group of pits and postholes				
4070		4	2.2	Fill of pit cut 4067	Northwest group of pits and postholes				
4071				VOID					
4072		4	2.2	Fill of pit cut 4067	Northwest group of pits and postholes				
4073				VOID					
4074				VOID					
4075				VOID					
4076				VOID					
4077		4	2.2	Cut of pit	Northwest group of pits and postholes				
4078		4	2.2	Fill of pit cut 4077	Northwest group of pits and postholes				
4079			Unphased	Cut of ditch					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4080			Unphased	Fill of ditch cut 4079					
4081			Unphased	Cut of ditch terminus	Same as ditch cut 4079				
4082			Unphased	Fill of ditch terminus cut 4081					
4083		7	4	Cut of posthole					
4084		7	4	Fill of posthole cut 4083			4018		
4085				VOID					
4086				VOID					
4087		4	2.2	Cut of pit	Northwest group of pits and postholes				
4088		4	2.2	Fill of pit cut 4087	Northwest group of pits and postholes		4008		
4089		4	2.2	Cut of pit					
4090		4	2.2	Fill of pit cut 4089			4009		
4091		4	2.2	Fill of pit cut 4089					
4092		4	2.2	Fill of pit cut 4089					
4093				VOID					
4094		4	2.2	Cut of posthole					
4095		4	2.2	Fill of posthole cut 4094					
4096		4	2.2	Fill of posthole cut 4094					
4097				VOID					
4098				VOID			4010		
4099				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4100				VOID					
4101				VOID					
4102				VOID					
4103				VOID					
4104	4104	7	4	Cut for ditch					
4105	4104	7	4	Fill of ditch cut 4104					
4106				VOID					
4107				VOID					
4108		4	2.2	Cut of pit	Northwest group of pits and postholes				
4109		4	2.2	Fill of pit cut 4108	Northwest group of pits and postholes				
4110		4	2.2	Cut of pit	Northwest group of pits and postholes				
4111		4	2.2	Fill of pit cut 4110	Northwest group of pits and postholes				
4112		4	2.2	Cut of pit					
4113		4	2.2	Fill of pit cut 4112		Pot			
4114				VOID					
4115				VOID					
4116				VOID					
4117				VOID					
4118				VOID					
4119				VOID					
4120				VOID					
4121				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4122				VOID					
4123				VOID					
4124	4124	7	4	Cut of ditch					
4125	4124	7	4	Fill of ditch cut 4124					
4126	4104	7	4	Cut of ditch	Same as ditch cut 4104				
4127	4104	7	4	Fill of ditch cut 4126					
4128	4124	7	4	Cut of ditch	Same as ditch cut 4124				
4129	4124	7	4	Fill of ditch cut 4128					
4130		4	2.2	Cut of pit					
4131		4	2.2	Fill of pit cut 4130					
4132			Unphased	Cut of posthole					
4133			Unphased	Fill of posthole cut 4132					
4134	4134	7	4	Cut of ditch					
4135	4134	7	4	Fill of ditch cut 4134					
4136			Unphased	Cut of posthole					
4137			Unphased	Fill of posthole cut 4136					
4138			Unphased	Cut of posthole					
4139			Unphased	Fill of posthole cut 4138					
4140		7	4	Cut of ditch					
4141		7	4	Fill of ditch cut 4140					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4142			Unphased	Cut of posthole					
4143			Unphased	Fill of posthole cut 4142					
4144			Unphased	Cut of posthole					
4145			Unphased	Fill of posthole cut 4144					
4146			Unphased	Edge of possible treethrow					
4147			Unphased	Fill of possible treethrow 4146					
4148				VOID					
4149				VOID					
4150				VOID					
4151				VOID					
4152				VOID					
4153				VOID					
4154				VOID					
4155				VOID					
4156				VOID					
4157				VOID					
4158	41271	4	2.2	Possible re-cut of ditch cut 4037					
4159				VOID					
4160				VOID					
4161		7	4	Cut of ditch					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4162		7	4	Fill of ditch cut 4161					
4163		7	4	Fill of ditch cut 4161					
4164	41271	4	2.2	Fill of ditch cut 4037					
4165	41271	4	2.2	Fill of ditch cut 4037					
4166	41271	4	2.2	Fill of ditch cut 4037		Animal Bone, Cobble Stone SF4001	4012, 4013		
4167				VOID					
4168				VOID					
4169				VOID					
4170	4134	7	4	Cut of ditch	Same as ditch cut 4134				
4171	4134	7	4	Fill of ditch cut 4170			4113		
4172	41271	4	2.2	Fill of possible ditch re-cut 4158					
4173	41271	4	2.2	Fill of possible ditch re-cut 4158					
4174	41271	4	2.2	Fill of ditch cut 4037					
4175	41271	4	2.2	Stony fill of possible re-cut 4158					
4176				VOID					
4177				VOID					
4178				VOID					
4179		4	2.2	Cut of pit	Northeast group of pits and postholes				
4180		4	2.2	Fill of pit cut 4179	Northeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4181		4	2.2	Cut of pit	Northeast group of pits and postholes				
4182		4	2.2	Fill of pit cut 4181	Northeast group of pits and postholes				
4183		4	2.2	Cut of pit	Northeast group of pits and postholes				
4184		4	2.2	Fill of pit cut 4183	Northeast group of pits and postholes				
4185		4	2.2	Cut of pit	Northeast group of pits and postholes				
4186		4	2.2	Fill of pit cut 4185	Northeast group of pits and postholes		4161		
4187		4	2.2	Cut of pit	Northeast group of pits and postholes				
4188		4	2.2	Fill of pit cut 4187	Northeast group of pits and postholes				
4189		4	2.2	Cut of pit	Southeast group of pits and postholes				
4190		4	2.2	Fill of pit cut 4189	Southeast group of pits and postholes		4015		
4191			Unphased	Edge of possible treethrow					
4192			Unphased	Fill of treethrow 4191					
4193			Unphased	Fill of treethrow 4191					
4194		4	2.2	Cut of pit	Northeast group of pits and postholes				
4195		4	2.2	Fill of pit cut 4194	Northeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4196		4	2.2	Cut of pit	Northeast group of pits and postholes				
4197		4	2.2	Fill of pit cut 4196	Northeast group of pits and postholes		4114		
4198		4	2.2	Cut of pit	Northeast group of pits and postholes				
4199		4	2.2	Fill of pit cut 4198	Northeast group of pits and postholes				
4200		4	2.2	Cut of pit	Same as pit 4196. Northeast group of pits and postholes				
4201		4	2.2	Fill of pit cut 4200	Northeast group of pits and postholes				
4202				VOID					
4203			Unphased	Edge of possible treethrow					
4204			Unphased	Fill of possible treethrow 4203					
4205			Unphased	Fill of possible treethrow 4203					
4206				VOID					
4207			Unphased	Edge of possible treethrow					
4208			Unphased	Fill of possible treethrow 4207					
4209		4	2.2	Cut of posthole	Within Enclosure 41271				
4210		4	2.2	Fill of posthole cut 4209	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4211		4	2.2	Cut of posthole	Within Enclosure 41271				
4212		4	2.2	Cut of pit	Northeast group of pits and postholes				
4213		4	2.2	Fill of pit cut 4212	Northeast group of pits and postholes				
4214		4	2.2	Fill of posthole cut 4211	Within Enclosure 41271		4014		
4215		4	2.2	Cut of posthole	Within Enclosure 41271				
4216		4	2.2	Fill of posthole cut 4215	Within Enclosure 41271				
4217		4	2.2	Cut of posthole	Within Enclosure 41271				
4218		4	2.2	Fill of posthole cut 4217	Within Enclosure 41271				
4219		4	2.2	Cut of pit	Northeast group of pits and postholes				
4220		4	2.2	Fill of pit cut 4219	Northeast group of pits and postholes				
4221		4	2.2	Cut of pit	Northeast group of pits and postholes				
4222		4	2.2	Fill of pit cut 4221	Northeast group of pits and postholes				
4223		4	2.2	Fill of pit cut 4219	Northeast group of pits and postholes				
4224	41140	7	4	Cut of ditch					
4225	41140	7	4	Fill of ditch cut 4224					
4226	41140	7	4	Fill of ditch cut 4224					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4227		7	4	Cut of drain					
4228		7	4	Fill of drain cut 4227					
4229				VOID					
4230				VOID					
4231	41271	4	2.2	Fill of ditch cut 4037		Animal Bone	4016		
4232		7	4	Cut of posthole					
4233		7	4	Fill of posthole cut 4232			4176		
4234	41271	4	2.2	Fill of ditch cut 4037		Animal Bone	4017		
4235		4	2.2	Cut of pit	Within Enclosure 41271				
4236		4	2.2	Fill of pit cut 4235	Within Enclosure 41271				
4237		4	2.2	Cut of pit	Within Enclosure 41271				
4238		4	2.2	Fill of pit cut 4237	Within Enclosure 41271				
4239	41271	4	2.2	Fill of ditch cut 4037			4020		
4240		4	2.2	Cut of pit	Southeast group of pits and postholes				
4241		4	2.2	Fill of pit cut 4240	Southeast group of pits and postholes				
4242		4	2.2	Cut of posthole	Southeast group of pits and postholes				
4243		4	2.2	Fill of posthole cut 4242	Southeast group of pits and postholes	Fired Clay			
4244		7	4	Stone structure					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4245		7	4	Construction cut for wall 4244					
4246		7	4	Fill of construction cut 4245		Pot			
4247				VOID					
4248				VOID					
4249		7	4	Cut of ditch					
4250		7	4	Fill of ditch cut 4249					
4251		4	2.2	Cut of large furnace/oven	Northwest group of pits and postholes				
4252		7	4	Fill of ditch cut 4249					
4253		7	4	Fill of ditch cut 4249					
4254		4	2.2	Cut of firepit	Northwest group of pits and postholes				
4255		4	2.2	Fill of firepit 4254	Northwest group of pits and postholes				
4256		4	2.2	Fill of firepit 4254	Northwest group of pits and postholes		4022		
4257		4	2.2	Fill of firepit 4254	Northwest group of pits and postholes		4021		
4258		4	2.2	Fill of firepit 4254	Northwest group of pits and postholes		4024		
4259		4	2.2	Cut of pit	Northwest group of pits and postholes				
4260		4	2.2	Fill of pit 4259	Northwest group of pits and postholes		4023		
4261		4	2.2	Fill of pit 4259	Northwest group of pits and postholes				
4262				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4263				VOID					
4264	4264	7	4	Cut of ditch					
4265	4264	7	4	Fill of ditch cut 4264					
4266		4	2.2	Cut of pit	Southeast group of pits and postholes				
4267		4	2.2	Fill of pit cut 4266	Southeast group of pits and postholes				
4268		4	2.2	Cut of pit	Southeast group of pits and postholes				
4269		4	2.2	Fill of pit cut 4268	Southeast group of pits and postholes				
4270		4	2.2	Cut of pit	Southeast group of pits and postholes				
4271		4	2.2	Fill of pit cut 4270	Southeast group of pits and postholes				
4272		4	2.2	Fill of pit cut 4270	Southeast group of pits and postholes				
4273		4	2.2	Cut of pit	Southeast group of pits and postholes				
4274		4	2.2	Fill of pit cut 4273	Southeast group of pits and postholes				
4275		4	2.2	Cut of pit	Southeast group of pits and postholes				
4276		4	2.2	Fill of pit cut 4275	Southeast group of pits and postholes				
4277		4	2.2	Cut of pit	Southeast group of pits and postholes				
4278		4	2.2	Fill of pit cut 4277	Southeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4279		4	2.2	Fill of pit cut 4277	Southeast group of pits and postholes				
4280	4280	7	4	Cut of ditch	Same as 4550				
4281	4280	7	4	Fill of ditch cut 4281	Same as 4551				
4282		7	4	Foundation wall					
4283				VOID					
4284				VOID					
4285				VOID					
4286				VOID					
4287		4	2.2	Cut of ditch					
4288		4	2.2	Fill of ditch cut 4287					
4289				VOID					
4290		4	2.2	Cut of pit					
4291		4	2.2	Fill of pit cut 4290			4036		
4292				VOID					
4293				VOID					
4294		7	4	Cut of ditch					
4295		7	4	Fill of ditch cut 4294					
4296		7	4	Cut of ditch					
4297		7	4	Fill of gully cut 4296					
4298		4	2.2	Cut of feature					
4299		4	2.2	Fill of feature cut 4298					
4300		4	2.2	Cut for pebbled surface					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4301		4	2.2	Fill for pebbled surface cut 4300					
4302	4302	4	2.2	Cut of pit					
4303	4302	4	2.2	Fill of pit cut 4302					
4304				VOID					
4305				VOID					
4306	4309	4	2.2	Stony deposit	Overlying possible structural deposit 4478	Poss. Stone Tool SF4004; Poss. Stone Tool SF4007, Chert, Shell, Fired Clay, Pottery			
4307		4	2.2	Cut of pit	Northwest group of pits and postholes				
4308		4	2.2	Fill of pit cut 4307	Northwest group of pits and postholes		4040		
4309	4309	4	2.2	Group number for possible stone structure, also cut number representing the edge of the same feature					
4310		4	2.2	Cut of pit	Northwest group of pits and postholes				
4311		4	2.2	Fill of pit cut 4310	Northwest group of pits and postholes		4039		
4312		4	2.2	Cut of pit	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4313		4	2.2	Fill of pit cut 4312	Northwest group of pits and postholes				
4314				VOID					
4315				VOID					
4316		4	2.2	Cut of pit	Southeast group of pits and postholes				
4317		4	2.2	Fill of pit cut 4317	Southeast group of pits and postholes				
4318		4	2.2	Cut of pit	Southeast group of pits and postholes				
4319		4	2.2	Fill of pit cut 4318	Southeast group of pits and postholes				
4320		4	2.2	Cut of furnace	Southeast group of pits and postholes				
4321		4	2.2	Fill of furnace cut 4320	Southeast group of pits and postholes		4025		
4322		4	2.2	Cut of flue of furnace 4320	Southeast group of pits and postholes				
4323		4	2.2	Fill of flue 4322	Southeast group of pits and postholes				
4324		0		Subsoil	Same as 4002				
4325		4	2.2	Cut of pit	Southeast group of pits and postholes				
4326		4	2.2	Fill of pit cut 4325	Southeast group of pits and postholes				
4327		4	2.2	Fill of pit cut 4325	Southeast group of pits and postholes				
4328		4	2.2	Cut of pit	Southeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4329		4	2.2	Fill of pit cut 4328	Southeast group of pits and postholes				
4330		5	3	Cut of pit					
4331		5	3	Fill of pit cut 4330		Animal Bone			
4332		4	2.2	Cut of pit	Northwest group of pits and postholes				
4333		4	2.2	Fill of pit cut 4332	Northwest group of pits and postholes				
4334		4	2.2	Fill of pit cut 4332	Northwest group of pits and postholes				
4335		7	4	Cut of ditch					
4336		7	4	Fill of ditch cut 4335					
4337				VOID					
4338				VOID					
4339				VOID					
4340				VOID					
4341		4	2.2	Fill of pit cut 4251	Northwest group of pits and postholes		4026		
4342		4	2.2	Fill of pit cut 4251	Northwest group of pits and postholes		4027		
4343		4	2.2	Redeposited natural in pit 4251	Northwest group of pits and postholes				
4344		4	2.2	Clay lining layer of pit 4251	Northwest group of pits and postholes		4028		
4345		4	2.2	Burnt charcoal layer in pit 4251	Northwest group of pits and postholes		4029		
4346		4	2.2	Fill of pit cut 4251	Northwest group of pits and postholes		4030		

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4347		4	2.2	Redeposited natural in pit 4251	Northwest group of pits and postholes				
4348		4	2.2	Fill of posthole cut 4242	Southeast group of pits and postholes		4032		
4349		4	2.2	Fill of pit cut 4242	Southeast group of pits and postholes		4033		
4350	41273	7	4	Cut of ditch	Same as 41208				
4351	41273	7	4	Fill of ditch cut 4350					
4352	41273	7	4	Fill of ditch cut 4350					
4353		4	2.2	Cut of gully	Same as 4287				
4354		4	2.2	Fill of gully cut 4353					
4355				VOID					
4356		4	2.2	Cut of pit	Southeast group of pits and postholes				
4357		4	2.2	Fill of pit cut 4356	Southeast group of pits and postholes				
4358		4	2.2	Fill of pit cut 4356	Southeast group of pits and postholes				
4359				VOID					
4360				VOID					
4361				VOID					
4362				VOID					
4363				VOID					
4364				VOID					
4365				VOID					
4366				VOID					
4367		4	2.2	Cut of posthole					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4368		4	2.2	Fill of posthole cut 4367					
4369	4292	7	4	Cut of gully	Same as gully 4292				
4370	4292	7	4	Fill of gully cut 4369					
4371		4	2.2	Cut of pit	Southeast group of pits and postholes				
4372		4	2.2	Fill of pit cut 4371	Southeast group of pits and postholes				
4373		4	2.2	Fill of pit cut 4371	Southeast group of pits and postholes				
4374		4	2.2	Fill of pit cut 4371	Southeast group of pits and postholes				
4375		4	2.2	Cut of pit	Northwest group of pits and postholes				
4376		4	2.2	Fill of pit cut 4375	Northwest group of pits and postholes				
4377		4	2.2	Fill of pit cut 4375	Northwest group of pits and postholes				
4378		4	2.2	Fill of pit cut 4375	Northwest group of pits and postholes				
4379	4472	5	3	Cut of palisade extension ditch	Same as 4427 & 4456				
4380	4472	5	3	Fill of palisade extension cut 4379					
4381	4472	5	3	Fill of palisade extension cut 4379			4031		
4382	4880	4	2.2	Metalled surface	Same as 4985, 4921, 4984, 4878, 4874, 4949 and 41007				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4383		0		Subsoil	Same as 4002	Pot			
4384				VOID					
4385		4	2.2	Cut of pit	Southeast group of pits and postholes				
4386		4	2.2	Fill of pit cut 4385	Southeast group of pits and postholes				
4387		4	2.2	Fill of pit cut 4385	Southeast group of pits and postholes				
4388		4	2.2	Fill of pit cut 4385	Southeast group of pits and postholes				
4389		4	2.2	Fill of pit cut 4035	Northwest group of pits and postholes				
4390		4	2.2	Fill of pit cut 4035	Northwest group of pits and postholes				
4391		7	4	Cut of gully	Same as 4553				
4392		7	4	Fill of gully cut 4391	Same as 4554				
4393		4	2.2	Fill of pit cut 4112	Northwest group of pits and postholes				
4394		4	2.2	Cut of pit	Southeast group of pits and postholes				
4395		4	2.2	Fill of pit cut 4394	Southeast group of pits and postholes				
4396		4	2.2	Fill of pit cut 4394	Southeast group of pits and postholes				
4397		4	2.2	Fill of pit cut 4251	Overlying fill 4342. Northwest group of pits and postholes				
4398		3	1	Cut of pit					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4399		3	1	Fill of pit cut 4398		Flint Scraper SF4015			
4400		3	1	Fill of pit cut 4398					
4401		4	2.2	Cut of pit	Southeast group of pits and postholes				
4402		4	2.2	Fill of pit cut 4401	Southeast group of pits and postholes				
4403		4	2.2	Cut of pit	Southeast group of pits and postholes				
4404		4	2.2	Fill of pit cut 4403	Southeast group of pits and postholes				
4405				VOID					
4406				VOID					
4407		7	4	Cut of furrow					
4408		7	4	Fill of furrow cut 4407					
4409		4	2.2	Fill of pit cut 4385	Same as fill 4386, Southeast group pits and postholes				
4410		4	2.2	Fill of pit cut 4385	Same as fill 4387, Southeast group pits and postholes				
4411		5	3	Fill of pit cut 4546					
4412		4	2.2	Cut of ditch terminus	Same as ditch cut 4031				
4413		4	2.2	Fill of ditch terminus cut 4412					
4414		4	2.2	Cut of posthole					
4415		4	2.2	Fill of posthole cut 4414					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4416		4	2.2	Fill of pit cut 4290			4037		
4417		4	2.2	Cut of pit	Southeast group of pits and postholes				
4418		4	2.2	Fill of pit cut 4417	Southeast group of pits and postholes	Animal Bone, Pot; Clay Tobacco Pipe, Chert, Worked Stone, Fired Clay			
4419		4	2.2	Fill of pit cut 4417	Southeast group of pits and postholes	Fired Clay	4044		
4420		4	2.2	Fill of pit cut 4310	Northwest group of pits and postholes		4038		
4421		4	2.2	Fill of pit cut 4312	Northwest group of pits and postholes				
4422		7	4	Cut of ditch	Same as ditch cut 4285				
4423		7	4	Fill of ditch cut 4422					
4424		4	2.2	Cut of pit	Southeast group of pits and postholes				
4425		4	2.2	Fill of pit cut 4424	Southeast group of pits and postholes	Animal Bone			
4426		4	2.2	Fill of pit cut 4424	Southeast group of pits and postholes				
4427	4472	5	3	Cut of palisade extension ditch	Same as 4456 & 4379				
4428	4472	5	3	Fill of palisade extension cut 4427	Same as 4457 & 4380		4064		
4429		4	2.2	Fill of pit cut 4307	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4430		4	2.2	Cut of pit	Southeast group of pits and postholes				
4431		4	2.2	Fill of pit cut 4430	Southeast group of pits and postholes		4050		
4432		4	2.2	Fill of pit cut 4430	Southeast group of pits and postholes				
4433				VOID					
4434		7	4	Cut of ditch					
4435		7	4	Fill of ditch cut 4434					
4436		4	2.2	Fill of pit cut 4110	Northwest group of pits and postholes		4041		
4437		4	2.2	Cut of pit	Northeast group of pits and postholes				
4438		4	2.2	Fill of pit cut 4437	Northeast group of pits and postholes				
4439		4	2.2	Cut of pit	Southeast group of pits and postholes				
4440		4	2.2	Fill of pit cut 4439	Southeast group of pits and postholes				
4441		4	2.2	Fill of pit cut 4439	Southeast group of pits and postholes				
4442		4	2.2	Fill of pit cut 4439	Southeast group of pits and postholes				
4443		4	2.2	Fill of pit cut 4310					
4444		4	2.2	Cut of pit	Southeast group of pits and postholes				
4445		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4446		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes		4051		
4447		0		Spread of material	Probably same as subsoil 4002				
4448				VOID					
4449				VOID					
4450				VOID					
4451				VOID					
4452		4	2.2	Cut of pit	Northeast group of pits and postholes				
4453		4	2.2	Fill of pit cut 4452	Northeast group of pits and postholes				
4454	4472	5	3	Possible palisade cut	Same as 4522 & 4626				
4455	4472	5	3	Fill of possible palisade cut 4454			4042		
4456	4472	5	3	Cut of palisade extension	Same as 4427 & 4379				
4457	4472	5	3	Fill of palisade extension cut 4456	Same as 4428 & 4380		4043		
4458	4302	4	2.2	Fill of pit cut 4302					
4459	4302	4	2.2	Fill of pit cut 4302					
4460		4	2.2	Cut of pit	Northeast group of pits and postholes				
4461		4	2.2	Fill of pit cut 4460	Northeast group of pits and postholes				
4462				VOID					
4463				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4464				VOID					
4465				VOID					
4466				VOID					
4467				VOID					
4468	41271	4	2.2	Cut of ditch	Probably same as Enclosure 41271				
4469	41271	4	2.2	Fill of pit cut 4468			4046		
4470	4280	7	4	Cut of ditch	Same as ditch cut 4280				
4471	4280	7	4	Fill of ditch cut 4470					
4472	4472	5	3	Group Sheet					
4473	4472	5	3	Group Sheet	Same as Group 4472				
4474	41271	4	2.2	Cut of ditch	Same as 4488 & 4849				
4475	41271	4	2.2	Fill of ditch cut 4474		Pot, Fired Clay	4097		
4476				VOID					
4477				VOID					
4478	4309	4	2.2	Metalled surface	Overlying earleir metalled surface 4862	Worked Stone SF4021			
4479		4	2.2	Fill of gully cut 4480	Northeast group of pits and postholes				
4480		4	2.2	Cut of pit	Northeast group of pits and postholes				
4481				VOID					
4482				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4483		4	2.2	Cut of pit	Northwest group of pits and postholes				
4484		4	2.2	Fill of pit cut 4483	Northwest group of pits and postholes		4045		
4485		4	2.2	Fill of pit cut 4483	Northwest group of pits and postholes				
4486		4	2.2	Fill of pit cut 4483	Northwest group of pits and postholes				
4487		4	2.2	Fill of pit cut 4483	Northwest group of pits and postholes				
4488	41271	4	2.2	Cut of ditch	Same as 4474 & 4849				
4489		4	2.2	Fill of ditch cut 4488					
4490		4	2.2	Fill of pit cut 4417	Southeast group of pits and postholes				
4491	4302	4	2.2	Stony fill of pit 4492					
4492	4302	4	2.2	Possible pit cut into fill 4459 of pit 4302					
4493		4	2.2	Cut of pit	Northeast group of pits and postholes				
4494		4	2.2	Fill of pit cut 4493	Northeast group of pits and postholes				
4495				VOID					
4496				VOID					
4497		4	2.2	Cut of pit	Southeast group of pits and postholes				
4498		4	2.2	Fill of pit cut 4497	Southeast group of pits and postholes	Animal Bone			

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4499		4	2.2	Fill of pit cut 4242	Southeast group of pits and postholes				
4500		4	2.2	Fill of pit cut 4242	Southeast group of pits and postholes				
4501				VOID					
4502				VOID					
4503				VOID					
4504				VOID					
4505		4	2.2	Cut of pit	Northeast group of pits and postholes				
4506		4	2.2	Fill of pit cut 4505	Northeast group of pits and postholes				
4507	4302	4	2.2	Fill of pit cut 4302			4047		
4508	41273	7	4	Cut of gully					
4509	41273	7	4	Fill of gully cut 4508					
4510		3	1	Fill of pit cut 4398			4035		
4511		3	1	Fill of pit cut 4398					
4512		3	1	Fill of pit cut 4398			4034		
4513	41271	4	2.2	Cut of ditch					
4514	4514	5	3	Cut of pit					
4515	41271	4	2.2	Fill of ditch cut 4513		Animal Bone	4121		
4516	41271	4	2.2	Fill of ditch cut 4513		Animal Bone, Fired Clay	4157	4169	
4517		4	2.2	Cut of pit	Northwest group of pits and postholes				
4518		4	2.2	Fill of pit cut 4517	Northwest group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4519		4	2.2	Fill of pit cut 4517	Northwest group of pits and postholes				
4520				VOID					
4521				VOID					
4522	4472	5	3	Cut of palisade	Same as 4454 & 4626				
4523	4472	5	3	Fill of palisade cut 4522			4048		
4524				VOID					
4525				VOID					
4526				VOID					
4527				VOID					
4528				VOID					
4529		4	2.2	Cut of pit	Southeast group of pits and postholes				
4530		4	2.2	Fill of pit cut 4529	Southeast group of pits and postholes				
4531		4	2.2	Fill of pit cut 4529	Southeast group of pits and postholes				
4532	4472	5	3	Fill of palisade cut 4522			4049		cal. AD 661-774 (Beta-553520)
4533		4	2.2	Cut of posthole					
4534		4	2.2	Fill of posthole cut 4533	Above fill 4535	Burnt Bone			
4535		4	2.2	Fill of posthole cut 4533					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4536		4	2.2	Cut of pit	Northeast group of pits and postholes				
4537		4	2.2	Fill of pit cut 4536	Northeast group of pits and postholes				
4538				VOID					
4539		4	2.2	Cut of pit	Southeast group of pits and postholes				
4540		4	2.2	Fill of pit cut 4539	Southeast group of pits and postholes				
4541	4514	5	3	Fill of pit cut 4514		Animal Bone			
4542	41271	4	2.2	Fill of ditch cut 4513		Animal Bone			
4543	41275	4	2.1	Cut of ditch					
4544		4	2.2	Cut of pit					
4545		4	2.2	Fill of pit cut 4544			4086		
4546	4514	5	3	Cut of pit	Same as 4514				
4547	4514	5	3	Fill of pit cut 4546		Animal Bone	4081		
4548	4514	5	3	Fill of pit cut 4546		Animal Bone	4082		
4549	4880	4	2.2	Metalled surface					
4550		7	4	Cut of a possible wall	Same as 4280				
4551		7	4	Fill of a possible wall cut 4550	Same as 4281				
4552		4	2.2	Fill of pit cut 4505	Northeast group of pits and postholes				
4553				VOID					
4554				VOID					
4555	41275	4	2.1	Fill of ditch cut 4543					
4556	41275	4	2.1	Fill of ditch cut 4543					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4557	41275	4	2.1	Fill of ditch cut 4543					
4558	41275	4	2.1	Fill of ditch cut 4543			4068		
4559	41275	4	2.1	Fill of ditch cut 4543					
4560		4	2.2	Cut of posthole					
4561		4	2.2	Fill of posthole cut 4560					
4562		4	2.2	Cut of posthole					
4563		4	2.2	Fill of posthole cut 4562					
4564		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes				
4565		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes				
4566		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes				
4567		4	2.2	Fill of pit cut 4444	Southeast group of pits and postholes				
4568				VOID					
4569		4	2.2	Fill of pit cut 4573	Northeast group of pits and postholes				
4570		4	2.2	Fill of pit cut 4573	Northeast group of pits and postholes				
4571		4	2.2	Fill of pit cut 4573	Northeast group of pits and postholes				
4572		4	2.2	Fill of pit cut 4573	Northeast group of pits and postholes				
4573		4	2.2	Cut of pit	Northeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4574	41271	4	2.2	Fill of ditch cut 4513		Animal Bone, Fired Clay			
4575	41271	4	2.2	Fill of ditch cut 4513			4159	4169	
4576		4	2.2	Cut of pit	Northeast group of pits and postholes				
4577		4	2.2	Fill of pit cut 4576	Northeast group of pits and postholes				
4578		4	2.2	Cut of pit	Northeast group of pits and postholes				
4579		4	2.2	Fill of pit cut 4578	Northeast group of pits and postholes	Unworked Burnt Stone	4052		cal. AD 130-326 (Beta-553521)
4580		4	2.2	Cut of pit	Northeast group of pits and postholes				
4581		4	2.2	Fill of pit cut 4580	Northeast group of pits and postholes				
4582		4	2.2	Fill of pit cut 4580	Northeast group of pits and postholes				
4583		5	3	Cut of pit					
4584		5	3	Fill of pit cut 4583			4053		
4585		5	3	Fill of pit cut 4583					
4586		4	2.2	Cut of ditch	Same as ditch cut 4740				
4587				VOID					
4588		5	3	Cut of pit	Same as 4583				
4589		5	3	Fill of pit cut 4588					
4590		5	3	Fill of pit cut 4588					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4591		4	2.2	Cut of pit					
4592		4	2.2	Fill of pit cut 4591					
4593		5	3	Cut of pit	Same as 4583				
4594		5	3	Fill of pit cut 4593					
4595				VOID					
4596		4	2.2	Cut of pit	Within Enclosure 41271				
4597		4	2.2	Fill of pit cut 4596	Within Enclosure 41271				
4598		4	2.2	Cut of posthole	Within Enclosure 41271				
4599		4	2.2	Fill of posthole cut 4598	Within Enclosure 41271				
4600		4	2.2	Cut of pit					
4601		4	2.2	Fill of pit cut 4600			4059		cal. AD 66-222 (Beta-553514)
4602		4	2.2	Fill of pit cut 4600					
4603		5	3	Cut of pit					
4604		5	3	Fill of pit cut 4603			4054		cal. AD 668-882 (Beta-553519)
4605		3	1	Cut of ditch					
4606		3	1	Fill of ditch cut 4605					
4607		3	1	Fill of ditch cut 4605					
4608		4	2.2	Cut of posthole	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4609		4	2.2	Fill of posthole cut 4608	Within Enclosure 41271				
4610		4	2.2	Fill of gully cut 4714	Within Enclosure 41271		4062		
4611		4	2.2	Cut of posthole	Within Enclosure 41271				
4612		4	2.2	Fill of posthole cut 4611	Within Enclosure 41271				
4613		4	2.2	Cut of pit	Within Enclosure 41271				
4614		4	2.2	Fill of pit cut 4613	Within Enclosure 41271				
4615		4	2.2	Fill of gully cut 4714	Within Enclosure 41271		4063		
4616	41275	4	2.1	Fill of ditch cut 4543					
4617	41275	4	2.1	Fill of ditch cut 4543					
4618	4472	5	3	Cut of palisade ditch	Same as 4622, 4620, 4724 and 41008				
4619	4472	5	3	Fill of palisade ditch cut 4618	Same as 4623, 4621, 4725 and 41009				
4620	4472	5	3	Cut of palisade ditch	Same as 4618, 4622, 4724 and 41008				
4621	4472	5	3	Fill of palisade ditch cut 4620	Same as 4619, 4623, 4725 and 41009				
4622	4472	5	3	Cut of palisade ditch	Same as 4618, 4620, 4724 and 41008				
4623	4472	5	3	Fill of palisade ditch cut 4622	Same as 4619, 4621, 4725 and 41009				
4624		4	2.2	Cut of gully	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4625		4	2.2	Fill of gully cut 4624	Within Enclosure 41271		4057		
4626	4472	5	3	Cut of palisade	Same as 4454 and 4522				
4627	4472	5	3	Fill of palisade cut 4626	Same as 4455 and 4523				
4628		4	2.2	Cut of posthole	Southeast group of pits and postholes				
4629		4	2.2	Fill of posthole cut 4628	Southeast group of pits and postholes				
4630		4	2.2	Cut of pit	Southeast group of pits and postholes				
4631		4	2.2	Fill of pit cut 4630	Southeast group of pits and postholes		4055		
4632		4	2.2	Cut of pit	Northeast group of pits and postholes				
4633		4	2.2	Fill of pit cut 4632	Northeast group of pits and postholes				
4634		4	2.2	Cut of gully	Same as gully cut 4624. Within Enclosure 41271				
4635		4	2.2	Fill of gully cut 4634	Within Enclosure 41271		4056		
4636		4	2.2	Cut of pit	Within Enclosure 41271				
4637		4	2.2	Fill of pit cut 4636	Within Enclosure 41271				
4638		4	2.2	Cut of posthole	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4639		4	2.2	Fill of posthole cut 4638	Within Enclosure 41271				
4640		4	2.2	Fill of posthole cut 4638	Within Enclosure 41271				
4641		4	2.2	Cut of posthole	Within Enclosure 41271				
4642		4	2.2	Fill of posthole cut 4641	Within Enclosure 41271				
4643		4	2.2	Cut of posthole	Within Enclosure 41271				
4644		4	2.2	Fill of posthole cut 4643	Within Enclosure 41271				
4645				VOID					
4646				VOID					
4647				VOID					
4648				VOID					
4649		0		Subsoil	Same as 4002				
4650		4	2.2	Cut of posthole					
4651		4	2.2	Fill of posthole cut 4650					
4652		4	2.2	Cut of pit					
4653		4	2.2	Fill of pit cut 4652					
4654		4	2.2	Fill of pit cut 4652					
4655		4	2.2	Cut of gully					
4656		4	2.2	Fill of gully cut 4655					
4657		4	2.2	Cut of pit	Southeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4658		4	2.2	Fill of pit cut 4657	Southeast group of pits and postholes				
4659		4	2.2	Fill of pit cut 4657	Southeast group of pits and postholes	Animal Bone			
4660		4	2.2	Fill of pit cut 4657	Southeast group of pits and postholes				
4661		4	2.2	Fill of pit cut 4657	Southeast group of pits and postholes	Animal bone	4058		
4662		4	2.2	Cut of pit	Southeast group of pits and postholes				
4663		4	2.2	Fill of pit cut 4662	Southeast group of pits and postholes				
4664		4	2.2	Fill of pit cut 4662	Southeast group of pits and postholes	Animal Bone, Fired Clay			
4665		4	2.2	Cut of pit	Southeast group of pits and postholes				
4666		4	2.2	Fill of pit cut 4665	Southeast group of pits and postholes				
4667		4	2.2	Fill of pit cut 4665	Southeast group of pits and postholes				
4668		4	2.2	Fill of pit cut 4665	Southeast group of pits and postholes				
4669		4	2.2	Cut of pit	Southeast group of pits and postholes				
4670		4	2.2	Fill of pit cut 4669	Southeast group of pits and postholes				
4671		4	2.2	Fill of pit cut 4669	Southeast group of pits and postholes				
4672		4	2.2	Cut of posthole	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4673		4	2.2	Fill of posthole cut 4672	Within Enclosure 41271				
4674		4	2.2	Cut of pit	Within Enclosure 41271				
4675		4	2.2	Fill of pit cut 4675	Within Enclosure 41271				
4676				VOID					
4677				VOID					
4678	4880	4	2.2	Fill of trackway cut 4688	Same as 41025, 41028, 4875 and 41031				
4679	4104	7	4	Cut of ditch	Same as ditch cut 4104				
4680	4104	7	4	Fill of ditch cut 4679					
4681		4	2.2	Cut of posthole	Within Enclosure 41271				
4682		4	2.2	Fill of posthole cut 4681	Within Enclosure 41271				
4683		4	2.2	Cut of posthole	Within Enclosure 41271				
4684		4	2.2	Fill of posthole cut 4683	Within Enclosure 41271				
4685		4	2.2	Cut of pit	Within Enclosure 41271				
4686		4	2.2	Fill of pit cut 4685	Within Enclosure 41271				
4687				VOID					
4688	4880	4	2.2	Cut of trackway	Same as 4916, 4702, 4995, 4996 and 4987				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4689		5	3	Fill of palisade ditch cut 4488					
4690		4	2.2	Cut of posthole	Within Enclosure 41271				
4691		4	2.2	Fill of posthole cut 4690	Within Enclosure 41271				
4692		4	2.2	Cut of posthole	Within Enclosure 41271				
4693		4	2.2	Fill of posthole cut 4692	Within Enclosure 41271				
4694		3	1	Cut of ditch	Same as 4605, 4727, 4784 and 4832				
4695		3	1	Fill of ditch cut 4694					
4696		3	1	Cut of pit					
4697		3	1	Fill of pit cut 4696					
4698		4	2.2	Fill of pit cut 4737			4065		
4699		4	2.2	Cut of posthole					
4700		4	2.2	Fill of posthole cut 4699					
4701		4	2.2	Fill of posthole cut 4699					
4702	4880	4	2.2	Cut of trackway	Same as 4916, 4688, 4995, 4996 and 4987				
4703	4880	4	2.2	Fill of trackway cut 4702	Same as 41019, 41024, 4879, 41027, 4986				
4704		4	2.2	Cut of pit	Same as pit cut 4990?				
4705				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4706		4	2.2	Fill of pit cut 4704					
4707		4	2.2	Fill of pit cut 4704					
4708		4	2.2	Fill of pit cut 4704					
4709	4710	4	2.2	Cut of furnace flue					
4710	4710	4	2.2	Cut of furnace					
4711	4880	4	2.2	Fill of trackway cut 4916	Same as 41022	Animal Bone	4104		cal. AD 422-574 (Beta-553516)
4712		3	1	Cut of ditch					
4713		3	1	Fill of ditch cut 4712					
4714		4	2.2	Cut of firepit					
4715	4710	4	2.2	Fill of furnace cut 4710			4069		
4716	4710	4	2.2	Fill of furnace flue cut 4709			4071		
4717	4710	4	2.2	Redeposited natural fill of furnace cut 4710					
4718	4710	4	2.2	Fill of furnace cut 4710			4070		
4719	4710	4	2.2	Heat-affected natural within furnace cut 4710					
4720	4710	4	2.2	Fill of furnace flue cut 4709					
4721	4710	4	2.2	Fill of furnace flue cut 4709			4072		

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4722		3	1	Cut of ditch					
4723		3	1	Fill of ditch cut 4722		Chert SF4018			
4724	4472	5	3	Cut of palisade terminus	Same as 4618, 4620, 4622 and 41008				
4725	4472	5	3	Fill of palisade terminus cut 4724	Same as 4619, 4621, 4623 and 41009	Pot (Samian) SF4016	4060		
4726	4472	5	3	Fill of palisade terminus cut 4724		Animal Bone	4061		cal. AD 608-688 (Beta-553515)
4727		3	1	Cut of ditch	Same as 4605				
4728		3	1	Fill of ditch cut 4727					
4729		3	1	Fill of ditch cut 4727					
4730		3	1	Fill of ditch cut 4727					
4731				VOID					
4732				VOID					
4733		4	2.2	Cut of posthole	Within Enclosure 41271				
4734		4	2.2	Fill of posthole cut 4734	Within Enclosure 41271				
4735		4	2.2	Cut of posthole	Within Enclosure 41271				
4736		4	2.2	Fill of posthole cut 4735	Within Enclosure 41271				
4737		4	2.2	Cut of pit					
4738		5	3	Cut of pit					
4739		5	3	Fill of pit cut 4738					
4740		4	2.2	Cut of ditch					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4741		4	2.2	Fill of ditch cut 4740					
4742		5	3	Cut of palisade					
4743		5	3	Fill of palisade cut 4742					
4744				VOID					
4745				VOID					
4746				VOID					
4747				VOID					
4748				VOID					
4749				VOID					
4750				VOID					
4751				VOID					
4752				VOID					
4753				VOID					
4754				VOID					
4755				VOID					
4756				VOID					
4757				VOID					
4758				VOID					
4759				VOID					
4760				VOID					
4761				VOID					
4762				VOID					
4763				VOID					
4764				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4765				VOID					
4766				VOID					
4767				VOID					
4768				VOID					
4769		5	3	Stony fill withing shallow pit 4738					
4770	4880	4	2.2	Fill of trackway cut 4702	Same as 4917, 41023, 4877, 41029 and 41030				
4771		7	4	Cut of ditch					
4772		7	4	Fill of ditch cut 4771					
4773		3	1	Cut of pit					
4774		3	1	Fill of pit cut 4773					
4775				VOID					
4776		3	1	Fill of pit cut 4902			4078		
4777		4	2.2	Cut of pit	Northwest group of pits and postholes				
4778		4	2.2	Fill of pit cut 4777		Pot (Samian)	4066		
4779		4	2.2	Fill of pit cut 4777					
4780	41273	7	4	Cut of ditch					
4781	41273	7	4	Fill of ditch cut 4780			4067		
4782		4	2.2	Fill of firepit 4254	Northwest group of pits and postholes				
4783				VOID					
4784		3	1	Cut of ditch	Same as 4605				
4785		3	1	Fill of ditch cut 4784					
4786		3	1	Fill of ditch cut 4784					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4787				VOID					
4788				VOID					
4789				VOID					
4790			Unphased	Fill of treethrow		Animal Bone			
4791	4880	4	2.2	Edge of occupational area					
4792	4880	4	2.2	Fill of occupational area 4791					
4793	4880	4	2.2	Edge of occupational area					
4794	4880	4	2.2	Fill of occupational area 4793					
4795				VOID					
4796				VOID					
4797				VOID					
4798				VOID					
4799				VOID					
4800		7	4	Terminus of ditch					
4801		7	4	Fill of ditch terminus 4800		Pot (Buckley Ware)			
4802				VOID					
4803		4	2.2	Cut of possible gully	Within Enclosure 41271				
4804		4	2.2	Fill of gully cut 4803	Within Enclosure 41271				
4805		4	2.2	Cut of posthole	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4806		4	2.2	Fill of posthole 4805	Within Enclosure 41271				
4807		4	2.2	Cut of pit	Northeast group of pits and postholes				
4808		4	2.2	Fill of pit 4807	Northeast group of pits and postholes				
4809		4	2.2	Fill of pit 4807	Northeast group of pits and postholes				
4810		4	2.2	Cut of a possible pit	Within Enclosure 41271				
4811		4	2.2	Fill of possible pit cut 4810	Within Enclosure 41271				
4812		4	2.2	Fill of furnace/ oven cut 4251					
4813				VOID					
4814	4309	4	2.2	Fill of pit cut 4831					
4815	4309	4	2.2	Fill of pit cut 4831			4075		
4816	4309	4	2.2	Fill of pit cut 4831					
4817				VOID					
4818	4309	4	2.2	Fill of pit cut 4831					
4819	4309	4	2.2	Fill of pit cut 4831					
4820	4309	4	2.2	Fill of pit cut 4831					
4821	4309	4	2.2	Fill of pit cut 4831					
4822	4309	4	2.2	Fill of pit cut 4831					
4823	4309	4	2.2	Fill of pit cut 4831					
4824		4	2.2	Fill of posthole cut 4825	Within Enclosure 41271				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4825		4	2.2	Cut of post hole	Within Enclosure 41271				
4826	4309	4	2.2	Cut of pit					
4827	4309	4	2.2	Fill of pit cut 4826					
4828	4309	4	2.2	Fill of pit cut 4826			4073		
4829	4309	4	2.2	Fill of pit cut 4826					
4830	4309	4	2.2	Fill of pit cut 4826					
4831	4309	4	2.2	Cut of pit					
4832		3	1	Cut of ditch	Same as 4605				
4833		3	1	Fill of ditch cut 4832					
4834		3	1	Fill of ditch cut 4832					
4835		3	1	Fill of ditch cut 4832					
4836		4	2.2	Cut of post hole					
4837		4	2.2	Fill of posthole cut 4836					
4838		4	2.2	Fill of posthole cut 4839					
4839		4	2.2	Cut of posthole					
4840	4124	7	4	Cut of ditch	Same as ditch cut 4124				
4841	4841	7	4	Cut of pit					
4842	4841	7	4	Fill of pit cut 4841					
4843	4124	7	4	Fill of ditch cut 4840					
4844	4841	7	4	Cut of pit					
4845	4841	7	4	Fill of pit cut 4844	Same as fill 4842				
4846		5	3	Cut of palisade					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4847		5	3	Fill of palisade cut 4846					
4848		5	3	Fill of palisade cut 4846					
4849	41271	4	2.2	Cut of ditch				4170	
4850	41271	4	2.2	Fill of ditch cut 4849					
4851	41271	4	2.2	Fill of ditch cut 4849					
4852	41271	4	2.2	Fill of ditch cut 4849		Animal Bone			
4853	41271	4	2.2	Fill of ditch cut 4849					
4854	41271	4	2.2	Fill of ditch cut 4849					
4855	41271	4	2.2	Fill of ditch cut 4849					
4856	41271	4	2.2	Fill of ditch cut 4849					
4857	41271	4	2.2	Fill of ditch cut 4849					
4858	41271	4	2.2	Fill of ditch cut 4849					
4859	41271	4	2.2	Fill of ditch cut 4849					
4860	41271	4	2.2	Fill of ditch cut 4849					
4861		5	3	Fill of pit cut 4738					
4862	4309	4	2.2	Metalled surface	Underlying metalled surface 4478		4074		
4863		4	2.2	Cut of pit					
4864		4	2.2	Fill pof pit cut 4863					
4865	41016	5	3	Cut of possible palisade/ gully	Same as 4913, 4963 and 41016				
4866	4742	5	3	Fill of palisade/ gully cut 4865	Same as 4914, 4964 and 41017	Pot (Samian), Bone			
4867		7	4	Cut of pit					
4868		7	4	Fill of pit cut 4867		Animal Bone			

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4869	41271	4	2.2	Fill of ditch cut 4513					
4870	41079	7	4	Cut of ditch					
4871	41079	7	4	Fill of ditch cut 4870					
4872				VOID					
4873	4873	4	2.2	Group number for enclosure ditch					
4874	4880	4	2.2	Fill of trackway cut 4702	Same as 4382, 4921, 4984, 4878, 4985 and 41007				
4875	4880	4	2.2	Fill of trackway cut 4702	Same as 41025, 41028, 4678 and 41031				
4876	4880	4	2.2	Fill of trackway cut 4702	Same as 41026 and 4918	Animal Bone			
4877	4880	4	2.2	Fill of trackway cut 4688	Same as 4917, 41023, 41029, 4770 and 41030				
4878	4880	4	2.2	Fill of trackway cut 4688	Same as 4382, 4921, 4984, 4885, 4874 and 41007				
4879	4880	4	2.2	Fill of trackway cut 4688	Same as 41019, 41024, 4703, 41027, 4986	Animal Bone, Pot			
4880	4880	4	2.2	Group number for trackway					
4881		7	4	Cut of culvert					
4882		7	4	Stones of capped part of culvert 4881					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4883		7	4	Fill of culvert cut 4881					
4884		7	4	Cut of culvert	Same as 4881				
4885		7	4	Stone culvert within cut 4884	Same as 4882				
4886		7	4	Fill of culvert cut 4884	Same as 4883				
4887	41271	4	2.2	Fill of ditch cut 41102					
4888		7	4	Cut of culvert terminus	Same as 4881				
4889		7	4	Fill of culvert terminus cut 4888	Same as 4883				
4890		7	4	Stone culvert within cut 4888	Same as 4882				
4891		4	2.2	Cut of pit	Northwest group of pits and postholes				
4892		4	2.2	Fill of pit cut 4891	Northwest group of pits and postholes				
4893		4	2.2	Fill of pit cut 4891	Northwest group of pits and postholes				
4894		4	2.2	Fill of pit cut 4891	Northwest group of pits and postholes		4079		
4895	41271	4	2.2	Cut of ditch					
4896	41271	4	2.2	Fill of ditch cut 4895					
4897		7	4	Cut of drain					
4898		7	4	Fill of drain cut 4897					
4899		7	4	Fill of drain cut 4897					
4900		8	5	Cut of pit					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4901		8	5	Fill of pit cut 4900		Iron Rods; Iron Hinge; Modern Glass; Modern Pottery			
4902		3	1	Cut of pit					
4903		3	1	Fill of pit cut 4902		Flint, Animal Bone			
4904		3	1	Fill of pit cut 4902					
4905	41271	4	2.2	Cut of ditch					
4906	41271	4	2.2	Fill of ditch cut 4905					
4907	41271	4	2.2	Fill of ditch 4905					
4908	41271	4	2.2	Fill of ditch 4905					
4909	41271	4	2.2	Fill of ditch 4905					
4910	41271	4	2.2	Fill of ditch 4905					
4911	41271	4	2.2	Fill of ditch 4905					
4912	41271	4	2.2	Fill of ditch 4905					
4913		5	3	Terminus cut of palisade/ gully	Same as 4865, 4963 and 41016				
4914		5	3	Fill of palisade terminus cut 4913	Same as 4866, 4964 and 41017		4077		
4915	41271	4	2.2	Fill of ditch 4905					
4916	4880	4	2.2	Cut of trackway	Same as 4996, 4688, 4995, 4702 and 4987				
4917	4880	4	2.2	Fill of trackway 4916	Same as 41029, 41023, 4877, 4770 and 41030				
4918	4880	4	2.2	Fill of trackway 4916	Same as 41026 and 4876				
4919				VOID					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4920	4880	4	2.2	Fill of trackway 4916					
4921	4880	4	2.2	Fill of trackway 4916	Same as 4985, 4921, 4984, 4878, 4874 and 41007	Pot (Mortaria), Animal Bone			
4922		8	5	Interface between soil and natural?		Pot			
4923	4309	4	2.2	Cut of posthole					
4924	4309	4	2.2	Fill of posthole cut 4923					
4925	4309	4	2.2	Fill of posthole cut 4923			4083		
4926	4309	4	2.2	Fill of posthole cut 4923					
4927	41271	4	2.2	Fill of ditch cut 4474			4095		
4928	41271	4	2.2	Fill of ditch cut 4474			4098		
4929	41271	4	2.2	Fill of ditch cut 4474					
4930	41271	4	2.2	Fill of ditch cut 4474					
4931	41271	4	2.2	Uppermost deposit within ditch 4849	Above fill 4932				
4932	41271	4	2.2	Fill of ditch cut 4849					
4933	41271	4	2.2	Fill of ditch cut 4849					
4934	41271	4	2.2	Fill of ditch 4849					
4935	41271	4	2.2	Fill of ditch cut 4849					
4936	41271	4	2.2	Fill of ditch cut 4849					
4937	41271	4	2.2	Fill of ditch 4849		Animal Bone, Fired Clay	4093		
4938	41271	4	2.2	Silting up of ditch		Animal Bone		4164	

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4939	41271	4	2.2	Fill of ditch 4905		Animal Bone, Fired Clay	4080	4164	
4940	41271	4	2.2	Fill of ditch 4905		Animal Bone	4168		
4941	41271	4	2.2	Fill of ditch 4905			4166		
4942	41271	4	2.2	Fill of ditch 4905			4130		
4943	41271	4	2.2	Fill of ditch 4905			4146, 4100		
4944	41271	4	2.2	Fill of ditch 4905			4146, 4100		
4945		4	2.2	Cut of posthole	Northwest group of pits and postholes				
4946		4	2.2	Fill of posthole cut 4945	Northwest group of pits and postholes		4084		
4947		3	1	Cut of pit					
4948		3	1	Fill of pit cut 4947					
4949	4880	4	2.2	Metalled surface	Same as 4382				
4950	41271	4	2.2	Fill of ditch 4849					
4951	41271	4	2.2	Fill of ditch cut 4474			4094		
4952	41271	4	2.2	Fill of ditch cut 4474			4096		
4953	41271	4	2.2	Fill of ditch cut 4474					
4954		4	2.2	Cut of pit	Northeast group of pits and postholes				
4955		4	2.2	Fill of pit 4954	Northeast group of pits and postholes				
4956		4	2.2	Fill of pit 4954	Northeast group of pits and postholes				
4957		4	2.2	Fill of pit 4954	Northeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4958		0		Layer of colluvial soil sealed beneath subsoil 4002					
4959		4	2.2	Cut of pit	Northeast group of pits and postholes				
4960		4	2.2	Fill of pit 4959	Northeast group of pits and postholes				
4961		4	2.2	Fill of pit 4959	Northeast group of pits and postholes				
4962		4	2.2	Fill of pit 4959	Northeast group of pits and postholes	Animal Bone			
4963				VOID					
4964				VOID					
4965				VOID					
4966				VOID					
4967		8	5	Cut of modern pit					
4968		8	5	Fill of pit 4967					
4969		4	2.2	Cut of gully	Same as gully 4624				
4970		4	2.2	Fill of gully 4969		Animal Bone	4085		
4971		4	2.2	Cut of posthole	Northwest group of pits and postholes				
4972		4	2.2	Fill of posthole 4971	Northwest group of pits and postholes		4088		
4973	41271	4	2.2	Fill of enclosure ditch 4513			4158	4169	
4974	41271	4	2.2	Fill of enclosure ditch 4513				4169	

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4975		4	2.2	Cut of pit	Northeast group of pits and postholes				
4976		4	2.2	Fill of pit 4975	Northeast group of pits and postholes		4103		
4977		4	2.2	Cut of pit	Northeast group of pits and postholes				
4978		4	2.2	Fill of pit 4977	Northeast group of pits and postholes	Animal Bone	4090		
4979	41271	4	2.2	Fill of enclosure ditch 4513				4169	
4980	41271	4	2.2	Fill of enclosure ditch 4513					
4981	41271	4	2.2	Fill of enclosure ditch 4513					
4982	41271	4	2.2	Fill of enclosure ditch 4513					
4983	41271	4	2.2	Fill of enclosure ditch 4513		Pot		4169	
4984	4880	4	2.2	Fill of trackway 4995	Same as 4382, 4921, 4985, 4878, 4874 and 41007	Pot, Slag, Fired Clay			
4985	4880	4	2.2	Fill of trackway 4987	Same as 4382, 4921, 4984, 4878, 4874 and 41007				
4986	4880	4	2.2	Fill of trackway 4987	Same as 41019, 41024, 4703, 41027, 4879	Fired Clay, Iron Nail, Animal Bone			
4987	4880	4	2.2	Cut of trackway	Same as 4916, 4688, 4995, 4996 and 4702	Pot			

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
4988		4	2.2	Cut of posthole	Northwest group of pits and postholes				
4989		4	2.2	Fill of posthole 4988	Northwest group of pits and postholes		4087		
4990		4	2.2	Cut of possible pit	Cutting earlier pit fill 4994				
4991		4	2.2	Fill of possible pit cut 4990					
4992		4	2.2	Fill of possible pit cut 4990	Above fill 4991				
4993		4	2.2	Cut of pit					
4994		4	2.2	Fill of pit 4993			4089		
4995	4880	4	2.2	Cut of trackway	Same as 4916, 4688, 4996, 4702 and 4987				
4996	4880	4	2.2	Cut of trackway	Same as 4916, 4688, 4995, 4702 and 4987				
4997		4	2.2	Stones in pit cut 4977	Overlying fill 4978				
4998				VOID					
4999	41271	4	2.2	Fill of ditch 4849					
41000	41271	4	2.2	Fill of ditch 4849					
41001	41271	4	2.2	Fill of ditch 4849			4092		
41002	41271	4	2.2	Fill of ditch 4849					
41003	41271	4	2.2	Fill of ditch 4849					
41004	41271	4	2.2	Fill of ditch 4849					
41005	41271	4	2.2	Fill of ditch 4849					
41006	41271	4	2.2	Fill of ditch 4849					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41007	4880	4	2.2	Fill of trackway 4996	Same as 4382, 4921, 4984, 4878, 4874 and 4985	Pot, Slag, Animal Bone, Fired Clay			
41008	4472	5	3	Possible part of pallisade cut	Same as 4618, 4620, 4622 and 4724				
41009		5	3	Fill of palisade ditch cut 41008	Same as 4619, 4621, 4623 and 4725				
41010	4880	5	3	Cut of ditch					
41011	4880	5	3	Fill of ditch cut 41010		Animal Bone	4091		
41012	41271	4	2.2	Fill of ditch 4474			4101		
41013	41271	4	2.2	Fill of ditch 4474				4170	
41014	41271	4	2.2	Fill of ditch 4474			4099		
41015	41271	4	2.2	Fill of ditch 4905			4102		
41016		5	3	Cut of possible palisade	Same as 4865, 4913 and 4963				
41017		5	3	Fill of possible palisade 41016	Same as 4866, 4914 and 4964		4107		
41018	4880	4	2.2	Fill of trackway 4996	Only observed in Northern part of trackway		4106		
41019	4880	4	2.2	Fill of trackway 4916	Same as 4879, 41024, 4703, 41027, 4986	Animal Bone	4105		
41020		5	3	Fill of ditch 41010	Above fill 41011				
41021	41271	4	2.2	Fill of enclosure ditch 41102					
41022	4880	4	2.2	Fill of trackway 4995	Same as 4711				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41023	4880	4	2.2	Fill of trackway 4995	Same as 4917, 41029, 4877, 4770 and 41030				
41024	4880	4	2.2	Fill of trackway 4995	Same as 41019, 4879, 4703, 41027, 4986				
41025	4880	4	2.2	Fill of trackway 4995	Same as 4678, 41028, 4875 and 41031				
41026	4880	4	2.2	Fill of trackway 4688	Same as 41026 and 4876				
41027	4880	4	2.2	Fill of trackway 4996	Same as 41019, 41024, 4703, 4879, 4986				
41028	4880	4	2.2	Fill of trackway 4996	Same as 41025, 4678, 4875 and 41031				
41029	4880	4	2.2	Fill of trackway 4996	Same as 4917, 41023, 4877, 4770 and 41030				
41030	4880	4	2.2	Cobbled fill of trackway 4987	Same as 4917, 41023, 4877, 4770 and 41029				
41031	4880	4	2.2	Fill of trackway 4987	Same as 41025, 41028, 4875 and 4678				
41032		4	2.2	Cut of pit	Northeast group of pits and postholes				
41033		4	2.2	Fill of pit 41032	Northeast group of pits and postholes				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41034		4	2.2	Cut of pit	Northeast group of pits and postholes				
41035		4	2.2	Fill of pit 41034	Northeast group of pits and postholes				
41036		4	2.2	Cut of pit	Northeast group of pits and postholes				
41037		4	2.2	Fill of pit 41036	Northeast group of pits and postholes				
41038		4	2.2	Cut of pit	Northeast group of pits and postholes				
41039		4	2.2	Fill of pit 41038	Northeast group of pits and postholes		4108		
41040		4	2.2	Fill of pit 41032	Northeast group of pits and postholes		4109		
41041		4	2.2	Fill of pit 41032	Northeast group of pits and postholes				
41042		4	2.2	Fill of pit 41032	Northeast group of pits and postholes				
41043		4	2.2	Fill of pit 41036	Northeast group of pits and postholes				
41044	41271	4	2.2	Fill of ditch 4849					
41045	41271	4	2.2	Fill of ditch 4849					
41046	41271	4	2.2	Fill of ditch 4849			4115		
41047	41271	4	2.2	Fill of ditch 4849					
41048	41271	4	2.2	Fill of ditch 4849			4118		
41049	41271	4	2.2	Fill of ditch 4849					
41050	41271	4	2.2	Fill of ditch 4849			4116		
41051	41271	4	2.2	Fill of ditch 4849			4117		

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41052	41271	4	2.2	Fill of ditch 4849					
41053	41271	4	2.2	Fill of ditch 4905					
41054	41271	4	2.2	Fill of ditch 4905					
41055	41271	4	2.2	Fill of ditch 4905					
41056	41271	4	2.2	Fill of ditch 4905					
41057	41271	4	2.2	Fill of ditch 4905					
41058	41271	4	2.2	Fill of ditch 4905					
41059	41271	4	2.2	Fill of ditch 4905					
41060	41271	4	2.2	Fill of ditch 4905					
41061	41271	4	2.2	Fill of ditch 4905					
41062				VOID					
41063	41271	4	2.2	Fill of ditch 4905					
41064	41271	4	2.2	Fill of ditch 4905					
41065	41271	4	2.2	Fill of ditch 4905		Animal Bone	4147	4164	
41066	41271	4	2.2	Fill of ditch 4905			4149	4164	
41067	41271	4	2.2	Fill of ditch 4905			4148	4164	
41068	41271	4	2.2	Fill of ditch 4905					
41069	41271	4	2.2	Fill of ditch 4905		Animal Bone	4150		
41070	41271	4	2.2	Fill of ditch 4905					
41071	41271	4	2.2	Fill of ditch 4513		Bundle of Straw/Thatch SF4025; Organic Plant Material SF4026	4119		
41072	41271	4	2.2	Fill of ditch 4474					
41073	41271	4	2.2	Fill of ditch 4474					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41074	41271	4	2.2	Fill of ditch 4474					
41075	41271	4	2.2	Fill of ditch 4513					
41076	41271	4	2.2	Fill of ditch 4474					
41077	41271	4	2.2	Fill of ditch 4513			4112		
41078		7	4	Occupational layer?					
41079		7	4	Cut of ditch					
41080		7	4	Fill of ditch 41079					
41081	41271	4	2.2	Fill of ditch 4474					
41082	41271	4	2.2	Fill of ditch 4474			4118		
41083	41271	4	2.2	Fill of ditch 4474					
41084				VOID					
41085				VOID					
41086				VOID					
41087				VOID					
41088	41271	4	2.2	Fill of ditch 4513			4120		
41089				VOID					
41090				VOID					
41091				VOID					
41092				VOID					
41093				VOID					
41094				VOID					
41095	41271	4	2.2	Fill of ditch 4513		Bone; Dandelion Flower SF4030	4160	4169	
41096	41271	4	2.2	Fill of ditch 4513	Same as fill 41115				
41097	41271	4	2.2	Fill of ditch 4513					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41098	41271	4	2.2	Fill of ditch 4513	Same as fill 41118				
41099				VOID					
41100	41271	5	3	Fill of enclosure ditch 41102	Same as fill 41134			4170	
41101				VOID					
41102	41271	4	2.2	Cut of enclosure ditch				4170	
41103				VOID					
41104				VOID					
41105				VOID					
41106				VOID					
41107	41271	4	2.2	Fill of enclosure ditch 41102			4135	4170	
41108	41271	4	2.2	Fill of enclosure ditch 41102				4170	
41109	41271	4	2.2	Fill of enclosure ditch 41102				4170	
41110	41271	4	2.2	Fill of enclosure ditch 41102			4134	4170	
41111	41271	4	2.2	Fill of enclosure ditch 41102					
41112	41271	4	2.2	Fill of ditch 4513			4169	4169	
41113	41271	4	2.2	Fill of ditch 4513				4170	
41114	41271	4	2.2	Fill of ditch 4513				4169	
41115	41271	4	2.2	Fill of ditch 4513		Animal Bone, Flint		4169	
41116	41271	4	2.2	Fill of ditch 4513				4169	
41117	41271	4	2.2	Fill of ditch 4513				4169	
41118	41271	4	2.2	Fill of ditch 4513		Animal Bone	4162	4169	

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41119	41271	4	2.2	Fill of ditch 4513			4163	4169	
41120	41271	4	2.2	Fill of ditch 4513	Same as 41119			4169	
41121				VOID					
41122	41122	4	2.2	Enclosure ditch group					
41123	41271	4	2.2	Fill of enclosure ditch 41102					
41124	41271	4	2.2	Fill of enclosure ditch 41102					
41125	41271	4	2.2	Fill of enclosure ditch 41102			4136	4170	
41126		8	5	Fill of pit 41130					
41127		8	5	Fill of pit 41130					
41128	41140	7	4	Fill of ditch cut 41152		Glass			
41129	41140	7	4	Fill of ditch cut 41152					
41130		8	5	Cut of pit					
41131	41271	5	3	Fill of enclosure ditch 41102				4170	
41132	41271	5	3	Fill of enclosure ditch 41102				4170	
41133	41271	5	3	Fill of enclosure ditch 41102				4170	
41134	41271	5	3	Fill of enclosure ditch 41102		Copper Alloy Penanular Brooch Type H SF4031	4132	4170	cal. AD 668-864 (Beta-553518)
41135	41271	4	2.2	Fill of enclosure ditch 41102		Animal Bone	4133	4170	
41136	41271	8	5	Fill of pit cut 41130					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41137	41271	4	2.2	Fill of enclosure ditch 41102				4170	
41138	41140	7	4	Fill of ditch cut 41152					
41139	41271	4	2.2	Cut of enclosure ditch					
41140	4140	7	4	Cut of ditch	Same as ditch 4140				
41141	4140	7	4	Fill of ditch cut 41140					
41142	41271	5	3	Cut of ditch	Possibly related to a ditch drawn during GPS pre-ex plan. Possibly related to early medieval re-use of ditch				
41143	41271	5	3	Fill of ditch cut 41142					
41144	41271	4	2.2	Fill of enclosure ditch 41139					
41145	41271	4	2.2	Fill of enclosure ditch 41139					
41146	41271	4	2.2	Fill of enclosure ditch 41139					
41147	41271	4	2.2	Fill of enclosure ditch 41139					
41148	41271	4	2.2	Fill of enclosure ditch 41139					
41149	41271	4	2.2	Fill of enclosure ditch 41139					
41150	41271	4	2.2	Fill of enclosure ditch 41139					
41151	41271	4	2.2	Fill of enclosure ditch 41139					

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41152	41140	7	4	Cut of ditch					
41153		7	4	Fill of drain 41154					
41154		7	4	Cut of drain					
41155		5	3	Fill of palisade trench 41156					
41156		5	3	Cut of palisade trench					
41157	41271	4	2.2	Fill of enclosure ditch 41139					
41158	41271	4	2.2	Fill of enclosure ditch 41139					
41159	41271	4	2.2	Fill of enclosure ditch 41139					
41160	41271	4	2.2	Fill of enclosure ditch 41139					
41161	41271	4	2.2	Fill of enclosure ditch 41139			4123		
41162	41271	4	2.2	Fill of enclosure ditch 41139					
41163	41271	4	2.2	Fill of enclosure ditch 41139					
41164	41271	4	2.2	Fill of enclosure ditch 41139					
41165	41271	4	2.2	Fill of enclosure ditch 41139					
41166	41271	4	2.2	Fill of enclosure ditch 41139					
41167	41271	4	2.2	Fill of enclosure ditch 41139				4164	
41168	41275	4	2.1	Cut of ditch	Same as 4543				

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41169	41275	4	2.1	Fill of ditch 41168				4167	
41170	41275	4	2.1	Fill of ditch 41168				4167	
41171	41275	4	2.1	Fill of ditch 41168				4167	
41172	41275	4	2.1	Fill of ditch 41168				4167	
41173	41275	4	2.1	Fill of ditch 41168				4167	
41174	41275	4	2.1	Fill of ditch 41168	Same as 4543		4152	4167	
41175	41275	4	2.1	Fill of ditch 41168			4156	4167	
41176	41275	4	2.1	Fill of ditch 41168	Same as 4543		4153	4167	
41177	41271	4	2.2	Cut of enclosure ditch					
41178	41271	4	2.2	Rubble dump	Same as 41223				
41179		7	4	Cut of ditch					
41180		7	4	Fill of ditch 41179					
41181	41275	4	2.1	Fill of ditch 41168					
41182	41271	4	2.2	Fill of enclosure ditch 41139					
41183				VOID					
41184	41275	4	2.1	Fill of ditch 41168			4154	4167	
41185	41275	4	2.1	Fill of ditch 41168			4155	4167	
41186	41275	4	2.1	Fill of ditch 41168				4167	
41187		7	4	Deposit of burnt material	Overlying upper fill of Enclosure 41271, next to Structure 4244	Animal Bone, Fired Clay	4171		
41188	41271	4	2.2	Fill of enclosure ditch 4905			4145	4164	
41189	41271	4	2.2	Fill of enclosure ditch 4905			4151	4164	

Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41190		8	5	Cut of modern cable trench		Pot			
41191		7	4	Fill of stone capped drain 41257					
41192	4244	7	4	Cut of drainage gully					
41193	4244	7	4	Fill of gully 41192					
41194	4244	7	4	Cut of posthole					
41195	4244	7	4	Fill of posthole 41194					
41196	4244	7	4	Layer					
41197		7	4	Recorded as a cut and base of a wall					
41198		7	4	Fill of 41197					
41199		7	4	Terminus of wall cut					
41200		7	4	Wall cut					
41201		7	4	Metalled surface	Same as 41215				
41202		7	4	Cut of wall trench					
41203		7	4	Fill of 41202					
41204	41271	4	2.2	Cut of enclosure ditch					
41205	41271	4	2.2	Fill of enclosure ditch 41204					
41206	41271	4	2.2	Fill of enclosure ditch 41204					
41207	41271	4	2.2	Fill of enclosure ditch 41204					
41208	41273	7	4	Cut of ditch	Same as 4350				
41209	41273	7	4	Fill of ditch 41208					
41210	41273	7	4	Fill of ditch 41208	Same as 4352				

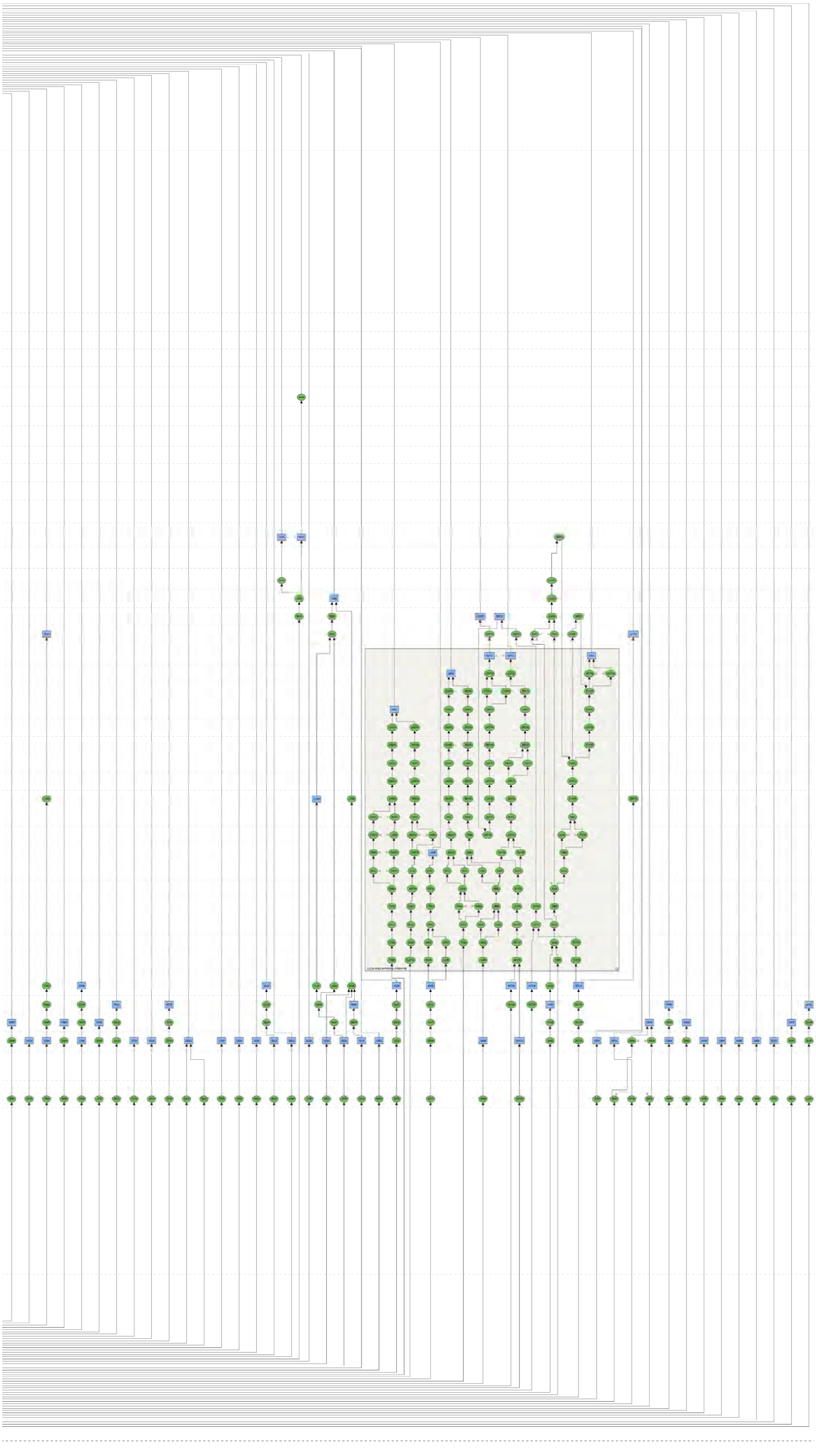
Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41211	41273	7	4	Fill of ditch 41208					
41212	41273	7	4	Fill of ditch 41208	Same as 4351				
41213	41275	4	2.1	Cut of ditch					
41214	41271	4	2.2	Cut of ditch					
41215		7	4	Deposit of stone	Same as 41201				
41216		7	4	Metalled surface			4173		
41217		7	4	Remnants of wall					
41218		7	4	Metalled surface					
41219	41275	4	2.1	Fill of ditch 41213					
41220	41275	4	2.1	Fill of ditch 41213					
41221	41275	4	2.1	Fill of ditch 41213					
41222	41275	4	2.1	Fill of ditch 41213			4172		
41223		4	2.2	Fill of ditch 41214	Same as 41178				
41224		4	2.2	Fill of ditch 41214					
41225		4	2.2	Fill of ditch 41214					
41226		7	4	Metalled surface					
41227	41274	7	4	Revetment wall for ditch 41251					
41228	41228	7	4	Dry stone structure					
41229	41228	7	4	Fill of construction cut 41255			4174		
41230	41228	7	4	Fill of construction cut 41255		Fired Clay	4175		
41231	41228	7	4	Fill of construction cut 41255					
41232	41228	7	4	Fill of construction cut 41255					

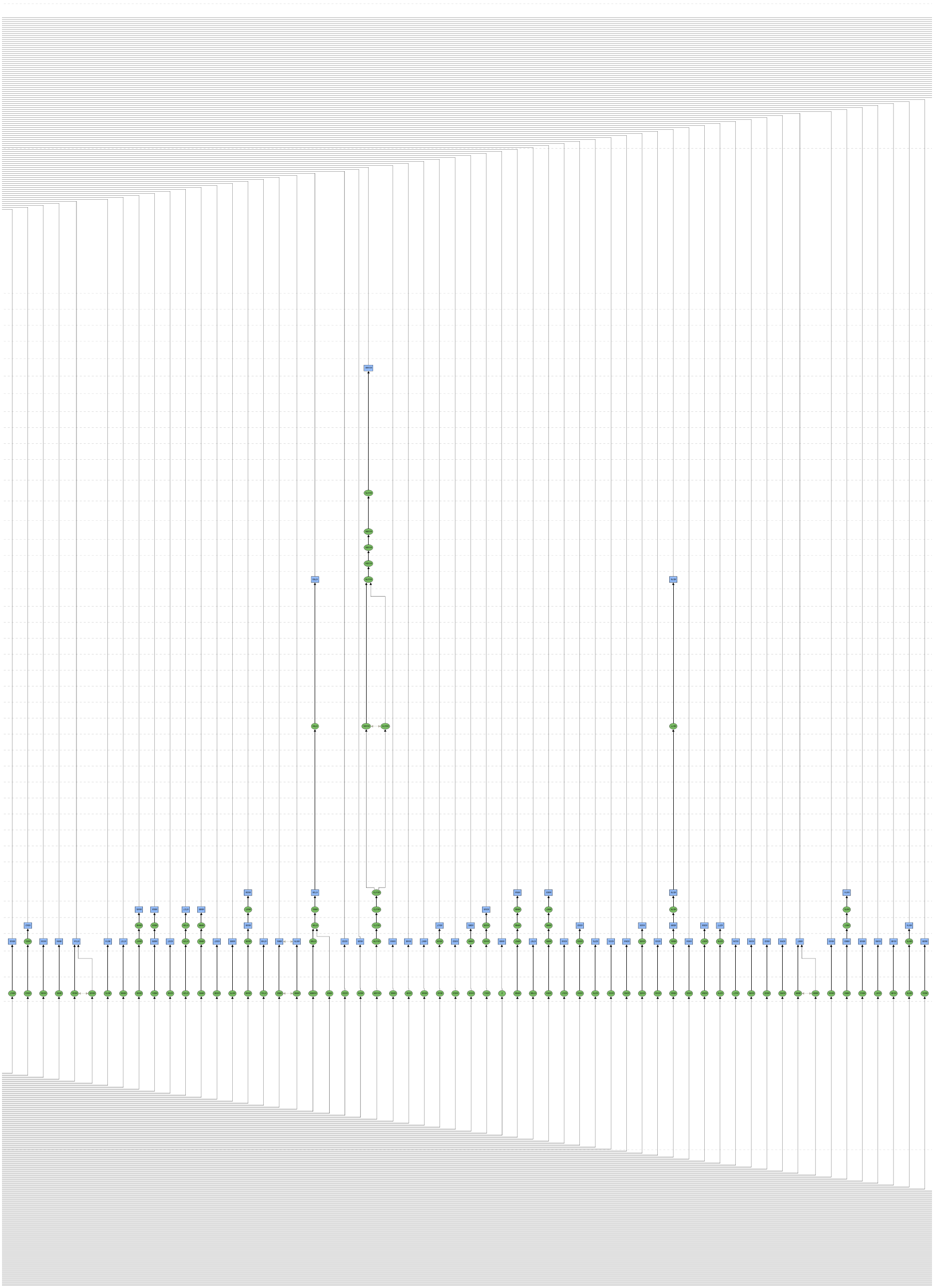
Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41233		7	4	Collapsed part of dry stone structure 41228					
41234	41271	4	2.2	Fill of enclosure ditch	Uppermost fill of enclosure ditch into which 41255 for structure 41228 was cut				
41235	41273	4	2.2	Layer	Same as 41263				
41236		8	5	Modern cut of haul road					
41237		8	5	Deposit of modern rubble topping the haul road 41236					
41238		8	5	Cut for dump of rubble					
41239		8	5	Fill of 41238					
41240		7	4	Cut of pit					
41241		7	4	Fill of pit cut 41240					
41242	41271	4	2.2	Fill of ditch 41177					
41243		7	4	Remains of stone wall					
41244	41274	7	4	Revetment wall for ditch 41251					
41245	41273	4	2.2	Silting layer					
41246	41273	4	2.2	Silting layer		Iron Object SF4033			
41247	41271	4	2.2	Cut of enclosure ditch					
41248	41273	4	2.2	Fill of enclosure ditch 41247					

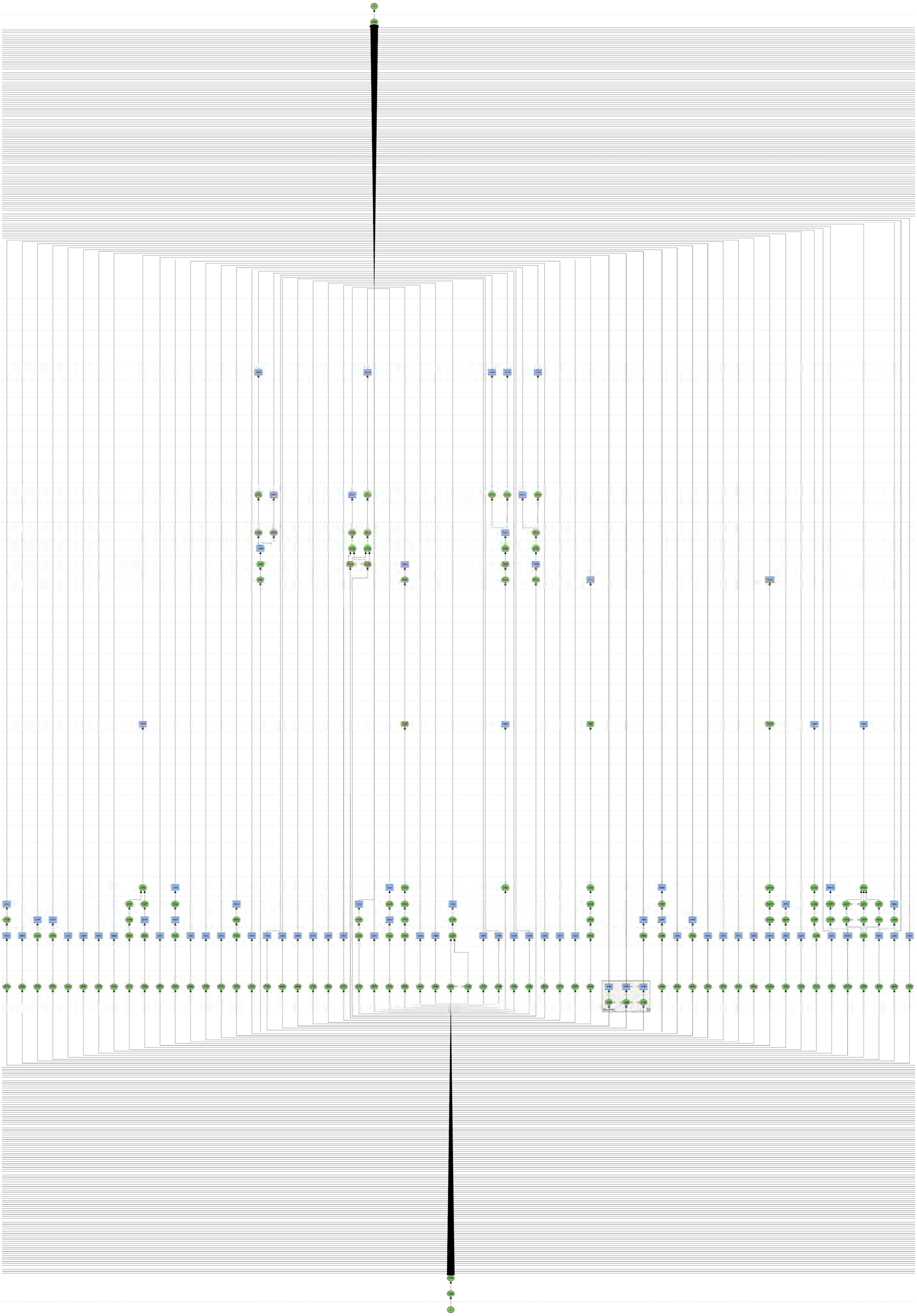
Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41249		7	4	Cut of pit					
41250		7	4	Fill of pit 41249			4177		
41251	41273	7	4	Cut of ditch					
41252	41273	7	4	Fill of ditch 41251		Animal Bone			
41253	41274	7	4	Post med revetment wall to support ditch 41251					
41254	41271	4	2.2	Fill of enclosure ditch 4513					
41255		7	4	Construction cut for wall 41228					
41256		7	4	Fill of pit 41259			4178		
41257		7	4	Cut of capped drain					
41258		7	4	Fill of drain 41257			4179		
41259		7	4	Cut of pit					
41260	41274	7	4	Construction cut for 41253, 41244					
41261	41274	7	4	Fill of con cut 41260					
41262		7	4	Wall					
41263	41273	4	2.2	Stone layer	Same as 41235				
41264	41274	7	4	Construction cut for reventment wall					
41265	41271	4	2.2	Fill of enclosure ditch 41267					
41266	41271	4	2.2	Fill of enclosure ditch 41267					
41267	41271	4	2.2	Cut of unexcavated enclosure ditch slot					

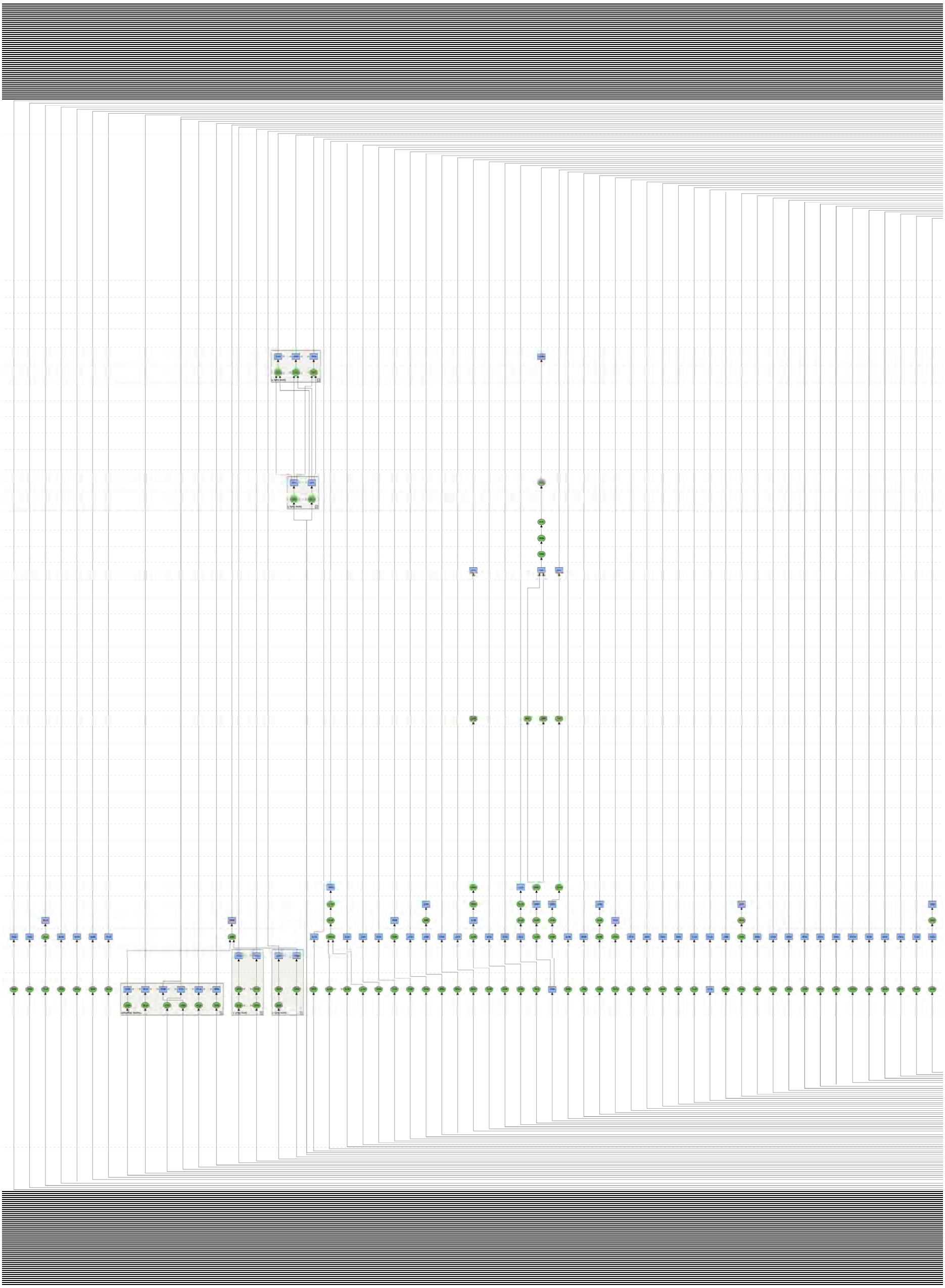
Context	Group	Period	Phase	Description	Further Interpretation	Finds	Environmental Samples	Monolith Series	C14 Date
41268		7	4	Construction cut for wall 41262					
41269	41274	7	4	Fill of construction cut 41264					
41270	41273	4	2.2	Fill of ditch 41251					
41271	41271	4	2.2	Group					
41272	41271	4	2.2	Fill of 4905					
41273	41273	4	2.2	Group					
41274	41274	7	4	Group					
41275	41275	4	2.1	Group				4167	

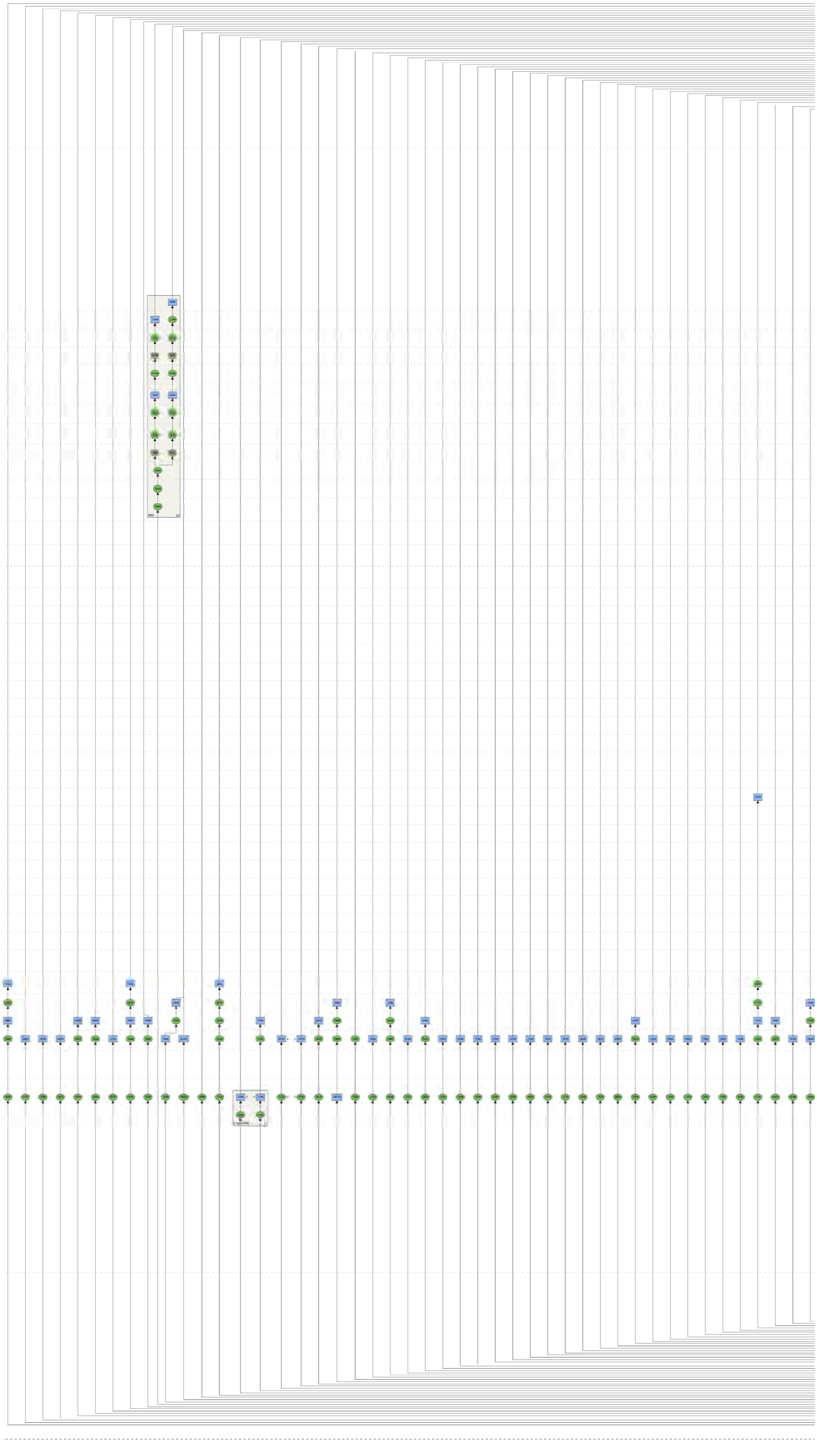
APPENDIX 2: HARRIS MATRIX











APPENDIX 3: PLATES

Plate 1; Pits [4773] and [4902], cut by later pits [4900] and [4947], looking west, 1x2m scale

Plate 2; Partial curvilinear ditch [4722], looking north, 1x1m scale

Plate 3; Cut [4543] of ditch [41275], looking south-southeast, 1x2m scale

Plate 4; Oblique post-excavation shot of cut [4905] (Intervention E) of enclosure ditch [41271], looking northwest, 1x1m and 1x2m scales

Plate 5; West-southwest facing section of cut [41102] (Intervention F) of enclosure ditch [41271], looking east-northeast, 1x2m scale

Plate 6; North-northwest facing section of cut [4849] (Intervention D) during excavation, looking south-southeast, 1x2m scale

Plate 7; Metalled surface {4880} within enclosure [41271], looking east-northeast, 1x1m and 1x2m scales

Plate 8; North-northeast facing section of pit [4483], looking south-southwest, 1x0.50m scale

Plate 9; Northwest facing section of pit [4049] showing stakehole [4052] cut into the pit base, looking southeast, 1x2m and 1x0.40m scales

Plate 10; Aerial view of metalled feature [4309], looking northwest, no scales

Plate 11; South-southeast facing section of palisade ditch slot [4724], looking north-northwest, 1x0.50m scale

Plate 12; Northeast facing section of cut [4224] of ditch [41140], looking southwest, 1x0.50m scale

Plate 13; Southeast facing section of possible posthole [4142], looking northwest, 1x0.50m scale

APPENDIX 4: FIGURES

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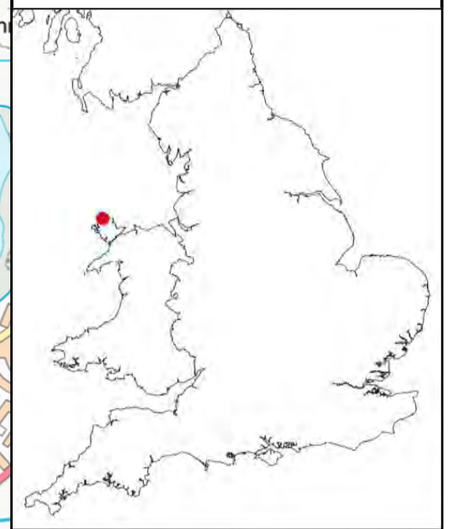
Wylfa Newydd development area

Excavation area

Hot spots



REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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Area 4,
Wylfa Newydd, Angelsey

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Figure 1:
Wylfa Newydd development area and excavated sites

DRG No.		REV
CL12283-401		A
DRG SIZE	SCALE	DATE
A3	1:12,500	Feb 2020
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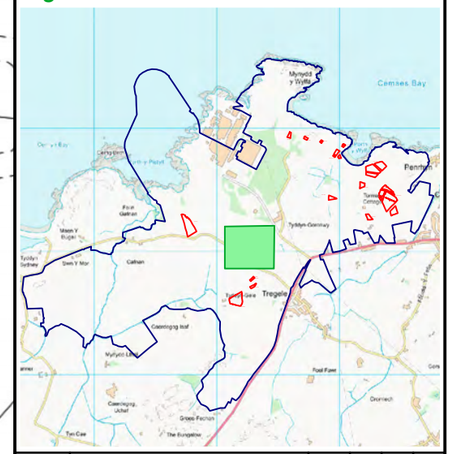
Wylfa Newydd development area

Excavation area

Excavation areas in vicinity

Figure location:



Track

.6m

Area 4 (E3)

37.7m

39.2m

36.7m

235125/392950

235400/392950

Cattle Grid

21.3m

Track

Clonmel

CW

0

100m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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Figure 2:
Detailed site location

DRG No.		REV
CL12283-402		A
DRG SIZE	SCALE	DATE
A3	1:1,250	Jan 2020
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(4000) Context numbers

Limit of excavation

Period 3 Late Bronze Age and Iron Age 1500 BC – AD 43

Period 4 Roman AD 43 – 410

Period 5 Early Medieval AD 410 – 1100

Period 7 Post-medieval AD 1539 - 1750

Period 8 Industrial and Modern AD 1750 – present

Undated

Trench location

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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Area 4,
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Figure 3:
Area 4; period plan

DRG No.		REV
CL12283-403		A
DRG SIZE	SCALE	DATE
A3	1:400	July 2020
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(4000) Context numbers

Limit of excavation

Sections shown in further figures

Sections not shown in further figures

Excavated area

Trench location

Trench 142

Trench 144

Trench 1191

Trench 144b

Trench 1190

Trench 1189

Trench 143

Trench 1193

Trench 147

[4773]
s.4311
s.4273
[4902]
[4947]

[4784]
s.4275A
s.4268
[4727]
[4696]
[4722]
s.4232
s.4293
s.4232B
[4832]
[4605]
s.4256
[4694]

s.4266A
[4712]

s.4208
s.4165
[4398]

0
50m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

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Area 4,
Wylfa Newydd, Anglesey

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Figure 4:
Area 4; phase 1 plan

DRG No.	REV
CL12283-404	A

DRG SIZE	SCALE	DATE
A3	1:400	July 2020

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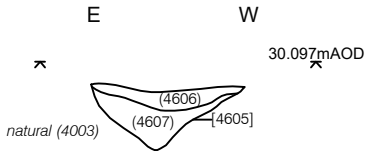
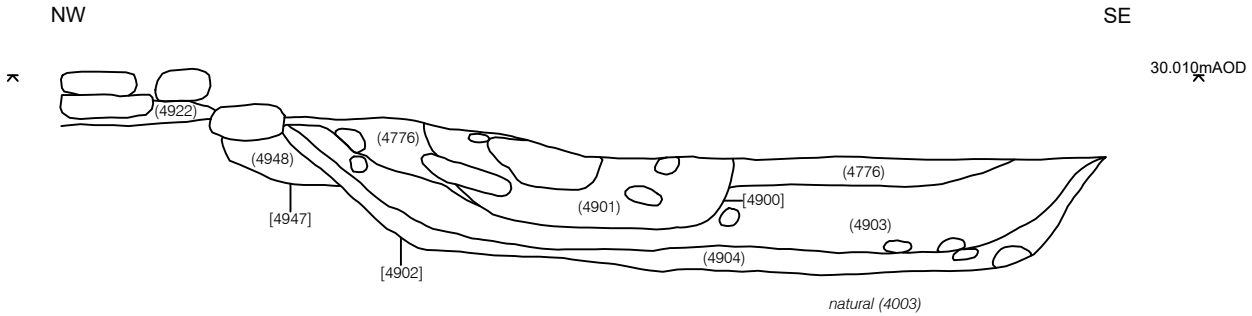


Section 4232B. North facing section of curvilinear ditch [4605].



Section 4311. North-east facing section of Northwest quadrant [4902] and [4900].

0 2m

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(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

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Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 5:
Area4; phase 1 sections

DRG No	REV
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SIZE	SCALE	DATE
A4	1:25	July 2020

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(4000) Context numbers

Limit of excavation

Sections shown in further figures

Sections not shown in further figures

Excavated area

Previous phases

Trench location

Location of detailed insert

Phase 2 sub-phases:

2.1

2.2

Trench 142
Trench 144
Trench 144b
Trench 1189
Trench 1190
Trench 1191
Trench 1193
Trench 143
Trench 147
Ditch [41271]
Ditch [41275]

Detail at 1:200

0 50m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D
B	Detailed insert added	4/3/2021	HP	FG	FG

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Figure 6:
Area 4; phase 2 plan

DRG No.	REV
CL12283-406	B

DRG SIZE	SCALE	DATE
A3	1:400	July 2020

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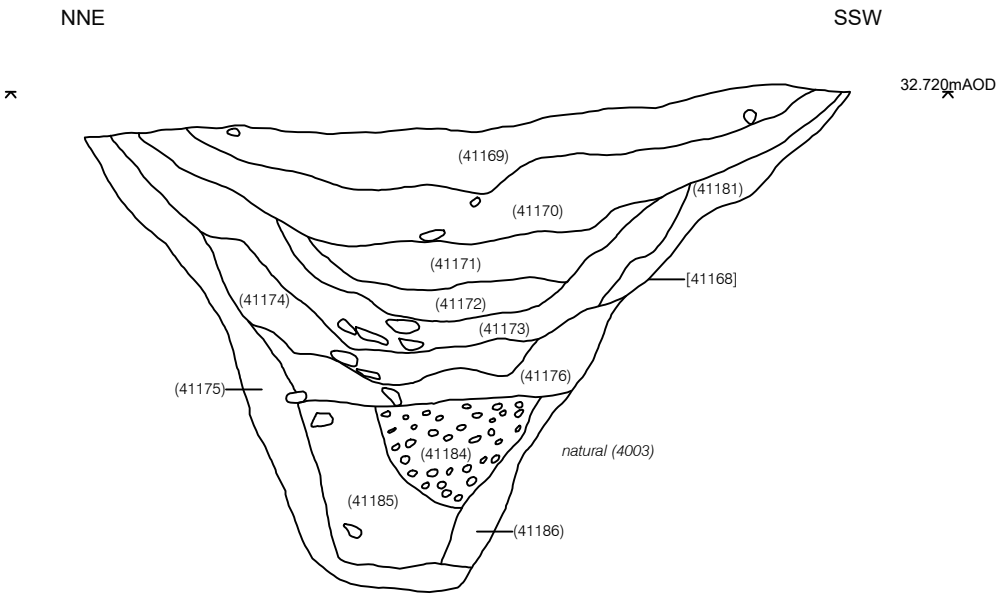

Section 4356 and 4360. WNW facing section of ditch [41168].

0 2m

DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 7:
Area4; phase 2.1 sections

DRG No	REV
CL12283-407	A

SIZE	SCALE	DATE
A4	1:25	July 2020

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MM/HP	FG	FG

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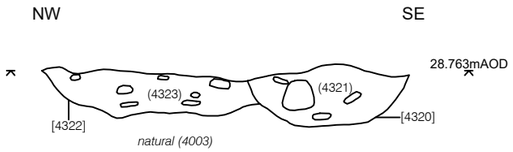
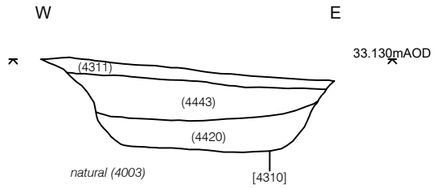
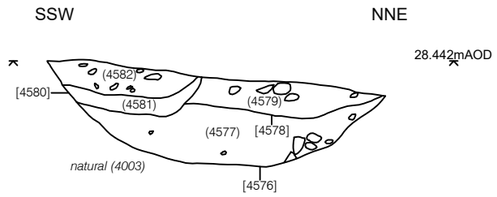


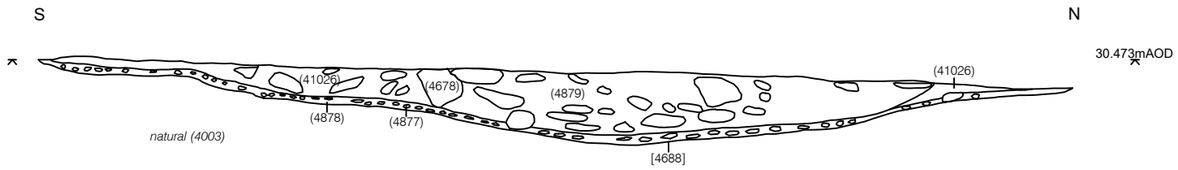
Section 4142A. South-west facing section of furnace [4320] and [4322].



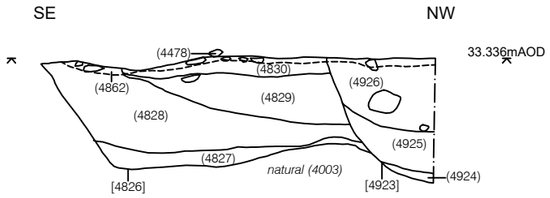
Section 4174B. South facing section of pit [4310].



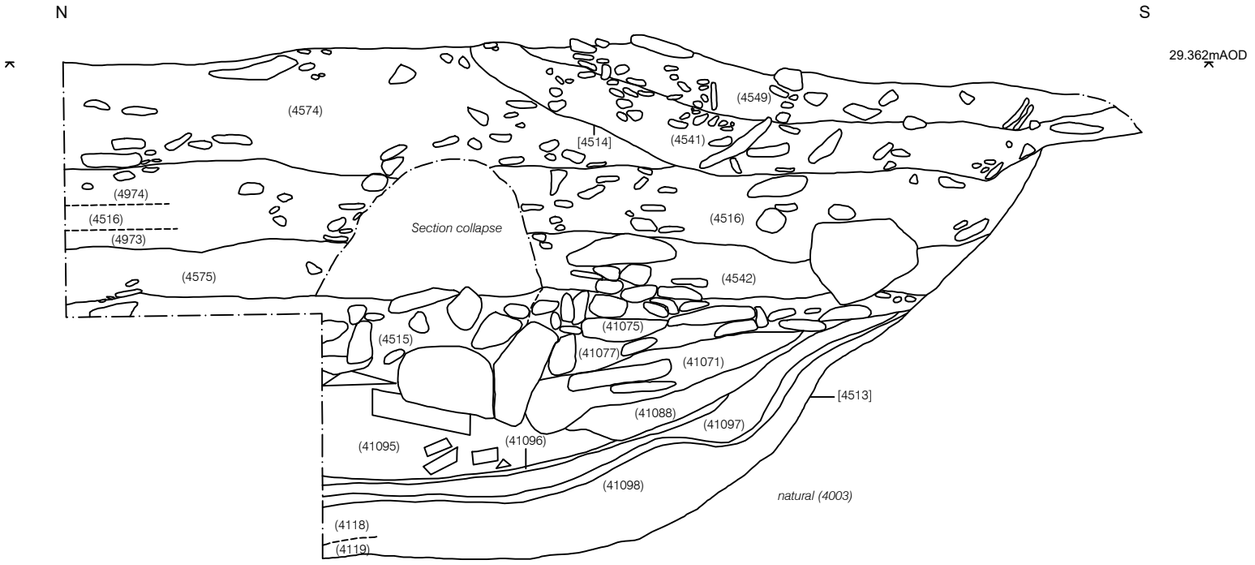
Section 4227. ESE facing section of small pit [4580], burnt pit [4578] and pit [4576].



Section 4289. East facing section of the cobbled walkway [4688].



Section 4292. North-east facing section of pit [4826] and associated pit [4831].



Section 4301. East facing section of ditch terminus [4513], of enclosure ditch [41271] and pit [4514].

0 2m

DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 8:
Area 4; phase 2.2 sections
(1)

DRG No.	REV
CL12283-408	A

DRG SIZE	SCALE	DATE
A3	1:25	July 2020

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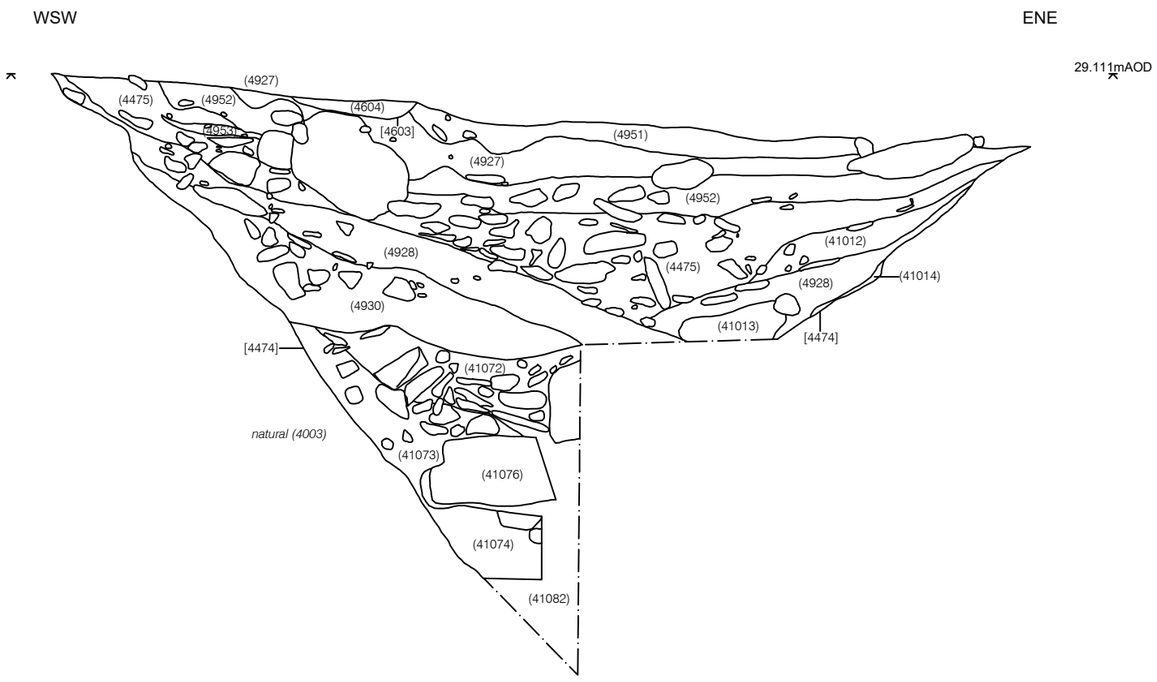
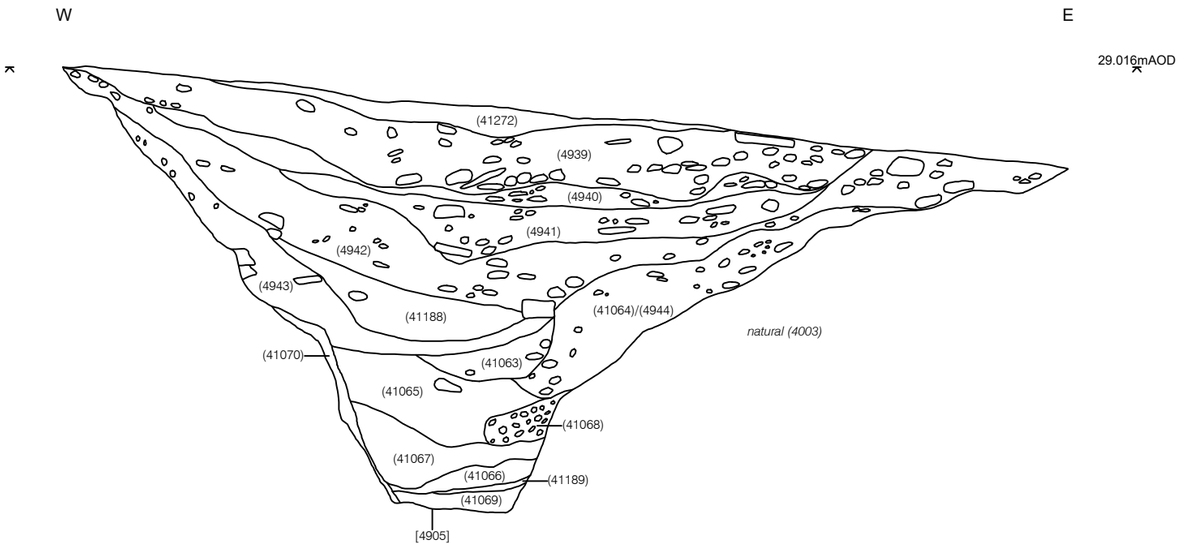


Section 4340. SSE facing section of ditch terminus [4474] north of eastern entrance.



Section 4346 and 4319. South south east facing section of intervention E of enclosure ditch [41271].

0 2m

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 9:
Area 4; phase 2.2 sections
(2)

DRG No.	REV
CL12283-409	A

DRG SIZE	SCALE	DATE
A3	1:25	July 2020

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MM/HP	FG	FG

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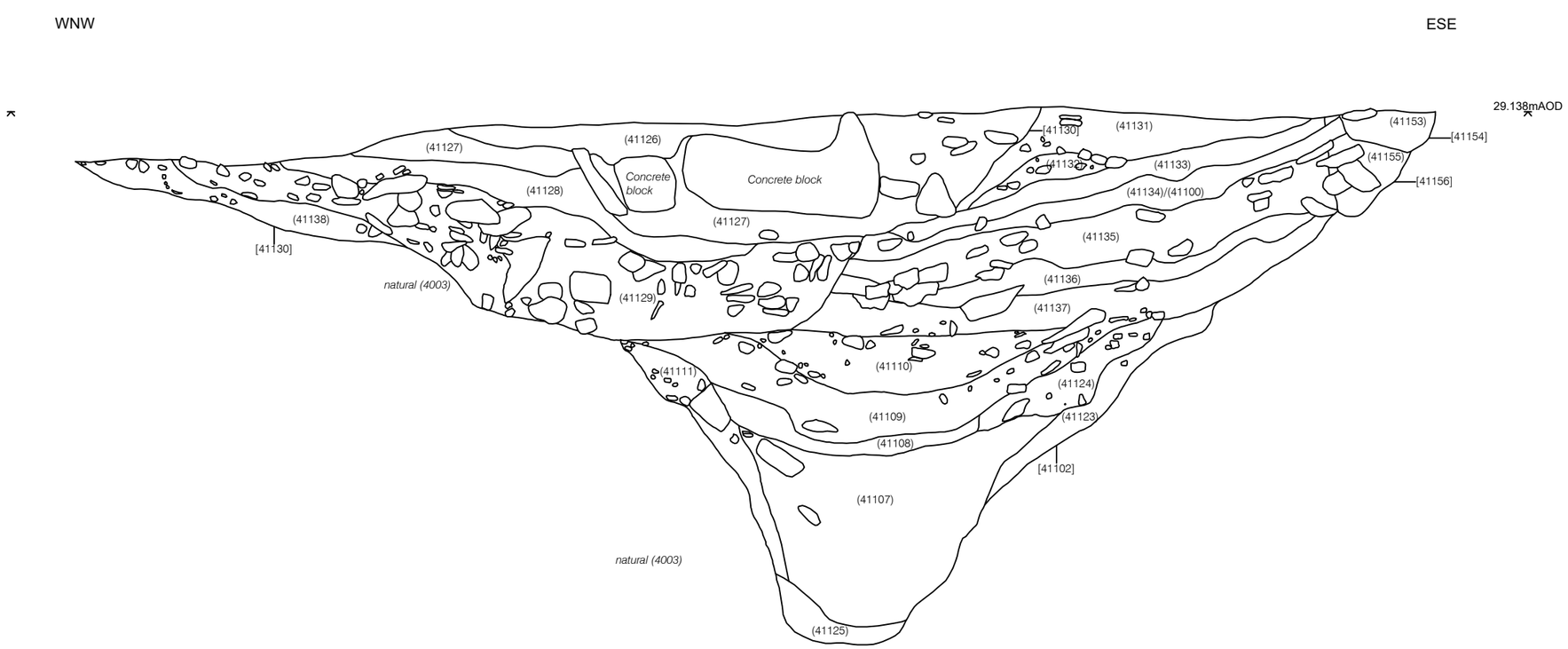

Section 4348, 4350 and 4352. WSW facing section of enclosure ditch [41102], pit [41130], ditch [41154] and drain [41156].

0 2m

DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 10:
Area 4; phase 2.2 sections
(3)

DRG No.	REV
CL12283-410	A

DRG SIZE	SCALE	DATE
A3	1:25	July 2020

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DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Sections shown in further figures

Sections not shown in further figures

Excavated area

Previous phases

Trench location

Trench 144

Trench 142

Trench 1191

Trench 144b

Trench 1190

Trench 1189

Trench 143

Trench 1193

Trench 147

s.4270

s.4313

Palisade ditch [41016]

s.4238A

s.4238B

s.4238C

Palisade ditch [4724]

s.4263B

s.4263A

[4603]

s.4204

[4583]

s.4228B

s.4229A

s.4228C

s.4229B

s.4302

[4738]

Palisade ditch [4427]

s.4146

[4330]

s.4246

[4546]

s.4160

[4514]

s.4217

s.4203A

s.4212B

Palisade ditch [4522]

s.4212C

s.4212A

s.4241

N

0

50m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 11:
Area 4; phase 3 plan

DRG No.	REV
CL12283-411	A

DRG SIZE	SCALE	DATE
A3	1:400	July 2020

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MM/HP	FG	FG

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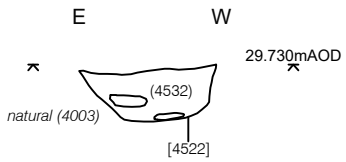
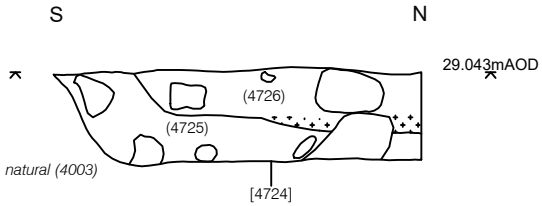


Section 4212C. North facing section of palisade ditch [4522].



Section 4263A. East facing section of palisade ditch terminus [4724].

DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

Charcoal

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 12:
Area 4; phase 3 sections

DRG No	REV	
CL12283-412	A	
SIZE: A4	SCALE: 1:25	DATE: July 2020
DRAWN BY: MM/HP	CHECKED BY: FG	APPROVED BY: FG

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DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Sections shown in further figures

Sections not shown in further figures

Phase 5 features

Excavated area

Previous phases

Trench location

Trench 142
Trench 144
Trench 144b
Trench 1189
Trench 1190
Trench 1191
Trench 143
Trench 1193
Trench 147
Ditch [4264]
s.4127
Ditch [4140]
s.4021
s.4023A
s.4023B
s.4090
s.4085A
s.4085B
Ditch [4134]
Ditch [4104]
Ditch [41140]
s.4089
s.4092
s.4117
s.4261
s.4101
s.4357
[41130]
s.4094A
s.4088A
Ditch [4124]
Ditch [4280]
s.4374B
s.4374A
[41228]
[41255]
s.4190
s.4170
[4391]
s.4162
[4292]/[4335]
[4296]
s.4207A
s.4207B
s.4148
s.4144
[4292]
[4285]
s.4155
s.4176
Ditch [41273]
[4422]
s.4369
s.4150
s.4379
s.4376
s.4119
s.4123
s.4366
s.4365
Ditch [41079]
[4245]
[4249]
[4841]
s.4298
s.4297
s.4311
[4900]
s.4326
(41078)
[4967]
s.4347
s.4282
[4800]
[4810]
Ditch [4881]
s.4306
s.4308
s.4310
{4175}
[4083]
s.4014B
[4434]
s.4179
0
50m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT
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PROJECT
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DRAWING TITLE
Figure 13:
Area 4; phase 4 and 5 plan

DRG No.	REV
CL12283-413	A

DRG SIZE	SCALE	DATE
A3	1:400	July 2020

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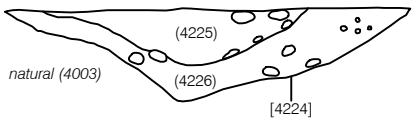
S N

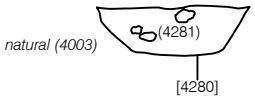
27.688mAOD



Section 4117. North-east facing section of cut [4224] of ditch [41140].

N S

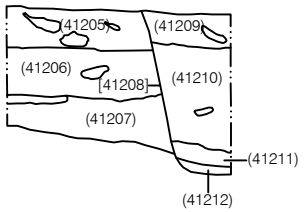
32.62mAOD



Section 4170. East facing section of feature [4280].

N S

31.75mAOD



Section 4369. West facing section showing relationship between cut [41208] of ditch [41273] cutting upper fills of ditch [41271]

0 2m

DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Height mAOD

Stones

REVISION	DETAILS	DATE	DRAWN	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 14:
Area 4; phase 4 sections

DRG No	REV
CL12283-414	A

SIZE	SCALE	DATE
A4	1:25	July 2020

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MM/HP	FG	FG

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DO NOT SCALE FROM THIS DRAWING

(4000) Context numbers

Limit of excavation

Sections not shown in further figures

Excavated area

Previous phases

Trench location

Trench 144

Trench 1191

[4144]
s.4093B
s.4093C
[4138]
[4136]
s.4093A

Trench 144b

[4146]
s.4095
[4203]
s.4110
s.4107A
[4207]
s.4111
[4191]

Trench 142

Trench 1190

[4142]
s.4094A
[4132]
[4079]
s.4077A
s.4077B
[4081]

[4264]

Trench 143

Trench 1189

Trench 1193

Trench 147

0 50m

REVISION	DETAILS	DATE	DR'N	CHK'D	APP'D

CLIENT

Horizon Nuclear Power

PROJECT

Area 4,
Wylfa Newydd, Anglesey

DRAWING TITLE

Figure 15:
Area 4; unphased plan

DRG No.		REV
CL12283-415		A
DRG SIZE	SCALE	DATE
A3	1:400	July 2020
DRAWN BY	CHECKED BY	APPROVED BY
MM/HP	FG	FG

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APPENDIX 4: FIGURES

APPENDIX 5: RADIOCARBON CERTIFICATES

BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -23.0 o/oo)

Laboratory number Beta-563520

Conventional radiocarbon age 1280 ± 30 BP

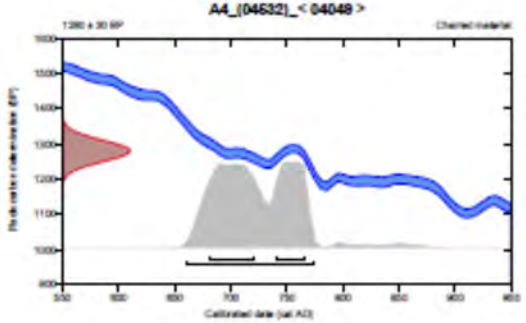
95.4% probability

(95.4%) 661 - 774 cal AD (1289 - 1176 cal BP)

68.2% probability

(40.8%) 681 - 721 cal AD (1269 - 1229 cal BP)
(27.4%) 740 - 766 cal AD (1210 - 1184 cal BP)

A4_[04532]_< 04048 >



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).

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BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -25.0 o/oo)

Laboratory number Beta-563521

Conventional radiocarbon age 1800 ± 30 BP

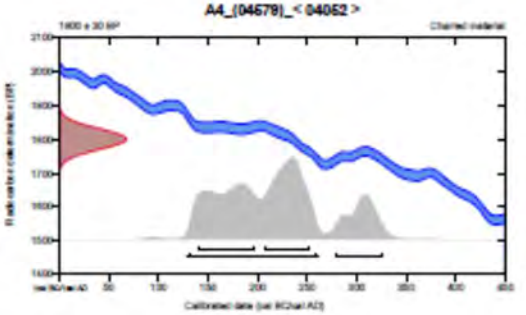
95.4% probability

(79%) 130 - 260 cal AD (1820 - 1690 cal BP)
(16.4%) 279 - 326 cal AD (1671 - 1624 cal BP)

68.2% probability

(34.7%) 208 - 252 cal AD (1742 - 1698 cal BP)
(33.5%) 140 - 196 cal AD (1810 - 1754 cal BP)

A4_[04579]_< 04052 >



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).

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BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -23.1 o/oo)

Laboratory number **Beta-563514**

Conventional radiocarbon age **1880 ± 30 BP**

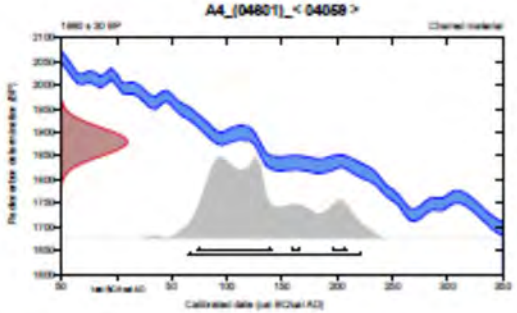
95.4% probability

(95.4%)	66 - 222 cal AD	(1884 - 1728 cal BP)

68.2% probability

(59.3%)	74 - 140 cal AD	(1876 - 1810 cal BP)
(5.9%)	196 - 208 cal AD	(1754 - 1742 cal BP)
(3%)	159 - 166 cal AD	(1791 - 1784 cal BP)

A4_(04601)_< 04058 >



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)

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Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -25.4 o/oo)

Laboratory number **Beta-563519**

Conventional radiocarbon age **1230 ± 30 BP**

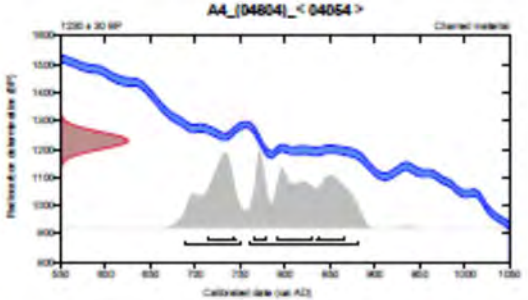
95.4% probability

(62.8%)	780 - 882 cal AD	(1190 - 1068 cal BP)
(32.6%)	888 - 751 cal AD	(1262 - 1199 cal BP)

68.2% probability

(22.1%)	790 - 830 cal AD	(1160 - 1120 cal BP)
(20.3%)	714 - 744 cal AD	(1236 - 1206 cal BP)
(16.4%)	836 - 866 cal AD	(1114 - 1084 cal BP)
(9.3%)	766 - 776 cal AD	(1184 - 1172 cal BP)

A4_(04604)_< 04054 >



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)

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BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -22.8 o/oo)

Laboratory number **Beta-563616**

Conventional radiocarbon age **1650 ± 30 BP**

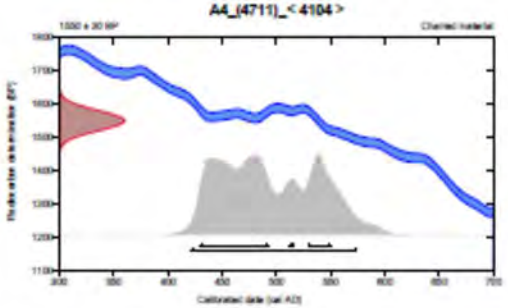
95.4% probability

(95.4%) 422 - 574 cal AD (1528 - 1376 cal BP)

68.2% probability

(50%) 430 - 492 cal AD (1520 - 1458 cal BP)
(15.7%) 529 - 550 cal AD (1421 - 1400 cal BP)
(2.5%) 512 - 516 cal AD (1438 - 1434 cal BP)

A4_(4711)_< 4104 >



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).

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Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -24.7 o/oo)

Laboratory number **Beta-563615**

Conventional radiocarbon age **1370 ± 30 BP**

95.4% probability

(95.4%) 608 - 688 cal AD (1342 - 1262 cal BP)

68.2% probability

(68.2%) 643 - 670 cal AD (1307 - 1280 cal BP)

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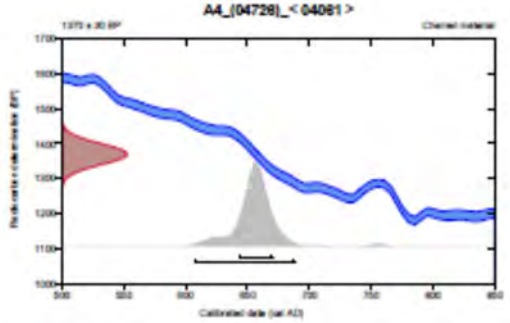

Database used
INTCAL13

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).

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BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

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

(Variables: d13C = -22.9 o/oo)

Laboratory number **Beta-563518**

Conventional radiocarbon age **1280 ± 30 BP**

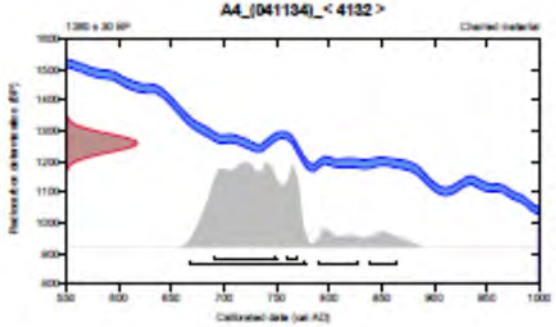
95.4% probability

(85.1%)	668 - 778 cal AD	(1282 - 1172 cal BP)
(5%)	790 - 828 cal AD	(1160 - 1122 cal BP)
(4.3%)	838 - 864 cal AD	(1112 - 1086 cal BP)

68.2% probability

(59.3%)	690 - 750 cal AD	(1260 - 1200 cal BP)
(8.9%)	760 - 770 cal AD	(1190 - 1180 cal BP)

A4_(041134)_< 4132 >



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).

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APPENDIX 6: GEOARCHAEOLOGICAL AND OUTLINE PALAEO-ENVIRONMENTAL POTENTIAL OF MONOLITH SAMPLES

AEA 425: WYLFA NEWYDD AREA 4, FIELD E3

Geoarchaeology and outline palaeo-environmental potential of Romano-British ditch fills

by *Michael J. Allen, PhD, MCIfA, FLS, FSA*

version AEA 425.01.02
28 April 2020
Revised 30 April 2020

for:-
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AEA 425: WYLFA NEWYDD AREA 4, FIELD E3
Geoarchaeology and outline palaeo-environmental potential of Romano-British ditch fills

A series 4 ditch profiles were sampled with overlapping monoliths by the archaeologists from the Wylfa Area 4 excavation. The monoliths (along with some site and contextual data) was supplied for geoarchaeological recording, interpretation and subsampling of palaeo-environmental proxies (ie, pollen and diatoms) and radiocarbon datable material if available. A total of 16 monoliths of 28cm to 100cm length were examined.

The site is located on the north east facing slope off the brow of a low hill, and excavation revealed a large Romano-British fortified enclosure at the top of the hill. There is some evidence for internal structures, and further buildings to the immediate west. Numerous pits and ditches were recorded in the land surrounding the enclosure (Wessex Archaeology 2019). Area 4 is situated at the top of a hill, 800m south seat of the coast and 1.2km to the west of Cemaes. The geology is mapped as New Harbour Group mica schist and psammite, over lain by superficial deposits of Devensian till. The parent material; was described in the field as being an 'orange brown clay with frequent pebbles and cobbles (Wessex Archaeology 2019, 5).

Sampled features
The sampled profiles included one from an earlier Romano-British boundary ditch 41275 (section 41168, sample series 4167), and three from the Romano-British military enclosure ditch 41271: section 4905 (sample series 4164) just north of a possible eastern entrance; section 45213 (sample series 4169) the southern terminus of the eastern entrance, and section 41102 (sample series 4170) a deep sequence away from the entrance, and in the upper part cut by a medieval ditch (Fig. 1).

Feature	*Section*	*Series*	*Monoliths*
Earlier, Romano-British boundary ditch 41275	41168	**4167**	4128, 4129 & 4139
Romano-British military enclosure ditch 41271	41102	**4170**	4124, 4125, 4126 & 4127
Romano-British military enclosure ditch 41271	4905	**4164**	4130, 4131 & 4140
Romano-British military enclosure ditch 41271	4513	4169	4137, 4138, 4142, 4141, 4132, 4144

List of sampled profiles Samples series in **bold** were selected for sampling

Aims
The aim of the monolith samples provided by the archaeologists, was to facilitate subsampling for relevant palaeo-environmental proxies, principally pollen, and for geoarchaeological description to amplify information about the formation and taphonomy of the deposits where possible. The geoarchaeological description from the monoliths which only have a narrow window of 5-6cm cannot, however, necessarily define deliberate backfill, *contra* Wessex Archaeology (2019, 8, 5.6.4), nor indeed all interpretations which are better served by on-site geoarchaeological records.

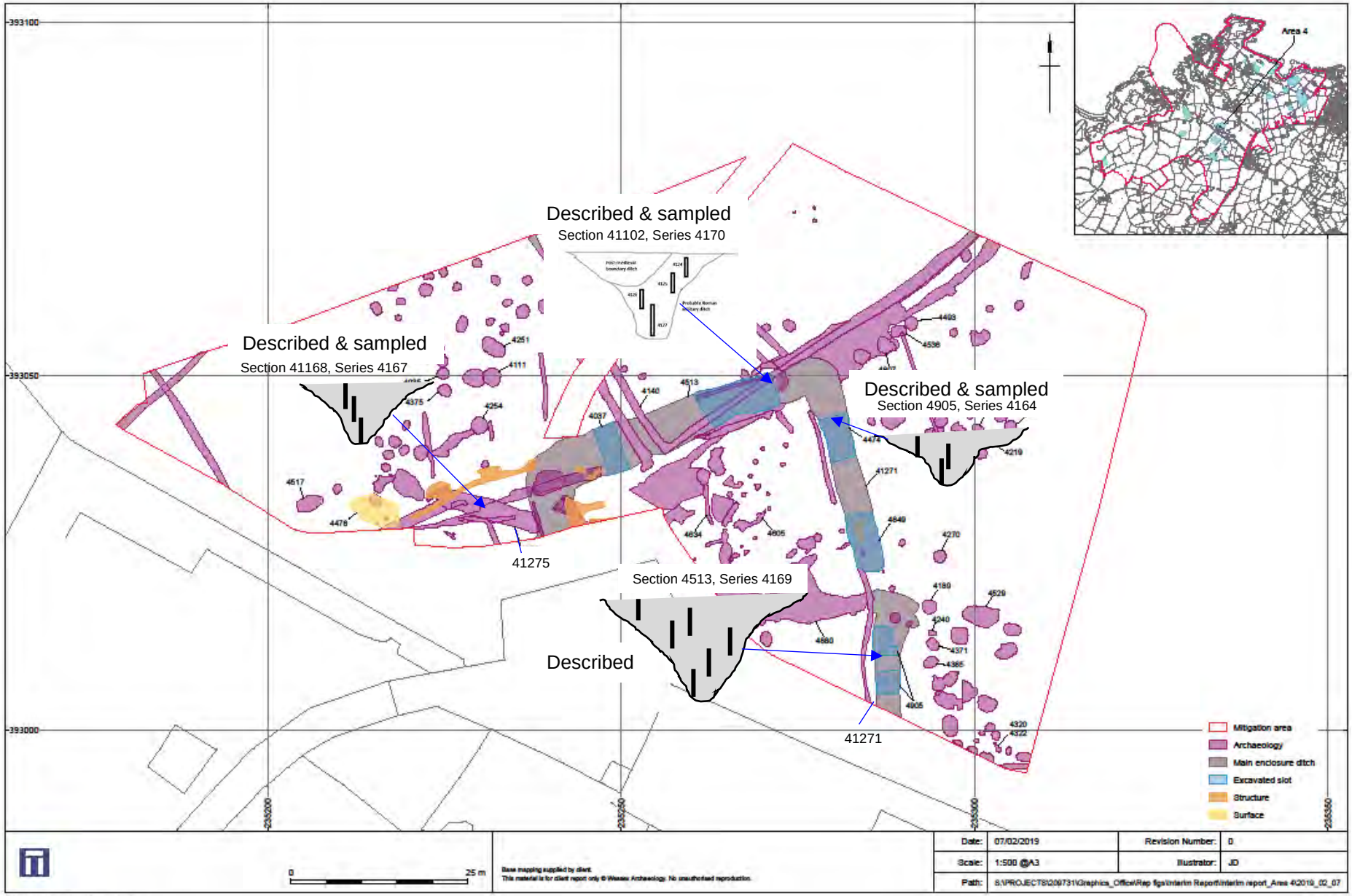

Figure 1. Area 4: site plan showing the location of the four sampled (and described) profiles (plan from Wessex Archaeology 2019, fig. 1)

Methods and subsampling

In each case the monoliths were unwrapped, the exposed faces cleaned and moistened, after which they were described and photographed (Appendix 1). Descriptions followed standard pedological terminology (Hodgson 1997), with munsell colours recorded moist in daylight conditions. Context allocation was based on those written on the monoliths by archaeologists in the field, and on the section drawings and context records. Each monolith was described individually, but where relevant (ie, where subsampled for palaeo-environmental proxies) a single running depth was maintained. Profiles were selected from each feature or section for subsampling, and samples were taken as a single composite series. Subsampling for pollen and diatoms was undertaken at 10mm bandwidths and was oversampled at generally 40mm intervals (closer intervals than were appropriate for most of the deposits), and on completion the monolith samples were discarded. A total of 152 subsamples were removed; 133 pollen samples and 19 diatom samples (Appendix 1; Table 1). In addition two samples of waterlogged wood were removed and retained.

The four sampled profiles included an earlier Romano-British boundary ditch 41275, and three profiles of the Romano-British military enclosure 41275 (Fig. 1). Three profiles were selected for more detailed examination and subsampling for palaeo-environmental proxies; one from the earlier boundary ditch and two from the enclosure ditch. These were section 41168 from the earlier Romano-British boundary ditch 41275 (the only sampled intervention); and sections 4905 and 41102 of the Romano-British military enclosure 41271. The primary sequence from the enclosure ditch was section 41102 located away from the entrance termini which may have had specific and unrepresentative deposits typical at entranceways, and it was one of the deeper less disturbed sequences (albeit section by a later (medieval) ditch, in the upper part).

Feature	*Section*	*Sample*	*Pollen*	*Diatoms*	*Charcoal/^{14}C*
Earlier, Romano-British ditch 41275	*41168*	Series 4167	35	5	
Romano-British military enclosure ditch 41271	*41102*	Series 4170	52	7	-
Romano-British military enclosure ditch 41271	*4905*	Series 4164	46	7	-
		Total	133	19	0
				152	

Table 1. Subsamples removed from the three ditches (Area 4)

Earlier Romano-British boundary ditch 41275

The Romano-British boundary ditch was sampled in section 41168 in a series of three overlapping monoliths (4128, 4129 and 4139) as series 4167 (see section dwgs 4356 & 4360; MARK PRIMARY, SECONDARY AND TERTIARY FILLS ON DRAWN SECTION WITH MONOLITH SAMPLES).

Section	*Series*	*Monoliths*	*length*	*dwg*
		04128	58cm	4356
41168	04167	04129	42cm	4356
		04139	70cm	4360

Full descriptions are given in Appendix 1.1, where the contexts sampled have been ascribed the typical tripartite ditch fill sequence; primary, secondary and tertiary (cf. Evans 1972, 321-

8; Limbrey 1975, 290-300, and Allen 2017, 38-41), by examining both the geoarchaeological characteristics, and the context form from section drawings.

The ditch is about 0.67m deep, and the primary fills (41175, 41185, and possibly 41184) comprise darky greyish brown to dark brown stony silt loams. The greyish colours may represented deposition in reduced atmosphere and even waterlain deposition, leading to localised waterlogged conditions. No waterlogged remains were noted in the monoliths examined. The dense yellowish brown silty loam of context 41184 may represent the collapse of the boulder clay (till) sides, or a deliberate dump. The secondary fills range from an olive brown (41186) at their base, to greyish brown (41176, 41174, 41173) silty clays and all remain relatively stony. They contain hints of standstill and of possible waterlain deposits within the sequence (41176 and 41174), and of typical stabilisation and soil formation at the top of these fills. The clear large crumb to medium blocky structure of context 41171 is a clear indication of soil formation (bA), and probably a grassy turf. It also contains fine charcoal fragments suggesting some burning and activity locally. The tertiary fills, in contrast, are yellowish brown to brown (ie, reduced) almost stone-free silty clays and silty clay loams.

This suggests that the 0.7m deep ditch was dug into the boulder clay (till) and that damp conditions prevailed in the ditch, but where it was not necessarily permanently wet nor waterlogged, though there is a possibility of water-washed deposits in the primary fills at least. The lack of mottling does not suggest regularly or persistently fluctuating wet and dry conditions. As the ditch infilled the reduced colours (brown/yellowish brown) in the tertiary indicate consistently drier conditions. Overall this indicates possibly shallow seasonally standing water with moist (muddy) conditions initially, and latterly drier ditch fills throughout the year. The stabilisation horizon with such clear structure may well indicate a grass and fine herbaceous vegetation growing in and over the ditch (cf. Allen 2017, fig. 2.3, 40)

Palaeo-environmental subsampling
This being the only sequence of the early Romano-British boundary ditch 41275, the deposits were subsampled for pollen, and where relevant, diatoms. Nothing suitable for radiocarbon dating was obvious either on the exposed surface, or during sampling. Pollen was oversampled with subsamples taken uniformly at 40mm intervals throughout the profile to create a robust sample archive from which to select for assessment and ultimately for analysis as, and if, appropriate. Subsamples for diatoms were restricted to the greyer, finer minerogenic primary deposits. A total of 40 samples were removed; 35 for pollen and 5 for diatoms (Table 1, and see Potential palaeo-environmental significance).

Romano-British Military Enclosure 41271
The V-shaped enclosure ditch was sampled in three locations; two around the eastern entrance including the entrance terminal, and one along the northern limb (Fig. 1). A total of 13 monoliths were taken as a series of between 3 and 6 overlapping monoliths with each series encompassing the full profile of each sequence. Waterlogging was recorded in the field, and well-preserved waterlogged remains including a dandelion flower and small bundle of hay or straw were recovered from the base of section 4905, from which a radiocarbon date of cal AD 10-80 (1958±27 BP) was obtained (Wessex Archaeology 2019, 6). The monoliths and sampled sequences are listed below.

Section	*Series*	*Monoliths*	*length*	*dwg*
		04126	71cm	4348
41102	4170	04127	100cm	4348
		04124	90cm	4352
		01425	60cm	4352

Section	*Series*	*Monoliths*	*length*	*dwg*
		04130	100cm	4319
4905	04164	04131	46cm	4319
		04140	100cm	4369

Section	*Series*	*Monoliths*	*length*	*dwg*
		01437	50cm	4329
		04138	43cm	4329
4513	4169	04141	30cm	4349
		04142	28cm	4349
		04143	32cm	4349
		04144	38cm	4349

All profiles were examined and described (Appendix 1.2-1.4), and both section 41102 and 4905 were fully subsampled for pollen, and the basal deposits also subsampled for diatoms. A series of 98 pollen and 14 diatom samples were removed (Table 1; Appendix 1.2-1.4).

All three profiles were ascribed primary, secondary and tertiary fills where possible (Appendix 1), and these are summarised *en bloc* here as afar as possible. Any significant events occurring in individual profiles are included, otherwise details are given for each profile separately in the geoarchaeological records (Appendix 1.2 to 1.4), along with a summary photographic record.

Geoarchaeology of enclosure ditch 41271

The three sections have similar profiles; that at section 41102 on the northern limb is the deepest at just over 2.1m, while section 4905 is *c.* 1.5m deep. Two were clearly waterlogged from which a basal radiocarbon date of cal AD 10-80 is reported (1958±27 BP) from 4905, and from which a waterlogged dandelion flower and hay/straw was reported.

The primary fills are characterised by generally grey and greyish brown stone-free waterlogged silts loams, commonly with organic or localised peaty horizons, and were generally waterlogged. Waterlogged twigs and plant remains were common in these deposits. They were generally stone-free except in localised and context-specific places. In contrast the secondary fills were drier deposits of brown and dark greyish brown sandy or silt (clay) loams weakly mottled with few stones. In some cases (eg, section 4513) there are indications of water puddling at the top of the secondary fill leaving dark grey stone-free silts representing muddy waterlain silts. The tertiary fills were generally yellowish brown to greyish brown massive silt loams to silty clays with variable stoniness – some of which may be medieval in date.

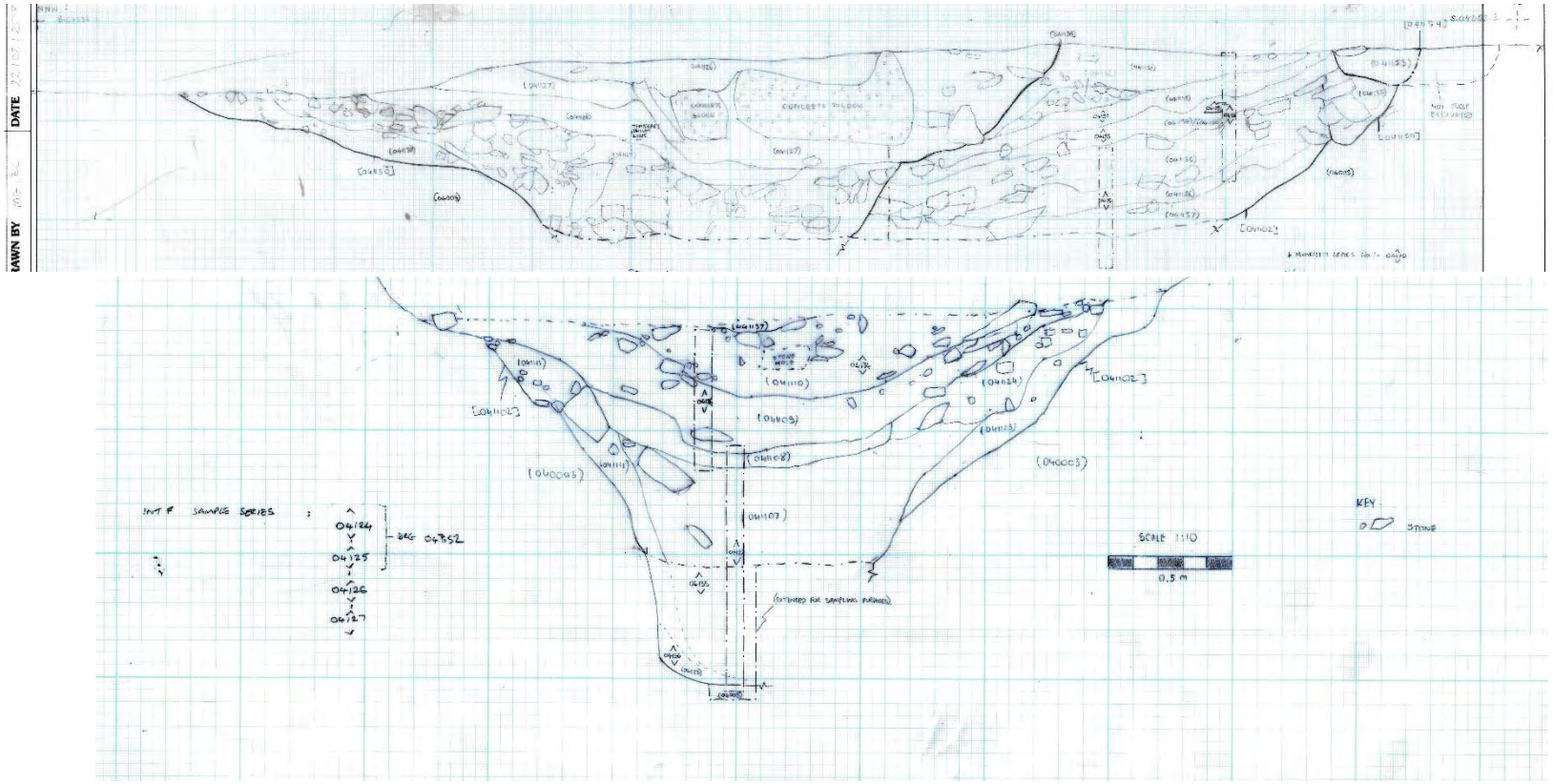

Figure 2. Romano-British military enclosure ditch 41271, section 41102 (monolith series 4170)

Figure 2. Section of enclosure ditch 41271 from north-east (from Wessex Archaeology 2019, Plate 1)

The enclosure ditch up to 2m deep was cut into the stiff dark yellowish brown Boulder Clay, and was largely below the (seasonal) groundwater table, resulting in reduced (greyish) sediments largely derived from the weathering of the ditch sides. The primary fill, constituting up to 0.9m of the ditch fill, probably represents deposits accumulated over only several decades (30-60 years, cf. Allen 2017; Bell *et al.* 1996). The reported waterlogged remains include twigs, and some leaf fragments indicating the present of woody and leafy elements possibly from ditch-side vegetation. There was no evidence of banding or lamination, nor of obvious episodes of drying out, but it is likely that the primary fills were not only waterlogged as result of the ground water table, but may also have formed subaqueously ie, were underwater, and that the ditch held water during the accumulation of the primary fills. The secondary fills, occurring over a longer period, possibly the centurial timescale, show oxidised colours (browns) and slight mottling suggesting generally drier conditions during their infill, but that they were subject to fluctuating season groundwater tables making them seasonally 'waterlogged'. Whether all of the ditch actually held standing water in the winter months could not be discerned with certainty from the sediments alone, although this is unlikely, but they were undoubtedly subject to drying out in the summer months – reflected in the absence of organic remains, and the presence of mottling.

The ditch profiles were relatively uniform around the site, though there are local variations in the sediment history. The deepest ditch section, 41102, has clearly waterlogged deposits in the primary fill with lenses of humified peat forming as result of high vegetation content high groundwater tables. Waterlogged wood was present and two items were recorded in main

primary fill, context 41107, (at 165cm and 168-173cm depth). Very high groundwater tables are evidenced here with probably seasonally standing water. The secondary fills show just moist deposits, probably drying out in the drier and summer months; an increase in stoniness may represent the decay of the bank. The similar profile on section 4905 again shows clear waterlogging, and the preservation of twigs, waterlogged plant remains (dandelion flower, hay and straw etc.). The onset of the secondary fills here are represented by probably bank collapse and then dried soils and sediments. Clear asymmetrical deposits in the primary fill of the southern terminal of the western entrance (section 4513) suggest some collapse, slippage or slighting the internal bank from the west, very soon (decades) after construction.

Palaeo-environmental subsampling

The deepest section (41102), and from which waterlogged plant remains and a radiocarbon dated were reported (4905) were subsampled for pollen and diatoms. Samples were not necessarily taken from each monolith, but from relevant contexts making a single full chronological sequence through the primary, secondary and into the tertiary fills. As with the earlier Romano-British boundary ditch 41275, both sequences were oversampled, with samples removed at 40mm intervals throughout the profiles. Once gain subsamples for diatoms were restricted to the greyer, finer minerogenic primary deposits. A total of 112 samples were taken; 98 for pollen and 14 for diatoms (Table 1, and Potential palaeo-environmental significance).

Potential Palaeo-environmental significance

Three profiles were subsampled for pollen and diatoms; these embraced both the earlier Romano-British boundary ditch 41275, and the Romano-British military enclosure ditch 41271. The advantage of these two palaeo-environmental proxies as that they provide both site-/feature-specific and local/subregional palaeo-environmental interpretation. They will also be able to test the assertion that ‘there was no settlement or agriculture near Area 4’ (Wessex Archaeology 2019, 9, 6.1.4). This statement seems to be based on the fact here was no evidence for domesticated plant processing in the waterlogged remains from section 4905, and that there were no charred remains (Wessex Archaeology 2019, 8, 5.6.2). This may indicate that the processing of charred cereal remains did not occur near to, or was not associated with, either the feature sampled, or possibly the site. This limited evidence does not preclude either settlement at, or agriculture around, the site; just that the cereal crops were processed and prepared elsewhere, and brought to site. Although cereal pollen only travels *c.* 30m, the presence of arable field (ruderals etc.), may be detected in the pollen spectra and provide a better indication of activities site and in the immediate environs.

All the ditches, although cut in the Romano-British period during the phases of activity and Wylfa, infilled over a centurial and millennial scale (see Allen 2017) and thus the palaeo-environmental record provides a long land-use history for the site and its surrounding landscape. This information provides the setting for the site, and the impact activity associated with it had on the landscape. It can also provide evidence of lacunas in activity (vegetation re-growth), and they indicate the longer term impact, or lack of it, that activity had on the area as a whole. The interpretations can range from the local ditch micro-environment to the wider local land-sue and beyond. The two most important elements are i) they indicate the human land-use and resources, and ii) that this record accumulates over a long period of time enabling changes in land-use history to be documented.

The presence of pollen enables a vegetation history to be provided which covers the earliest infilling to the post-occupation of the site and beyond. It can provide information on the local site-based vegetation and activities such as cereal crop processing, grazed grassland and pasture, trampling and of grassy or overgrown banks (?abandonment). At an extra-site and sub-regional scale it can provide evidence of changing land-use, watery (river) environments and of drier woodland and its changing composition in the near and medium distance. The combination of this range of data can provide a detailed land-use history to accompany the infilling history and activity associated with the site.

Diatoms, on the other hand, tend to have a more local sphere of reference, especially in the ditches. These are algal growth living in water (and soils). They can indicate the presence of standing water, its depth and nutrient status (ie, fresh vs stagnant), and provide a picture of the changing local site history. Did the ditch hold water? Was this seasonal? Why did the water dry up? Is this a consequence of infilling or was there of reduction in ground water tables, perhaps related human activity such as wider scale woodland clearance and tillage.

The combination of the geoarchaeological record, diatoms and pollen, provide a strong basis for a documenting a long land-use history, for the site, possibly even identifying activities or episodes (eg, localised abandonment) not recognised in the more standard cultural and artefactual archaeological record.

Waterlogged wood

Two pieces of waterlogged wood were recovered from the primary fill 41107 of section 41102. One (at 165cm depth) was horizontal and could be identified and be suitable for radiocarbon dating. The other, however, was vertical and without more detailed examination could be root, in which case it would be suitable for radiocarbon dating, or a stake.

These two items could be considered for radiocarbon dating, however much better items with which to date the ditch, and its infilling sequences were presumably obtained during the excavation. Further both are from the within the primary fill and neither at its base, nor sufficiently high up the sequence to provide any useful chronological control. The only advantage of these items is, would provide dates of the land-use history if palaeo-environmental proxies were examined from this section

Assessment Programme

Subsamples were removed for pollen and diatoms from the boundary ditch 41275 and military enclosure ditch 41271 (sections 41102 and 4905), the potential of which is outlined above. A selection of samples from each profile should be assessed to define the presence and preservation of pollen and diatoms, and then assess their assemblage character, changes through time and the ability of the assemblages to contribute to the understanding of the site, its setting, land-use history and potential exploitable resources

The three profiles had been selected largely on the basis of archaeological and geoarchaeological information. The only profile from the earlier Romano-British boundary ditch 41275 (section 41168) as sampled and the sections 41102 and 4905 from the military enclosure. Provisionally a suite of 8 and 9 samples respectively were selected for pollen assessment (Appendix 1; Table 3). Although section 41102 provides the deepest sequence and better defined contexts, the fact that section 4905 has produced waterlogged plant

remains and at least one radiocarbon date probably makes this the better candidate for assessment.

Feature	*Pollen samples (cm depth)*	*Diatom samples (cm depth)*
Boundary ditch 41275 [41168]	8, 28, 44, 64, 84, 104, 124 & 140	68, 72, 124, 140
Enclosure ditch 41272 [4905]	12, 28, 44, 60, 76, 92, 108, 124 & 140	92, 108, 124, 140
or		
Enclosure ditch 41272 [41102]	16, 36, 56, 80, 100, 120, 156, 180 & 208	116, 132, 180 & 212

Table 3. Provisional list of samples selected for pollen and diatom assessment

Assessment of pollen and diatoms could not be undertaken at the time of this geoarchaeological assessment and subsampling due to lock down of university laboratories as a result of the coronavirus/covid1-9 situation. These are to be undertaken at a subsequent stage.

The costs of the pollen assessment have been presented previously, but samples for diatoms have now been taken, and thus a revised assessment cost are presented separately

Acknowledgements
Thanks are due to Lynne Gardiner and Keith Horsley (Brython Archaeology) for information about the site, samples and sampled contexts.

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APPENDIX 1: Profile Descriptions and photographic record

Appendix 4.1: Early, Romano-British Boundary Ditch 41275 (Section 41168)

Section 41168 (Sample series 4167: monoliths 4128, 4129 & 4139)

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4128				
0-20		41169	4 **8** 12 16	Dark brown (10YR 3/3) silt loam, rare medium stones, fine strong brown Fe mottles especially 0-11cm, abrupt boundary Tertiary and base of soil
20-37		41170	20 24 **28** 32 36	Dense dark yellowish brown (10YR 4/4) silty clay loam, stone-free, area small flecks of slates, medium rare diffuse yellowish brown (10YR 5/8) mottles, abrupt boundary Tertiary fill
37-45		41171	40 42 **44**	Dark brown (10YR 3/3) dense silty clay loam, stone-free weak large crumb small medium blocky structure, rare small and medium stones, fine charcoal fragments present, clear boundary ?stabilisation horizon bA
45-54		41172	48 52	Dark yellowish brown (10YR 3/4) stiff silty clay, massive, stone-free, clear boundary Secondary fill
54-88+		41173		Dark greyish brown (10YR 4/2) massive silty clay, stone-free Secondary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4129				
0-7	47-54	41172		[loose and disturbed in monolith] Dark yellowish brown (10YR3/4) stiff silty clay loam [boundary obscured] Secondary fill
7-17	54-64	41173	56 60	Dark greyish brown (10YR 4/2) stiff silty clay loam, massive, rare medium stores, clear to abrupt boundary Secondary fill - ?waterlain
17-25	64-72	41174	**64** 68**D**	Dark greyish brown (10YR 4/2) massive dense silty clay loam to silty clay, stone-free clear boundary Secondary fill - ?waterlain
25-33	72-80	41176	72**D**	Dark greyish brown (10YR 4/2) massive dense silty clay loam to silty clay, medium to large stones (to 6cm), abrupt boundary Stone at 75-79cm Secondary fill - stony base of ?waterlain
33-42+	80-89	41186		Olive brown (2.5Y 4/3) compact silt to silty clay with common small and very small stones ?weathered natural/slipped natural

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4139				
0-3	77-80	41176		Dark greyish brown (10YR 4/2) massive dense silty clay loam to silty clay, rare medium to large stones (to 6cm), and some small stones, abrupt boundary Secondary fill – stony base of ?waterlain
3-34	80-111	41184	80 **84** 88 92 96 100 **104** 108	Dense brown to yellowish brown (10YR 4/2-4) firm silt loam, common very small and small stones, rare medium to large stones – larger stones especially as basal boundary, clear to abrupt boundary Primary or dump
34-54	111-131	41185	112 116 120 **124D** 128	Brown to dark brown (10YR 4/2-3/3) silt loam, common very small and small stones, rare medium stones, massive, abrupt boundary Primary
54-65+	131-142+	41175	132D 136 **140D**	Dark greyish brown (10YR 4/2) silt loam stony (common very small and small stones, rare medium stones), massive Initial fill
65-70		-		Monolith packing

35 pollen samples and 5 diatom (D) samples (40 samples)

Photograph of the monoliths, (top is to the left, upper monolith as at the bottom of the image)

Appendix 4.2: Romano-British Military Enclosure Ditch 41271 (section 41102)

Section 41102 (Sample series 4170: monoliths 4124, 4125, 4126 & 4127) +2cm depth = 29.143m aOD [intervention F]

0-23cm filling

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4124				
0-15		41131	4 8 12	Very dark yellowish brown (10YR 3/2) humic silt loam few small stones, ?weak medium blocky structure, abrupt boundary Tertiary fill/base of soil horizon
15-22		41133	**16** stone	Very dark brown (10YR 2/2) stony humic silt loam, common medium stones, abrupt boundary Stony tertiary fill
22-34		41134	24 28 32	Black-very dark grey (10YR 2/1-3/1) humic silt loam, almost stone-free, rare small stones, rare fine fibrous roots, abrupt/clear boundary Tertiary fill
34-49		41135	**36** 40 44 48	Very dark grey to black (10YR 3/1-2/1) humic silt loam, rare small stones, abrupt boundary Tertiary fill (?soil material)
49-67+		41136	52 **56** 60 64	Dark greyish brown (10YR 4/2) to brown (10YR 4/2) silt loam with some sand, and some small and medium stones, rare Fe mottles Tertiary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4125				
0-2		41134		very dark grey (10YR 2/1-3/1) humic silt loam, almost stone-free, rare small stones, rare fine fibrous roots, abrupt/clear boundary Tertiary fill
2-11		41135		Very dark grey (10YR 3/1) humic silt loam, almost stone-free, rare fine Fe mottles, abrupt boundary Tertiary fill
11-41		41136		Dark greyish brown (10YR 4/2) (looks grey) stony silt loam with common small and medium stones, abrupt change to @ 28cm highly mottled medium, diffuse mottles of yellowish brown (10YR 5/6) to yellowish red (5YR 4/6) and some Mn+, clear boundary Tertiary fill
41-45	67-71	41137	68	Brown (10YR 4/3) (looks yellowish/grey) silt loam to sandy silt loam, common small and few medium stones, some mottles (as above), abrupt boundary Tertiary/Secondary fill
45-49+	71-75+	41110		Brown (10YR 4/3) (looks yellowish/grey) silt loam to sandy silt loam, common small and few medium stones, rare mottles Secondary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4126				
0-2		41137		Brown (10YR 4/3) (looks yellowish/grey) silt loam to sandy silt loam, common small and few medium stones, some mottles, abrupt boundary Tertiary / secondary fill
2-21	71-90	41110	72 76 **80** 84 88	Greyish brown to dark greyish brown (10YR 3/2-4/2) silt loam with few small stones, rare medium stones, weakly mottles, especially from 18-21cm, clear to abrupt boundary Secondary fill
21-40	90-109	41109	92 96 **100** 104 108	Dark greyish brown (10YR 3/2) less stony slightly sandy silt loam, abrupt boundary Secondary fill
40-57	109-126	41108	112 116 **D** **120** 124	Greyish brown to dark greyish brown (10YR 3-4/2) dense sandy silt loam, almost stone-free, mottled with greenish yellow faint mottles, abrupt boundary Secondary fill
57-59+		41107		Greyish brown (10YR 3/2) to grey (10YR 5/1) dense stone-free silt loam Primary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4127				
0-11		41108		Greyish brown (10YR 5/2) silt to tilt loam, stone-free, abundant yellowish green diffuse mottles abrupt boundary Secondary fill
11-98+	126-213	41107	128 132 **D** 136 140 144 148 D 152 **156** 160 164 D 168 172 176 **180 D** 184 188 192 196 D 200 204 **208** 212 **D**	Dense grey (10YR 5/1-2) (looks greyish brown) <u>silt</u> almost stone-free possibly large/medium blocky structure 163-180cm (48-65cm) twigs and dark greyish brown dense stone-free silt to silt loam @ 165cm wood (horizontal (C14) @168-173cm wood vertical 180-201cm (65-86cm) grey (10YR 5/1) massive silt, stone-free, abrupt 201-204cm (86-89cm) band of dry humified reddish brown silt/former organics/peat 205-213cm+ (89-98cm+) grey (10YR 5/1) massive silt, stone-free Ditch silt – wet/aqueous Waterlogged primary fill

52 pollen samples and 7 diatoms (D) samples (59 samples)

Photograph of the monoliths, (top is to the left, upper monolith as at the bottom of the image)

Appendix 4.3: Romano-British Military Enclosure Ditch 41271 (section 4905)

Section 4905 (Sample series 4164: monoliths 4130, 4131, 4140) Note: 0 = 28.906m aOD
Context boundaries have been taken as those marked on the monoliths which don't always coincide, nor appear, on the section drawings

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4130				
0-2		41272		Dark yellowish brown (10YR 4/2) silt clay loam, almost stone-free [sparse stones and slate], clear boundary Tertiary fill / base of soil profile
2-5		4938	4	Dark grey (10YR 4/1) silty clay loam (fine sand evident), common very small and some small stones, no structure recorded, abrupt boundary Tertiary fill
5-27		4939	8 **12** 16 20 24	Grey to greyish brown (10YR 3/1-2) stiff silty clay, some charcoal fragments, some rare small and medium stones, clear boundary Tertiary fill [charcoal rich fill]
27-44		4940	**28** 32 36 40	Brown (10YR 5/3-4/3) (looks grey) firm dense silt loam to silty clay loam, almost stone-free, clear to abrupt boundary Tertiary fill
44-63		4942	**44** 48 52 56 **60**	Brown (10YR 4/3) (looks grey) stiff silt to silt loam, medium slate and rounded stones (at 45°), clear to abrupt boundary Secondary fil [bank wash]
63-95+		4943		Dark brown (10YR 4/2) dense silty clay to silty clay loam, almost stone-free (rare medium stones) Primary fill [waterlogged]

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4131				
0-8		49142		Brown (10YR 4/2) silt loam few stones, small diffuse mottles of red (2.5YR 4/6), abrupt boundary Secondary fill
8-18		41188		Dark greyish brown (10YR 4/2) looks grey stiff but malleable silty clay to silty clay loam, stone-free, massive, clear boundary Secondary fill
18-27		4943		Dark greyish brown (10YR 4/2), silty clay loam, some fine diffuse mottles of dark yellowish brown (10YR 3/2), clear boundary Upper Primary fill / lower secondary fill
27-49+		41065		Dark greyish brown ((10YR 4/2) firm silt loam, fine diffuse mottles of light yellowish brown (10YR 6/4) Primary fill [waterlogged]

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4140				
-16-0				Reddish brown sand - filler
0-8	65-73	41188	64 68 72	Dark greyish brown (10YR 4/2) firm <u>silt</u> to silt loam, stone-fee, clear boundary Secondary fill
8-20	73-85	4943	**76** 80 84	Brown (10YR4/3-5/2) brown to greyish brown, stiff silty clay to silty clay loam fine diffuse mottles of dark yellowish brown (10YR 4/6), abrupt boundary Primary fill
20-41	85-106	41065	88 **92D** 96 100D 104	Dark greyish brown (10YR 4/2) soft <u>silt</u> stone-free, [organic] and twigs reported in the field], waterlogged plant and possible leaf fragments present, abrupt boundary Primary fill [waterlogged]
41-58	106-123	41067	**108D** 112 116D 120 **124D**	Very dark greyish brown (10YR 3/2) soft <u>silt</u> stone-free, [twigs reported in the field] clear boundary Primary fill [waterlogged]
58-72	123-137	41066	128 132D 136	Dark brown (10YR 3/3) looks slightly greyer soft <u>silt</u> stone-free but common small stones at base of context, clear to abrupt boundary Primary fill [waterlogged]
72-81	137-146	41069	**140D** 144	Dark grey to very dark grey (10YR 4/1-3/1) firm silt to silt loam some small stones (greyish blue slate), abrupt boundary Primary fill [waterlogged]
81-83+	146-148+	4003		Dark yellowish brown 10YR 4/6 very stiff firm silty clay Weathered parent material (Boulder Clay)

36 pollen samples and 7 diatom (D) samples (43 samples)

Photograph of the monoliths, (top is to the left, upper monolith as at the bottom of the image)

Appendix 4.4: Romano-British Military Enclosure Ditch 41271 (section 4513)

Section 4513 Intervention B (Sample series 4169; monoliths 4137, 4138, 4142, 4141, 4143 & 4144)

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4137				
0-19		4983		Dark greyish brown (10YR 4/2) firm silt, almost stone-free, some small stones, fine strong brown (7.5YR 5/6-8) mottles, ?some structure, abrupt boundary Tertiary fill
19-31		4974		Dark greyish brown to dark grey (10YR 4/2-1) dense silt to silt loam, few small shale fragments, ?weakly humic, abrupt boundary Tertiary fill
31-48		4816		Very dark greyish brown (10YR 3/2) stiff silt to silty clay, essentially stone-free and massive – except stone to 6cm at basal boundary, abrupt boundary Secondary/Tertiary fill
48-52+		4978		Very dark greyish brown (10YR 3/2) stiff silt to silty clay, stone-free, weak small yellowish red (5YR 4/6) fine distinct mottles Secondary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4138				
0-6		4974		Very dark greyish brown (10YR 3/2) dense silt to silt loam, few small shale fragments, ?weakly humic, abrupt boundary Tertiary fill
6-14		4516		Dark grey (10YR 4/1) dense silty clay, stone-free, fine Fe mottles, abrupt boundary Secondary/Tertiary fill
14-28		4978		Very dark greyish brown (10YR 3/2) stiff silt to silty clay, stone-free, weak small yellowish red (5YR 4/6) fine distinct mottles, abrupt boundary Secondary fill
28-43+		4575		Very dark brown to very dark grey (10YR 3/2-1) soft stone-free ?humic silt ?waterlain Secondary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4142				
0-11		41112		Essentially as (4575) Very dark brown to very dark grey (10YR 3/2-1) soft stone-free (but large stones in section), with weak dark read fine discrete mottles, ?humic silt, abrupt boundary Primary fill
11-28+		41114		Very dark grey (10YR 2/2) ?humic soft silt, stone-free massive with medium diffuse yellowish brown (10YR 5/6) mottles, becoming lighter/greyer with depth Primary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4141				
0-11		41114		Essentially as (4575) Very dark brown to very dark grey (10YR 3/2-1) soft stone-free, with some weak dark read fine discrete mottles (fewer than in monoliths 4142), ?humic silt, abrupt boundary Primary fill
11-26		41095		Very dark greyish brown (10YR 3/2) slightly browner, humic soft silt, essentially stone-free, massive ?organic Primary fill
26-28+		41116		Very dark greyish brown (10YR 3/2) soft humic stone-free silt Primary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4143				
0-6		41116		Very dark greyish brown to very dark grey (10YR 3/2-1) humic minerogenic stone-free silt, abrupt boundary Primary fill
6-31+		41118		Grey to dark grey (10YR 5-6/1) essentially stone-free silt to silty clay, fine shale (turquoise) flecks, rare fine olive mottles Primary fill

Depth (cm)	*Running depth*	*Context*	*Sample*	*Description*
4144				
0-2		41075		Dark greyish brown to very dark greyish brown (10YR 4-3/2) silt to silty clay, stone-free, common fine yellowish red (10YR 5/8) mottles Primary fill
2-8		41115		As above (can see distinction in monolith sample) ie, dark greyish brown to very dark greyish brown (10YR 4-3/2) silt to silty clay, stone-free, common fine yellowish red (10YR 5/8) mottles, abrupt boundary Primary fill
8-12		41117		Dark grey to very dark grey (10YR 4/2-1) dense silty clay, stone-free, some fine mottles as above, abrupt to clear boundary Primary fill
12-25		44118		Dark grey to grey (10YR 4-3/1) dense silty clay, stone-free, some fine mottles, rare medium stones, clear boundary Primary fill
25-36+		41119		Dark grey (10YR 4/1) dense silt, rare medium stones Initial fill (*sensu* Allen 2017)
36-39				Monolith packing

Photograph of the monoliths, (top is to the left, upper monolith as at the bottom of the image)

APPENDIX 7: POST-EXCAVATION ASSESSMENT METHOD STATEMENT

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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

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DATE ISSUED: April 2019

JOB NUMBER: **CL12271**

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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.

<u>Time estimates for finds washing and cleaning</u>

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.

APPENDIX 7: POST-EXCAVATION ASSESSMENT METHOD STATEMENT

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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

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DATE ISSUED: April 2019

JOB NUMBER: **CL12271**

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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.

<u>Time estimates for finds washing and cleaning</u>

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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