1025

Cae Ty Gwyn Playing Fields and Environs Development of a New Primary School, Ysgol Hendre at Llanbeblig, Caernarfon

Archaeological Assessment of Potential for Analysis Report and Updated Project Design

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Cae Ty Gwyn Playing Fields and Environs Development of a New Primary School, Ysgol Hendre at Llanbeblig, Caernarfon

Project No. G2060

Report No. 1025

Prepared for : Cyngor Gwynedd Council

March 2012 (minor revisions July 2012)

Written by: Jane Kenney and Laura W Parry

Illustration by: Jane Kenney

Cyhoeddwyd gan Ymddiriedolaeth Achaeolegol Gwynedd
Ymddiriedolaeth Archaeolegol Gwynedd
Craig Beuno, Ffordd y Garth,
Bangor, Gwynedd, LL57 2RT

Published by Gwynedd Archaeological Trust
Gwynedd Archaeological Trust
Craig Beuno, Garth Road,
Bangor, Gwynedd, LL57 2RT

Front cover: Site under excavation (aerial photograph courtesy of Gwynedd Archaeological Planning Service)

Figures

Plates

CAE TY GWYN PLAYING FIELDS AND ENVIRONS, DEVELOPMENT OF A NEW PRIMARY SCHOOL, YSGOL HENDRE, AT LLANBEBLIG, CAERNARFON

Archaeological Assessment of Potential for Analysis Report and Updated Project Design

1. SUMMARY

1.1. Introduction

Gwynedd Archaeological Trust (GAT) was commissioned by Cyngor Gwynedd Council to complete a programme of archaeological mitigation in advance of the construction of a new school and associated road to the northern side of Llanbeblig Road, Caernarfon, Gwynedd (centred on SH 4897 6236, figure 1).

The project covered four plots, A-D, and was monitored on behalf of the local planning authority by Gwynedd Archaeological Planning Services. The fieldwork was carried out in 5 phases. Phases I and II have been described in GAT reports 773, 783 and 840. Phases III to V are reported on here and included evaluation trenching leading to open excavation.

This document presents the results of phases III to V, assesses the potential of the results and proposes further work required to complete the project to accepted industry standards. Below are summarised the main results and conclusions of this document.

1.2. Results and archaeological importance

Phase III consisted of evaluation trenching informed by geophysical survey. This led to larger scale archaeological mitigation comprising the stripping of topsoil and ploughsoil from Plots A, C, D, and part of Plot B, and the excavation of identified features (figure 2). The main focus of the excavation was an early medieval cemetery, and associated mortuary enclosures. The main part of the cemetery was in plot A and consisted of 3 square mortuary enclosures surrounded by graves. To the north in plot B were 2 more mortuary enclosures but these had no surrounding graves, only a single grave in the middle of each. Only a small number of cemeteries with mortuary enclosures have been found in Wales and even fewer with multiple enclosures, making this a site of national importance.

In addition to the cemetery a series of ovens was found, some of which were located within the cemetery in plot A and others around it, with two ovens in the northern part of plot B. A larger corn drier in the middle of the cemetery cut several graves, but the relationship between the ovens and the cemetery was not established stratigraphically. However the presence of Roman pottery on the site has led to a tentative suggestion that the ovens were Roman in date. The importance of these features will not be fully understood until they are dated.

Several ditches were found, some clearly of 19th century date and some earlier. The remains of a small late 19th century farmstead and large glasshouse complex were also recorded. These are features of local importance.

1.3. Further work

Report production

The primary object of the project is to produce a detailed archive report of the site results. To achieve this more work is necessary on the text and illustrations of the archive report, once the additional information has been obtained from radiocarbon dating. More detailed plans and sections are required and discussion of the features in their wider context. This report can then be converted into a form suitable for publication in an academic journal.

Artefacts

The glass, pyrotechnical residue, bone, most of the iron objects and all but one of the charred plant remains samples require no further work. The artefacts and ecofacts to be further analysed, studied and illustrated are:

- Roman pottery
- Flint and other worked stone
- X-rays and possible further work on 2 iron objects
- Possible further analysis of 1 sample of charred plant remains

Dating
A full programme of radiocarbon dating is proposed. The lack of suitable material from the cemetery limits the questions that can be answered by this programme but it will concentrate on dating the range of use of the ovens and will investigate the date of some other important features. Twenty four dates are proposed on twelve features.

Publication and presentation
On completion of the work the results should be disseminated to the archaeological profession and the public to allow others to use this information. This is proposed through the following media:
Archive report (to be included in Gwynedd HER and accessible on the GAT and Coflein websites)
Academic publication
Articles for the local press
School activities at Ysgol y Hendre

Storage and curation
The paper, digital and artefact archive must be stored for the future so that the site can be reassessed and if necessary reinterpreted in the light of future evidence. The finds are to be held at Gwynedd Art Gallery and Museum, Bangor (and they will also hold charred plant remains), and the digital and paper record is to be held by the Royal Commission on the Ancient and Historic Monuments of Wales, Aberystwyth.

2. INTRODUCTION

2.1. Project background

Gwynedd Archaeological Trust (GAT) has completed a programme of archaeological mitigation at Cae Tŷ Gwyn playing fields, Llanbeblig, for Cyngor Gwynedd Council, in advance of the construction of a new school. The work was carried out in several phases and was monitored on behalf of the local planning authority by Gwynedd Archaeological Planning Services (GAPS).

The mitigation area was divided into four adjacent plots (Figure 2):

Plot A – 1.5ha: an irregular shaped pasture field formerly used for recreation (centred on SH48906230)

Plot B – 2.3ha: an irregular shaped pasture field formerly used for recreation (centred on SH49106244)

Plot C – 0.53ha: an irregular shaped pasture field recently unused scrub (centred on SH48916219)

Plot D - 0.15ha: an irregular shaped plot, recently abandoned and overgrown (centred on SH48936226)

Phase I involved an assessment of plot A (desk-based research and a walkover survey) followed by a geophysical magnetometer survey of this plot. The results of Phase I are described in GAT Report **773** (Kenney and Hopewell 2009). In addition to this geotechnical test pits in plot A were monitored, and the results of this are described in GAT Report **783** (Kenney 2009).

The **Phase II** programme of works comprised an initial evaluation of plots B and C (desk based assessment, geophysical magnetometer survey and one evaluation trench in plot A). The evaluation trench was dug between 7th and 14th December 2009, and the results are described in GAT report **840** (Jones and Rees 2009).

Following this **Phase III** was a programme of targeted trenching/limited excavation commencing on 25th January 2010 and completed on 24th February 2010.

Phase IV involved the stripping of soil from plots A, C and D with plot B being used for soil storage. All archaeological features and deposits found were investigated, leading to open area excavation of the site. This phase of work started on 5th April 2010 and was completed on 30th July 2010.

Phase V: After a watching brief on plots A and B further excavation was undertaken in plot B between 16th May 2011 and 27th May 2011.

The present document reports on the assessment of potential of the archaeological results from fieldwork phases III to V. This report covers the assessment of artefacts, ecofacts and field records to determine their potential and proposals for the further work to be carried out leading to the production of the final site report and a shorter report for publication. This report follows the standards defined in *Management of Archaeological Projects* (English Heritage, 1991), and conforms to the *Management of Research Projects in the Historic Environment Project Manager's Guide* (English Heritage 2009).

Acknowledgements
GAT would like to acknowledge the assistance and co-operation provided by our groundwork contractor O Jones throughout all elements of the scheme, and the team of site archaeologists for their dedicated work. GAT would also like to acknowledge the guidance and assistance provided by Gwynedd Archaeological Planning Services, both in terms of spearheading the project and in providing advice during the fieldwork element. The phase II and III evaluation trenching was carried out by Cat Rees, Matt Jones, Laura Parry, Iwan Parry and Neil McGuinness. The phase IV fieldwork was directed by Ken Owen; his team consisted of Liz Chambers, Jess Davidson, Matt Jones, Peter Jones, Chris Lane, and Anne Marie Oattes. The phase V fieldwork was undertaken by Peter Jones, Macsen Flook and Jane Kenney with the help of Rob Evans and Rich Cooke. GAT would also like to acknowledge the contribution made by specialists listed in appendix I, and the wet sieving/flotation team Richard and Gill Collier.

3. PROJECT AIMS AND OBJECTIVES

The aim of the project was to mitigate the impact of the scheme upon the archaeological resource. This was achieved by a staged programme of archaeological assessment and mitigation comprising:

- a review of existing information,
- a phase of evaluation involving geophysical survey and trial trenching,
- a programme of strip, map and sample excavation,
- followed where necessary by detailed area excavation.

The purpose of the mitigation was to gain information about the archaeological resource within the development area in order to make an assessment of its merit in the appropriate context, leading to the formulation of a strategy to ensure the recording, preservation or management of the resource.

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

The management of this project follows guidelines specified in *Management of Archaeological Projects* (English Heritage, 1991). Five stages are specified:

Phase 1: project planning
Phase 2: fieldwork
Phase 3: assessment of potential for analysis
Phase 4: analysis and report preparation
Phase 5: dissemination

The post-excavation stage of the project includes phases 3 to 5. This document reports on phase 3 and specifies the work necessary to complete the analysis, prepare the final archive report and disseminate the results of the project (phases 4 and 5).

The aim of phase 3 is to ensure appropriate post-excavation analyses are undertaken. This involves the careful definition of academic and archaeological objectives, to ensure that appropriate selection is made and a publication produced which accurately reflects the value of the data collection. This report considers the results of the mitigation phase of the project. The purpose of post-excavation work is to ensure appropriate analyses are undertaken, that site records are studied, compiled and that a coherent report on the results is produced with appropriate illustrations. It also involves ensuring that finds are processed and stored appropriately and that site records, both paper and digital are in a format suitable for long term storage.

4. BACKGROUND INFORMATION

4.1. Topographic and geological background

Prior to the development the area was partly used as a football ground and a children's play area, with a playing field to the north and rough, partly overgrown ground in the southern part. The site had a pasture field to the east, which is currently under development, to the south-west is the graveyard of Llanbeblig Church and to the west and north there is housing. Much of the area was under short grass but there was an extensive area of dumped rubble over-grown by rough vegetation towards the southern part of the site and the demolished, over-grown remains of a club hut in the northern part.

The land is generally flat with a slight slope down towards the south-west. It lies between 50 and 40m OD on a ridge of ground between the rivers Seiont and Cadnant that flow through the town of Caernarfon into the Menai Strait. The development area is on the eastern edge of the town, where it opens into agricultural land comprising mainly small pasture fields.

The rocks underlying Caernarfon are Ordovician shales and these are overlain by glacial drift (Davies 1977 and Casey and Davies 1993, 1). In their excavations of the Roman fort Casey and Davies noted that the subsoil was boulder clay mixed with deposits of coarse, orange gravel (Casey and Davies 1993,

1), and a stony boulder clay was exposed in the test pits dug at the start of this project (GAT Report 783 (Kenney 2009)).

4.2. Archaeological and historical background

This section is summarised from GAT report 773 (Kenney and Hopewell 2009).
The development area lies over 1km east of the walled town of Caernarfon but only 300m east of the Roman fort of Segontium. Although now on the very edge of the urban development of Caernarfon it was in a rural setting for most of its history; with the exception of the Roman period when it was on the outer limits of the immediate hinterland of the fort. See figure 3 for location of sites mentioned below.

Prehistoric sites are scarce in this area. A Bronze Age burial urn (PRN[1] 3101) was found at Maes y Barcer to the north of the study area, and several prehistoric finds have been recovered during excavations in the Roman fort of Segontium including three polished stone axes and two bronze axes. Two stone-axe hammers (PRN 3113) and a bronze axe (PRN 3121) were recovered from this side of Caernarfon but their provenance is not accurately known. The standing stone (PRN 3620) in the field to the east of the site seems to be rather small and may be a post medieval cattle rubbing stone rather than a prehistoric standing stone.

The fort of Segontium (PRN 3089) was occupied from about AD 77 through to almost the end of the 4th century. In the early period it was the largest fort in North Wales. In the 2nd century AD there was a reduction of troops and the demolition of some barracks, but by the start of the 3rd century AD the garrison seems to have been brought up to full strength again until its final abandonment probably in 393 AD (Casey and Davies 1993). There was a substantial *vicus* (civilian settlement) to the north-west, west and south of the fort, but there is little evidence of it continuing beyond the end of the 2nd century AD (Hopewell 2003). Roman cremation burials (PRN 3092) were discovered while digging graves in the New Cemetery from about 1850 through to 1947. This appears to have been a major Roman cemetery located, as was usual, next to a main road; the modern Ffordd Llanbeblig being on the line of part of the Roman road leading east from the fort to Tomen y Mûr (PRN 17533) (Hopewell 2007, 12). A Roman temple to the god Mithras (PRN 3098) was also found to the east of the fort.

The cemeteries revealed during the present excavations were first indicated by aerial photographs of the football field taken in July of 2006 by Toby Driver of RCAHMW (Driver 2006a), which revealed a parchmark which he interpreted as a square barrow with a central grave pit (plate 1). The same feature could be seen on the geophysical survey carried out for this project. Previously the only possible early medieval site known in the area was the church dedicated to Saint Peblig (PRN 6942). Although this is first mentioned in the 13th century (RCAHMW 1960, 119), and most of the present structure dates from the 14th century or later (Davidson 1997, 171-3), it is suggested that this church has an early foundation. This claim rests largely on the dedication to Saint Peblig, traditionally thought to have lived in the late Roman period (RCAHMW 1960, 119), and its siting alongside the Roman road close to the earlier cemetery (Davidson 2009).

Caernarfon was already occupied by a Welsh town with a court and a port before the conquest of Edward I in 1283. Edward replaced the town with an English garrison borough and a castle. Construction on the walled town and castle started by 1287 and work went on until c.1330. The borough was established by charter in 1284 and the town was the capital of the principality of Wales until 1536, and later became the county town (RCAHMW 1960, 115-118).

In 1918 the eastern spread of the town of Caernarfon had only just reached the Roman fort. By 1938 the housing estates off Ffordd Maes y Barcer were built, and in the early 1960s the Tŷ Gwyn estate was built adjacent to the site. A late eighteenth century Vaynol Estate survey (figure 7) shows that the field pattern dates to at least the late eighteenth century and has changed little since. The churchyard has expanded, a few minor boundaries have come and gone, and the road was straightened but the fields are easily recognisable.

By 1888 three small buildings are shown in plot D and by 1918 these had been converted into an enclosed rectangular farmyard, with additional buildings and a small paddock. By 1918 Plot C was

[1] Primary Record Number in the Gwynedd Historic Environment Record

dominated by substantial glasshouses, but the rest of the site remained fields until by 1983 plot A had become a football ground with a club hut.

5. PROJECT METHODOLOGIES

5.1. Fieldwork Methodology

Phase 3: evaluation trenches
Between 25th January 2010 and 24th February 2010 seven evaluation trenches were excavated in plots A, B and C (figure 2). The trenches were located to investigate features identified in the assessment and geophysical surveys. All modern overburden and ploughsoil was removed using a 1.5 tonne mechanical excavator down to the level of the first recognisable archaeological horizon. All archaeological contexts subsequently located were sampled in order to define their function, date, and relationship to adjacent features.

The results of the trenching informed the following mitigation phase and most of the features revealed were more thoroughly investigated in phase 4. The results of the trenching are therefore described in appendix III and not included in the main description of field results below.

Phase 4: area stripping
The archaeological mitigation comprised the removal of most of the topsoil and ploughsoil from plots A, C and D as well as a part of plot B. All the soil stripping was undertaken using a 13 tonne 360 degree mechanical excavator with a toothless ditching bucket under constant archaeological supervision.

All potential features revealed were numbered, surveyed using a total station theodolite and evaluated. Detailed excavation and recording was undertaken on all significant archaeological features. These were photographed before and after excavation, excavated, planned to a scale of 1:20 with sections drawn to a scale of 1:10 and a written record produced. A total of 10% of each linear feature was excavated. Pits and ovens were generally half sectioned but selected well-preserved examples were fully excavated. The graves and mortuary enclosures were fully excavated. Intensive cleaning was carried out around the mortuary enclosures to ensure that all graves were located.

After the main phase of excavation between April and August 2010 watching briefs were undertaken on the remaining areas of plots C and D between the end of November and beginning of December 2010, and on plot B in May 2011. The latter watching brief identified two more mortuary enclosures and other features, which were evaluated and then excavated as described above.

Bulk soil samples were taken from features containing charcoal and/or finds. Bulk soil samples were also taken from the base of the graves in an attempt to recover fragments of tooth enamel or other small fragments of human remains that might have survived.

5.2. Post excavation methodology

Data collection from site records
A site database has been created in Microsoft Access into which basic site information has been entered. A database of the site photographs has also been produced to enable active long-term curation of the photographs and easy searching. The site records have been checked and cross-referenced and photographs, plans, finds and samples have been cross-referenced to contexts. An initial site narrative has been written and the extent to which this needs to be expanded will be considered below. The field drawings have been combined to produce a basic outline plan of the site. The requirement for more detailed illustrations including sections and for interpretative drawings has been included in the archive report method statement below.

All paper field records have been scanned to provide a backup digital copy. The photographs have been organised and precisely cross-referenced to the digital photo record so that the Royal Commission of Ancient and Historical Monuments of Wales can curate them in their active digital storage facility.

Finds methodology
The finds have been catalogued and grouped by material type. All finds, where appropriate, have been cleaned. All finds have been packaged in suitable containers and conditions for long-term storage. Objects requiring conservation have been identified. The finds have been assessed by specialists (listed in appendix I) to describe and catalogue the collections and identify pieces to be drawn and any requirement for further study. Insignificant items recommended for discard have also been identified. The full specialist reports are included in appendix II and summaries are included in the text below.

Environmental samples
The sampling strategy for bulk soil samples was related to the perceived character, interpretational importance and chronological significance of the strata under investigation. This ensured that only significant features were sampled. The aim of the sampling strategy was to recover carbonised macroscopic plant remains, small artefacts particularly knapping debris and evidence for metalworking, and possible human remains.

The bulk soil samples have been processed by flotation and wet sieving using a 500 micron mesh for flotation. The residues were sorted by hand to recover finds and non-floating ecofacts. All residues were tested for magnetic metalworking debris and this was collected where present. Once sorted the residues were discarded.

The flots were assessed by Rosalind McKenna to establish their potential in relation to charcoal and other plant macrofossils. The presence of suitable dating material was also recorded. Specific samples are recommended for further work. The full report is included as appendix II.7.

6. QUANTIFICATION OF RESULTS

This section itemises the field records produced and the finds and ecofacts recovered.

Site records

Phase III	
Contexts sheets	95
Context registers	7 sheets
Trench sheets	10
Drawing register	6 sheets
Sample register	1 sheet
Photo record sheets	5
Digital photographs	226
Field drawings	18 sheets
Phase IV	
Contexts	456
Context registers	23 sheets
Field drawings	254 drawings on 80 sheets
Drawing register	24 sheets
Digital photos	
Excavation	889
Watching Brief	59
Photo record sheets	22
Finds register	2 sheets
Environmental sample register	4 sheets
Phase V	
Contexts sheets	67
Context registers	3 sheets
Drawing register	4 sheets
Sample register	1 sheet
Photo record sheets	7
Field drawings	36 drawings on 9 sheets
Digital photographs	216

Environmental samples

Sample type	No. of samples
Bulk soil	83

Finds

Material	Period	No of items
Archaeometallurgical fragments		284
Bone fragments		36
Burnt clay pieces		49
Ceramics	Post- medieval /modern	3
Ceramics	Roman/possibly Roman	39
Flint		17
Glass	Modern/post-medieval	5
Iron		6
Other worked stone		7

7. FIELD RESULTS

7.1. Introduction

The results of the geophysical surveys (GAT report 773 (Kenney and Hopewell 2009) and report 840 (Jones and Rees 2009)) were used to inform the positions of the phase III evaluation trenches. The results of the trenching is included in appendix III as the majority of the features investigated were explored more extensively in phases 4 and 5. The results of the evaluation trenching are therefore included in the descriptions and discussions below that are mainly based on the phase IV and V excavations.

The archaeological discoveries were dominated by a cemetery with three mortuary enclosures in plot A and a further two mortuary enclosures in plot B. The latter were associated with only central graves and had no surrounding burials as in plot A. Between and around the cemetery in plot A and in the northern part of the stripped area in plot B were numerous features generally composed of two conjoined pits with evidence of burning. These pits are interpreted as ovens.

Some later features were present across the site. Many were small pits and hollows, but others were ditches that represented field boundaries. Some of these could be attributed to the 19th century but some may be earlier. In plot D were remains associated with a small farm and in plot C were the remains of fairly large glasshouses dating to the 19th and early 20th centuries.

The use of square brackets below indicates cut features; the use of round brackets indicates deposits and fills. PRNs are Primary Record Numbers for Gwynedd Historic Environment Record. Where features have previously been given PRNs these are used but new features and groups of features have been allocated new PRNs as part of this stage of the project.

7.2. Cemeteries

(PRNs 24774, 34043-34047; figures 4 and 5)

Cemetery with mortuary enclosures in plot A (plate 2)

The cemetery complex (PRN 34043) (centred on SH 48965 62395) within plot A consisted of 3 mortuary enclosures and 46 graves with 4 other features that might possibly be graves. Two of the mortuary enclosures each contained a single central grave, while the third had 3 graves inside it. The extent of the cemetery was revealed in the excavations on the southern, eastern and north-eastern sides but the western and north-western extent of the cemetery continued into Tŷ Gwyn housing estate. There was no bone within any of the graves, as the acidic ground conditions were not conducive to its preservation. The only artefactual evidence within the graves and the enclosure ditches were a few shards of eroded Roman pottery and also a few pieces of burnt bone. The graves had a general east-west orientation but varied in precise orientation.

Mortuary Enclosures

The southern mortuary enclosure [109] (PRN 24774, plate 4) was quite square, measuring 7.0m by 7.0m externally, and defined by a ditch with a maximum width of 1.0m and depth of 0.4m. The enclosure was aligned east-north-east to west-south-west and had an entrance in the east-north-eastern side. In its centre was a grave [111], 2.1m in length, 0.90m wide and 0.40m deep, also orientated east-north-east to west-south-west. The base of the grave contained a number of medium-sized stones, probably indicative of a timber cist, as discussed below, although there were no traces of timber. A sherd of early 2nd century samian ware (sf03) was found in the ditch, and another (sf04) came from the fill of the grave. A single fragment of burnt bone was also recovered from the ditch (sf13). Charred barley grains were present in small numbers in the ditch fill (appendix II.7).

Enclosure [152] (PRN 34045, plate 5) was about 25m to the north and between them these two enclosures seemed to define the eastern boundary of the cemetery. Enclosure [152] was on much the same alignment than [109], but was slightly smaller with external dimensions of 6.50m x 6.50m, and also had an entrance in the centre of the east-north-eastern side. This enclosure had been truncated, presumably by ploughing and its ditch only survived to a depth of 0.2m and an average width of 0.70m. Its single central grave [455] measured 2.10m long, 0.85m wide and 0.50m deep.

The third enclosure [108] (PRN 34044, plate 3) was smaller than the other two and was rectangular in plan with dimensions of 5.5m by 4.0m. It was orientated the same as the other enclosures but its shape

meant that the long axis was west-north-west and east-south-east. It also had a central entrance in the east-north-eastern side, and was defined by a ditch with a maximum width of 0.40m and depth of 0.38m. This enclosure contained 3 graves, with the largest grave centrally located and smallest grave at the north of the enclosure. The central grave [117] had dimensions of 2.08m in length, 0.75m in width and depth of 0.49m; using the same parameters the southern grave [115] measured 1.90m by 0.70m by 0.34m, and the smaller northerly grave [119] 1.60m by 0.65m by 0.40m. Only the central grave contained stones, but these did not seem to have formed a deliberate packing within the grave. The ditch contained a fairly fresh sherd (sf42) of 2nd century black-burnished ware and some tiny fragments of burnt bone (sf7).

Open Graves
A total of 41 open graves (not within mortuary enclosures) were excavated, with 4 additional features that might possibly have been graves, although the total extent of the cemetery cannot be established as a significant amount of burials may be outside the investigated area to the west. The graves varied in length between 2.6m and 0.6m and in depth between 0.6m and 0.1m; the variation in depth being largely due to truncation but not entirely so. No bone survived in any of the graves but occasional pot sherds were recovered from the grave fills.

Fifty percent of the graves were orientated east-north-east to west-south-west, 36% were orientated north-east to south-west and only 14% were more accurately east to west. Graves with the same orientation were generally grouped together and the graves closest to the mortuary enclosures tended to reflect their orientation although none of the graves near enclosure [109] were on exactly the same alignment as the enclosure.

Twenty seven of the graves were described as having some medium or large stones in their bases. Although in some the stones were disturbed they were generally against the long sides of grave cuts and in some cases stacked up to 3 stones high against the sides of the cut (plates 7 to 9). Roughly 60% of the total amount of the excavated graves had very steep edges to their profiles and a very sharply cut base, but some graves were much shallower with concave sides and base. Not all of the shallow graves were grouped together so the differences in depth and profile many indicate a difference in internment practices.

Of the four possible graves [202] and [343] are very small and could be children's graves, although [202] seems rather casually orientated and [343] seems rather isolated. Both are very shallow but not much more so than three more convincing children's graves in a line ([186], [347], and [352]). Feature [365] was of a similar size and shape to a grave but filled with a grey-brown silt rather different to the brown loamy fills of the graves and lacking any stones. The main reason to doubt its identity as a grave is its isolation to the east of the cemetery. Feature [363] was confused at the east end by the oven [386] and extended under the baulk at the west end but its shape, profile and orientation strongly suggest that this was a genuine grave.

Bulk soil samples were taken from the base of 39 of the 48 graves in plots A and B to allow the recovery of small bone fragments or tooth enamel by wet sieving but no such fragments were found. The 9 graves not sampled were considered to be too shallow and disturbed for this to be worthwhile. Grave [163] did contain some charcoal, all the identifiable pieces of which were oak and some charred oat grains. Grave [186] also contained small numbers of oat grains as well as hazelnut shell fragments (appendix II.7). Considering that no finds would be expected from graves of this date the number of objects found is unexpected. A fragment of brick (sf09) that is possibly but not certainly of Roman date came from grave [230] and another (sf11) came from grave [148]. A 3rd to 4th century mortarium sherd (sf15) came from grave [146], and [361] contained a fragment of possible Roman pot (sf22). Grave [428] had a small sherd of samian ware (sf24) dating to the late 1st/early 2nd century. The central grave [455] within enclosure [152] contained a sherd of probably Roman pottery (sf26). The possible grave [202] contained three tiny pot fragments (sf29) that might be Roman and a fragment of burnt bone (sf38). The fill of grave [465] contained a small fragment of burnt long bone of a sheep/goat sized animal and graves [115] and [176] contained a few more tiny burnt fragments (sf37, sf39). A corroded lump of iron (sf6) was found in grave [117], and the tip of a nail in [281].

Mortuary enclosures in plot B (plate 10)
About 55m north-east of the northern end of the cemetery in plot A was the southern most of two other mortuary enclosures (centred on SH 49025 62450). These lay about 11m apart and on slightly different

alignments. They were similar in plan but the northern enclosure was considerably larger than the southern enclosure and unlike the cemetery in plot A there were no associated graves surrounding them. The area round the enclosures was intensively cleaned looking for grave cuts but none were found.

The southern enclosure [5003] (PRN 34046) was rectangular in plan, measured about 5m by 4m externally and was orientated with its long axis east-north-east to west-south-west. Its ditch was about 0.8m wide and 0.36m deep, with an entrance in the east-north-eastern side. Centrally inside the enclosure was a grave [5005] measuring 2.45m by 0.77m and 0.44m deep.

The fill of the enclosure ditch seemed to have been recut at some point, with what appeared to be a western entrance into this later form of the enclosure as well as an eastern one. The fill of the recut had dark staining within it, which were investigated on the assumption that these may have been stains from timbers in a foundation trench. However the stains formed roughly horizontal lenses rather than indicating vertical timbers. Samples from this fill (5041) produced significant numbers of fuel ash fragments, as well as a single piece of spheroidal hammerscale (appendix II.3, sf519, sf522, sf523). Although there was an appreciable amount of charcoal it was too poorly preserved to allow for identification. This was possibly due to the wood being burnt at a very high temperature and this, with fuel ash slag, suggests a possible episode of intense burning (McKenna pers com). There was not enough charcoal, and especially large fragments, to hint at a timber structure that subsequently burnt down, and there was no sign of heat-alteration of the ditch fill, so it seems that this cannot be taken as evidence of a timber structure in the ditch. It is likely that the charcoal and ash in the ditch was dumped there as the ditch was infilling. The separate lenses probably indicated separate dumping events. Alternatively much later material might have been introduced by animal burrowing; the hammerscale certainly seems to be intrusive. A small iron object (sf518) was probably also intrusive.

The grave had a few stones in the base, mainly near the sides but they were not as carefully placed as in many of the graves in plot A. There was one rounded stone c. 0.2m in diameter in the western end of the grave. Part way up the grave fill was a thin band of dark grey loam (5039) forming a shallow trough in plan, c.1.3m long (plate 11). Although this did not contain organic matter it was thought it may be a stain or cast of the location of a timber, possibly a covering plank that collapsed into the grave as it decayed.

In both the fill of the enclosure and the upper fill of the grave were pieces of sandstone (sf4 and sf5) that appeared to have been dressed and to have originated from a stone building (plate 13). The fill of the enclosure ditch contained three eroded sherds of probably Roman redware (sf502).

The large enclosure [5004] (PRN 34047) was nearly square and measured 7.3m by 7.3m externally, with a ditch about 1.2m wide and 0.44m deep. It was aligned north-east to south-west with an entrance in the north-east side, and had a single central grave [5006]. The grave [5006] had stones neatly laid against the long sides in the base, but otherwise its fill was homogenous (plate 6).

The enclosure fill was more complex than the other examples with deposits of stone especially near the corners, including a squared block of building stone (sf7, plate 12), but none of these stones seemed to be packing to support a superstructure. The upper part of the fill seemed to indicate that this enclosure also had a recut. Unfortunately the evaluation trench dug in the earlier stages of the project had disturbed the middle if the south-western side and confused any evidence for a later entrance in this side. There was also a charcoal-rich deposit containing some pieces of pot to the north-west of the entrance terminal. All the identifiable charcoal was hazel (appendix II.7). The pottery comprised a sherd of fairly fresh 2nd to 4th century Black-burnished ware (sf 508), a chip from the base of a Roman redware jar (sf509), an eroded sherd of samian ware dating to c.A.D.160-220 (sf510) and a sherd from the base of a samian cup of about the same date (sf13) (appendix II.1). This deposit also contained fuel ash slag (sf530), small fragments of burnt bone (sf506) and the bent tip of a nail (sf526), which many indicate that this deposit was composed of material from fires and other domestic waste, presumably generated elsewhere.

Discussion

The mortuary enclosures seem to have been defined by open ditches as no evidence of packing stones to support posts have been recorded. Whether the material was deposited inside the enclosures as a low mound over the graves or outside as a bank has not been established by the excavation evidence. The

possibility of recuts in the two northern enclosures possibly indicates that these were re-emphasised sometime after their creation when their original ditches had infilled. It may have been forgotten then that there was only an entrance in one side and the ditch at least for the small enclosure seems to have been redug with a western entrance as well.

All the enclosures are very similar in layout although variable in size. The three large square enclosures may have been contemporary, but there is nothing other than the similarity in shape and size to suggest this. Enclosure [108] seems to have been dug rectangular rather than square to accommodate the three graves it contained but enclosure [5003] was only large enough for its single grave so it is not clear why this did not follow the square pattern. It is also unclear whether the enclosures originally formed part of a single widely spaced cemetery or whether they were conceptually separate cemeteries from the start. The presence of surrounding graves in plot A and not in plot B is also a feature that must be significant but is not easily explained.

It is assumed that the enclosures were the focus for the wider cemetery in plot A but the sequence of development is unclear. The similarity of enclosures [109] and [152] might be used to argue that these were a pair of burials between and to the west of which the other graves, including enclosure [108] accreted. However the lack of graves closely mirroring the alignment of enclosure [109] could indicate the error of this hypothesis. Enclosure [108] has graves more precisely aligned on it and perhaps positioned to be spreading out from it. Possibly this was the original enclosure on the site and a small number of burials were made near it. The cemetery then expanded, the positioning of graves became less strictly related to [108] and the development culminated in the creation of the two large enclosures.

The graves fall into groups, with graves in each group being equidistant apart and on the same alignment, but there are few neat rows of graves as occur in some early medieval cemeteries. The impression is of graves being added in small numbers, with some awareness of where earlier graves were but perhaps no clear markers making new alignments rather approximate. The variation in the length of graves is probably largely related to the height of the individual buried and therefore approximately indicative of age. There were three small graves ([186], [347] and [352]) set in a line in the south-western part of the cemetery. Although these were quite poorly preserved their position and orientation suggests that they were genuine graves and as they were all 1m in length or shorter they appear to have been children's graves. Two of the possible graves ([202] and [343]) are of a similar size and shape but their position and orientation make them less likely to have been genuine graves. Whether some of the graves measuring about 1.5m in length can be considered to be graves of women (e.g. [268] and [447]) is much more uncertain; they could be the graves of boys not yet fully grown. If the presence of children and women can be suggested in the cemetery it can be seen as a community cemetery rather than catering to a specific group.

The stones along the sides of some of the graves probably indicate that these graves had timber linings. Stones of the same sort were found in graves at Tŷ Mawr, Holyhead (Kenney and Longley 2011) and some of these had stains indicating timber planks. It would appear that these were not coffins but unjointed planks supported by the stones packed down between the planks and the grave cuts. None of the graves had stone slab linings forming the typical long cists but in effect the planks would have created timber long cists and reflect the similarity in tradition with classic long cist graves.

There is a surprisingly large assemblage of finds from the cemeteries considering that few or no objects would be deliberately included in the graves. The majority of the pot suggests a second century date. Of particular importance are the four sherds from the charcoal-rich deposit in enclosure [5004], which also suggest a second century date. Most of the sherds are eroded but the black-burnished ware sherds from enclosures [5004] and [108] appear quite fresh and uneroded. Certainly the finds from the grave fills are most likely to have come from the surrounding soil and to have been mixed into the fill by accident. The date of the sherds could therefore be much earlier than the digging of the graves. The enclosure ditches presumably filled in more gradually and again the sherds could have eroded from the surrounding topsoil during infilling, but the fresher sherds suggest they had not been in the soil very long, especially if the area had been ploughed. The charcoal-rich deposit in mortuary enclosure [5004] is of particular importance because this material must have been dumped into the ditch while it was open. The pot sherds presumably came from the same origin as the charcoal, and this with the fuel ash slag and burnt bone fragments suggests rubbish being dumped in the ditch relatively soon after it was dug. However enclosures and indeed inhumations are not a usual part of the mortuary practices of the second century AD. The material might have come from a midden that was already several centuries

old, in which case the movement of the material might be interpreted as ceremonial, but this is a ritual more typical of the prehistoric periods than the Roman era. No origin for the material was found on the site with the possible exception of the ovens.

The low numbers of charred grains and weed seeds from the graves and enclosure [109] may indicate the use of material cut from cultivated ground as fuel, but it is unclear how this might have found its way into the graves. It might be more likely that the fields were cleared of stubble by burning and some charred remains were introduced into the grave fills.

7.3. Ovens and other burnt features

Figures 4 and 5

Description

Scattered across the site were 26 features in which burning had taken place or which had burnt material deposited in them. Most of these features had many characteristics in common and might be interpreted as a type of oven. A few of these features were interspersed amongst the graves within the cemetery however most were located around the fringes to the east, south-east and south-west. Of the 26 burnt features, 18 had a two chambered construction and one was an elongated curving oval with a flue. The remainder were simple pits, a fire site and a deposit of charcoal in a shallow hollow. The arrangement of the features did not make any clear formal pattern in plan and did not respect any regular orientation.

Two chambered ovens

(These features have been recorded on the Gwynedd HER as PRNs 34048-34066.)

The most common oven type had a figure-of-8 shape in plan (plates 14 to 17). These had two chambers, one of which had evidence of *in situ* burning and must have held a fire, while the other, although it might contain charcoal generally lacked traces of burning. Seven of these features had circular or sub-circular chambers of roughly the same size ([184/181], [218], [237/238], [283/284], [382], [491] and [508]). There were also 6 features with an elongated figure-of-8 shape ([166/167], [278/279], [473], [500/499] and [5009/5022]), with a circular fire chamber but the other chamber was extended to an oval or sub-oval shape in plan. There were also 2 keyhole-shaped features ([260] and [3004]) where again the fire chamber was either circular or sub-circular in plan but the other chamber extended and flared out slightly with straight edges. Two features ([105] and [249/272]) had irregular shapes in plan, but the two chambers could still be distinguished. Feature [294/303] was a bottom heavy figure-of-8 shape in plan where the second chamber was very wide relative to the fire chamber.

All these features ranged in length from 2.98m to 1.40m, in breadth from 2.0m to 0.65m and in depth from 0.58m to 0.12m, however some were undoubtedly truncated, features [508], [382] and [491] heavily so. During excavation some of these kilns were given two cut numbers to differentiate between the two chambers, however the evidence suggests that both chambers functioned, and were probably constructed, together. The fire chambers had orange-red heat-affected soils or clay on their bases and sometimes up the sides. The second chambers had no evidence of *in situ* burning and may have been used to access the fire chambers and rack out the remains of the fire.

Some of these features had orange-red silt clay which lined the fire chambers (e.g. [105], [237/238], and [283/284] with features [184/181], [218], [278/279] and [294 /303] having a possible clay-lining). The features without evidence of clay-lining had fire pits with heat-affected soil at their bases indicated by the bright red orange colour. The sections of the features 105, 184/181, 260/265, 283/284, 294/303, 500/499 and 5009/5022 showed a prominent ridge/hump of heat-affected natural or clay on the interface between the two chambers. In features 294/303 and 500/499 these ridges were part of the original construction of the ovens. Feature 260/265 had a slight ridge similarly formed when the oven was dug but also had a red burnt clay hump a top of it. The ridges or mounds in features 105, 184/181, 283/284 and 5009/5022 were formed of burnt clay.

There were several features which had either stone-linings or an implication that stones were used structurally (166, 237/238, 249/272, 299/300, 473 and 499/500). Feature 237/238 had a flat cobbled base at the west end where the stones were embedded into orange-red heat-affected clay lining; whereas features 166, 249/272, 473 and 499/500 all had large rounded stones within them but with no definite structure. Feature 299/300 may have had a stone-lined second chamber, although there were also large sub-rounded stones throughout the two main fills (302 and 325). Ten of this group of features (105, 184/181, 249/272, 278/279, 294/303, 299/300, 473, 499/500, 3004/3007 and 5009/5022) had a bowl-like fire chamber which undercut the natural, some by up to 0.20m. The bases of the features

were not always regular and level, some of them had a step from one chamber to another. Features 237/238, 249/272, 283/284, 500/499, and 3004/3007 all had a step down from the fire chamber to the second chamber, while features 166, 294/303, 473 and 471 had a step down from the second chamber to the fire chamber. In feature 5009/5022 the base sloped rather than having a step.

There was a general similarity between the fills of these features. Within most of the ovens there was a lower charcoal-rich deposit with a silt clay or clay silt matrix with fragments or lenses of orange red or yellow pink burnt clay. Some of them included large to medium sub-rounded stones. This fill occurred sometimes just within the fire chamber (e.g. 105, 166/167, 184/181, 218, 294/303, 382, 500/499, 508 and 5009/5022), sometimes just in the second chamber (e.g. 105, 283/284, 473, 491, 500/499), and sometimes within both (e.g. 237/238, 249/272, 260/265, 278/279 and 3004/3007). There were a couple of features (294/303 and 299/300) which had fire-cracked stones within their primary fills. Feature 473 had evidence of heat-affected material on top of larger stones.

The upper fill of the majority of the features was a firm to loose mid grey brown/dark brown/mid brown, some with yellow mottling or clay patches, silt clay/clay silt with a range of stone sizes from small to large rounded to sub-angular and some with rare charcoal flecks.

One feature in particular showed a clear sequence of disuse (plates 18 to 20). Feature 5009/5022 had an elongated figure-of-8 shape measuring 2.78m in length, 1.40m in breadth and 0.40 in depth. The initial fill was a firm pale mid yellow brown clay silt (5035) with small rounded stones, which was on the base of the second chamber, followed by a loose dark grey brown sand silt with charcoal and small rounded stones (5023), which was the main fill of the second chamber and sloped down towards the fire chamber. Above that was a firm mid brown fine silt (5024), then a small chunk of deposit (5068) forming a ridge/hump of bright orange heat-affected material, charcoal and stones dividing the two chambers. The main fill of the fire chamber was very firm pale yellow brown silt clay (5025) with occasional rounded stones. The final deposit was a firm but fragile layer (5034) of heat affected soil which diffused from bright orange (underside) to yellowish (outer side). Contexts (5034) and (5068) were probably both deposits originally forming an overhanging roof to the oven chamber. When *in situ* it was burnt red on its underside causing the red band seen in plan and section. After abandonment it seems (5068) broke off from the main structure as collapse and (5034) slumped into the pit as a coherent chunk, slipping down and rotating slightly. Deliberate backfilling (5025) occurred between the collapse of (5068) and the slumping of (5034). This strongly suggests that the oven was roofed and the roof material was *in situ* soil. It appears that the oven had been dug, like to burrow, into and under the soil. The resulting roof would always have been a fragile structure and the oven may not have been used more than once or twice before collapse occurred.

There were very few small finds within the fills of these features. A corroded nail (sf16) was found within the fill of oven [249] and a concreted object (sf501) within [5009]. Tiny fragments of burnt bone (sf40) came from oven [184]. There was a flint flake and a chip (sf32) found in oven [237/238] and single flint (sf28) in oven [260/265]. An abraded sherd of red pot (sf08), probably Roman, came from oven [218]. It is possible that much of the pottery found in the cemeteries came originally from activity associated with the ovens but without radiocarbon dating this cannot be demonstrated.

The burnt clay was recovered from three ovens ([218] sf34, [279] sf35, and [3007] sf43) as representative samples of the heat-affected lining of these ovens. This material appears to be the result of the heating of the natural substrate into which the ovens were dug and the heating was not to a high temperature (appendix II.3). The wet sieving residue from oven [5009] produced a small number of fuel ash fragments, one probable clinker bleb and two pieces of coal (sf516). The clinker and coal are very small pieces and almost certainly intrusive rather than indicating use of coal as a fuel in this feature.

The fuel used in the ovens seems to have been mainly oak, with some hazel, ash and willow/poplar. Elm was also occasionally found (appendix II.7). The samples from the ovens produced very small assemblages of plant macrofossils both in terms of abundance and diversity. Seven features contained indeterminate cereal grains, two contained wheat grains, three contained barley grains and two contained oat grains. These were all however in very small numbers. These quantities do not suggest corn drying activity; accidental charring of grain would be expected at a much higher level in this case. It is more likely that the grain was introduced with fuel, especially straw, to light the fire.

Other burnt features
Feature [137] (PRN 34071) was of a different type to the rest in this group. It measured c.7m in length with a maximum width of 1.5m and maximum depth of 0.28m. The narrower end, likely to be the flue, curved toward the north-west and contained a large amount of burning. The southerly end was flat and sub-circular with no signs of burning. There was a primary fill of dark red silty sand with charcoal and burnt clay and the main fills were stony. After excavation two graves ([432] and [365]) were found sealed below this feature, and a third grave [458] was partly obscured by the fill of feature [137]. The two soil samples from this feature produced relatively small assemblages of plant macrofossils. The most abundant remains in the samples were oat grains, followed by indeterminate cereal grains. Barley and hazel nut shell fragments were also recorded in both samples. Overall, the low numbers of grains and weed seeds in the samples indicates the accidental burning of cleaned grain and its subsequent disposal (appendix II.7).

Other features had evidence of either *in situ* burning or considerable charcoal deposits but they appeared to be quite different to the ovens and some may have been of a very different date. Feature [388] (PRN 34070) was sub-rectangular, measuring 1.35m in length, 0.70m in breadth and 0.50m in depth, and had a very complex sequence of fills. A thin lens of yellowish clay on the base may have been part of a clay lining, but there was no *in situ* burning of the pit cut. Dumps and lenses of charcoal were interleaved with brown sandy silts. There was some burnt clay mixed into these deposits, but the lack of *in situ* burning makes this feature less like an oven than ones described above.

Within the cemetery in plot A was a shallow circular pit [340] (PRN 34068), measuring 0.8m by 0.75m and 0.14m deep. It had a charcoal-rich layer in the base but no sign of *in situ* heating. Feature [133], measuring 0.57m in diameter and 0.08m deep, appeared to be a deposit of charcoal in a shallow hollow, but it might have been the truncated base of a pit.

Feature [247] (PRN 34053) was a shallow hollow only 0.09m deep, measuring 0.85m in length and 0.85m in breadth. It had a single fill of compacted red silt clay with orange red burnt clay deposits throughout. This layer appeared more likely to be the heat-altered surface of the natural sub-soil than deliberately deposited material. This feature might therefore be considered a fire site or hearth rather than a pit. A fragment of late 2nd century samian ware (sf10) was found adjacent to this feature. Next to the fire site was a small pit or hollow [254], 0.42m in diameter and 0.12m deep. This contained some fragments of charcoal in its fill and may have been related to [247].

Pit [511] (PRN 34064) was again sub-circular measuring 1.3m in length, 0.90m in breadth and 0.20m in depth, with a dense charcoal layer at its base. A layer of flattish stones overlaid the charcoal-rich deposit followed by grey-brown clayey silt. Feature [318] (PRN 34067) was a rather irregular shallow pit measuring 1.1m by 0.9m and 0.16m deep. It had a layer of stones in the base, many of which were heat-cracked with a deposit of charcoal around them. The main fill was a brown silty sand but it contained a collection of flint debitage (sf33) that may be of a Neolithic date. This pit also contained a small fragment of pottery (sf27), considered by Peter Webster to be probably Roman, but it has been burnt, so altering its colour and has voids where the inclusions have leached out. Such voids are quite common in Neolithic pottery and it is probable that this sherd is also Neolithic.

Feature [386] (PRN 34069) was heavily truncated. It was sub-oval in plan and measured 1.5m in length, 0.44m in breadth and 0.40m in depth. There were distinct bands of dense charcoal around the eastern edge and on the base, but no sign of *in situ* burning. The main fills were mixed red-brown and yellowish clays with occasional stones and charcoal. This feature was confused by being cut into the top of an irregular hollow [372], but its fills were quite distinct from the fills of the hollow. This feature is of importance because it was one of the few features to have a direct relationship with a grave. Grave [369] clearly cut the fill of the hollow [372] and seemed to just clip the edge of [386]. The degree of overlap was not large but it seems likely that the grave post-dated the pit. Feature [393] was probably also a grave. The relationship between this and the pit was not investigated in detail but again it is likely that [393] cut [386].

Pit [386] contained purely oak charcoal while pit [318] was dominated by hazel charcoal and pit [340] was dominated by ash. The charcoal in the base of hollow [133] was oak (appendix II.7). It is not yet clear whether the difference in species used was due to differences in date or function. Pit [318] also produced abundant hazelnut shell fragments, possibly introduced on branches for fuel.

Interpretation

Ovens

The majority of features referred to above as ovens had one circular chamber in which a fire had been lit. In the best preserved cases there is an indication of the collapse of an earthen roof, and it is possible that the chamber was largely or entirely under the earth. In several features burnt soil and clay had collapsed into the chamber on top of most of the fill, although this must have been burnt while the feature was in use, suggesting a roof collapsing after most of the chamber had been filled. In some features stone tumble may have come from a roof and the under-cut concave sides of the chambers suggest the base of a domed structure. Features [166], [249/272], [473] and [499/500] all had a significant amount of large stones within them which are possibly from the collapse of a roof or small superstructure over the fire pit. The fire-cracked stone in some features (e.g. [294/303] and [299/300]) shows that this was subject to considerable heating and may have formed the lining to the oven roof.

This enclosed chamber seems to have been designed to retain heat and closely resembles an oven for cooking. The degree of burning on the sides of these chambers indicates a fairly low temperature, certainly nothing approaching the temperature needed for firing pottery or other uses of kilns or furnaces. The second chamber often contained more charcoal than the fire chamber and this was often heaped up as if raked out of the fire chamber (plates 21 and 22). It is therefore suggested that the second chamber was open to the air and allowed access to the fire chamber and the remains of the fire were raked into this chamber. In several cases the remains of two or more fires seem to have built up suggesting that the fire chamber could still be used even though the second chamber was partially filled with charcoal and ash. Features [105], [184/181], [473], [491] and [500/499] had charcoal-rich deposits at the base of the second chamber. This could be the remnants of the oven's last use, the final rakings left behind in the raking out pit scraped out from the fire chamber. Feature [508] had a charcoal-rich layer within the base of the fire chamber, which could be the *in situ* remains of the last firing.

Some of the ovens ([105], [184/181], [260/265], [283/284], [294/303], [500/499] and [5009/5022]) had a prominent ridge/hump of heat-affected natural or clay on the interface between the furnace and the raking-out pit. In some cases this could also be evidence of a collapsed structure, but in most examples the ridge was an original part of the structure, and may have been to control the wind coming into the oven and helping to contain the heat of the fire. The construction of the fire chamber and raking-out pit on different levels in some ovens may also have been to control ventilation.

The features might have worked as corn driers but it would not be necessary to partially or entirely dig the fire chamber into the ground. The fairly small number of charred cereal grains from these features also suggests ovens rather than corn driers. The raking out of the ash before reusing the fire chamber would seem to be unnecessary for a corn drier. In this case the second chamber would be the one over which the grain was suspended to dry and little charcoal would be expected in this case. Generally the specific features are suggestive of use as an oven presumably for cooking food, perhaps bread but possibly not exclusively so. The indications are that these structures were used perhaps a couple of times but were not designed for long term use. The fragility of the roofs or overhanging earth sides makes it unlikely that they would have withstood more than a couple of firings. These were not the well-built and carefully designed clay ovens used for making bread in many modern cultures, but they seem to be an easily constructed temporary measure, such as might be used by people travelling about. In the context of Segontium and the number of ovens found it is tempting to think of a Roman army, but a full consideration of the wider context of these features should await the results of the radiocarbon dating programme.

None of the well-defined ovens had a direct relationship with the graves. The majority lay beyond the limits of the cemeteries but four were within the area of the cemetery in plot A, so there is no indication that the cemetery was actively being avoided. The presence of two ovens in the northern part of plot B, widely separated from the majority of the ovens could reflect the separation of the two cemeteries but it is perhaps more likely to indicate that there was another group of ovens within the unexcavated parts of plot B of which only these two were found.

There are some possible groupings of ovens. Features [260] and [278] seem to form a pair and [299] and [382] extend the same alignment. Features [166] and [237] are also close together, although not aligned. However most of the ovens seem to be separated from each other by at least 12m. It is possible that this is an important clue as to how they were used and why there were so many within this area.

Other burnt features
Corn drier
Feature [137], with its long flue, appears quite different to either the ovens or the other pits and was probably used for a different function. The long flue attached to a rounded chamber suggests that it was a corn drier. The fire would have been at the north-west end of the flue, which is why this was burnt, and the length of the flue would prevent sparks reaching the grain suspended over the pit at the southern end. Many corn driers are stone-lined and the stones within this feature may have been the remains of a lining, although they were presumably not *in situ* if so.

This is the only feature to have a clear stratigraphic relationship with any of the graves as it cut across at least two and probably three of them. Corn driers with long flues are generally medieval in date in the region and this would be consistent with the stratigraphic relationship. It is likely that all memory of the existence of the cemetery was lost before the corn drier was constructed.

Other features
The other pits with some evidence of burning appeared less like ovens. They generally had few traces of *in situ* burning even when they contained fairly dense concentrations of charcoal. They may have been used to dispose of charcoal from the ovens, but, with the exception of pit [511] which was between ovens [500] and [508], there was no spatial relationship between these pits and the ovens. The discovery of possible Neolithic flint knapping debitage in pit [318] suggests that some of these pits may pre-date the other activity in the site by a very long period of time. Isolated flint flakes can easily be introduced to a pit from soil eroding in but for an assemblage of debitage chips to remain together suggests that they have not been disturbed and were originally deposited in the pit when it was in use. The date of this pit clearly needs to be explored by radiocarbon dating. The relationship between pit [386] and the graves makes it quite important to date this feature but its function is uncertain and it cannot necessarily be used to prove that the rather different ovens pre-date the cemetery. The fire site [247] with its adjacent small pit could be of any date but might have been associated with the ovens.

7.4. Other potentially early features
Figure 4
Pits
Within the area of the cemetery in plot A was a pit [190] measuring 1.6m by 1.0m and 0.25m deep. It was approximately sub-rectangular in plan with fairly steep sides and a flat base. Its long axis was aligned north-south, which along with its broad width in comparison to the length ruled it out from being a grave. Above a layer of primary silt with flecks of charcoal was a deposit of large stones up to 0.55m in length, which were not obviously heat-affected. This contained a sherd of Black Burnished ware (sf17) that could date from any time from the late 1st to the 4th century, and a fragment of burnt bone (sf36). The bone was a 10mm long fragment of a long bone of a medium to large mammal, but almost certainly not human. The soil samples contained a significant charred cereal assemblage dominated by indeterminate cereal grains, but with significant numbers of oats and small numbers of barley and wheat grains, together with several 'weed' seeds. This may indicate the dumping of spoilt grain or a cooking mishap, or it may be the build up of occupational waste and its subsequent deposition into the pit feature (appendix II.7).

A small steep-sided feature [205], 0.42m in diameter and 0.22m deep, was also found within the cemetery. The main fill had patches of redeposited clay and the upper fill contained an assemblage of charred cereal grain including wheat, barely and oats, and charred weed seeds. This layer was similar to the topsoil and presumably represents a much later deposit than the pit itself. However the presence of some charred hazelnuts also in this deposit may suggest that it is not very recent.

Features [233] and [131] were small sub-oval pits with simple brown sandy fills. They would be of no interest except for their proximity to ovens ([218] in the case of [233] and [299] and [260] for [131]), but the lack of charcoal in their fills suggests that they were not associated with the ovens.

In plot B, close to the small mortuary enclosure, were two pits. Pit [5011] was a neat oval, measuring 1.3m by 0.9m and 0.23m deep. Its fill was a homogenous brown silt. Pit [5014] was more sub-rectangular in plan, although rather irregular. It measured 1.6m by 0.8m and was 0.38m deep. There was some erosion around the sides but the main fill was a brown silt. Both features were aligned

roughly west-north-west to east-south-east, i.e. on quite a different alignment to the enclosure and although their sides were quite steep they seemed to be too broad and irregular to be graves.

Possible early field boundaries
Figures 4, 5 and 6
Running almost exactly north-south across much of the length of plot A was a straight, shallow ditch [154/345]. There was a gap in the middle of the ditch where it would have crossed a group of graves, but this gap seems to have been due to truncation and was not original. At its southern end the ditch curved to the south-east and had a fairly neat, rounded terminus. At its northern end the ditch cut through mortuary enclosure [152], dating to later than the cemetery. However ditch [154/345] was cut by the corn-drier [137], so the ditch cannot have been a late feature. The ditch produced a small number of indeterminate cereal grains, but it is likely that these were mixed in from stubble burning or other activity that introduced similar grains to the graves.

The north-south ditch [154] was cut by a ditch on an east-north-east to west-south-west alignment [158]. The north-eastern end of this ditch curved to the south-east at its terminus, and it had been preceded by a much longer, shallow ditch [156], which continued the alignment across the northern end of plot A. Running parallel to these ditches on the northern side was an area of compact stones and gravel (312) which may have been a contemporary trackway. Ditch [158] was cut along almost the same alignment as a row of graves, clearly cutting the graves. The ditches and possible trackway were exactly parallel to the mortuary enclosure [152]. There was no dating material from these ditches and none of the available maps indicate a boundary or a trackway here, so it is possible that these ditches were early. It seems odd that if the mortuary enclosure was still clearly visible when these ditches were dug that ditch [154] cut through it rather than reusing one side, yet the later ditches and possible track respected the enclosure. The date of these ditches must remain uncertain.

Further south a sinuous ditch [270] may also be early. This ran west-north-west to east-south-east then curved to the north-east and finally curving round to run nearly due east. Its fill produced a sherd of first century AD samian ware (sf05) and two fragments of redware (sf19, sf20), possibly also Roman. This is not necessarily to date the ditch to the Roman period as the sherds were probably in the ploughsoil, but the ditch does seem to have filled with eroded ploughsoil at a fairly early period. This ditch had been identified in the geophysical survey and has been recorded as PRN 29308.

Another ditch to produce a Roman sherd was a shallow ditch [022], underlying the 19th century features at the north end of plot C. This ran north-west to south-east, nearly but not quite parallel to the slate fence (008). The ditch was 1.2 to 1.3m wide and survived to a maximum of 0.3m deep. The upper fills contained late post-medieval sherds but in the base of the ditch was found a single rim sherd of Roman black burnished ware pottery (SF01), dating to 3rd-4th century AD.

Possibly the most intriguing of these potentially early ditches was a slight gully in plot B. This curved gently and survived for a length of 15m. It was 0.5m wide and up to 0.22m deep. The gully ran from next to the south-eastern side of mortuary enclosure [5004], but the relationship between the two features had been lost. This gully may have continued on the northern side of the mortuary enclosure as [5008], which was a similar shallow curving gully, although more truncated. Gully [5007] was filled with a dark grey silt with lenses and patches of charcoal. When sampled this charcoal proved to be composed of hazel and willow or poplar, suggesting fuel woods. It also contained a surprising large charred cereal grain assemblage composed mainly of oats (over 4000 grains) with a small amount of wheat and barley, some weed seeds, particularly grass seeds, and fragments of hazelnut shells. It also contained a single charred garden pea. These remains probably relate to a single event, possibly the disposal of a spoilt grain store, an accident whilst drying the grains or the remnants of a meal (appendix II.7). In addition there was a quantity of fuel ash slag (sf531, sf532) including probable clinker and 3 tiny pieces of coal. The coal might easily be intrusive but if most of the ash is clinker, i.e. resulting from the use of coal as a fuel, it does perhaps suggest a late date for this feature. The very good preservation of the charred grains might also hint at a later date.

7.5. Farms and glasshouses: post-medieval and modern features
Figures 4, 5 and 6
Many of the later features can be indentified on the 19th and early 20th century maps and can be given more precise interpretations. Plot D lay on the edge of a small farmyard and within plot C were some substantial glasshouses. Some of the ditches running across the site can also be identified on the maps

as field boundaries. Not all the features found could be securely identified with features on the map but many seemed to be related to this activity.

Description

Glasshouses (PRN 34072, SH 4893 6219)

Roughly central to plot C was a low brick wall (041). This only survived to 2 or 3 courses in height but was 14m long and probably formed the north wall of a rectangular brick building. Six metres east of the end of this building was a small brick structure (035) with a concrete floor (plate 23). It measured 4.0m by 2.3m. It was entered in the southern side where there were 3 steps curving down into the building, which was set about 1m into the ground. In the north-eastern corner was a substantial brick structure, which probably supported a boiler or heater. It is probable that structure (041) was the base of a glasshouse and (035) was the boiler house to heat it. The two structures were linked by a line of large slate slabs (039), possibly forming a path. Also between these buildings was a third building (040), again built of brick and measuring 3.6m by 3.3m (plate 24). This had 2 brick divisions inside and two shallow postholes near the southern wall. These features must have supported internal fixtures and it is probable that this building was a potting shed.

To the south of (035) and joined to it by a shallow gully [038] was another structure, but nothing of this survived other than its slate slab floor (036). The gully [038] was filled with stones, clayey sand and gravel (050, 051, 052), which gave no clues to its function but it was sealed by coal-rich deposit (053). This suggests that coal was stored in this area for the boiler, but it was not necessarily stored on the floor (036) as this overlay a make-up deposit (054), which sealed the coal-rich layer (053).

This area was surrounded by narrow stone-filled field drains (042) to drain the area around the glasshouse. A broad trench (043) containing a cast iron pipe ran south-east from (035) the boiler house; possibly providing water for the boiler.

Farmyard (PRN 34074, SH 4892 6227)

A small farmyard was identified in the assessment of the site within plot D. The remains of some brick buildings were visible then and these were recorded as feature 6 (PRN 29304) (GAT report 773 (Kenney and Hopewell 2009)). Further brick structures were exposed within the stripped area and were surveyed during the excavation phase. Other related features were also found.

In the southern end of plot A, on the boundary with plot D, were the remains of two small brick structures (516 and 517). Structure (516) measured 3.0m by 2.68m externally and was constructed with a brick wall 0.28m wide. Structure (517) survived as a square platform, 1.64m by 1.60m, with a brick wall running from its western side. A group of 6 postholes (434, 436, 438, 440, 442 and 444) about 4m to the east were probably also related. These had packing stones to hold posts but did not form a very clear pattern.

These structures seemed to lie north of the buildings shown on the 1918 map but were presumably related in some way to the farmstead. The brick structures were similar in construction and probably of the same date as the brick structures (PRN 29304) recorded during the assessment (GAT report 773 (Kenney and Hopewell 2009)). Those structures formed part of the southern range of the farmyard, where as the excavated examples lay just outside the farmyard.

The western boundary of plot C, represented by ditch [421], seems at one time to have continued north and then turned a right angle to the east. This had an accompanying ditch [374] to the north. Ditch [374] contained late post medieval pottery providing a confirmation that these were late features.

At the northern end of plot C were the remains of a small brick structure (009) (PRN 34073, plate 25), 1.6m square, with brick walls and a slate floor. What appeared to be a path formed by slate slabs (019) and cobbles (013) held in place by slate edging stones (014) ran to the north-east side of the structure. From the western corner of structure (009) ran a slate fence (008) formed by slates set on end in a trench. Two similar lengths of slate fence (518) formed a right angled corner further north in plot D. A clay tobacco pipe decorated with the Prince of Wales feathers (SF02) was found beneath the slate floor in structure (009).

A slate capped drain [045] ran just north of structure (009) but did not seem to be related to it. This drain was overlain by the slate slabs (019) and cut by a later drain with a ceramic pipe (017) running from a concrete manhole (021) (plate 26).

Boundaries

The remains of a slate fence (515) marked the line of a boundary shown on the 19th century maps and visible on the geophysical survey (PRN 29306) running across the middle of plot A. Completely parallel to this to the south-west was a ditch [191/210], which may have indicated a sub-division of the field.

The distinctive bend in the northern boundary of plot A can be seen on the maps dating back to 1842, so this must have been the original boundary to this field. However a shallow ditch [489] seems to have defined a straighter boundary. There was a gap in this ditch about 4.7m wide, perhaps an entrance. In plan it seemed that the ditch south-east of the gap ran into another ditch [156] running to the south-west, but this relationship was not explored in detail and it is possible that these ditches were not contemporary.

In the northern corner of plot B was the corner of a ditched enclosure [5010]. The ditch ran north-north-west to south-south-east for 5.5m then turned to run to the west-north-west for 2.5m into the baulk. The ditch was up to 1.0m wide and no more than 0.15m deep, with quite gently sloping sides as if severely truncated. The brown silt fill contained Buckley ware, blue and white decorated pottery, roof slates and modern glass. This feature is not indicated on the County Series maps, although it does align with a field access track from the farm of Maes-y-Barker, and is probably related to a small agricultural enclosure or building, possibly too temporary to have been included on the maps.

Pits and postholes

There were various pits and a small number of postholes scattered across the site. Some of these could be dated to the post-medieval activity by the artefacts they contained or the character of their fills. About 3.5m west of the structure (009) were two postholes ([046] and [048]), measuring 0.4m and 0.55m in diameter respectively and up to 0.25m deep. Feature [048] contained late blue and white ware sherds and clay pipe fragments.

A group of four pits were found near the eastern limit of the stripping in plot C. This group consisted of two small, sub-circular pits ([027] and [029]) and two elongated pits ([031] and [033]) forming a square pattern measuring 2.7m by 2.05m externally overall and aligned north-west to south-east. The smaller pits measured 0.52m by 0.48m [027] and 0.73m by 0.42m [029], where no more than 0.1m deep and were filled by grey brown sandy silt with some stone. Pit [031] measured 1.39m by 0.70m and [033] measured 1.30m by 0.45m. The latter was 0.16m deep but the former was up to 0.3m deep. The fills of these were similar to the smaller pits but both contained pieces of sawn timber in their bases. The condition of the timber demonstrated that these were recent features probably associated with the other activity in this plot.

In the entrance to the plot was found a sub-circular pit [004] measuring 1.2m by 1.0m and 0.5m deep. This was partially filled with rounded stones up to 0.35m in length and had a charcoal-rich deposit in the top that contained a few heat cracked stones.

All the above features are fairly close to obvious 19th century activity but several isolated pits were scattered through plots A and B. Pits [266], [424] and [479] were full of stones and formed a type of feature quite often found; presumably dug to place field stones below the level of the plough. Several small pits ([193], [195, [315], and [316]) had some 19th century pottery or glass within their fills. Pit [390] in the same area and of a similar size is also assumed to be late although no finds were recovered. The largest of these late pits was [408]. This measured 1.5m by 1.0m and was 0.55m deep. It was filled by a complex sequence of deposits most of which contained late 19th or early 20th century material such as Buckley ware, blue and white decorated pottery, clay pipe stems and glass. Pit [5013] in plot B was not fully excavated as a strong smell indicated the presence of fairly recently buried animal remains, so excavation was halted on health and safety grounds.

Several features investigated were almost certainly of natural origin. Some were possible animal burrows (e.g. [5019]) or tree root hollows (e.g. [355]). Others may have been the result of a large stone having been removed by ploughing (e.g. [422]). A group of burnt features (group 472) has not been included above as it appeared to be a collection of hollows and patches charcoal of a sort typically

resulting from tree roots being burnt during clearance activities. The position of these features between two large natural boulders suggested that the area might have been avoided by the plough because of the boulders allowing a tree to grow there. Soil samples from these features produced only oak, which might confirm this interpretation.

Interpretation
The boundaries of plot C are identifiable on the 1842 tithe map (figure 8) but no features are shown within the plot at that date. The 1888 Ordnance Survey map shows the cemetery for Llanbeblig Church had extended to the east and defined the western boundary of Plot C. Along this western boundary and within Plot C was a trackway leading to a farm at the northern end of the field. This trackway is still represented by a gate leading off Llanbeblig road, but it was not exposed in the excavations. In 1888 (figure 9) three small buildings are shown against the southern boundary of Plot D, one of which was possibly a dwelling as there was also a well. By 1918 (figure 10) these three buildings had been converted into an enclosed rectangular farmyard, with additional buildings and a small triangular paddock in the southern corner of the study area. The farm was still in existence in 1950, but had been demolished by 1966 (as seen on the aerial photographs). The brick structures found in the excavations ((516) and (517)) must have been related to this farmyard but cannot be identified with any of the buildings shown on the maps.

The slate fence (008) found in the excavations probably formed the south-western boundary to a narrow strip of land, probably an orchard or garden, running south-east from the farm. In 1888 two small structures are shown adjacent to each other at the south-eastern end of this boundary. The structure immediately next to the boundary is probably the brick building (009). The building next to it suggests that the supposed path (013/014) was actually the remains of another slight structure. There is no evidence from the map of the function of the structures. It was speculated during the excavations that (009) was an earthen toilet, although as it lay about 38m away from the other buildings this seems an excessive distance for a toilet. However this interpretation is very unlikely as there was no deep pit below the structure for the waste. By 1918, when the farm had expanded these structures had been demolished (figure 10).

In 1888 a track ran from Llanbeblig Road into the middle of plot C. To the east of the end of this track a building is shown. This was largely outside the stripped area and the map does not indicate its function, but it is also shown on the 1918 map where it is clearly marked as a glasshouse (figure 10). By this time there were two other glasshouses and related structures. Wall (041) formed the north wall of one glasshouse, which seems to have been closely associated with building (040), probably a potting shed. Building (035) is shown on the map to be built against the earlier glasshouse and was probably the boiler house for this, although it is equally likely that it fed all the glasshouses. The map shows that the flagged floor (036) was within a building, and its function as a coal shed seems likely, if not proved.

The Gallt-y-Sil Isolation Hospital for infectious diseases was built in 1904 opposite Tyddyn Pandy (The National Archives Hospital Records Database). It is possible that the glasshouses had been developed to provide food for the hospital. Aerial photography shows that the glasshouses had been entirely demolished by 1948 when small paddocks and allotments can be seen in the south-western part of plot C.

The various pits found in this plot seem all to be fairly late in date and presumably related to the late 19th and 20th century activity. The group of four pits must have supported a timber structure but the maps give no indication of what this might have been.

8. ARTEFACTS AND ECOFACTS

8.1. Artefacts
The specialists who carried out the assessments on the artefacts are listed in appendix I. The full assessment reports are included in appendix II and brief summaries only are given below, where possible using direct quotes from the reports.

Roman pottery
Peter Webster

See appendix II.1 for full report.
The assemblage from this site is small and noticeably spread in date. Fragments of some 46 vessels were recovered along with 4 brick fragments, not all certainly Roman. Almost an eighth of the vessels represented were in samian, including one form that went out of production c.A.D.85. The remaining six vessels span the later first and second century. Other diagnostic sherds include a sherd of mortarium which is unlikely to have been made prior to c.A.D.180.

Black-burnished ware was represented by fragments of only three or four vessels, none closely dateable although one jar neck seems likely to date to the second half of the Roman period rather than the first, while a bowl wall with lattice decoration is most likely to be 2nd century in date.

The diagnostic pieces are completed by a mortarium, probably from Mancetter- Hartshill and 3rd or 4th century in date. Other vessels are represented only by wall fragments and are likely to be more local in origin and can only be given a generalised Roman date.

Overall the assemblage shows a slight bias towards the later 1st and 2nd centuries, with at least one sherd which should have reached the area very early in the Roman occupation. It would seem to indicate Roman activity in or near the area investigated from the Flavian period through to at least the 3rd century. The precise nature of that activity is unclear, at least from this comparatively small sample of sherds.

Glass
See appendix II.2 for full report.
Three of the glass finds were tiny chips recovered from wet sieving. Two came from mortuary enclosure [5003] (sf521 and sf524) and one (sf527) from enclosure [5004]. However these are almost certainly modern and are certainly small enough to penetrate deep into the soil through animal burrows and other bioturbation. A piece of glass panel (sf503) was found in the upper fill of grave [5005], which Hilary Cool concluded as modern and intrusive. The rim and neck of a bottle (sf511) in a light green/blue glass was found in the ploughsoil in plot B. The colour suggested a Roman date but Hilary Cool identified this as part of an apothecary's bottle of nineteenth century date.

Pyrotechnical residues
See appendix II.3 for full report.
The material submitted for assessment was composed of two types; possible metal-working debris and burnt clay. The burnt clay was recovered from three ovens ([218], [279], and [3007]) as representative samples of the heat-affected lining of these ovens. These materials generally had little binding clay comprising mainly concreted sand and gravel. A few pieces had a much higher clay content and appeared to be very low-fired, but even these had little evidence of being prepared clays. Tim Young's conclusion is that the material is likely to be natural substrate that has been lightly fired. These examples of the ovens were therefore not clay lined and not fired to a high temperature.

Six collections of magnetic residues from sieved samples, one isolated slag fragment and a piece of concreted material initially identified as slag were submitted for assessment. Much of the magnetic material was natural, but all samples contained some pyrotechnological residues, including low-density, glassy, vesicular slag, often occurring as rounded blebby pieces or sub-spheroidal droplets. Tim Young identified this material as fuel ash slags, which can be generated through the partial melting of small fragments of soil or hearth clay in ordinary fires, not just from high temperature metal-working activities. Some of the pieces may be clinker, produced where coal is used as a fuel, and these were presumably intrusive in their contexts, although it is possible that coal was used in the Roman period. However the quantity of this material in the ovens, which are perhaps most likely to be of Roman date is so small that it must be concluded that this material was intrusive.

Some of the slag material may have been true metallurgical slag, but the assemblage lacks clear evidence for iron-working, with the exception of a single piece of spheroidal hammerscale, making it unlikely that iron-working was one of the activities taking place on the site.

The concreted piece is probably not slag but an iron object and will need x-raying to identify its form.

Bone
Dr Nóra Bermingham

See appendix II.4 for full report.
A small collection of mammal bone from 8 contexts was submitted for analysis. The material was recovered from the wet sieving residue and is all of a small size. The assemblage comprised of approximately 16 burnt bone fragments, ranging in size between 5mm to 10mm in length and with a total weight of less than 10g. The material is poorly preserved. There are no intact bones or diagnostic bone fragments present which would allow positive identification to species.

The small quantity of material submitted limits interpretation of the assemblage. Human bone has not been identified with the majority of fragments clearly derived from animals. Sheep/goat size animals are represented but further species identification was not possible. At best, the small assemblage represents general domestic waste which could derive from a range of food related activities.

Iron objects
See appendix II.5 for full report.
Six iron objects were found most of which are nails or fragments of nails from graves ovens and two mortuary enclosures. In general the objects are small and are likely to be intrusive. Sf501 is a larger heavily corroded object from a fairly secure context within oven [5009] and is presumably contemporary with this feature. Sf6 is a chunk of corroded material submitted to Tim Young as possible slag but considered by him as a corroded iron object. This came from the fill of grave [117] and is likely to have been deposited in the grave with the backfill, but as this fill in other graves has included Roman pottery it is possible that this item is also Roman in date.

Flint and other worked stone
George Smith
See appendix II.6 for full report.
There are seventeen pieces of worked flint or chert from a grave [361], and 2 ovens ([238] and [265]) and a pit [318]. Of these, four pieces (sf23, sf28, sf32) are from isolated contexts and probably unrelated. Pit [318] however produced thirteen pieces (sf33) comprising a small associated and contemporary group. All the pieces are waste products; all flakes or fragments with no cores, utilised pieces or retouched tools.

There are no diagnostic pieces that might provide evidence of date or function, but the technology of the pieces from pit [318] has aspects that are indicative of a Neolithic date.

There are four other worked stone objects: a small pebble and three pieces of shaped building stone. The pebble (sf31), from the fill of grave [212] is a small piece of gravel with two similar, possibly artificially-created, shallow incisions in two diametrically opposed faces. These are obviously not drilled incisions but have cut through the outer natural patina of the pebble so are not just undulations in the pebble surface. The pebble may have been selected and part-finished as a bead.

The other objects (sf04, sf05, sf07) from mortuary enclosures [5003] and [5004] are all similar broken fragments of sub-rectangular blocks of stone that have been chipped to produce faces on three sides to create slabs for construction of a coursed and faced wall. The pieces of worked building stone occur in contexts without any identifiable association with any stone construction so the pieces must have been deliberately introduced to the site for some other reason. Their origin from the Segontium Roman fort is a possibility.

8.2. Environmental data

Charcoal and other charred plant remains
Roz McKenna
See appendix II.7 for full report.
Of the eighty three samples submitted, charred plant macrofossils were present in thirty seven of the samples, and identifiable remains were present in thirty two of the samples. They were generally poorly preserved, and were lacking in most identifying morphological characteristics. The samples generally produced small assemblages of plant remains both in volume and diversity.

The most abundant remain was oat grains, and the presence of cereal chaff may indicate the use of cereals at the site. Another, more indirect, indicator of cereals being used on site is the remains of

arable weeds that were found in nine of the samples. Charred hazel nut shell fragments were also present.

Charcoal remains were present in all eighty three of the samples and there were identifiable remains in forty two of the samples. The preservation of the charcoal fragments was relatively variable even within the samples. The identifiable remains were dominated by oak and hazel. Ash and willow/poplar were also, with small amounts of elm and alder, indicating a local environment with a range of trees and shrubs.

The charcoal assemblages from the varying features and phases are all very similar. A constant use of oak as the most popular fuel is selected with hazel, ash, willow/poplar, alder and elm also being utilised in varying amounts. Only a single sample produced identifiable charcoal from the grave fills (sample 092, grave [163]) and the only identifiable fragments were oak. A single sample from the mortuary enclosure (sample 508 [5004]) also produced identifiable remains, and this contained purely hazel charcoal.

The samples from the ovens and the corn dryer all produced similar remains, showing a predominance of oak, with hazel, ash and willow/poplar being used as fuel. Elm was only present in samples specifically from the raking out pits.

Ash dominated the sample from pit [340] (sample 089), and hazel dominated that from gully [5007] (sample 509). Two samples from features in group (472) that have been interpreted as possible tree roots produced only remains identifiable as oak, possibly confirming this interpretation.

The archaeobotanical evidence found in the samples was all very similar. Indeterminate cereal grains were present in eight samples from the cemeteries, in small numbers. Barley was present in small numbers in a sample (sample 6) from the mortuary enclosure [109]. Oats were present in samples from the fills of graves [186] and [163], but again in very small numbers. Hazel nut shell fragments were also present in grave [186]. Overall, the low numbers of grains and weed seeds in the samples from the medieval period probably indicates the use of material cut from cultivated ground as fuel.

Samples from pit [318] produced abundant hazel nut shell fragments. Together with the hazel charcoal also recorded from these samples, it may indicate that they are merely representative of hazel wood trees being burnt. Six samples from pit features produced plant macrofossils, particularly pits [205] and [190], which produced reasonable sized assemblages both in terms of abundance and diversity. The sample from feature [205] was dominated by indeterminate cereal grains, but also recorded the remains of barley, wheat and oat together with several ‘weed’ seeds. A small number of hazel nut shell fragments were also recorded from this feature. The two samples from feature [190] were both also dominated by indeterminate cereal grains. They both however also produced significant numbers of oats and small numbers of barely and wheat grains, together with several ‘weed’ seeds. This may indicate the dumping of spoilt grain or a cooking mishap, or it may be the build up of occupational waste and its subsequent deposition into the pit.

The samples from the ovens produced very small assemblages of plant macrofossils both in terms of abundance and diversity. Seven features contained indeterminate cereal grains, two contained wheat grains, three contained barley grains and two contained oat grains. These were all however in very small numbers, and so little interpretation can be made other than to state their presence.

The most abundant remains in terms of volume originated from sample 509 which came from gully feature [5007]. Over four thousand oat grains, more than 500 grass seeds as well as a number of indeterminate cereals, barley and wheat grains were recorded, together with a few ‘weed’ seeds and several hazel nut shell fragments. It is likely that this sample represents a single depositional event, possibly relating to either a spoilt grain store, an accident whilst drying the grains or the remnants of a meal. The preservation of the grains tended to be very good, and it was even possible to view the hairs on the oats which indicate they were of the cultivated variety. It is probable that the wheat and barley grains as well as the unidentified grasses were incorporated into the oat crop as weeds.

Two samples from the corn dryer [137] produced remains of plant macrofossils. Both samples produced relatively small assemblages both in size and diversity. The most abundant remains in the samples were oat grains, followed by indeterminate cereal grains. Barley and hazel nut shell fragments

were also recorded in both samples. Overall, the low numbers of grains and weed seeds in the samples indicates the accidental burning of cleaned grain and its subsequent disposal.

Another, more indirect, indicator of cereals being used on site is the remains of arable weeds that were found in nine of the samples. Among these weeds, some of which are characteristic of cereal fields and rarely found elsewhere, are dock (*Rumex*), and goosefoot/orache (*Chenopodium* spp. / *Atriplex* spp.).

9. STATEMENT OF POTENTIAL AND RESEARCH QUESTIONS

9.1. Introduction

This section will discuss the potential of the excavated data and will place the features in a wider context to assess their importance and explore important research questions to be considered in the next phase of work. The Research Framework for Wales has been considered in this assessment of importance. The national Research Framework was established after a conference in 2004 and was reviewed at a conference in September 2010. The documents are available online at http://www.archaeoleg.org.uk/index.html. Full review documents are only available for a few periods but all periods have notes from the review conference, which the current author attended. The potential of categories of features are discussed then the specific potential of types of artefactual and ecofactual evidence.

9.2. Cemeteries

Square or rectangular mortuary enclosures have been found on 6 sites in North Wales (Tandderwen, near Denbigh; Capel Eithen, Anglesey; Trefollwyn, near Llangefni, Anglesey; and two sites at Llandygai, near Bangor, and one at Corwen) and at Plas Gogerddan, Dyfed (Murphy 1992) in mid Wales. They are all quite similar to the Llanbeblig examples with sides usually about 5m long, or slightly less, although the largest at Tandderwen was c.10m square (Brassil et al 1991, 64).

The term ‘square barrow’ is some times used for these features and some of the enclosure trenches may have functioned as quarry ditches to create a low barrow. However different interpretations are possible and features with the same ground plan may have had very different superstructures. At Tandderwen the ditches had silted up gradually and almost certainly functioned as open ditches (Brassil et al 1991, 64). The square trench at Trefollwyn was probably also an open ditch (Davidson et al 2002, 73-77). However, at Plas Gogerddan the best preserved square-ditched enclosure had a dark soil stain along the centre of the trench indicating a timber structure. It also had two postholes either side of the entrance (Murphy 1992). The feature at Capel Eithin had the remains of timber in the base of the trench and a clay floor inside, suggesting a roofed building (White and Smith 1999). Possible packing stones in the fill of the feature found on the Llandygai Industrial Estate could also indicate a timber structure (Longley 2001, 109). The other site at Llandygai, within Penrhyn Park and c.200m north-east of the excavated site (Driver 2006b), has only been identified from aerial photographs, as has the site at Druid, Corwen (Driver 2006c), so details of construction are not yet known.

The features with open ditches might be envisaged as low barrows surrounded by ditches, while the features with evidence for use of the ditches as foundation trenches seem to have been small timber structures, possibly plank-built and sometimes with roofs. There was no firm evidence at Llanbeblig of the enclosure ditches having supported timber structures so it is assumed that they were open ditches. The possibility of the recutting of the ditches is not mentioned on the other sites and the importance and nature of this as seen at Llanbeblig needs to be considered.

The enclosures generally have a long axis running west-south-west to east-north-west and some, but not all, have gaps or entrances on the eastern side (Longley 2009). Examples of all types contain graves, usually centrally positioned and aligned on the long axis of the enclosure, pointing towards an entrance or gap on the enclosing ditch where this is present (Longley 2009). Generally there is only one grave per enclosure but there can be up to three, as in one enclosure at Tandderwen and at Trefollwyn. Only a single enclosure was present at Llandygai Industrial Estate, Trefollwyn and Capel Eithin, but at least two, probably three, can be seen on the aerial photograph of the Penrhyn Park site. Three were excavated at Plas Gogerddan and nine of varying sizes at Tandderwen. All the square-ditched enclosures where the area around was explored formed part of larger cemeteries, including Trefollwyn, where even though only a very small area was excavated external graves were revealed.

Regional parallels for the mortuary enclosures in plot B without external graves are therefore lacking and a search for parallels further afield might be useful.

The graves would have contained extended inhumations, although no more than fragmentary traces of bone survived on any of the sites. Other cemeteries of probable similar date but without mortuary enclosures have occasionally produced some human remains. There were stains and tooth crowns in some graves at Tŷ Mawr, Holyhead (Kenney and Longley 2011) and fragments of bone from the nearby cemetery in Parc Cybi (Kenney 2011). However the best preserved burials in North Wales were found at Tywyn y Capel, Treaddur Bay, Anglesey (Davidson 2010), where the extended inhumations were preserved in shell sand. Graves dating to the early medieval period typically have long cists, where the sides of the grave cut and sometimes the base are lined with stone. These are sometimes also covered by capping stones. However classic long cists seem less common in cemeteries with mortuary enclosures. At Capel Eithin some, but not all, of the 102 graves contained stone linings (cists) and can be described as 'long cist' graves. On the other four excavated sites no cists were present, but soil staining and packing stones indicated the presence of timber slab grave linings in some graves.

Similar square-ditched enclosures around burials were in use in the late Iron Age, especially in the 'Arras' complex cemeteries of East Yorkshire, and also in parts of Scotland (O'Brien 1999). However, southern England in the Roman period had a similar tradition, which may have arisen from masonry mausolea in Roman cemeteries. Poundbury in Dorset had both mausolea with stone foundations and square-ditched enclosures around graves. The main cemetery dated to the 4th century AD, but the square-ditched enclosures were just beyond its limits and could have been of a different date (Farwell and Molleson 1993). Four square ditched burial enclosures within a Roman cemetery at Lankhills, Winchester were more securely dated to the 4th century AD (Clarke 1979, 183).

The presence of long cists at Capel Eithin and timber slab cists on other sites suggest that cemeteries associated with mortuary enclosures have a similar date to other long cist cemeteries. These rarely produce much datable material but where they have been dated they fall within the 4th to 8th centuries AD (Longley and Richards 2000, James 1992). At Tywyn y Capel cist graves were dated to the 5th and 6th centuries AD, and then superseded by dug graves (Davidson 2010). It is therefore generally assumed that the north Welsh square-ditched enclosures dated to the post-Roman rather than the later Roman period, but without dating evidence this difficult to prove. This is generally supported by the few dates available. Two dates from the grave in the enclosure at Capel Eithin were quite different probably because they were on a large plank and suffered from old wood effect. Taking this into account a date in the 7th century AD would be possible (White and Smith 1999, 145). Two dates from graves in enclosures at Tandderwen suggested 5th to 7th centuries and 8th to 12th centuries (Brassil et al 1991).

In Roman towns the cemeteries usually lay beside roads and the modern Ffordd Llanbeblig, the A4085 to Beddgelert, probably runs along the line of the Roman road leading east from the fort (Hopewell 2007, 12). To the south of this road Roman cremation burials (PRN 3092) were discovered while digging graves in the New Cemetery from about 1850 through to 1947. There were about 14 burials represented, all cremations and buried in urns and other vessels. Dated vessels belonged to the late 1st to early 2nd centuries AD (RCAHMW 1960, 163). This appears to have been a major Roman cemetery located next to the main road.

A scatter of other burials have been found mainly to the north of the fort (Pollock 2006), indicating a wide distribution of cemeteries around the fort with an emphasis on major roads, but perhaps not exclusively restricted to them. Burials have not been found to the west and south, as this area was occupied by the *vicus*. No evidence of *vicus* activity has been found on the east side of the fort and the present excavation strongly suggests that intensive *vicus* occupation did not spread over this area. The present excavations have also shown that there were no graves within the investigated area between the Roman cemetery and the mortuary enclosure cemeteries. However on this side of the fort there was a Roman temple to Mithras (PRN 3098) found and excavated in 1959, and located c.150m from the excavated area. This was used in the 3rd century AD and destroyed in the later 4th century. It was a stone building with a slate roof and contained features typical of mithraea elsewhere, i.e. an antechamber, a sunken nave with benches and an alcove for the cult images. The temple was destroyed by fire and the altars of Mithras may have been deliberately broken (Boon 1960). Boon (1960, 156) speculates on the connection between the 4th century destruction of the temple and Saint Peblig

(Publicius). The saint is traditionally claimed to have been the son of Macsen Wledig (i.e. Magnus Maximus) and to have lived in the 4th century (Boon 1960, 156; Bowen 1977).

The presence of the mithraeum in this area could indicate that the area was reserved for funerary and religious activity in the Roman period; a tradition that possibly influenced the positioning of the early medieval cemeteries. If it could be demonstrated that one or more of the mortuary enclosures dated from the late Roman period and influence the location of later burials this would make this a site of national importance. Proving this with the very slight dating evidence available is almost impossible. The dates from the charcoal–rich deposit in enclosure [5004] might hint at this possibility but it is unlikely that these dates will provide firm proof.

The relationship between the cemeteries and the location of the medieval church is intriguing. There is no close relationship between early Christian cemeteries and churches and most of the examples in the area lacked churches or chapels. In some cases a church was built on the site of an earlier cemetery, Tywyn y Capel being a good example where after 600 years of development a chapel was built on the site of the cemetery in the 12th century. Some graves gained the reputation of being the graves of saints and these occasionally had churches built over them or were enclosed within *capel y bedd* (grave chapels). The dedication to the 4th century Saint Peblig, suggests an early foundation for the church, which might have been built over the supposed grave of Peblig. An early date for the church is also supported by the curving boundary to the churchyard shown on the 1777 and 1832 Vaynol Estate surveys; a curvilinear churchyard boundary is a possible, though not entirely reliable, indication of an early site (Brook 1992). It is tempting to speculate that, rather than being built over the saint's grave, the church was built close to the road (the Roman road was almost certainly in use on the early medieval period) for convenience and that Peblig's grave might be represented by one of the mortuary enclosures found in the excavation.

This brief summary indicates that even if no reliable dates can be obtained for the cemeteries they are probably of early medieval date because of the very close similarities with other dated sites. It also shows that while a number of other similar sites are know they are not common and the Llanbeblig site can certainly be considered to be of national importance. Its importance and potential is increased by the association with the other features in the area; the fort, church, mithraeum and Roman cemetery. It may be beyond the current project to convincingly prove the relationship between these sites but potential connections can be postulated and should be considered in the next phase of writing and analysis, especially when the radiocarbon dates have been obtained.

9.3. Ovens and pits

Ovens and other pits

The discussions above have argued that the figure-of-eight shaped features were small ovens, probably for cooking food. This interpretation needs more consideration but a search for comparative sites is not possible until dates are obtained on these features. The current estimate of date might focus on the Roman period. The majority of datable finds from the site were Roman, and although these might merely represent the manuring of fields with midden material, it is possible that this indicates other activity on the site. The pottery suggests a 2nd century AD date. During the 2nd century AD there was a reduction of troops and the demolition of some barracks in the fort (Casey and Davies 1993). Perhaps there was less accommodation in the fort for an army passing through the area, which was forced to camp outside the fort. However, as discussed below in the dating section, the date of these ovens is currently open and could possibly be either later or earlier than the Roman period. Speculation on the use of these features must therefore wait until dates have been obtained.

Although not of the same form as the ovens pit [190] might be also be Roman in date as it contained a Roman pot sherd. Only radiocarbon dating will give some indication of how this relates to the ovens. This pit has additional potential because it contained a larger charred grain assemblage than any of the ovens and once dated this might add to the understanding of farming regimes in it period of use.

Pit [318] provides a hint that there might have been much earlier activity on the site. The flint debitage and possible prehistoric pot fragment indicate a prehistoric date. While prehistoric finds have been made in this area of Caernarfon, in particular the Bronze Age burial urn (PRN 3101) found nearby at Maes y Barcer, there have been very few prehistoric features excavated in the area. If this pit proves to be Neolithic it may indicate settlement in the area. In Arfon as a whole there are few Neolithic tombs

known and around Caernarfon there are very few Neolithic finds with the exception of some stone axes. Although possibly a single feature this pit could prove to be important in indicating Neolithic activity in the area and comparisons would have to be made with other activity sites comprising pits found in recent years.

Corn drier
Corn driers are required both to preserve grain and to allow easier milling. They can also be used to encourage malting of barley. Whilst the drying of corn will have been undertaken throughout prehistory, specific structures for this purpose date from Roman times onwards (O'Sullivan and Downey 2005, Scott 1951). They are often keyhole or dumb-bell shaped, and tend to be built into banks and slopes (O'Sullivan and Downey 2005). Simple pit driers, either lined or unlined, are often dated to the medieval period. A partially stone-lined corn drier at Cefn Du, Anglesey was dated to cal AD 1000-1280 (Cuttler *et al* 2011). A corn drier at Graeanog, Clynnog was dated between 880-1160 cal AD (CAR-934) to 1040-1280 cal AD (CAR-932) (Kelly 1998, 132), and one at Parc Bryn Cegin, Llandygai to between cal AD 880-1160 and cal AD 1040-1350 (Kenney 2008).

Corn driers often contain charred cereal and weed seed assemblages where drying has failed and the grain has caught fire. This can provide valuable evidence of arable regimes. At Parc Bryn Cegin the corn drier contained some barley, naked wheat and rye but the charred cereal assemblage was dominated by oats. It also contained weed seeds, the most numerous were of corn marigold and brome, amongst other species indicating fields on acid and sandy soils. Evidence from elsewhere in Wales suggests that oats were the main cereal of the medieval period, and remains of this crop has been found in other medieval corn driers e.g. at Collfryn, Llansantffraid Deuddr, Powys (Jones and Milles 1984).

The amount of grain in a drier is generally related to accidents in drying as the grain would not be burnt when the process went to plan, unless some chaff was used to light the fire. The scarcity of grain in feature [137] may indicate that drying was successful. It had a long flue that should have kept sparks from the fire from setting light to the drying grain and it seems that this functioned well. The feature was not very well-preserved and it may also be that charred plant remains were not well preserved because of the disturbance.

Corn driers are minor elements of an agricultural system but they can hold important information on agricultural practices. The radiocarbon dating of these features is important as they cannot otherwise be dated.

Possible early field boundaries
If the possibly early boundaries could be shown to be part of Roman or early medieval field systems they would be of considerable significance. However ditches are difficult to date and pottery, charred plant remains and other finds might erode into the fill or be dumped in as the ditch is infilling and be unrelated to the time of its digging and use. Certainly these ditches seem to pre-date the current field pattern, which has been much the same since the 18th century. It is unlikely that detailed maps earlier than the 1777 estate map survive with field boundaries marked, so it may never be possible to prove the date of these early ditches. The exception is gully [5007]. The quantity of charcoal and charred cereal grain from this feature indicates a single dumping event taking place while the gully was open, so it should be possible to obtain a radiocarbon date from this feature.

These ditches cannot be seen on the available aerial photographs, even the parched 2006 RCAHMW photographs, so there seems little opportunity to use this medium to try and trace the boundaries and detect a wider field system. Without further excavation in the surrounding area there is probably little potential for obtaining further information from these features. However the land to the east is being developed and archaeological has recently been carried out there, which might provide some additional information aid the understanding of these features. Contact will be made with Archaeology Wales, who carried out that work, and arrangements will be made to share archaeological information, which could benefit the overall interpretation of both sites.

9.4. Farms and glasshouses: post-medieval and modern features
The 19th and 20th century developments of the area are of local interest and the archaeological remains have some potential to add to the understanding of these developments from the map evidence.

9.5. Artefacts

Roman pottery
The assemblage from this site is small, but suggests activity in the later 1st and 2nd centuries, with at least one sherd which should have reached the area very early in the Roman occupation. It would seem to indicate Roman activity in or near the area investigated from the Flavian period through to at least the 3rd century.

Many of the sherds were recovered from graves of presumably early medieval date and it is assumed that the pottery was residual in these contexts. The small assemblage from mortuary enclosure [5004] seems to be present in the context of material dumped from a midden or other source and might indicate a shorter time period between the original deposition of the pottery and the construction of the enclosure than the other finds. However the 2nd century pottery is highly unlikely to date the construction of the enclosure as this type of funerary tradition did not appear until the later Roman period, certainly not before the 4th century in Britain, and it is usually assumed to date to the 6th or 7th centuries.

It is possible that much of the pottery, and possibly the midden material in enclosure [5004] originated from activity associated with the ovens. This cannot be demonstrated until these are dated as few pot sherds were recovered from the ovens but it is a line of enquiry that should be held in mind.

The relationship of the pottery assemblage from this site with the assemblages from the fort would be worth exploring.

This assemblage is too small to have the potential to provide much information on its own but in combination with the other data from the site and the area it is of some importance.

Glass
Only two significant pieces of glass were found and these have both been assessed as 19th century or later. They therefore have a very low archaeological potential.

Pyrotechnical residues
The samples of fired clay demonstrated that the ovens were probably not deliberately lined and that they were not heated to a very high temperature. Beyond these conclusions this material has little further potential and does not require further investigation.

The possible archaeometallurgical fragments proved to be largely fuel ash, some of which seems to be clinker and associated with the use of coal as a fuel. In this case it is likely that this material was intrusive in the contexts in which it was found, with the possible exception of the gully [5007]. The significance of this material should be considered in the interpretation of features but it has little archaeological potential and requires no further investigation.

A piece of corroded material was identified as a probable iron object and that is discussed below with the other iron objects.

Bone
The small quantity of material limits interpretative value of the assemblage. No human bone has been identified, so the assemblage appears to be the remains domesticated food animals and to represents general domestic waste. The significance of this material should be considered in the interpretation of features but it has little archaeological potential and requires no further investigation.

Iron objects
Four of the six iron objects are small, likely to be intrusive and of low archaeological potential. Two of the objects are larger and in more secure context. These have greater potential and deserve further investigation. Sf501 is a larger heavily corroded object from a fairly secure context within oven [5009] and is presumably contemporary with this feature. The form and function of this object needs to be established so that its significance in the oven can be determined. Sf6 is a chunk of corroded material identified by Tim Young as a corroded iron object. It was probably residual or intrusive in the grave in which it was found but again its significance cannot be determined until its form has been revealed.

Both items require x-raying to reveal their forms and further investigation or conservation might then be necessary.

Flint and other worked stone
The assemblage is very small and contains no diagnostic pieces that might provide evidence of date or function. However, assemblages of worked flint are rare from inland locations in north-west Wales so the presence here usefully adds to knowledge. Although there are no diagnostic tools the technology of the pieces (sf33) from pit [318] have aspects that are indicative of a Neolithic date and these are worth identifying. Basic recording and a descriptive note is therefore worthwhile. There are no pieces that need to be illustrated.

The possible pebble bead (sf31) needs microscopic study of the incisions. Its small size and lack of obvious modification suggests it is a chance natural product. If it proves to have been manufactured then illustration would be needed.

The pieces of worked building stone occur in contexts without any identifiable association with any stone construction so the pieces must have been deliberately introduced to the site for some other reason. They occurred in the ditches of two of the mortuary enclosures and the possible re-use of stones from the Segontium Roman fort is something that needs to be checked by comparison of masonry and geological identification.

9.6. Environmental data

Charcoal and other charred plant remains
The evidence suggests that the deposits from which the samples derive represent the domestic waste associated with fires. The charcoal remains show the exploitation of several species native to Britain, with the prevalence of oak, and hazel being selected and used as fire wood. Bark was present on some of the charcoal fragments indicating that this had probably been firewood. All the species present are good for firewood with slightly different properties making them potentially useful for different functions, and this should be considered when the distribution of species in different features is considered in detail. However most features are quite similar in their range of species with oak being predominately used. Some features use hazel in preference to oak and some elm was used specifically in certain ovens. On face value the charcoal assemblage does suggest that the local vegetation would have consisted of an oak woodland close to the site. However it should perhaps not be assumed that the fuel was from a very local source. If the ovens can be argued to possibly be produced by the Roman army it is possible that they collected wood from some distance away or even carried from their last overnight stop.

The archaeobotanical evidence found in the samples shows hazelnut shell, oat wheat, and barley, were present. The hazelnut shell fragments show no marks typically associated with processed shells, and this with the high portion of hazel charcoal suggests that they were collected with fuel wood rather than as food. However the cereal grains do indicate food use, and these are probably from occupation build-up of domestic waste. Due to the small numbers of cereal grains and associated weed seeds in the majority of the samples, there is limited interpretative information, with the exception of the large assemblage from gully [5007]. However there are hints that this may be a late feature so it requires dating before more work is done to study the assemblage. If the radiocarbon dates show that this is late the assemblage will have a much lower archaeological potential.

The significance of the low number of cereal grains from the ovens and corn drier and the larger assemblages from pits [190] and [205] needs to be considered once dates have been obtained.

9.7. Radiocarbon dating
The small number of pot sherds generally found in features with which they have no direct relationship have a very low potential for dating the feature in the site. Dating must therefore rely on radiocarbon dates on charred plant remains. Although some of the graves and mortuary enclosures did contain charred plant remains the presence of these is not explained by the use of the features and therefore it is unlikely that the remains would date the cemeteries in any reliable way. In fact it is most probable that the grains were introduced into the graves from stubble burning on the ground above and they could date from many centuries after the use of the cemeteries. The only exception to this is the charcoal-rich

deposit in mortuary enclosure [5004]. This seems to have been deposited as a single event fairly soon after the construction of the enclosure ditch, or at least before it had been significantly infilled. The problem is that the origin of this material is not known and the presence of 2nd century pottery within it may indicate a very long period between the original collection of this material and its dumping in the ditch. This is therefore far from ideal material to date. However so few of these features have been dated that even this insecure material is worth investigating. If the charred plant remains prove to be much later than the pottery it might be possible to argue for a *terminus post quem* for the construction of the enclosure. At least a date for the original deposition of the material might be obtained which could add to the information about occupation in the area.

It is proposed to obtain two dates from short-lived material from the charcoal layer (5056). Two dates are required to give some indication of whether the deposit is of mixed date or from a single event and the short-lived material is used to ensure that the date produced is close to the event to be dated.

The majority of the dating programme must be aimed at the ovens. This is partly because these contain a wealth of suitable material for dating from deposits securely related to the use of the features, i.e. from fires within the ovens. It is also because, unlike the cemetery that can be approximately dated by comparison to other sites, the ovens are of a simple practical form that is not chronologically diagnostic. The number of these features and the proximity of the fort, as well as pottery in the general area indicating Roman activity, has suggested that they might be of a Roman date, but they could equally be much later and possibly much earlier. Without a date for these features they are almost impossible to interpret as they cannot be placed in any context of events happening in the immediate area and wider region.

A major question that must also be asked about the ovens is whether they are all of roughly the same date or whether they were used over a considerable period. If the latter they may represent a very occasional activity, which for some reason this area was particularly favourable for. If the former is true a very different picture would appear of many people or small groups of people scattered across the site each cooking or baking in their oven at roughly the same time. It is this type of interpretation that brings the Roman army to mind. However the Romans were not the only armies that passed through Caernarfon, which was of course of great significance in the 13th century AD. It is not impossible that these ovens were used by the army of Edward I or possibly the Welsh army that stormed Caernarfon castle before it was completed.

To determine the date range of the ovens it is important to date several and for these to be distributed over the site to avoid dating just one concentration of activity. The dates should be obtained from concentrated layers of charcoal that represent fires or the ash raked from fires. These layers should be well-sealed in the base of the features so that there is less risk of contamination by later material. Most of the dates should be on fuel wood as this directly dates the fires, with twigs chosen to ensure that no wood that was already of a considerable age before being burnt is dated. It is also recommended that some of the cereal grains should be dated as this may confirm or refute the suggestion that these were related to the use of the ovens. Two dates must be obtained from each oven as a test of mixing and contamination. Sixteen of the eighteen double chambered ovens produced material that might be dated, but dating them all would be too expensive to justify. It is proposed that 7 ovens are dated chosen from features with good material for dating, widely scattered over the site. This would provide dates on just under half the datable ovens and ensures that ovens from all over the site are dated, so any spatial variation can be detected.

The corn drier [137] will be included in this dating programme, with two dates from its fills for the same reasons as given above. The corn drier is stratigraphically later than the graves but how much later is not known. The form suggests a 10th to 13th century AD date by comparison to other excavated and dated features but it could equally be either later or earlier.

Some other features are of unknown date and potentially of sufficient importance to deserve radiocarbon dating. There were several pits within and near the area of the cemetery in plot A that were not obviously either related to the cemetery or the ovens. Pit [190] could be related to the oven activity if that is Roman as it contained a single sherd of black-burnished ware, although this is not very precisely datable. Another pit, [318], contained flint debitage and a sherd of what might be prehistoric pot. The possibility that this was a prehistoric pit certainly requires investigating. Two dates from each of these pits is recommended to investigate some of the other features on the site.

Another feature the date and function of which is currently unknown if the gully [5007]. This is potentially a very important feature because of its proximity to the mortuary enclosure [5004] and also because of the large grain assemblage. However the presence of clinker and coal in this deposit and the much better preservation of the charred grain from this feature than from any other on site might indicate a late date. This feature might therefore by of either low or high importance depending entirely on its date, which needs to be established before any further work is done.

A total of 24 dates are proposed on 12 features. This will produce a fairly substantial suite of dates that will have to be compared to each other to judge which are contemporary and how long certain activities, especially the use of the ovens, lasted. This comparison can be done by eye but this is inaccurate and not very rigorous. It is much preferable to use statistical methods to compare date; chi squared tests to see whether two dates from a feature are statistically indistinguishable, i.e. contemporary, or not, and Bayesian analysis to obtain durations of use of groups of features. It is therefore recommended that a specialist experienced in these techniques be employed to interpret the radiocarbon dates that are produced and ensure that the maximum information is obtained from them.

10. ARCHIVE REPORT METHODS STATEMENT

10.1. Introduction

The work completed to date has been described above. The proposals for further work follow, drawing on the recommendations of the specialists. This section covers the work required to produce the archive report that fully describes the sites and the results of analysis, and includes interpretations and discussion of the evidence. To complete this it is necessary to:

- Complete the study of the site and compile appropriate plans and representative sections
- Carry out further analysis on artefacts and ecofacts as recommended by the specialists
- Complete specialist reports including discussion of material and incorporate in final report
- Complete final report with all illustrations and general as well as specific discussion

A full programme of radiocarbon dating is also proposed and that is described in detail below.

10.2. Site archive and site report

The site records have been organised and archived to enable their interrogation and use in studying the sites along the scheme. An outline plan and descriptions of the site have been produced. The next stage is to expand these into the full site report and long term archive. A publication version of the report will then be produced. Full details for the publication and archiving are included in sections 11 and 12 below.

This report includes a description of the archaeological features found, but as new information is obtained from specialists some of these descriptions may need alteration and expansion. A basic level of interpretation has been included in this report but many features cannot be adequately interpreted until dated so full discussion of most sites cannot be written until all the data has been collected. The new data will lead to more research into comparative sites and may raise new areas of consideration.

In addition to the specific discussion of individual features more general discussions of each period will include comparisons with other sites both in the vicinity and nationally. There will be a general discussion of the topography, geology and soils.

The composite plan has been produced to a basic level allowing all features to be seen in relation to each other. More detailed plans will be required with hachures indicating negative features, and in some cases stones drawn in detail. Selected sections will be required. These will be restricted to those showing important relationships or the depth and profile of significant cut features. Some photographs accompany this report but more will be needed to be chosen to illustrate specific features being discussed. These will be included in the archive report but a small number of good quality representative photographs will also be selected for inclusion in the publication report.

10.3. Artefacts

Roman pottery

The diagnostic sherds will be photographed or scanned to a high quality and presented in the archive report with profiles, but these will not be included in the published report. The discussion of the assemblage will be expanded.

Glass

No further work is proposed on the glass, which is all of a late date. The assessment report will be included in the archive report but not in the publication report.

Pyrotechnical residues

No further work is proposed on the fired clays or the archaeometallurgical fragments. The assessment report will be included in the archive report but not in the publication report.

Bone

The small assemblage has been catalogued as fully as possible and no further work is proposed. The assessment report will be included in the archive report but not in the publication report.

Flint and other worked stone
None of the flint pieces require illustration but the small assemblage of debitage (sf33) from pit [318] be recorded in more detail, analysed and a descriptive note will be written.

The possible pebble bead (sf31) will be subjected to microscopic study of the incisions and if it proves to have been manufactured it will be illustrated. The pieces of worked building stone will be recorded in more detail and will be subjected to geological hand-specimen identification to identify the stone type, and possibly its source and comparisons to stone used in the fort.

Iron objects
Finds sf501 and sf6 will be x-rayed to determine their form and function. The x-rays will provide a better visual record of these finds than an illustration of the corroded surface so no further illustration will be necessary. If the objects prove to be significant they will require consolidation to ensure they do not deteriorate in storage and further research will be carried out on their use and importance in their relative contexts.

10.4. Environmental data
The samples from floatation of the bulk soil samples have been assessed, and any interpretable data has been retrieved. No further work is required on the majority of the samples. The plant macrofossils from sample 509 from gully feature [5007] are worthy of full identification and quantification but this will only be carried out after radiocarbon dates have been obtained on this feature. There are hints that it might be a late feature and the assemblage would then have less archaeological potential.

The results of the assessment will be incorporated into discussions and interpretations of the features and thorough research into comparable sites will be carried out.

10.5. Radiocarbon dating
It is proposed to submit 24 dates from 12 features as indicated in the table below. The reasons for the choices of these features have been discussed above.

Feature type	No of dates
Corn drier [137]	2
Gully [5007]	2
Mortuary enclosure [5004]	2
7 ovens	14
Pits [190] and [318]	4

All samples will be of identifiable short-lived species and from secure contexts. Suitable material will be selected from the samples by Rosalind McKenna to ensure that the species identification of the dated material is known. The ovens listed below are proposed for dating. These have been selected from ovens with well-sealed deposits and suitable material that are distributed across the site but if on close inspection no ideal material is found another replacement oven will be chosen that is in the same area.

Ovens proposed for dating
166
184
184
249
278
473
491
5009

The material will be submitted to the Scottish Universities Environmental Research Centre (SUERC) radiocarbon laboratory for AMS dating. The results will be statistically analysed by Derek Hamilton of

SUERC after discussion with Jane Kenney to ensure that the archaeological results are appropriately included in the analysis.

11. PUBLICATION AND PRESENTATION

11.1. Introduction

Dissemination has several stages.

- A detailed archive report is vital to ensure a detailed record of the site is preserved and is easily available to future researchers
- A published report is equally important to make a more digestible version of the site report available to the archaeological community in a permanent and peer-reviewed form.
- Dissemination of the results to the wider public is highly recommended.

The first two elements are mandatory parts of the planning condition. The wider dissemination is the element of most value to Gwynedd County Council. Not only could it demonstrate to the public that the Council have carried out their duty in funding archaeology but could demonstrate the importance and value of that archaeology and enable the public to make use of this information themselves in their understanding of the history of their area.

11.2. Archive report

The initial product of the post excavation analysis will be an archive report which includes the results of both stratigraphic and specialist analysis in considerable detail. In the assessment of potential report each plot has been discussed separately but in the final report the text will be structured chronologically by theme. The structure of the report will be approximately as follows:
Introduction – including the background to the present project and methodology
Background –Geological, archaeological and historical background
Thematic feature description and discussion –

Prehistoric pits (potentially)
The cemeteries
The ovens and any other features that prove to be contemporary
Corn drier
Other early features
Post medieval and recent features

General discussion – *to look at the landscape context and relationship to surrounding known archaeological and historical sites.*

The report will include detailed descriptions and illustrations, so that the archive report could potentially be used to reassess and reinterpret the site. It will be illustrated by appropriate plans, sections, colour photographs and artefact drawings. Plans and sections will be labelled with all appropriate context numbers and will illustrate the text. All significant features will be shown in plan and where the depth and complexity of deposits are important or relationships are discussed in the text sections will be used to illustrate this. All finds recommended for drawing will be included. Finds will generally be illustrated by line drawings but photographs may be included where this is more appropriate. Photographs will be chosen to clarify the text and provide additional information.

Specialist reports and a full list and detailed discussion and analysis of the radiocarbon dates will be included as appendices with their own illustrations and tables. The results will be summarised in the main text and used in the discussion and interpretation of features.

The archive report will be held by Gwynedd Historic Environment Record, where it will be available for public consultation. The Archive Report will be made available on-line through the RCAHMW Coflein website. A copy can also be made available through the GAT website. The acceptance of the present report will be taken as consent for this material to be made available on the Internet.

11.3. Academic publication

The archive report will be the most detailed of the dissemination media and will be of importance for anyone studying the site in detail in the future. However such a document is termed ‘grey literature’, it is not widely available for consultation in libraries and importantly this is not peer reviewed and is therefore not as authoritative as a printed publication. To disseminate the results of the excavations to

an academic archaeological audience the site report must be published. It is intended to do this as a paper in an appropriate peer reviewed academic journal.

The publication report must aim for clarity rather than completeness. The format will follow that of the archive report but detailed descriptions of individual features will be reduced and the text will be made more concise. Plans of all important features will be included, but only features discussed in the text will be labelled. Sections will be included where they illustrate issues specifically discussed in the text. Black and white photographs will be used where necessary to illustrate particular points or give general overviews. The most representative and unusual examples of the illustrated finds will be included, although the aim will be to include as many finds illustrations as space allows. The specialist reports will be edited to be concise and discussion will be limited to the important features, but the aim is to include all specialist reports in the publication.

11.4. Public dissemination

Introduction

Wider public dissemination is a mandatory part of the planning consent and can provide the developer with added value in the form of good publicity. A variety of methods of dissemination are available.

Internet

The internet is now the easiest way to reach the widest audience possible. The final report will be made available on the internet, and acceptance of this report is taken as consent for it to be used in this way, but it is also proposed to make available on the website a downloadable popular summary of the results in PDF format. It will be written in a clear style and well-illustrated, with a much greater use of photographs than in the academic publication. Much of this information can also be presented on the website itself but the PDF would allow users to download and print the information in a coherent form.

Media

A report in the local paper is an effective way to reach local people and inform them of the discoveries in their area. Information on the site and photographs could be offered to the Caernarfon Herald as the basis for an article and a piece could be written for Papur Dre, the Welsh language local community newspaper.

School activities

People are often most interested in history and archaeology that is most local to them. Having a school built on the site of the early medieval cemeteries makes a very local and direct connection. This is an opportunity that could be exploited to the advantage of both the school and the dissemination of the archaeological information. Gwynedd Archaeological Trust has an outreach section experienced in working with schools that can provide a range of activities and teaching material based on the archaeological evidence. The headmaster of Ysgol Y Hendre, Arwel Jones, is enthusiastic about being able to use the archaeological results in this manner.

It is proposed that the GAT outreach team liaise with the school to create curriculum-linked resources that enable pupils to engage with the discoveries made on site. The exact approach and materials will be developed in consultation with the school. The initial format envisaged is for the GAT outreach team to develop and organise an in-school workshop that will lead onto further school-led, GAT supported, activities. The workshop will include activities based on knowledge gained through the archaeological investigation. It will be primarily focused on the Key Stage 2 History curriculum but also link to other curriculum areas and develop pupils' skills. It is envisaged that materials used in the workshop will be developed and adapted to provide an on-line resource for teachers to use independently in the future.

12. STORAGE AND CURATION

12.1. Archiving repositories

Gwynedd Museum and Gallery, Bangor has been chosen as the most appropriate repository and they have agreed to accept the finds. Gwynedd County Council as landowners currently the legal owners of the finds and agreement to this document will be taken as acceptance that the finds can be donated to the museum. Liaison with Gwynedd Museum and Gallery has established guidelines for the preparation

and deposition of the archive. They will be consulted about storage and discard policy, and finds will be bagged, boxed and marked with the accession code as agreed with the museum.

All finds are entered in the site database. This information should be easily transferable to the museum's database. A full inventory of the archive will be created to aid accession.

Gwynedd Museum and Gallery cannot accept the paper or digital archive, and the latter requires guaranteed long term active storage. Therefore the full paper and digital archive will be deposited with the Royal Commission on the Ancient and Historical Monuments of Wales. RCAHMW holds the national archive of digital site records for Wales and has facilities to actively curate the archive.

The digital archive will comprise an Access database including summary information on all contexts, and drawing, sample, photo and finds registers. Digital site photographs, backup scans of the context sheets, and scans of all site drawings. A digital copy of the site report will be included and a paper copy will also be sent to RCAHMW.

The paper archive will include all significant site records, e.g. context sheets, site registers, site drawings, site diaries, level books. It will include the negatives of print photographs taken but not the prints themselves. The paper element will be placed in archive stable boxes and the Permatrace drawings will be rolled and placed in cotton bags.

12.2. Discard policy

Due to the limited storage space in the museum it is proposed to discard the building stone blocks (sf504, sf505, sf507) once these have been fully studied and recorded.

Charred plant remains are not always accepted by museums but these have as much if not more archaeological value as the artefacts. If they are not kept it precludes further work or further dating of material. It is agreed with the Museum that they will accept this important resource. The charred remains are in the form of dried flots in labelled bags to be stored in archive quality boxes. These are to be labelled and accessioned with the finds archive.

13. RESOURCES AND PROGRAMMING

13.1. Staffing and equipment

The majority of the site narrative, discussion and co-ordination of the report will be carried out by Jane Kenney, with the aid of other Trust staff as necessary. The Trust's illustrator, Macsen Flook, will undertake the finds and feature illustrations, under the instruction of Jane Kenney.

The specialists who carried out the assessment of the finds will undertake any more detailed work necessary (see appendix I). Other work will be carried by the individuals and organisations listed below.

Conservation and x-rays
Phil Parkes
Cardiff Conservation Services
Conservation laboratory attached to Cardiff University

Radiocarbon dating
SUERC Radiocarbon Laboratory
East Kilbride, Glasgow

Radiocarbon advice and analysis
Derek Hamilton
SUERC Radiocarbon Laboratory

13.2. Timetable

The number of GAT staff days accounts for about 2 months but the specialist analysis is unlikely to be completed in such a short time scale and leave and illness should be accommodated. It is therefore

anticipated that the analysis and production of the archive report will take 6 months. The work can only commence once the updated project design has been approved by all parties, including Gwynedd Archaeological Planning Service. Once the archive report is complete and accepted the publication report, archiving and production of material for dissemination could be completed in another month.

14. REFERENCES

Bassett, T.M. and Davies, B.L. (eds) 1977. *Atlas of Caernarvonshire*, Caernarfon

Boon, G.C., 1960. 'A Temple of Mithras at Caernarvon – Segontium', *Archaeologia Cambrensis* **CIX** (1961), 136-172

Bowen, E.G., 1977. 'The Celtic Saints', In *Bassett and Davies* (eds) 1977, 61-64

Brassil, K.S., Owen, W.G. and Britnell, W.J., 1991. 'Prehistoric and Early Medieval Cemeteries at Tandderwen, near Denbigh, Clwyd', *Archaeological Journal* **148**, 46-97

Brook, D., 1992. 'The early Christian church east and west of Offa's Dyke', in *Edwards and Lane* (eds) 1992, 77-89

Casey, P.J. and Davies, J.L., 1993. *Excavations at Segontium (Caernarfon) Roman Fort, 1975-1979*. CBA Research Report **90**

Clarke, G., 1979. Pre-Roman and Roman Winchester, part II: *The Roman Cemetery at Lankhills*. Oxford

Cuttler, R, Davidson, A, and Hughes, G (eds), 2011. A Corridor Through Time, The Archaeology of the A55 Anglesey Road Scheme, Oxbow Books, Oxford

Davidson, A., 1997. Welsh Historic Church Project: The Gwynedd Historic Churches. GAT unpublished report number **276**

Davidson, A., 2009 'The early church in north-west Wales' in *N. Edwards* (ed) 2009

Davidson, A., 2010 'Excavations at Tywyn y Capel' *Archaelogia Cambrensis*

Davidson, A., Hopewell, D., Kenney, J. and Longley, D., 2002. Early Medieval burial and ecclesiastical sites 2001-2002. GAT unpublished report number **451**

Davies, B.L., 1977. 'Geology', in *Bassett and Davies* (eds) 1977, 19-22

Driver, T., 2006a. 'Tyddyn Pandy, Caernarfon', *Archaeology in Wales **46***, 147

Driver, T., 2006b. 'Penrhyn Park Square barrows', *Archaeology in Wales **46***, 147

Driver, T., 2006c. 'Druid Square Barrows, Corwen', *Archaeology in Wales **46***, 147

Edwards, N. (ed), 2009. *The Archaeology of the Early Medieval Churches* (Society for Medieval Archaeology Monograph Vol 29)

Edwards, N. and Lane, A. (eds), 1992. T*he Early Church in Wales and the West*. Oxbow Monograph **16**

Farwell, D.E. and Molleson, T.I., 1993. *Poundbury vol 2: The Cemeteries*. Dorset Natural History and Archaeological Society Monograph Series No. **11**

Fasham, PJ, Kelly, RS, Mason, MA and White, RB, 1998, The Graeanog Ridge: the evolution of a farming landscape and its settlements in North-West Wales, Cambrian Archaeological Monographs No 6

Hopewell, D., 2003. *Roman Fort Environs 2002-2003*, unpublished Gwynedd Archaeological Trust report No. **479**

Hopewell, D., 2007. *Roman roads in North-West Wales*: *G1632 (version 4)*, unpublished Gwynedd Archaeological Trust report No. **668**

James, H., 1992. 'Early medieval cemeteries in Wales', in *Edwards and Lane* (eds) 1992, 90-103

Jones, G. E. M and Milles A., 1984. 'Charred plant remains', in Britnell, W. (ed.) A 15th century corn drying kiln from Collfryn, Llansantffraid, Deuddr, Powys. *Medieval Archaeology* **28**, 192-3

Jones, M. and Rees, C., 2009. *Cae Tŷ Gwyn Playing Field and Environs, Llanbeblig, Caernarfon: archaeological works, phase 2*, unpublished Gwynedd Archaeological Trust Report No. **840**

Kelly, R.S., 1998. 'The excavation of an enclosed hut group at Graeanog, Clynnog, Gwynedd 1985, 1987 and 1988', in Fasham *et al* 1998, 113-168

Kenney, J., 2008 Recent excavations at Parc Bryn Cegin Llandygai near Bangor, North Wales, *Archaeologia Cambrensis* 157, 9–142

Kenney, J., 2009. *Cae Tŷ Gwyn Playing Field, Llanbeblig, Caernarfon: watching brief on test pits*, unpublished Gwynedd Archaeological Trust Report No. **783**

Kenney, J, 2011. *Parc Cybi, Holyhead: post excavation assessment of potential report*. Unpublished Gwynedd Archaeological Trust Report **954**

Kenney, J. and Hopewell, D., 2009. *Cae Tŷ Gwyn Playing Field, Llanbeblig, Caernarfon: an archaeological assessment*, unpublished Gwynedd Archaeological Trust Report No. **773**

Kenney, J. and Longley, D., 2011. 'Ty Mawr, Holyhead. Neolithic activity, ring ditch and early medieval cemetery', in Cuttler, R., Davidson, D., and Hughes, G. (eds) 2011*, A Corridor Through Time: The Archaeology of the A55 Anglesey Road Scheme*, Oxbow Books, Oxford

Longley, D., 2001. 'Early Medieval Cemetery', in *Lynch and Musson* 2001, 106-115

Longley, D., 2009. 'Early Medieval Burials in Wales', in *N. Edwards* (ed) 2009

Longley, D. and Richards, A, 2000. Early Medieval Burial in Gwynedd. Unpublished Gwynedd Archaeological Trust report No. **350**

Lucy, S. and Reynolds, A. (eds), 2002. *Burial in Early Medieval England and Wales*. The Society for Medieval Archaeology

Lynch, F. and Musson, C., 2001. 'A prehistoric and early medieval complex at Llandegai, near Bangor, North Wales', *Archaeologia Cambrensis* **150**, 17-142 (2004)

Murphy, K., 1992. 'Plas Gogerddan, Dyfed: a multi-period burial and ritual site', *Archaeological Journal* **149**, 1-38

O'Brien, E., 1999. *Post-Roman Britain to Anglo-Saxon England: burial practices reviewed*. BAR British Series **289**

O'Sullivan, M. and Downey, L., 2005. 'Corn-drying kilns'. *Archaeology Ireland* 19 (3)

Petts, D., 2002. 'Cemeteries and boundaries in western Britain', in *Lucy and Reynolds* (eds) 2002, 24-46

Pollock, K.J., 2006. *The Evolution and Role of Burial Practice in Roman Wales.* BAR British Series **426**

RCAHMW 1960. *An inventory of the ancient monuments of Caernarvonshire, volume II: Central*, Royal Commission on Ancient and Historical Monuments in Wales and Monmouthshire.

Scott, L, 1951, Corn drying kilns. *Antiquity* **25**, 196-208

White, S.I. and Smith, G., 1999. 'A funerary and ceremonial centre at Capel Eithin, Anglesey', *Transactions of the Anglesey Antiquarians Society*

Maps

Ordnance Survey 25 inch County Series maps Caernarvonshire sheet XVI.1 (1889 and 1914)
Ordnance Survey 25 inch County Series maps Anglesey sheet XXV.4 (1888 and 1918)
Ordnance Survey 1:10,560 map sheet Caernarvonshire XV NE (1938)
Ordnance Survey 1:10,000 map sheet SH46SE (1979)
Ordnance Survey 1:2500 map sheet SH4862 (1965 and 1983)

Tithe map for the parish of Llanbeblig in the County of Caernarvonshire 1842.
Tithe Apportionment Schedule for the parish of Llanbeblig in the County of Caernarvonshire 1842.
Vaynol Papers 4056: A survey of Vaenol Estate, the property of Thomas Assheton Smith Esq, vol. 2 (1777)
Vaynol Papers 6069: A survey of Vaynol Estate, the property of T Assheton Smith Esq, vol. 2 (1832)

Aerial Photographs
Verticals
CPE/UK/2525, frames 4147-4148, date 24/03/1948
CPE/UK/2615, frames 3028, 3036-3038, 4027-4029, date 26/04/1948
Lib no. 4818, CPE/UK/2525, frame 4147, date 24/03/1948
Lib no. 4826, CPE/UK/2615, frame 2615, date 26/04/1948
Lib no. 5015, 58 RAF 394, frame 5043, date 27/03/1950
Lib no. 6627, OS 66 105, frame 477, date 29/05/1966
Lib no. 71110, OS 71 212, frame 140, date 12/05/1971
Lib no. 8512, 1 PRU RAF 0740, frame 0241, date 08/05/1985
Lib no. 8606, JA Story, frame 51/86 102, date 01/10/1986

Obliques
Tyddyn Pandy barrow NPRN 404650, AP_2006_3485
Tyddyn Pandy barrow NPRN 404650, AP_2006_3486
Tyddyn Pandy barrow NPRN 404650, AP_2006_3487
Tyddyn Pandy barrow NPRN 404650, AP_2006_3488
Tyddyn Pandy barrow NPRN 404650, AP_2006_3489

APPENDIX I: LIST OF SPECIALISTS

Roman pottery
Peter Webster
8 Cefn Coed Avenue, Cyncoed
Cardiff
CF23 6HE
(freelance specialist formerly of Cardiff University)

Glass
Hilary Cool
16 Lady Bay Road,
West Bridgeford,
Nottingham
NG2 5BJ
(freelance specialist)

Pyrotechnical residues
Dr Tim Young
GeoArch: geoarchaeological, archaeometallurgical & geophysical investigations
54 Heol y Cadno,
Thornhill,
Cardiff, CF14 9DY

Animal bone
Dr Nora Bermingham
7 St Augustine's Avenue,
Prince's Road,
Hull,
HU5 2QU
(Free-lance animal bone specialist)

Lithics and stone objects
George Smith
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Bangor
In house lithics specialist

Charcoal and other charred plant remains
Rosalind McKenna
4 Castle Cottages
Carrbrook
Stalybridge
SK15 3QE
(freelance specialist)

Appendix II: Specialist reports

Appendix II.1: Roman pottery
Peter Webster

Diagnostic sherds by Fabric and date

1. Samian

G2060.05 Samian, Form 29, South Gaulish. Only the upper, rouletted zone remains. The form went out of production c.A.D.85. The relatively coarse rouletting might suggest a vessel from the later years of production. Probably c.A.D.65-85.

G2060.24 Samian cup, probably form 27, South Gaulish. C.A.D.70-110.

G2060.03 Samian, Form 27, Les Martres-de-Veyre. Martres imports were at their height in the first two decades of the second century, but some potters continued to export after that date. However, the form is unlikely to be later than the middle of the century. A date c.A.D.100-130 seems most likely.

G2060.04 (112). A small fragment of samian bowl, Central Gaulish. There is an internal groove and a depression on the exterior such as if sometimes seen where the rim of a moulded vessel protruded from the mould. In combination, these two features suggest Form 30. c.A.D.120-200.

G2060.10 Samian, Form 45, Central Gaulish. C.A.D.180-200.

G2060.513 (557, Ph.5). Samian cup base fragment, East Gaulish and probably form 33. Probably c.A.D.160-200.

G2060.510 (557, Ph.5). Abraded rim of an East Gaulish bowl of form 31, 31R or its variants. The diameter of c.15cms suggests form 31. C.A.D.160-220.

2. Black-burnished ware

G2060.42 (5004) = (113). Bowl fragment in Black-burnished ware. The exterior shows lattice decoration with angles close to 90˚. Probably 2nd century.

G2060.01 Jar neck in Black-burnished ware. The angle of the neck suggests a 3rd-4th century vessel. 01 also includes a small wall sherd and a piece which seems likely to be burnt stone.

G2060.17 Bowl wall in Black-burnished ware. The exterior is abraded thus removing any indication of decoration which might have made it possible to narrow the date range. As it is, the piece could date from any time from the late 1st to the 4th century.

3. Mortaria

G2060.15 Mortarium in off-white fabric with black and some red trituration grits. Somewhat abraded. Mancetter-Hartshill fabric. Without any rim, close dating is not possibly but the thinness of the sherds suggests a 3rd to 4th century vessel. Two joining fragments.

Comment

The assemblage from this site is small and noticeably spread in date. Fragments of some 46 vessels were recovered along with 4 brick fragments, not all certainly Roman. A full list is given in the catalogue. Here, we need only offer a brief summary.

Almost an eighth of the vessels represented (7 out of 46) were in samian. They consist of one example of form 29, a decorated form which went out of production c.A.D.85. The remaining six vessels (one South Gaulish and one Les Martres cup, form 27, a Central Gaulish bowl and a Central Gaulish mortarium form 45, and East Gaulish forms 31 and 33) span the later first and second century. The mortarium is unlikely to have been made prior to c.A.D.180.

Black-burnished ware was represented by fragments of only three or four vessels, none closely dateable although one jar neck seems likely to date to the second half of the Roman period rather than the first, while a bowl wall with lattice decoration is most likely to be 2nd century in date. One would normally expect more examples of this ware on a site occupied in the 2nd century or later, but the overall numbers of vessels represented is so small that it is difficult to know how much weight to place on this discrepancy.

The diagnostic pieces are completed by a mortarium, probably from Mancetter- Hartshill and 3rd or 4th century in date. Other vessels are represented only by wall fragments and are likely to be more local in origin and can only be given a generalised Roman date.

Overall the assemblage shows a slight bias towards the later 1st and 2nd centuries, with at least one sherd which should have reached the area very early in the Roman occupation. It would seem to indicate Roman activity in or near the area investigated from the Flavian period through to at least the 3rd century. The precise nature of that activity is unclear, at least from this comparatively small sample of sherds.

Catalogue

G2060.01 Jar neck in Black-burnished ware. The angle of the neck suggests a 3rd-4th century vessel. 01 also includes a small wall sherd and a piece which seems likely to be burnt stone.

G2060.03 Samian, Form 27, Les Martres-de-Veyre. Martres imports were at their height in the first two decades of the second century, but some potters continued to export after that date. However, the form is unlikely to be later than the middle of the century. A date c.A.D.100-130 seems most likely.

G2060.04 (112). A small fragment of samian bowl, Central Gaulish. There is an internal groove and a depression on the exterior such as if sometimes seen where the rim of a moulded vessel protruded from the mould. In combination, these two features suggest Form 30. c.A.D.120-200.

G2060.05 Samian, Form 29, South Gaulish. Only the upper, rouletted zone remains. The form went out of production c.A.D.85. The relatively coarse rouletting might suggest a vessel from the later years of production. Probably c.A.D.65-85.

G2060.08 (217). Small rather abraded sherd of orange-buff pottery. Probably Roman.

G2060.09 Fragment, probably of brick with stone inclusions and with streaks of yellower clay visible. The piece appears to be hand formed rather than a recent product of more mechanical brick making but a Roman origin is far from certain.

G2060.10 Samian, Form 45, Central Gaulish. C.A.D.180-200.

G2060.11 Three possible tile or brick fragment, much abraded. The one (flat) surface which appears to have been external has a concentration of grit. Probably a fragment of Roman brick or tile

G2060.12 (110). Coarse fired clay with charcoal and stone inclusions. There are traces of a rounded surface. The whole does not seem to be compacted enough for Roman brick and in many ways would suit fired daub if it were not that it appears to be fired so hard.

G2060.15 Mortarium in off-white fabric with black and some red trituration grits. Somewhat abraded. Mancetter-Hartshill fabric. Without any rim, close dating is not possibly but the thinness of the sherds suggests a 3rd to 4th century vessel. Two joining fragments.

G2060.17 Bowl wall in Black-burnished ware. The exterior is abraded thus removing any indication of decoration which might have made it possible to narrow the date range. As it is, the piece could date from any time from the late 1st to the 4th century.

G2060.19 (327). Two very small and abraded fragments of pottery in pink fabric. With sparse grits. A Roman date is possible but far from certain.

G2060.20 Wheel-thrown jar or flagon in orange fabric with fine sand-like inclusions and some clay pellets. Two joining fragments and one other.

G2060.21 Fragment, probably of brick with plentiful grit and stone inclusions. No external surfaces remain but the fabric looks too coarse to be a standard Roman one and a more modern origin seems more likely.

G2060.22 A small fragment of pottery containing plentiful rounded grits and some mica. No external surface remains. A Roman date is far from certain.

G2060.24 Samian cup, probably form 27, South Gaulish. C.A.D.70-110.

G2060.26 (454). Two sherds (one broken in half) from two separate vessels:

- A smooth orange-red fabric with a grey core. The fabric is slightly micaceous and contains sparse fine sand, small ?clay pellets and some small quartz. A Roman date is likely.

- (Broken in two). An orange-red fabric with plentiful gritty inclusions. One side seems to show large clay pellets. A Roman date seems less likely for this sherd.

G2060.27 (319). A sherd burnt brown in a fabric with plentiful clay and sand inclusions and some larger inclusions some of which have leached out. Probably Roman.

G2060.29 (201). Three small fragments from at least two separate vessels:

- A hard light red fabric with some quartz inclusions.
- Two small rounded fragments with plentiful sandy inclusions.

Neither fabric is certainly Roman.

G2060.41 Handle from a large flagon in smooth off-white with sparse grit inclusions. There is no reason why this should not be Roman but it lacks diagnostic features.

G2060.42 (5004) = (113). Bowl fragment in Black-burnished ware. The exterior shows lattice decoration with angles close to 90˚. Probably 2nd century.

G2060.502 (540, Ph.5). Three sherds of redware severely eroded by soil conditions. The filler is random grit. Probably Roman.

G2060.508 (557. Ph.5). Greyware jar sherd, possibly burnt Black-burnished ware or a related fabric. Probably 2nd to 4th century.

G2060.509 (557. Ph.5). Chip from the wall-base junction of a redware jar with mixed grit filler. Roman.

G2060.510 (557, Ph.5). Abraded rim of an East Gaulish bowl of form 31, 31R or its variants. The diameter of c.15cms suggests form 31. C.A.D.160-220.

G2060.512 (520, Ph.5). Fragment of modern brick. The smooth external surfaces and the possible tubular hole just clipped on this piece suggests a 20th century product.

G2060.513 (557, Ph.5). Samian cup base fragment, East Gaulish and probably form 33. Probably c.A.D.160-200.

G2060.514 (557, Ph.5). Two lumps of burnt daub.

Appendix II.2: Glass
H.E.M. Cool

Report submitted to Gwynedd Archaeological Trust January 2012

Sf 511
Apothecaries bottle. Complete rim and neck. Light green/blue. Mould pressed.

Apothecaries bottles are a long-lived form with their origins in the early post medieval period. The type of glass sf 511 it is made from, and the fact that the piece is mould-pressed, indicate this piece is of nineteenth century date or late. Rim diameter 26mm

Sf 503 538
Window (?) fragment. Blue/green. Flat fragment with one finished edge in form of triangular moulding. Dimensions 31 x 31mm, thickness 5 – 2mm.

Though found in the fill of an early post-medieval grave, this piece gives every impression of being modern. It lacks bubbles and internally there are slight ripple effects parallel to the finished edge. It is clearly made from soda glass and thus has to be either Roman/early medieval or modern. Flat glass fragments are found commonly on Roman sites where they come from either bottles or windows. Flat window glass is found very occasionally on early medieval sites. This fragment does not belong to any of these categories, and the piece is modern and thus intrusive. The moulding on the edge of the piece would be unusual on a modern window pane and might perhaps have been more appropriate on the edge of a glass panel in a piece of furniture.

Appendix II.3: Evaluation of possible pyrotechnological residues
Dr T.P. Young

Phase 4 material: GeoArch Report 2011/05

Summary
This small collection of materials was dominated by concretionary materials, comprising sand and gravel with very little binding clay but with iron and manganese oxides, and likely to be of natural origin, (although secondary heating cannot be excluded). A few pieces had a much higher clay content and appeared to be very low fired. These also had a high sand and gravel content, and might perhaps indicate burning on a natural substrate. There was little evidence that these were prepared clays.

One piece was a concretionary, probably cored on a sub-circular piece of iron. This should be X-rayed to examine the core further.

Methods
All investigated materials were examined visually using a low-powered binocular microscope where necessary and were summarily described and recorded to a database (table II.3.1). As an evaluation, the materials were not subjected to any form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

Results
The possible fired clay comprised three different groups of material:

1. Relatively clay- rich material with soft textures, pale grey-buff colours and abundant admixed sand and fine gravel (from 3006).

2. Clay-poor materials with brown-red colours, abundant sand and gravel with a very low clay content and some manganese oxide coatings on the clasts (from 3006).

3. Clay-poor with pink colours, abundant sand and gravel with a very low clay content and abundant manganese oxide coatings and impregnations (from 240 and 277).

The 'slag' sample is a concretion around corroding iron. The general shape of the pieces suggests that the enclosed iron is probably oval and c. 30x40mm or a little smaller.

Interpretation
The possible fired clays are problematic. The colours of the harder materials (2 and 3 above) may simply be due to an elevated content of iron and manganese oxides (from an origin as Fe-Mn pan), rather than being a product of heating. The proportion of sand and gravel in these materials is much higher than is usually seen in deliberately used/processed clays. It is likely that these materials are purely natural, although some degree of heating cannot be excluded.

The more clay-rich materials (1 above) are more likely candidates for being burnt, but again, the moderately high sand/gravel content of these materials may suggest use of an unprocessed clay, or simply slight burning of a natural substrate.

Evaluation of potential
The possible fired clay and associated materials do not require further investigation. It is recommended that the iron concretion is X-Rayed to determine the nature of the iron object.

Table II.3.1: summary catalogue

Find number	*Weight (g)*	*Number of items*	*context*	*notes*
6	49.3	1	118	piece of corroded iron in concretion, iron probably sub-circular c.30mmx40mm. Needs X-Ray
34	11.4	15	240	coarse sand and gravel to 10mm, bound by salmon-pink/buff clay, which is penetrated by fissures and rounded voids coated with black Mn oxides
35	12.1	6	277	coarse sand bound by clay grade material which is pink/buff on surface but mainly black internally. Probably manganese pan
43	136	20 (+ dust)	3006	This is a rather mixed assemblage. Two pieces are simply gravel pebbles detached from the rest, one is a decomposed rock fragment (total 15.8g). 12 pieces (56.5g) are coarse sand-gravel, cemented by a brownish red matrix, with evidence for clast coatings of manganese oxides; these may be entirely natural concretionary materials, although some reddening through burning cannot be excluded. 55.3g (5 pieces) are of a buff-grey coloured clay bearing abundant sand and gravel clasts. This material may be burnt, but does not appear to be a prepared clay. The material is very soft, so if burnt is very low fired.

Phase 5 material: GeoArch Report 2012/02

Summary

The submitted material comprised six collections of magnetic residues from sieved samples and one isolated slag fragment.

Much of the magnetic material was natural, but all samples contained some pyrotechnological residues. Most of these pieces were low-density, glassy, vesicular slag, often occurring as rounded blebby pieces or sub-spheroidal droplets. These were attributable to being fuel ash slags. Although such fuel ash slags may be generated in metallurgical hearths, they may also be generated through the partial melting of small fragments of soil or hearth clay in other sorts of pyrotechnology – such as corn-drying kilns. Some of the fuel ash slags may have been clinker – the partially fused residue from the burning of coal. Such materials are extremely hard to distinguish in small grains, but the occurrence of grains of coal in the assemblage strengthen the likelihood that at least some of the fuel ash slag is clinker.

Some of the slag material was denser and better crystalline and may have been true metallurgical slag – although was identifiable with certainty. One spheroid (from c5041) was probably spheroidal hammerscale from iron-working, but other spheroids were less certainly metallurgical.

Methods

All investigated materials were examined visually using a low-powered binocular microscope where necessary and were summarily described and recorded to a database (table 1). As an evaluation, the materials were not subjected to any form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

Results

The summary catalogue is presented in Table II.3.2.

The six micro-residue assemblages are rather similar in general character. Most contain fuel ash slags, most contain material that is probably clinker and some contain coal. Samples <522> and <523> contain the material most likely to be from iron-working, but only the spheroidal hammerscale particle from <522> can be attributed to iron-working with a high degree on confidence.

Identification of tiny grains of slag material by visual inspection is notoriously difficult and imprecise, because they lack many of the morphological criteria used to identify larger pieces. Indeed, even

certain differentiation from natural iron-rich minerals and crusts, manganese-rich crusts and similar materials can also be extremely difficult.

The present material includes both crystalline slags and dark glassy slags. Much of the material lies within the potential range of morphology of the fuel ash slags. This rather broad term encompasses those 'slags' formed by the partial melting of particles of soil, rock, hearth ceramic or inorganic inclusions within a fuel, under the influence of the fluxing properties (i.e. the capacity to lower the temperature at which a material starts to melt) of the alkali and alkaline earth elements (particularly potassium and calcium) that are present in many fuels.

Fuel ash slags may be generated in many circumstances, but often in metalworking hearths these materials become strongly influenced by elements such as iron – and become converted into true metallurgical slags. They are therefore particularly characteristic of non-metallurgical processes and settings – such as corn drying kilns (e.g. Young 2005, 2010a and 2010b).

Sharing many features with these fuel ash slags are a particular group of fuel ash slags in which the silicate component derives from the fuel itself – these are the slags generated from the burning of coal, which are generally known as clinker. Clinker can usually be distinguished from other sorts of fuel ash slag by density (it is usually denser), colour (often taking a maroon surface colour rather than the tan surface common on other fuel ash slags) and by frequent inclusions of bloated and vitrified coal shale. At least some of the present material shows aspects of these features, although they are not applicable with certainty at the grain size of these samples. The presence of coal fragments in some samples strengthens the likelihood that at least some of the fuel ash slags in the present material derive from the burning of coal.

Interpretation
The assemblage lacks particularly clear evidence for iron-working (besides one single particle of reasonably certain spheroidal hammerscale), with a complete lack of any associated macroscopic iron-working slags. This makes it unlikely that iron-working was being undertaken in the immediate vicinity of the investigated area.

The residues were dominated by various forms of fuel ash slag, including probable clinkers. Such materials might derive from a wide variety of domestic and 'industrial' activities. Clinker is a common residue from 19th to early 20th century steam-driven agricultural machinery, quite apart from its widespread production in industrial processes. The possibility of contamination by intrusive materials remains a possibility with very fine-grained clinker, even in apparently well-stratified contexts.

If the clinker and coal are secure, then they suggest a Roman or medieval (or later) age for the assemblages, for significant transport of coal away from the coalfields is not seen in either the pre-Roman or early medieval periods.

Evaluation of potential
The material has no significant potential to yield useful information through further investigation, unless any of the samples is clearly anachronistic, in which case further clarification might be required.

References
Young, T. 2005. Site Activities: slag and related materials. pp. 174-176. *In:* Sharples, N (ed.), *A Norse Farmstead in the Outer Hebrides. Excavations at Mound 3, Bornais, South Uist*. Cardiff Studies in Archaeology, Oxbow Books, Oxford.
Young, T.P. 2010a. Fuel ash slags from corn-drying kilns, South Hook LNG Terminal. *GeoArch Report 2010/04*, 24 pp.
Young, T.P. 2010b. Fuel ash slags. P. 163 *in:* Crane, P & Murphy K., Early medieval settlement, iron smelting and crop processing at South Hook, Herbranston, Pembrokeshire, 2004–05. *Archaeologia Cambrensis*, **159,** 117-196.

context	sample	sf	label on bag	No of items	notes
5023	502	516	metalworking debris	c17	Mixed assemblage, several pieces of probable manganese crust, two, at least, small vesicular slag fragments, one probable clinker bleb and two pieces of coal. Also several dense pieces of probable natural iron oxides and other rocks.
5041	503	519	metalworking debris	c27	2 blebs of clinker appearance, 1 piece of coal. 2 fragments of possible grey slag, remainder probably stone. 2 pieces are thin grey sheet, one with maroon surface, but these resemble burnt iron crusts more than slag - but not certain.
5041	504	522	metalworking debris	c56	One metallic lustred small spheroid appears like true spheroidal hammerscale. Other slag fragments are possible and there are definite fuel ash slags. One dull weathered slag spheroid, various other possible slag/possible manganese crust fragments.
5041	505	523	metalworking debris	c80	Assemblage dominated by a wide variety of mainly dark glassy slags - ranging from individual rounded blebs to angular fragments. Some are certainly fuel ash slag, but others are less diagnostic. No absolutely certain metalworking residues, but much of this material probably is.
5056		530	metalworking debris	c33	Various small fuel ash-like blebs, one 2mm diameter vesicular slag sphere apparently containing sand grains, slag blister with metallic lustre and 'lumpy' surface cf. clinker and other rather undiagnostic pieces, as well as rock and possible concretion fragments
5067	509	531	metalworking debris	c70	Several blebs and fragments of probable slag and clinker, 3 pieces of coal, one piece of rust, remainder mainly natural
5067	509	532	slag	1	A fragment of a fuel ash slag. A complexly rounded, blebby, piece with tan surface locally. Shows various pale clasts embedded in dark glass, one of which is broken and is bloated and foliated. This suggests, but does not prove the piece is clinker.

Table II.3.2. Summary catalogue of material from Llanbeblig (G2060) Phase 5

Appendix II.4: Bone
Dr Nóra Bermingham

Introduction
A small collection of mammal bone was submitted for full analysis (Table II.4.1). The material derives from 8 individual contexts retrieved via hand excavation and wet sieving. The assemblage size prohibits analysis beyond simple quantification and identification where possible.

Quantification & Preservation
The assemblage comprised of approximately 16 burnt bone fragments, ranging in size between 5mm to 10mm in length and with a total weight of less than 10g. The material is poorly preserved. There are no intact bones or diagnostic bone fragments present which would allow positive identification to species.

Results
None of the material retrieved is identifiable to species. All bone fragments derive from mammals. Most can be identified as animal rather than human in origin. Where fragments are listed as mammal they are most probably animal (Table II.4.1). Medium sized or sheep/goat sized animals are represented. The majority of fragments derive from post-cranial skeletal elements – mainly long bone fragments. Almost all of the fragments are burnt with many white in colour.

Interpretation
The small quantity of material submitted limits interpretation of the assemblage. Human bone has not been identified with the majority of fragments clearly derived from animals. Sheep/goat size animals are represented but further species identification was not possible. At best, the small assemblage represents general domestic waste which could derive from a range of food related activities.

Table II.4.1: Faunal remains

Find number	**Context number**	**Unidentified**	**Burnt**	**Frag. Count**	**Description**
7	113	Y	N	4	Mammal bone. Small pieces of spongy bone.
13	110	Y	?	1	Animal bone.
25	466	Y	Y	1	Animal bone. Post-cranial- prob. Long bone frag. Sh/gt size.
36	199	Y	Y	1	Calcined limb bone 10 mm. Med-lge mammal; probably animal bone.
37	127	Y	Y	2	Animal bone x2 frags small-med mammal. 3 small pieces of burnt stone.
38	201	Y	Y	2	Mammal bone. 8 small pieces of burnt stone.
39	180	Y	Y	2	Mammal bone.
40	185	Y	Y	3	Mammal bone, probably animal. Post-cranial fragments 5-10 mm.
506	5056	Y	Y	10	Burnt animal bone

Appendix II.5: Iron objects
Jane Kenney

Six iron objects were found as itemised in table II.7.1. Most are nails or fragments of nails from graves ovens and two mortuary enclosures. In general the objects are small and are likely to be intrusive. Sf501 is a larger heavily corroded object from a fairly secure context within oven [5009] and is presumably contemporary with this feature. Sf6 is a chunk of corroded material submitted to Tim Young as possible slag but considered by him as a corroded iron object. This came from the fill of grave [117] and is likely to have been deposited in the grave with the backfill, but as this fill in other graves has included Roman pottery it is possible that this item is also Roman in date.

Sf6 and sf501 are large enough and from sufficiently secure contexts that further investigation involving x-raying and potentially further study is recommended.

Table II.7.1: List of iron objects

Find No	Context No	Feature	No of items	Weight (g)	Description
6	118	Grave [117]	1	49.3	Piece of corroded iron in concretion, iron probably sub-circular c.30mm x 40mm
16	262	Oven [249]	1	3.5	Nail, badly corroded
30	282	Grave [281]	1	0.5	Tip of a nail
501	5023	Oven [5009]	1	32	Iron object, possibly a large nail covered in concretions
518	5041	Mortuary enclosure [5003]	1	1	Small corroded iron object, probably nail head
526	5056	Mortuary enclosure [5004]	1	0.5	Bent tip of nail

Appendix II.6: Flint and other worked stone
G H Smith

Flint

Summary of objects
There are seventeen pieces of worked flint or chert. These came from four different contexts, 243, 256, 322 and 368, summarised in Table 1.

Table II.6.1: Flint summary

Find No	***Context No***	***Material***	***Description***	***Provenance***	***Draw?***
23	368	Flint	Flake frag	Upper fill of grave [361]	No
28	259	Flint	Flake	Fill of raking-out pit of oven [265]	No
32	243	Flint	1 flake, 1 chip	Fill of raking-out pit of oven [238]	No
33	322	Flint	4 flakes, 4 flake frags, 5 chips	Upper fill of possible oven [318]	No

Of these, four pieces are from isolated contexts and probably unrelated. Context 322 however produced thirteen pieces comprising a small associated and contemporary group. All the pieces are waste products and all flakes or fragments with no cores, utilised pieces or retouched tools.

Statement of potential
There are no diagnostic pieces that might provide evidence of date or function. However, assemblages of worked flint are rare from inland locations in north-west Wales so the presence here usefully adds to knowledge. There are no diagnostic tools but the technology of the pieces from context 322 have aspects that are indicative of a Neolithic date and these are worth identifying. Basic recording and a descriptive note is therefore worthwhile. There are no pieces that need to be illustrated.

Stone

Summary of objects
These comprise four objects: a small pebble and three pieces of shaped building stone, all summarised in Table II.6.2.

Table II.6.2: Other stone objects summary

Find No	***Context No***	***Material***	***Description***	***Provenance***	***Draw?***
31	213	?Iron pyrites	Small gravel pebble	Fill of grave [212]	?
04	5038	?Gritstone	1 frag of sub-rectangular slab	Upper fill of grave [5005] within small mortuary enclosure [5003]	No
05	5041	?Sandstone	2 frags of sub-rectangular slab	Fill of ditch of small mortuary enclosure [5003]	No
07	5063	?Gritstone	1 frag of sub-rectangular slab	Fill of ditch of large mortuary enclosure [5004]	No

The pebble is a small piece of gravel with two similar, possibly artificially-created, shallow incisions in two diametrically opposed faces. These are obviously not drilled incisions but have cut through the outer natural patina of the pebble so are not just undulations in the pebble surface. The pebble may have been selected and part-finished as a bead.

The other objects are all similar broken fragments of sub-rectangular blocks of stone tat have been chipped to produce faces on three sides to create slabs for construction of a coursed and faced wall.

Statement of potential
The possible pebble bead needs microscopic study of the incisions. Its small size and lack of obvious modification suggests it is a chance natural product. If it proves to have been manufactured then illustration would be needed.

The pieces of worked building stone occur in contexts without any identifiable association with any stone construction so the pieces must have been deliberately introduced to the site for some other reason. They occurred in the ditches of two of the mortuary enclosures and the possible re-use of stones from the Segontium Roman fort is something that needs to be checked by comparison of masonry and geological identification.

Appendix II.7: An assessment of the palaeoenvironmental potential
Rosalind McKenna

Introduction
A series of eighty three samples from deposits excavated at a site located off Llanbeblig Road, Caernarfon, Gwynedd (centered on NGR SH 4890 6230) were submitted for an evaluation of their environmental potential. Twenty eight samples were submitted in January 2011 (phase one) and a further fifty five samples were submitted in October 2011 (phase two). The excavation was carried out by Gwynedd Archaeological Trust between 6th April 2010 and 27th May 2011. The samples came from corn driers, furnaces, pits, mortuary enclosures and linear features. The samples range in date from possibly the Roman to the early medieval period and the post-medieval period.

A programme of soil sampling from sealed contexts was implemented during the excavation. The aim of the sampling was to:

- assess the type of preservation and the potential of the biological remains
- identify suitable samples for possible radiocarbon dating
- identify if any human activities were undertaken on the site
- reconstruct the environment of the surrounding area

Methods
The initial material was submitted to the author in a processed state. It was processed by staff at Gwynedd Archaeological Trust using their standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.5mm and air dried. The heavy residue (the material which does not float) was not examined, and therefore the results presented here are based entirely on the material from the flot. The flot was examined under a low-power binocular microscope at magnifications between x12 and x40.

A four point semi quantative scale was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2mm fractions. The number of charcoal fragments to be identified is dependent on the diversity of the flora. A study by Keepax (1988, 120-124) has indicated that depending on the location of the archaeology site, 100-400 fragments of charcoal would need to be identified in order to obtain a full range of species. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information is recorded with the results of the assessment in Table 3 below. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000).

Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

Results
Table II.7.1 below shows the components recorded from each of the samples.

Of the eighty three samples submitted, charred plant macrofossils were present in thirty seven of the samples; twenty two samples came from the phase one material and fifteen samples from the phase two material.

Identifiable remains were present in thirty two of the samples. They were generally poorly preserved, and were lacking in most identifying morphological characteristics. The results of this analysis can be seen in Table II.7.2 below. The samples generally produced small assemblages of plant remains both in volume and diversity.

The most abundant remain was oat grains, which were present in eight of the samples sometimes in very large numbers of charred cereal grains. Indeterminate cereal grains were recorded in twenty five of the samples. These grains, which lacked identifying morphological characteristics, were therefore recorded as 'indeterminate cereal'. Where it was possible to ascertain identifications, oat was the most abundant remain being present in eight samples sometimes in large numbers, wheat was present in six samples and barley was also present in eleven samples. The presence of cereal chaff may also indicate the use of cereals at the site, and this was present in three of the samples. Another, more indirect, indicator of cereals being used on site is the remains of arable weeds that were found in nine of the samples. Charred hazel nut shell fragments were also present in eight samples.

Charcoal remains were present in all eighty three of the samples and scored between '1' and '4' on the abundance scale. There were identifiable remains in forty two of the samples. The preservation of the charcoal fragments was relatively variable even within the samples. Some of the charcoal was firm and crisp and allowed for clean breaks to the material permitting clean surfaces where identifiable characteristics were visible. However, most of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Table II.7.3 below shows the results of the charcoal assessment.

Twenty four of the forty two samples that produced identifiable remains were dominated by oak (eleven samples containing purely oak). Twenty of the samples were dominated by hazel (with two of the samples being composed purely of hazel). Ash was also present in twenty samples, willow/poplar was present in ten samples, elm was present in two samples, and alder was present in a single sample.

The total range of taxa comprises oak (Quercus), ash (Fraxinus), willow/poplar (Salix/Populus), hazel (Corylus), alder (Alnus), and elm (Ulmus). These taxa belong to the groups of species represented in the native British flora. A local environment with a range of trees and shrub is indicated from the charcoal of the site. As seen in Table 3, oak is by far the most numerous of the identified charcoal fragments, and it is possible that this was the preferred fuel wood obtained from a local environment containing a broader choice of species. Oak is probably the first choice structural timber, and with a local abundance it may have been used instead of ash, thereby providing more by-product fire fuel.

Root / rootlet fragments were also present within eighty one of the eighty three samples. This indicates disturbance of the archaeological features, and this may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site. The presence of earthworm egg capsules in sixty six of the samples and snails in a single sample further confirms this disturbance.

Discussion

The charcoal remains showed the exploitation of several species native to Britain, with the prevalence of oak, and hazel being selected and used as fire wood. Oak has good burning properties and would have made a fire suitable for most purposes (Edlin 1949). Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). Hazel is recorded as a good fuel wood and was widely available within oak woodlands, particularly on the fringes of cleared areas (Grogan *et al.* 2007, 30). Ash was also present in significant numbers. Ash is strong and tough and makes an excellent firewood, producing both heat and flame. It will also burn whilst green. Willow/Poplar was present in smaller numbers. These are species that are ideal to use for kindling. They are anatomically less dense than for example, oak and ash and burn quickly at relatively high temperatures (Gale and Cutler 2000, 34, 236, Grogan *et al.* 2007, 29-31). This property makes them good to use as kindling, as the high temperatures produced would encourage the oak to ignite and start to burn. Elm and alder were also present in the samples in small numbers. The timber of elm is tough and characterised by interlocking fibres that prevent cleaving and splitting (Gale and Cutler 2000, 264). Alder is a wood that burns quickly when used for firewood, but has been found suitable for charcoal production. This may indicate some small scale charcoal production, but given that it is not the most abundant taxa, may merely represent a selection of available firewood

The charcoal assemblages from the varying features and phases are all very similar. A constant use of oak as the most popular fuel is selected with hazel, ash, willow/poplar, alder and elm also being utilised in varying amounts. Only a single sample produced identifiable remains from the grave fills (sample 092 [163]) and the only identifiable fragments were oak. A single sample from the mortuary enclosure (sample 508 [5004]) also produced identifiable remains, and this contained purely hazel charcoal.

The samples from kilns, ovens, furnaces, and corn dryers all produced similar remains – showing a predominance of oak, with hazel, ash and willow/poplar also being used as fuel at this features. Elm was only present in samples from the raking out pits, which otherwise continued the trend for oak dominant fuel base with lesser input in the presence of ash, hazel and willow/poplar. The fire pits produced a single sample (sample 099 [386]) containing purely oak and two further samples being dominated by hazel charcoal.

The pit fills were mainly dominated by oak, with hazel being present in one (sample 050 [218] of the four samples and ash dominating another sample (sample 089 [340]). A single sample from the gully features (sample 509 [5007]) produced identifiable remains, and hazel dominated this sample with willow/poplar also being present. Two samples from features that have been interpreted as possible tree roots produced only remains identifiable as oak, possibly confirming this interpretation.

As asserted by Scholtz (1986) cited in Prins and Shackleton (1992:632), the "Principle of Least Effort" suggests that communities of the past collected firewood from the closest possible available wooded area, and in particular the collection of economically less important kindling fuel wood (which was most likely obtained from the area close to the site), the charcoal assemblage does suggest that the local vegetation would have consisted of an oak woodland close to the site.

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Thery-Parisot 2002). On account of these considerations, the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense, and are possibly reflective of particular choice of fire making fuel from these resources. Bark was also present on some of the charcoal fragments, and this indicates that the material is more likely to have been firewood, or the result of a natural fire.

The archaeobotanical evidence found in the samples was all very similar in the various features and periods studied. Ten of the samples originate from features that date to the medieval period and twenty two of the samples from features that date to the Roman period. The samples with remains from the medieval period came from features that were grave fills (eight samples) and related to the mortuary enclosure (two samples). Indeterminate cereal grains were present in eight of these samples, in small numbers. Barley was present in small numbers in a single sample (sample 6 [109]) from the mortuary enclosure. Oats were present in two samples (sample 029 [186] and sample 092 [163]) from the grave fills but again in very small numbers. Hazel nut shell fragments were also present in a single sample (sample 029 [186]) in small numbers. Overall, the low numbers of grains and weed seeds in the samples from the medieval period probably indicates the use of material cut from cultivated ground as fuel.

Samples from the Roman period came from features such as pits, fire pits, ovens, kilns, ditches and gullies.

Two samples from fire pits (samples 84 and 85 from feature [318]) produced abundant hazel nut shell fragments. Together with the hazel charcoal also recorded from these samples, it may indicate that they are merely representative of hazel wood trees being burnt, which could be either a natural or a man-made process. Six samples from pit features produced plant macrofossils. Three of these samples (sample 038 [205] and sample 081 and 088 from feature [190] produced reasonable sized assemblages both in terms of abundance and diversity. The sample from feature [205] was dominated by indeterminate cereal grains, but also recorded the remains of barley, wheat and oat together with several 'weed' seeds. A small number of hazel nut shell fragments were also recorded from this feature. The two samples from feature [190] were both also dominated by indeterminate cereal grains. They both however also produced significant numbers of oats and small numbers of barely and wheat grains, together with several 'weed' seeds. This may indicate the dumping of spoilt grain or a cooking mishap, or it may be the build up of occupational waste and its subsequent deposition into the pit feature.

The samples from the oven and kiln features produced very small assemblages of plant macrofossils both in terms of abundance and diversity. Seven of the nine features contained indeterminate cereal grains, two contained wheat grains, three contained barley grains and two contained oat grains. These were all however in very small numbers, and so little interpretation can be made other than to state their presence.

The most abundant remains in terms of volume originated from sample 509 which came from gully feature [5007]. Over four thousand oat grains, more than 500 grass seeds as well as a number of indeterminate cereals, barley and wheat grains were recorded, together with a few 'weed' seeds and several hazel nut shell fragments. It is likely that this sample represents a single depositional event, possibly relating to either a spoilt grain store, an accident whilst drying the grains or the remnants of a meal. The preservation of the grains tended to be very good, and it was even possible to view the hairs on the oats which indicate they were of the cultivated variety. It is probable that the wheat and barley grains as well as the unidentified grasses were incorporated into the oat crop as weeds.

A single sample from a ditch (sample 086 [154]) produced a small number of indeterminate cereal grains. A sample from the possible tree root feature [495] contained several hazel nut shell fragments.

Two samples from a corn dryer that post dated the medieval cemetery (samples 21 and 109 from feature [137]) produced remains of plant macrofossils. Both samples produced relatively small assemblages both in size and diversity. The most abundant remains in the samples were oat grains, followed by indeterminate cereal grains. Barley and hazel nut shell fragments were also recorded in both samples. Overall, the low numbers of grains and weed seeds in the samples indicates the accidental burning of cleaned grain and its subsequent disposal.

Another, more indirect, indicator of cereals being used on site is the remains of arable weeds that were found in nine of the samples. Among these weeds, some of which are characteristic of cereal fields and rarely found elsewhere, are dock (*Rumex*), and goosefoot/orache (*Chenopodium* spp. / *Atriplex* spp.).

Conclusion
The samples produced some environmental material, with the charcoal from forty two of the samples and the plant macrofossils from thirty two of the samples. The deposits from which the samples derive, probably represent the domestic waste associated with fires.

The archaeobotanical evidence found in the samples shows hazelnut shell, oat wheat, and barley, were present, possibly indicating an exploitation of cereals. The hazelnut shell fragments show no marks typically associated with processed shells. Together with the high portion of hazel charcoal, this may indicate that they are merely representative of hazel wood trees being burnt, which could be either a natural or a man-made process. However, with the remains of several cereal grains throughout the samples it is more likely that the samples represent occupation build-up of domestic waste. Due to the small numbers of cereal grains and associated weed seeds in the majority of the samples, there is limited interpretative information. Where there are larger assemblages present it is possible to ascertain that oats were the most utilised grain, with barley and wheat either used on a smaller scale, or merely incorporated into the record as weeds of the oat crops. A more detailed identification and quantification of sample 509 [5007] may further interpretation.

It is thought to be problematic using charcoal and plant macrofossil records from archaeological sites, as they do not accurately reflect the surrounding environment. Wood was gathered before burning or was used for building which introduces an element of bias. Plant remains were also gathered foods, and were generally only burnt by accident. Despite this, plant and charcoal remains can provide good information about the landscapes surrounding the sites presuming that people did not travel too far to gather food and fuel.

Recommendations
The samples have been assessed, and any interpretable data has been retrieved. No further work is required on the majority of the samples. The plant macrofossils from sample 509 from gully feature [5007] should be fully identified and quantified. A thorough research into comparable sites must also be made at this stage. A list of samples containing material viable for the radiocarbon dating process has been forwarded to GAT, and a decision will be made as to which samples are to undergo this process.

References

English Heritage (2002) *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation.* English Heritage Publications. Swindon.

Edlin, H L, 1949. *Woodland crafts in Britain: an account of the traditional uses of trees and timbers in the British countryside*, London, Batsford

Gale, R, & Cutler, D F, 2000, *Plants in Archaeology – Identification Manual of Artefacts of plant origin from Europe and the Mediterranean*, Westbury Scientific Publishing and Royal Botanic Gardens, Kew

Grogan, E, Johnston, P, O'Donnell, L, 2007, *The Bronze Age Landscapes of the Pipeline to the West: An Integrated Archaeological and Environmental Assessment*, Wordwell Ltd, Bray, Co Wicklow.

Hather, J G. 2000 *The identification of Northern European woods; a guide for archaeologists and conservators*, London. Archetype Press.

Keepax, C. A., 1988, *Charcoal analysis with particular reference to archaeological sites in Britain*. Unpublished PhD thesis, University of London

Kenward, H.K., Hall, A.R. and Jones A.K.G. (1980) *A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits*. Science and Archaeology 22, 315.

Prins, F and Shackleton, CM 1992 Charcoal analysis and the "Principle of Least Effort" - A conceptual Model. *Journal of Archaeological Science*, 19, 631-637.

Rossen, J, and Olson, J, 1985 *The controlled carbonisation and archaeological analysis of SE US wood charcoals*, Journal of Field Archaeology **12**, 445-456

Scholtz, A, 1986, *Palynological and Palaeobotanical Studies in the Southern Cape*, MA Thesis of Stellenbosch, Stellenbosch, South Africa

Schweingruber, F H, 1978 *Microscopic wood anatomy.* Birmensdorf. Swiss Federal Institute of Forestry Research

Théry-Parisot, I, 2002, 'Gathering of firewood during the Palaeolithic' in S Thiébault (ed), *Charcoal Analysis, Methodological Approaches, Palaeoecological Results and Wood Uses*, BAR International Series 1063

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Grave fills.
Semi quantitative score of the components of the samples is based on a four point scale, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many per kg or a major component of the matrix).

Sample	**009**	**010**	**011**	**012**	**016**	**017**	**020**	**023**	**025**	**029**	**030**
Cut	**119**	**117**	**115**	**115**	**111**	**111**	**146**	**176**	**148**	**186**	**177**
Deposit	**120**	**118**	**116**	**127**	**112**	**128**	**147**	**180**	**149**	**188**	**189**
Feature type	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**
Charcoal fgts.	2	4	3	4	4	4	4	4	4	4	4
Earthworm egg capsules	2	2	1	2	1	1	1	1		1	2
Plant macros. (ch.)				1				1		1	
Root/rootlet fgts.	4	3	4	2	2	1	3	3	2	3	3
Sand	1	1	1	3	2	2	2	2	1	3	2

Sample	**036**	**039**	**040**	**042**	**044**	**045**	**046**	**048**	**049**	**064**	**067**
Cut	**202**	**212**	**214**	**172**	**219**	**225**	**227**	**223**	**230**	**264**	**268**
Deposit	**201**	**213**	**215**	**174**	**220**	**226**	**228**	**224**	**231**	**263**	**269**
Feature type	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**
Charcoal fgts.	4	3	4	4	4	3	4	4	4	3	4
Earthworm egg capsules	2	1	1	1	2	1	1	1	1	1	1
Plant macros. (ch.)		1	1								
Root/rootlet fgts.	3	4	3	3	1	3	3	3	2	4	2
Sand	3	2		3	1	4	1	2	3	2	1
Slag fgts.			1				2				

Sample	**071**	**077**	**079**	**092**	**507**	**510**
Cut	**281**	**288**	**310**	**163**	**5005**	**5006**
Deposit	**282**	**289**	**309**	**171**	**5060**	**5050**
Feature type	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill inside ME 5003**	**Grave fill inside ME 5004**
Charcoal fgts.	4	3	3	4	2	2
Earthworm egg capsules	1	1	1	2	1	
Plant macros. (ch.)		1		1	1	
Root/rootlet fgts.	2	4	4	3	3	4

Sand	3	3	3	3	4	3

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Mortuary Enclosure.

Sample	**503**	**504**	**505**	**508**	**6**	**15**
Cut	**5003**	**5003**	**5003**	**5004**	**109**	**108**
Deposit	**5041**	**5041**	**5041**	**5056**	**110**	**113**
Feature type	**Mortuary enclosure**	**Mortuary enclosure**	**Mortuary enclosure**	**Mortuary enclosure**	**Mortuary enclosure**	**Mortuary enclosure**
Charcoal fgts.	3	3	3	4	2	2
Earthworm egg capsules	1	1	1		2	2
Plant macros. (ch.)					2	1
Root/rootlet fgts.	4	3	4	2	2	3
Sand	2	4	3	1	4	4

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Kilns.

Sample	**051**	**101**	**52**	**53**	**54**	**66**	**73**
Cut	**237**	**388**	**237**	**236**	**237**	**249**	**283**
Deposit	**245**	**405**	**242**	**241**	**243**	**262**	**290**
Feature type	**Lining of kiln structure**	**Fill of kiln structure**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**
Charcoal fgts.	4	4	4	4	4	4	4
Earthworm egg capsules	1		1	1	1	1	1
Plant macros. (ch.)						1	1
Root/rootlet fgts.	2	1	2	2	2	2	2
Sand		2					
Snails		1					

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Furnaces.

Sample	**069**	**110**
Cut	**278**	**249**
Deposit	**277**	**261**
Feature type	**Fill of furnace**	**Fill of bowl furnace**
Charcoal fgts.	4	4
Root/rootlet fgts.	2	
Sand	2	4

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Ovens.

Sample	**061**	**065**	**070**	**111**	**502**	**1**	**3**	**5**
Cut	**260**	**260**	**278**	**5009**	**5009**	**3004**	**105**	**105**
Deposit	**257**	**259**	**280**	**5023**	**5023**	**3006**	**126**	**124**
Feature type	**Fill of keyhole oven**	**Fill of keyhole oven**	**Fill of 8 shaped oven**	**Oven fill**	**Charcoal layer in oven**	**Oven fill**	**Oven fill**	**Oven fill**
Charcoal fgts.	4	4	4	4	4	4	4	4
Earthworm egg capsules		1					1	1
Plant macros. (ch.)						1	1	1
Root/rootlet fgts.	2	1	3	1		2	2	1
Sand			2	4				
Slag fgts.	1							

Sample	**27**	**28**	**33**	**55**	**74**	**83**	**98**	**103**
Cut	**184**	**184**	**166**	**272**	**283**	**299**	**382**	**473**
Deposit	**185**	**187**	**164**	**250**	**291**	**302**	**381**	**477**
Feature type	**Oven fill**	**Oven fill**	**Oven fill**	**? re-cut of oven [249]**	**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill**
Charcoal fgts.	3	4	4	4	4	4	4	4
Earthworm egg capsules	2		2	1			2	1
Plant macros. (ch.)	1	1	1		1			
Root/rootlet fgts.	3	1	3	3	2	2	2	2
Sand	4		3				3	

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Corn dryer.

Sample	**21**	**109**
Cut	**137**	**137**
Deposit	**168**	**136**
Feature type	**Fill of corn dryer**	**Fill of corn dryer**
Charcoal fgts.	4	4
Earthworm egg capsules	1	1
Plant macros. (ch.)	2	2
Root/rootlet fgts.	2	2
Sand	2	2

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Raking out pits.

Sample	**075**	**24**	**34**	**35**	**106**
Cut	**294**	**184**	**166**	**166**	**491**
Deposit	**292**	**183**	**165**	**169**	**492**
Feature type	**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**
Charcoal fgts.	4	4	4	4	4
Earthworm egg capsules	1	1	2		
Plant macros. (ch.)		1			
Root/rootlet fgts.	2	2	3	2	1
Sand			3		

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Fire pits

Sample	**099**	**84**	**85**
Cut	**386**	**318**	**318**
Deposit	**387**	**31**	**322**
Feature type	**Fire pit**	**Fire pit**	**Fire pit**
Charcoal fgts.	4	4	4
Earthworm egg capsules	1	1	1
Plant macros. (ch.)		1	1
Root/rootlet fgts.	1	2	2

Sand		3	4
Slag fgts.	1		

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Pits and postholes.

Sample	**008**	**050**	**081**	**088**	**089**	**41**	**58**	**096**	**037**	**038**
Cut	**133**	**218**	**190**	**190**	**340**	**218**	**247**		**205**	**205**
Deposit	**135**	**240**	**199**	**337**	**341**	**217**	**248**	**354**	**206**	**207**
Feature type	**Pit fill**	**Pit fill**	**Pit fill**	**Pit fill**	**Pit fill**	**Pit fill**	**Pit fill**	**? pit**	**Pit/posthole**	**Pit/posthole**
Charcoal fgts.	4	4	4	4	4	3	1	2	4	4
Earthworm egg capsules	1	1	1	2		1	2	1	1	1
Plant macros. (ch.)			2	2		1	1		1	3
Root/rootlet fgts.	3	2	3	2	2	3	4	1	3	2
Sand			2	2		4		4	3	1
Slag fgts.									1	

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Ditches and Gullies.

Sample	**086**	**509**
Cut	**154**	**5007**
Deposit	**321**	**5067**
Feature type	**Ditch**	**Gully**
Charcoal fgts.	4	4
Earthworm egg capsules	2	1
Plant macros. (ch.)	1	4
Root/rootlet fgts.	2	2
Sand	3	2
Slag fgts.		1

Table II.7.1. Components of the subsamples from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). ?Tree roots

Sample	**107**	**108**
Cut	**483**	**495**
Deposit	**482**	**494**
Feature type	**?tree roots**	**?tree roots**
Charcoal fgts.	4	4
Earthworm egg capsules	1	1
Plant macros. (ch.)	1	
Root/rootlet fgts.	2	1
Sand	2	2

Table II.7.2: Complete list of taxa recovered from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Grave fills. Taxonomy and Nomenclature follow Stace (1997).

Sample	**012**	**023**	**029**	**039**	**040**	**077**	**092**	**507**	
Cut	**115**	**176**	**186**	**212**	**214**	**288**	**163**	**5005**	
Deposit	**127**	**180**	**188**	**213**	**215**	**289**	**171**	**5060**	
Feature type	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill**	**Grave fill inside ME 5003**	
Sample volume (ml)	**15**	**10**	**10**	**5**	**5**	**10**	**10**	**10**	
LATIN BINOMIAL									**COMMON NAME**
Corylus avellana (fgts.)			2						Hazelnut shell fgts.
BRASSICACEAE							1		Cabbage family
Avena cf. *sativa*		2					5		Oat (possible cultivated)
Indeterminate cereal	2			3	4	3	1	1	Indeterminate cereal
Indeterminate glume base							1		Indeterminate glume base
Indeterminate culm node							1		Indeterminate culm node

Table II.7.2: Complete list of taxa recovered from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Mortuary Enclosure.

Sample	**6**	**15**	
Cut	**109**	**108**	
Deposit	**110**	**113**	

Feature type	**Mortuary enclosure**	**Mortuary enclosure**	
Sample volume (ml)	**5**	**10**	
LATIN BINOMIAL			**COMMON NAME**
POACEAE		1	Grass Family
Hordeum spp.	4		Barley
Indeterminate cereal	7	6	Indeterminate cereal
Indeterminate glume base	1		Indeterminate glume base
Unidentified	1	1	Unidentified

Table II.7.2: Complete list of taxa recovered from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Pits and postholes, Raking out pits and Fire pits

Sample	**037**	**038**	**081**	**088**	**58**	**24**	**84**	**85**	
Cut	**205**	**205**	**190**	**190**	**247**	**184**	**318**	**318**	
Deposit	**206**	**207**	**199**	**337**	**248**	**183**	**31**	**322**	
Feature type	**Pit/post hole**	**Pit/post hole**	**Pit fill**	**Pit fill**	**Pit fill**	**Fill of raking out pit**	**Fire pit**	**Fire pit**	
Sample volume (ml)	**10**	**25**	**25**	**25**	**5**	**300**	**150**	**100**	
LATIN BINOMIAL									**COMMON NAME**
Corylus avellana (fgts.)		7					76	92	Hazelnut shell fgts.
Chenepodium / Atriplex spp.		2	2	15					Goosefoot / Orache
Stellaria media (L.) Vill				1					Common chickweed
Polygonum lapathafolium L.			2						Pale persicaria
Rumex spp. L.				10					Docks
Pisum spp. L.			1						Garden pea
Prunella vulgaris L.			1						Selfheal
Chrysanthemum segetum		9		3					Corn marigold
Carex spp.			1					1	Sedge
Scirpus spp.		1	2	4					Wood club rush
POACEAE		11	6	8					Grass Family
Avena cf. *sativa*		8	32	103					Oat (possible cultivated)
Hordeum spp.		36	2	4		3			Barley
Hordeum spp. lemna base		1							Barley lemna base

Triticum spp.		13	5	15					Wheat
Indeterminate cereal	7	131	50	218	5	7			Indeterminate cereal
Indeterminate glume base									Indeterminate glume base
Unidentified		1		1					Unidentified

Table II.7.2: Complete list of taxa recovered from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Ovens.

Sample	**1**	**3**	**5**	**27**	**28**	**33**	**74**	
Cut	**3004**	**105**	**105**	**184**	**184**	**166**	**283**	
Deposit	**3006**	**126**	**124**	**185**	**187**	**164**	**291**	
Feature type	**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill**	
Sample volume (ml)	**1650**	**550**	**80**	**400**	**100**	**10**	**100**	
LATIN BINOMIAL								**COMMON NAME**
Polygonum lapathafolium L.	1							Pale persicaria
POACEAE							1	Grass Family
Avena cf. *sativa*				1				Oat (possible cultivated)
Hordeum spp.			1	3	1			Barley
Triticum spp.					2			Wheat
Indeterminate cereal	4	2		5	8	5		Indeterminate cereal

Table II.7.2: Complete list of taxa recovered from deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Kilns, Corn Dryers, Ditches, Gullies and ?Tree roots.

Sample	**66**	**73**	**109**	**21**	**086**	**509**	**108**	
Cut	**249**	**283**	**137**	**137**	**154**	**5007**	**495**	
Deposit	**262**	**290**	**136**	**168**	**321**	**5067**	**494**	
Feature type	**Kiln fill**	**Kiln fill**	**Fill of corn dryer**	**Fill of corn dryer**	**Ditch**	**Gully**	**?tree roots**	
Sample volume (ml)	**100**	**150**	**35**	**5**	**10**	**200**	**380**	
LATIN BINOMIAL								**COMMON NAME**
Corylus avellana (fgts.)			2	2		7	12	Hazelnut shell fgts.
Chenepodium / Atriplex spp.			2					Goosefoot / Orache
Polygonum lapathafolium L.	2							Pale persicaria

Rumex spp. L.			1			2		Docks
BRASSICACEAE						2		Cabbage family
Raphanus raphanistrum L. (capsule)				1				Wild raddish (capsule)
Raphanus raphanistrum L. (capsule fgts)				2				Wild raddish (capsule fgts.)
Pisum spp. L.						1		Garden pea
Galium spp. L.							1	Bedstraws
Carex spp.			1					Sedge
POACEAE						500+		Grass Family
Avena cf. *sativa*	6		42	6		c.4000+		Oat (possible cultivated)
Hordeum spp.			3	3		18		Barley
Triticum spp.	25					34		Wheat
Indeterminate cereal	6	4	17	7	4	62		Indeterminate cereal
Indeterminate culm node			4					Indeterminate culm node
Unidentified	2		1			6		Unidentified

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Grave fills.

Sample		**092**
Cut		**163**
Deposit		**171**
Feature type		**Grave fill**
No fragments		**100+**
Max size (mm)		**9**
Name	**Vernacular**	
Quercus	Oak	29
	Indeterminate	71

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Mortuary Enclosure.

Sample		**508**
Cut		**5004**

Deposit		**5056**
Feature type		**Mortuary enclosure**
No fragments		**400+**
Max size (mm)		**25**
Name	**Vernacular**	
Corylus avellana	Hazel	100

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Kilns.

Sample		**051**	**101**	**52**	**53**	**54**	**66**	**73**	**74**
Cut		**237**	**388**	**237**	**236**	**237**	**249**	**283**	**283**
Deposit		**245**	**405**	**242**	**241**	**243**	**262**	**290**	**291**
Feature type		**Lining of kiln structure**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**	**Kiln fill**
No fragments		**2500+**	**2500+**	**1000+**	**5000+**	**5000+**	**200+**	**300+**	**200+**
Max size (mm)		**24**	**31**	**17**	**27**	**31**	**29**	**23**	**17**
Name	**Vernacular**								
Corylus avellana	Hazel							15	
Fraxinus excelsior	Ash	77				42	13	24	62
Quercus	Oak	23	100	100	100	58	42	40	
	Indeterminate						45	21	38

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Ovens.

Sample		**061**	**065**	**070**	**111**	**502**	**1**	**3**
Cut		**260**	**260**	**278**	**5009**	**5009**	**3004**	**105**
Deposit		**257**	**259**	**280**	**5023**	**5023**	**3006**	**126**
Feature type		**Fill of keyhole oven**	**Fill of keyhole oven**	**Fill of 8 shaped oven**	**Fill of oven**	**Charcoal layer in oven**	**Oven fill**	**Oven fill**
No fragments		**3500+**	**5000+**	**1500+**	**2000+**	**5000+**	**3000+**	**1000+**

Max size (mm)		**19**	**22**	**21**	**40**	**24**	**26**	**27**
Name	**Vernacular**							
Corylus avellana	Hazel	86	63	88		72	15	12
Salix / Populus	Willow / Poplar				22		8	5
Fraxinus excelsior	Ash	11	26	12	78	28	21	28
Quercus	Oak	3	11				39	55
	Indeterminate						17	

Sample		**5**	**27**	**28**	**55**	**83**	**98**	**103**
Cut		**105**	**184**	**184**	**272**	**299**	**382**	**473**
Deposit		**124**	**185**	**187**	**250**	**302**	**381**	**477**
Feature type		**Oven fill**	**Oven fill**	**Oven fill**	**Oven fill: re-cut**	**Oven fill**	**Oven fill**	**Oven fill**
No fragments		**500+**	**100+**	**200+**	**500+**	**300+**	**100+**	**2000+**
Max size (mm)		**21**	**29**	**24**	**22**	**19**	**12**	**35**
Name	**Vernacular**							
Corylus avellana	Hazel	86					27	25
Salix / Populus	Willow / Poplar		11	7			5	
Fraxinus excelsior	Ash		7	15		25		43
Quercus	Oak		38	49	100	54	33	
	Indeterminate	14	44	29		21	35	32

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Corn Dryer.

Sample		**109**
Cut		**137**
Deposit		**136**
Feature type		**Fill of corn dryer**
No fragments		**100+**

Max size (mm)		**12**
Name	**Vernacular**	
Alnus glutinosa	Alder	29
Corylus avellana	Hazel	17
Quercus	Oak	13
	Indeterminate	41

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Furnaces.

Sample		**069**	**110**
Cut		**278**	**249**
Deposit		**277**	**261**
Feature type		**Fill of furnace**	**Fill of bowl furnace**
No fragments		**4000+**	**100+**
Max size (mm)		**26**	**39**
Name	**Vernacular**		
Corylus avellana	Hazel	49	
Fraxinus excelsior	Ash	16	
Quercus	Oak	35	100

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Raking out pits.

Sample		**075**	**24**	**34**	**35**	**106**
Cut		**294**	**184**	**166**	**166**	**491**
Deposit		**292**	**183**	**165**	**169**	**492**
Feature type		**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**	**Fill of raking out pit**
No fragments		**2000+**	**1000+**	**100+**	**500+**	**500+**
Max size (mm)		**25**	**15**	**12**	**18**	**34**
Name	**Vernacular**					

Corylus avellana	Hazel	66			17	25
Salix / Populus	Willow / Poplar		17			61
Ulmus	Elm			12	5	
Fraxinus excelsior	Ash	8				7
Quercus	Oak	26	62	40	61	
	Indeterminate		21	48	17	7

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Fire pits.

Sample		**099**	**84**	**85**
Cut		**386**	**318**	**318**
Deposit		**387**	**319**	**322**
Feature type		**Fill of fire pit**	**Fill of fire pit**	**Fill of fire pit**
No fragments		**4000+**	**200+**	**200+**
Max size (mm)		**22**	**14**	**18**
Name	**Vernacular**			
Corylus avellana	Hazel		47	88
Salix / Populus	Willow / Poplar			4
Quercus	Oak	100	32	8
	Indeterminate		21	

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Pit fills. Taxonomy and nomenclature follow Schweingruber (1978). Numbers are identified charcoal fragment for each sample.

Sample		**008**	**050**	**089**	**41**
Cut		**133**	**218**	**340**	**218**
Deposit		**135**	**240**	**341**	**217**
Feature type		**Pit fill**	**Pit fill**	**Pit fill**	**Pit fill**
No fragments		**100+**	**1500+**	**2500+**	**100+**
Max size (mm)		**21**	**17**	**21**	**10**

Name	**Vernacular**				
Corylus avellana	Hazel		16		
Fraxinus excelsior	Ash			79	
Quercus	Oak	100	84	21	92
	Indeterminate				8

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Gullies.

Sample		**509**
Cut		**5007**
Deposit		**5067**
Feature type		**Gully**
No fragments		**400+**
Max size (mm)		**23**
Name	**Vernacular**	
Corylus avellana	Hazel	69
Salix / Populus	Willow / Poplar	31

Table II.7.3. Complete list of taxa recovered from deposits at deposits recovered off Llanbeblig Road, Caernarfon, Gwnedd (G2060). Tree roots.

Sample		**107**	**108**
Cut		**483**	**495**
Deposit		**482**	**494**
Feature type		**?tree roots**	**?tree roots**
No fragments		**5000+**	**500+**
Max size (mm)		**35**	**28**
Name	**Vernacular**		
Quercus	Oak	100	87
	Indeterminate		13

APPENDIX III: DESCRIPTIONS OF PHASE 3 EVALUATION TRENCHES
Cat Rees

Trench 1, plot B
Trench 1 measured 2m x 20m and natural was reached at an average depth of approximately 0.45m.

Two features were identified within this trench: [1000] a north-east to south-west orientated ditch and [1002] a small pit. Both of these features were located at the south eastern end of Trench 1.

Feature [1000] was a linear feature which ran the full width of the trench. It was approximately 1.00 – 1.10m wide and survived to a depth of 0.20m. The feature had gradually sloping sides and an irregular, slightly concave base. The orientation of the feature precludes its function as being drainage and this feature is interpreted as an old field boundary.

Ditch [1000] contained a single grey-brown clay-silt fill (1001). This fill contained occasional rounded and sub-rounded stone and very occasional small charcoal flecks. The formation of this material was interpreted as being through natural silting rather than through deliberate backfilling. Fill (1001) did not contain any artefactual material and is therefore undatable. It was however noted by the excavator that despite the presence of a reasonable amount of post-medieval pottery in the overlying top and subsoil none was present within the ditch fill hinting at the possibility of an earlier date.

Feature [1002] was a small sub-rectangular pit with rounded corners. The feature survived to a depth of 0.12m and measured 0.34m x 0.27m. A single fill (1003) was contained within the feature. This fill was similar to fill (1001) and contained no artefactual material.

Trench 2, plot B
Trench 2 measured 2m x 20m and natural was reached at an average depth of approximately 0.40m.

No archaeological features were identified within Trench 2.

Trench 3, plot B
Trench 3 measured 2m x 20m and natural was reached at an average depth of approximately 0.40m.

Two features were identified within Trench 3; a large sub-oval pit [3004] and a flue structure [3007]. The trench was extended to fully expose these features, and the oval pit and flue structure were shown to be elements of the same kiln/oven structure attributed the group number [3013].

The structure was cut as a single event and contained two distinct sections – a sub-circular oven or kiln Plot And a much larger sub-oval stoke pit. The kiln area was evidently heat effected and this zone extended out into the flue of the structure. The stoke area showed no evidence of burning. A layer of charcoal (3006) was present within the lower level of the kiln and spread out approximately half way into the stoke hole. This material is thought to represent the cleaning out of the final burning event of the structure and a sample of this deposit was taken. This was overlain by a layer of collapsed burnt clay from the kiln (3012). Both structural elements were filled by a series of silting deposits of mixed re-deposited natural.

Trench 4, plot B
Trench 4 measured 2m x 20m and natural was reached at an average depth of approximately 0.45m.

Three archaeological features were identified within Trench 4. Feature [4003] was a narrow east-west orientated ditch located at the south western end of Trench 4. The width of the feature varied between 0.42 and 0.45m in width and ran the full width of the trench. Feature [4003] had a shallow concave profile and survived to a maximum depth of 0.10m. The feature contained a single fill mid grey-brown clay silt fill (4004). This feature was thought to be a drainage ditch, but the later excavation showed it to be curving gully [5007] discussed in the main text.

Features [4005] and [4011] were much more substantial ditch features located to the northeast of [4003]. When the original trench was cut it was unclear how these features related to each other and the trench was extended. This proved that the features were in fact a single feature – a ditch with a right-angled corner. The ditch feature contained a series of silting fills indicative of the feature having been

left open over a prolonged period of time. No artefactual material was recovered. Later excavation proved that this was the corner of the large mortuary enclosure [5004].

A further feature was identified in the trench extension but it is not possible to illuminate further as to its form or function. This was as it was not fully exposed in plan due to the trenches position and was unexcavated.

Trench 5, plot A
Trench 5 measured 3m x 25m and natural was reached at an average depth of approximately 0.5m.

This trench was positioned to investigate the two square ditched features identified through aerial photography and geophysical survey. These two features were clearly identified along with a land drain which was also visible on the geophysical survey. In addition to these known features ten possible grave features were identified, three of which lay within a square ditched feature. All these features were investigated and recored in phase 4.

Trench 6, plot A
This trench was not excavated.

Trench 7, plot A
Trench 7 measured 10.00m x 10.00m and natural was reached at an average depth of approximately 0.45m. The trench was located so as to encompass a portion of the trench excavated during phase 2 and to investigate a geolphuysical anomoly. The feature identified through geophysical survey was not visible following the opening of Trench 7 and it is thought that two large glacial erratics were responsible for erroneous readings.

Two ditch features were excavated in Trench 7: one a very shallow northeast – southwest aligned linear containing no dating evidence, the other an irregular northwest-southeast aligned linear containing post-medieval material. This larger feature is believed to have been an old field boundary, possibly in the form of a hedgerow. The feature identified as a possible ditch terminus in the previous excavation was shown to be a pit.

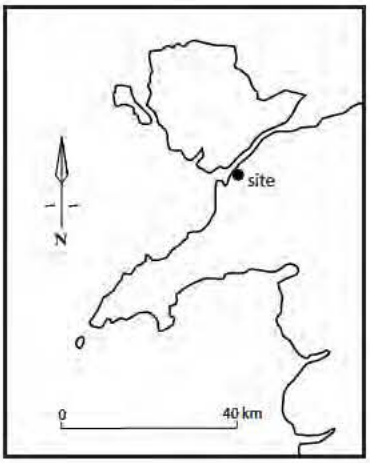
Trench 8, plot C
Trench 8 measured 2m x 20m and natural was reached at an average depth of approximately 0.5m.

A number of features including a three course brick wall were identified during the excavation of this trench – all of which were proven to be of modern (later than 1918) in date. These features are thought to be associated with the greenhouses shown on the 1918 ordnance survey map or with the demolition of these structures.

Figures and Plates

Figures

Plates



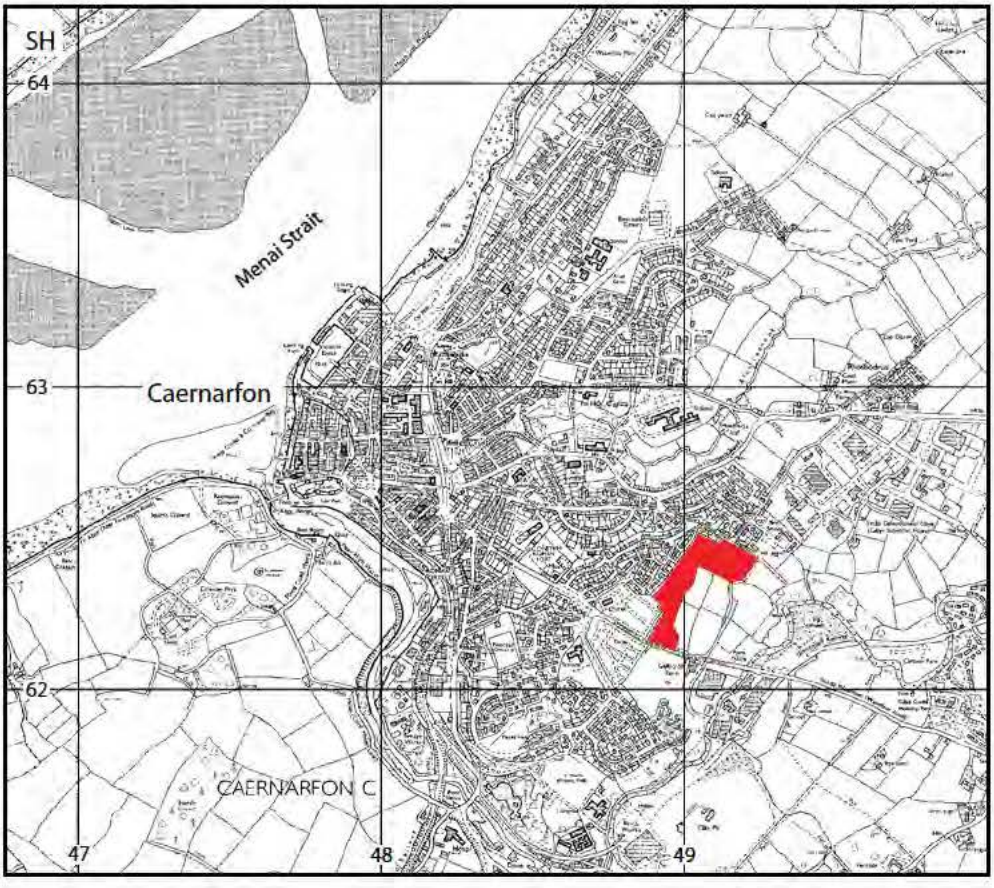


Figure 1. Location of the site (shown in red)

490

492

624

622

Lôn Eilian

Ffordd Coed Marion

Lôn Tŷ Gwyn

T3

T4

mortuary enclosures

Plot B

T2

T1

early medieval cemetery

T5

Plot A

T7

phase 2
T1

remains of farm buildings

Plot D

Plot C

glasshouses

T8

Ffordd Llanbeblig

SH

Key

- early medieval features
- ovens
- possible early ditches
- Other early features
- Natural features
- post-medieval walls
- post-medieval ditches
- post-medieval pits
- possible post-medieval pits
- Plot boundaries
- Limit of excavation
- Evaluation trenches

0

100m

Figure 2. Location of plots, evaluation trenches and features

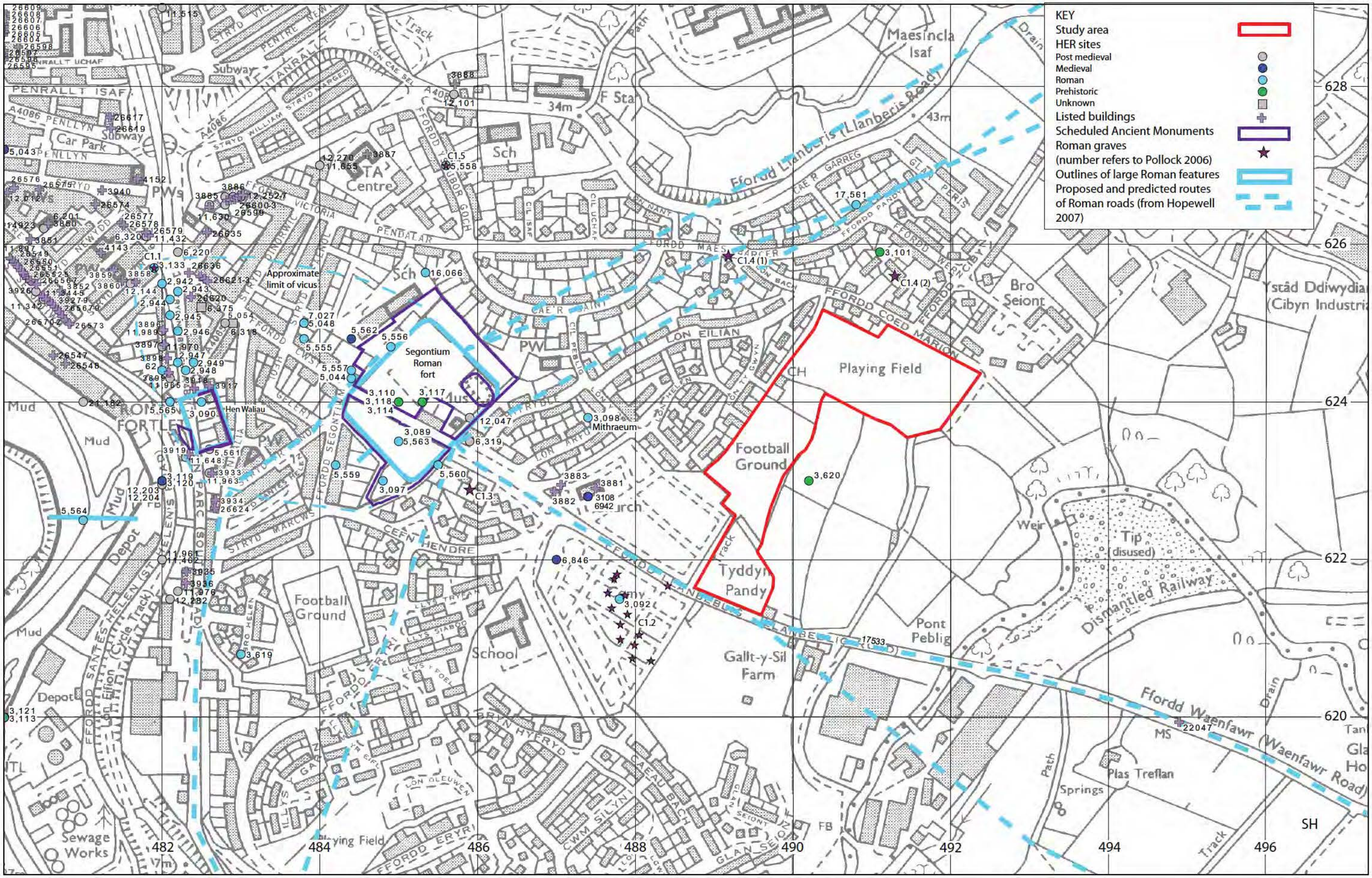


Figure 3. Location of HER sites and listed buildings near the site
Based on OS 1:10,000 scale maps. © Crown copyright. All rights reserved. Licence number AL 100020895.

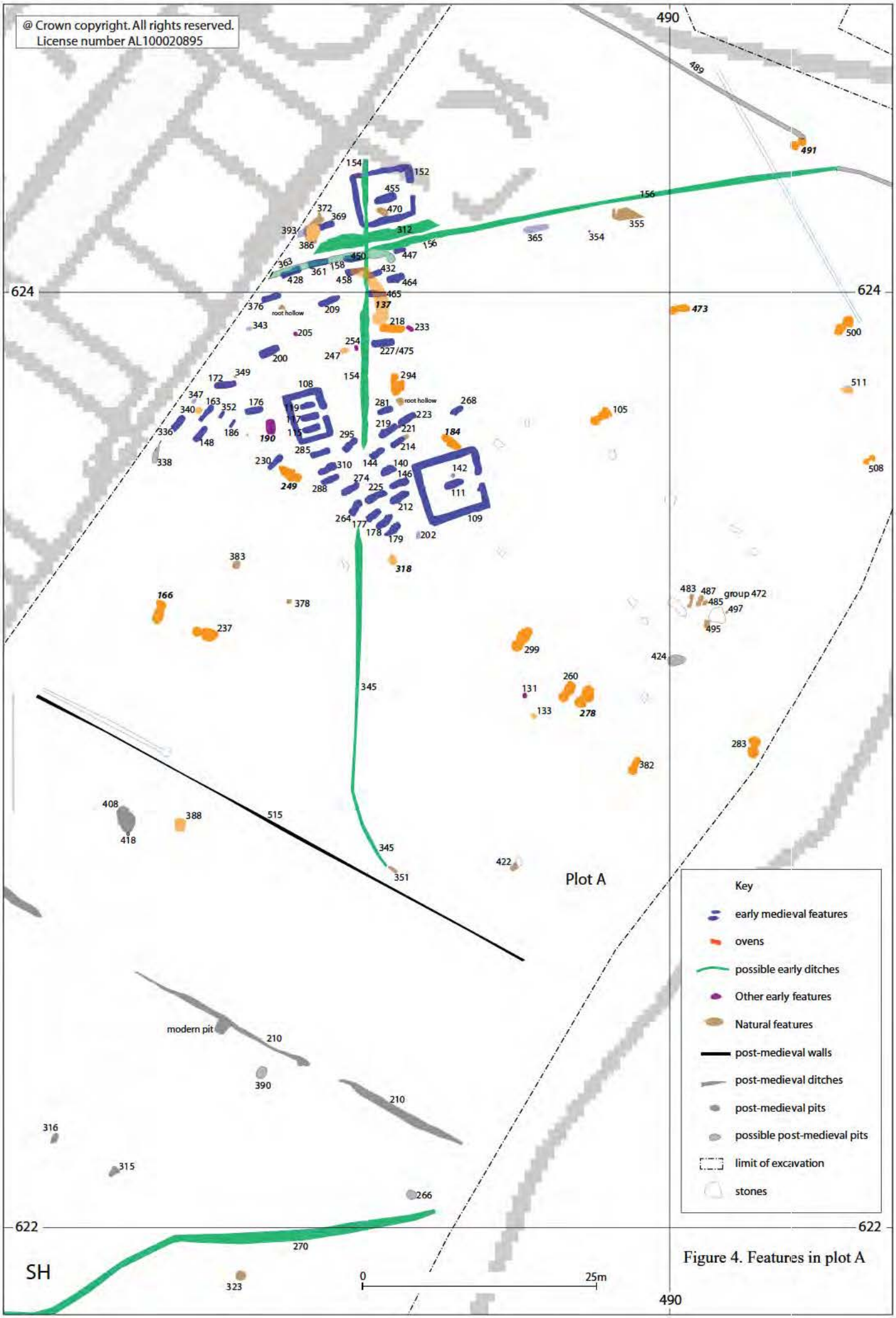


Figure 4. Features in plot A

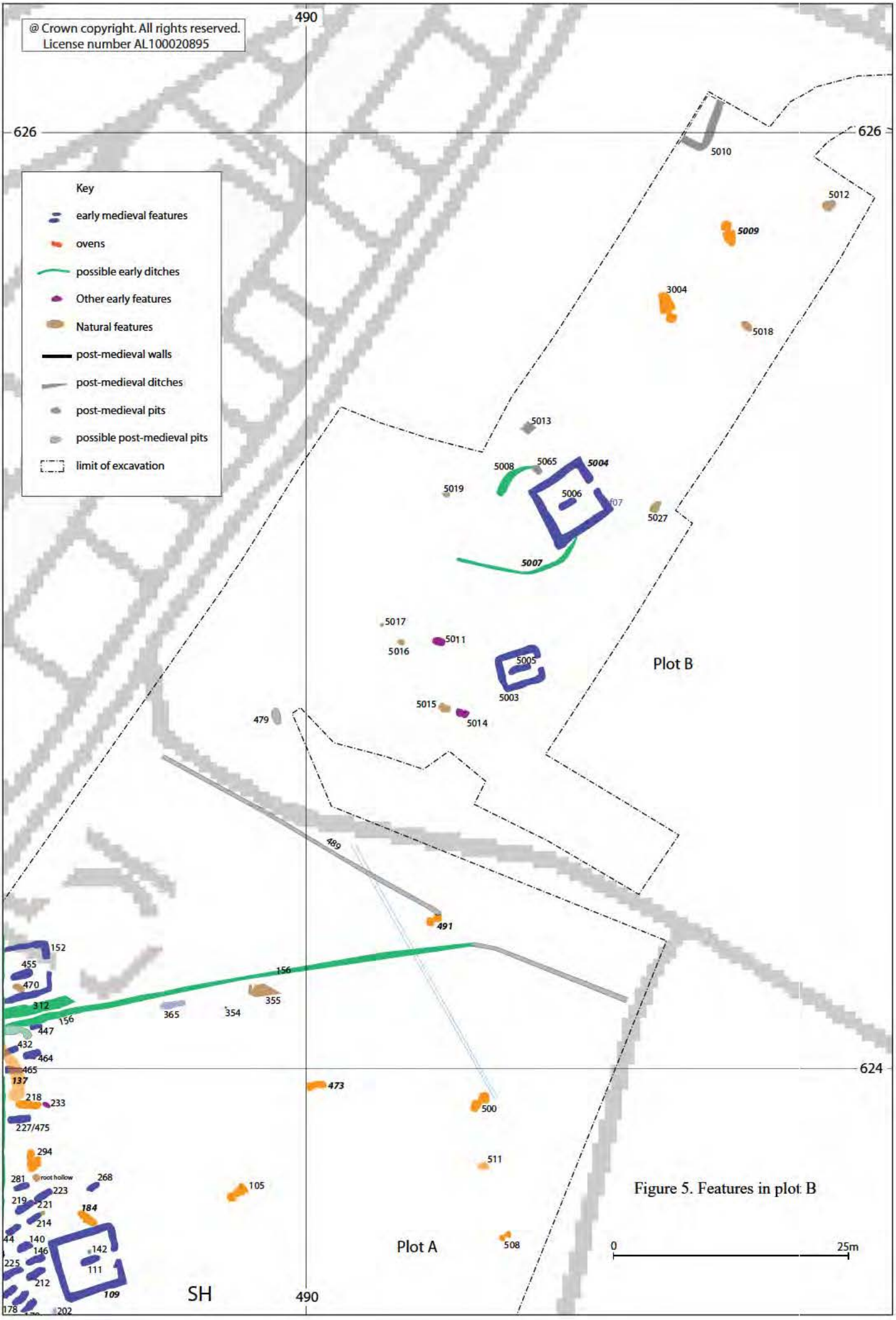


Figure 5. Features in plot B

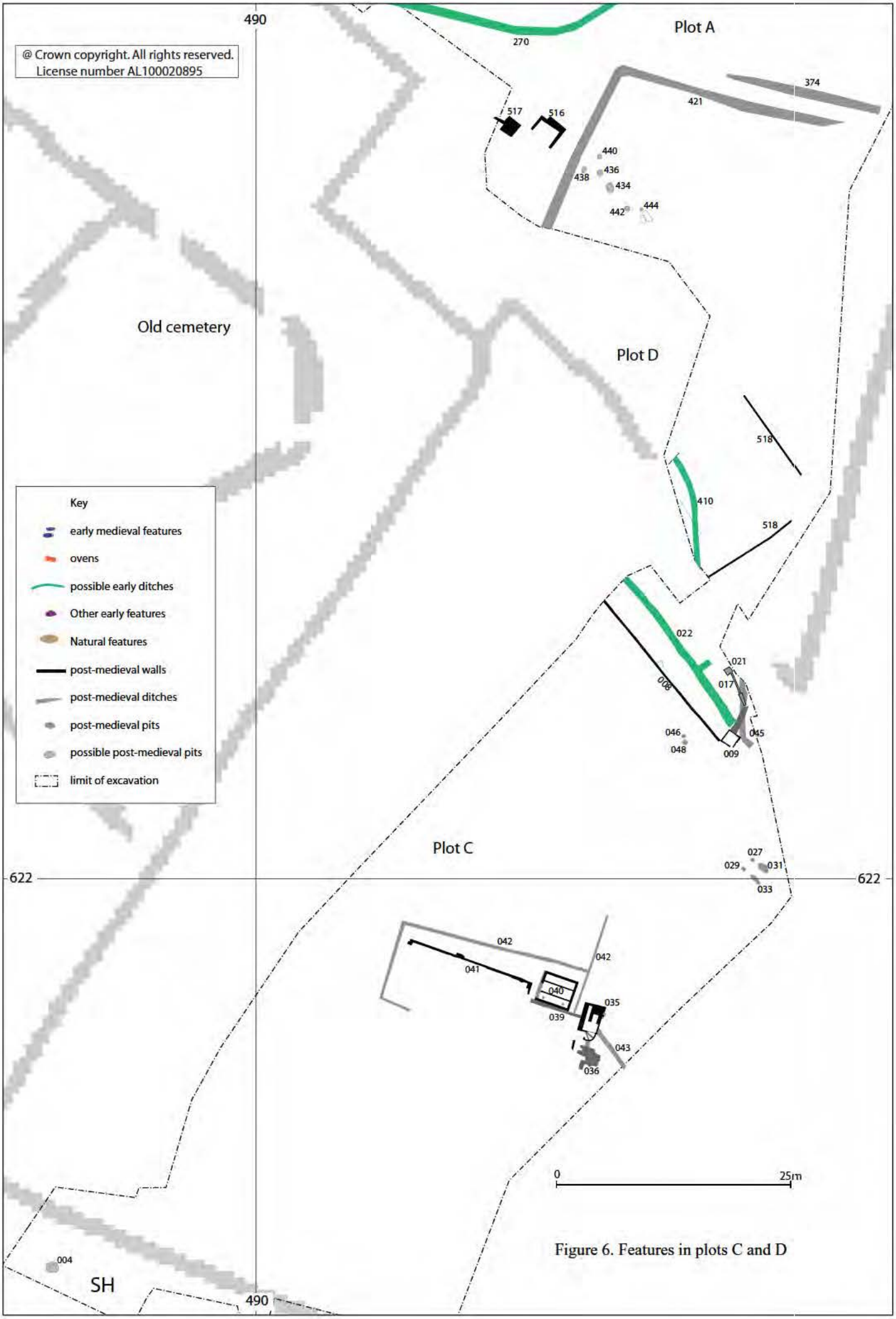


Figure 6. Features in plots C and D

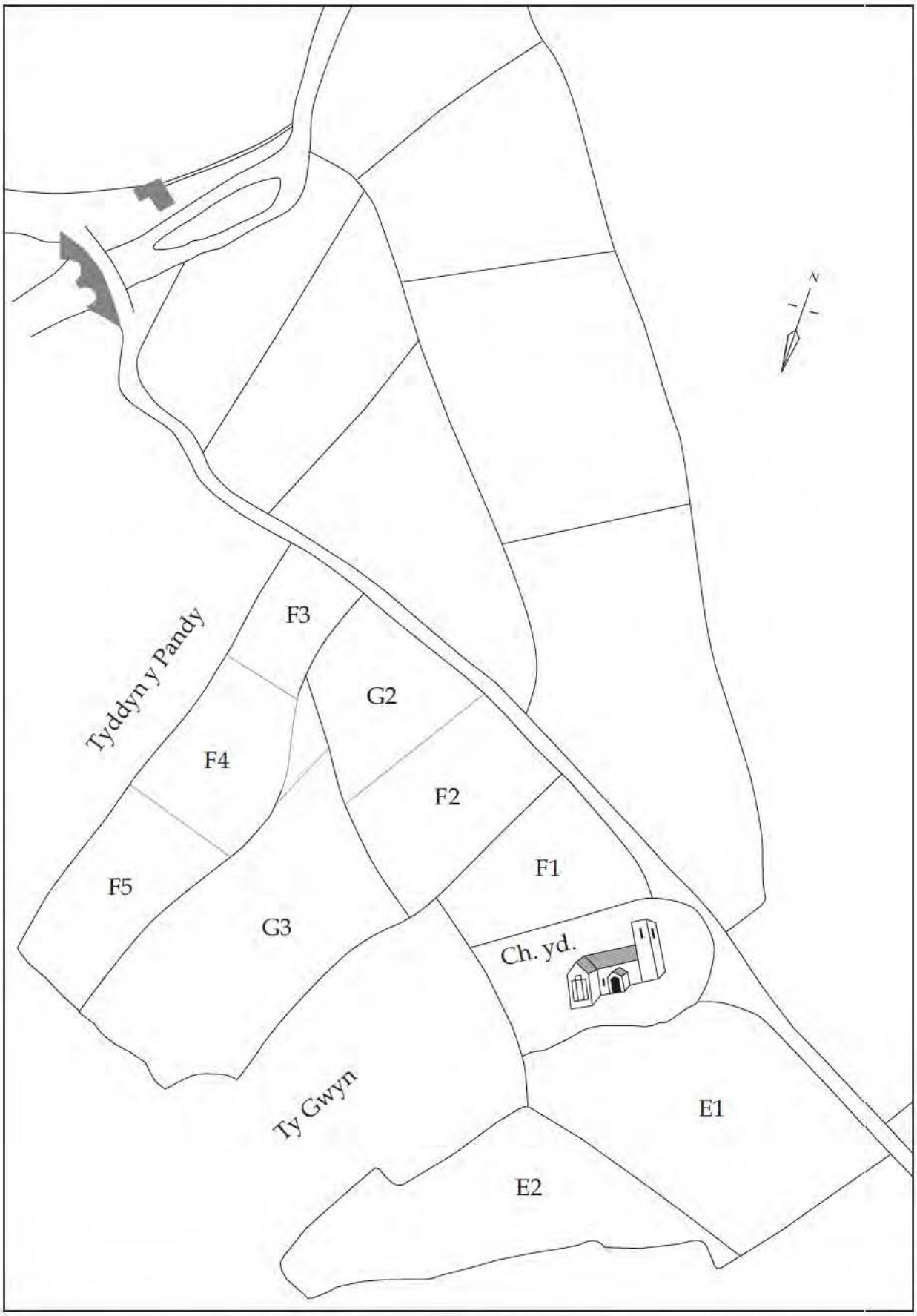


Figure 7. Part of the 1777 survey of Vaenol Estate (Vaynol Papers 4056, p97)
Plot A is marked as 'G3'

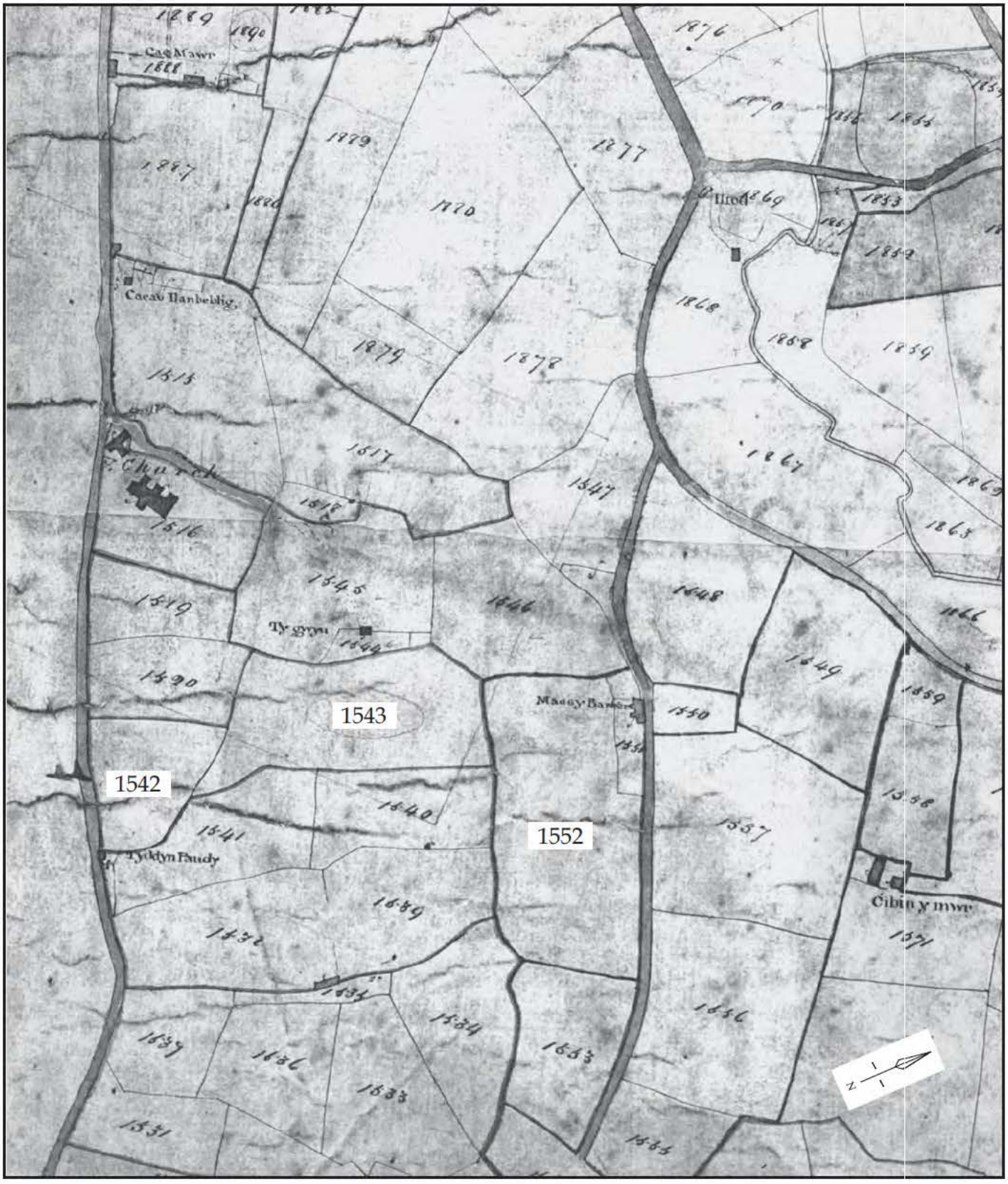


Figure 8. Part of 1842 tithe map for the parish of Llanbeblig
Plot A is the field marked '1543', plot B is land parcel '1552' and plot C is '1542'

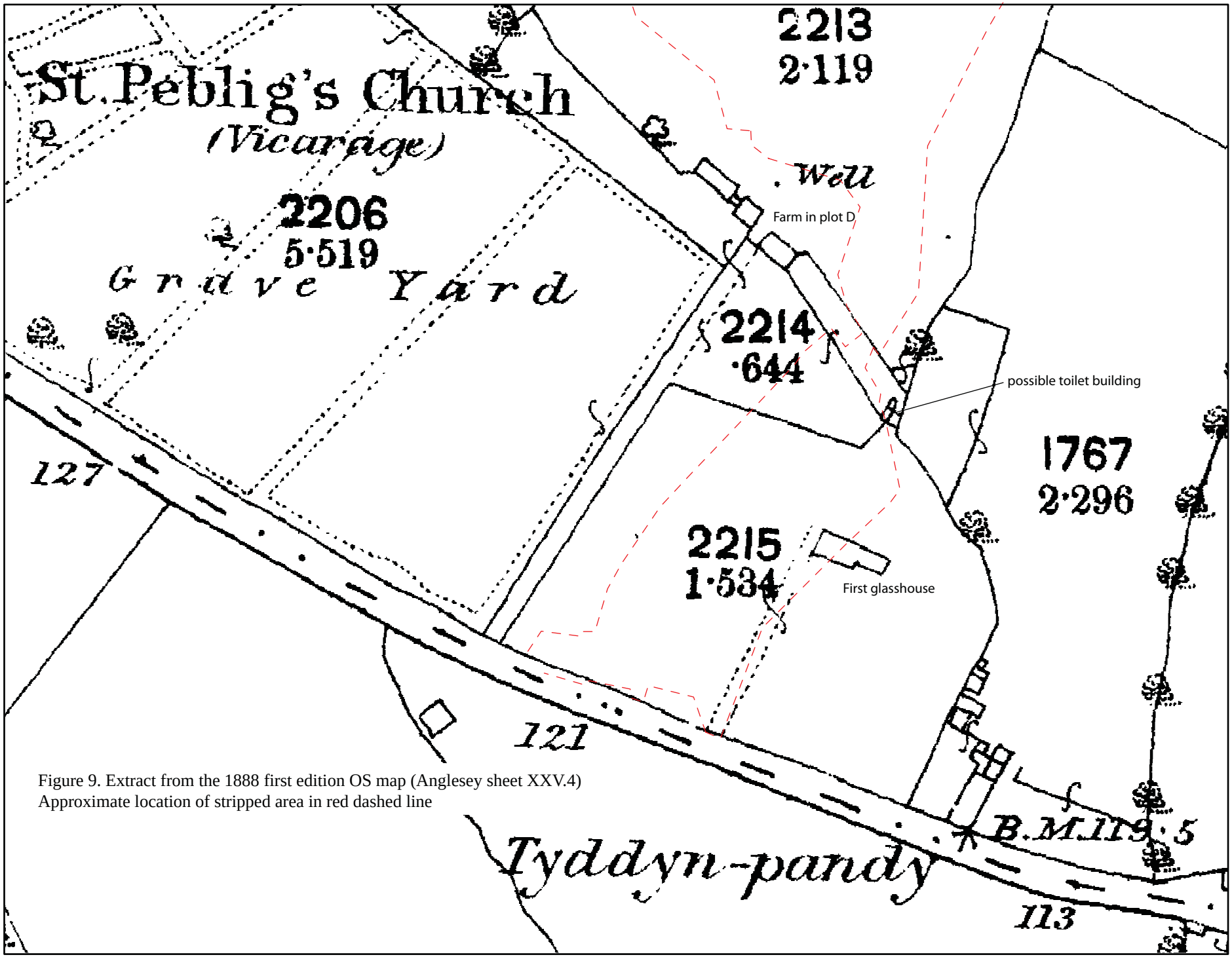


Figure 9. Extract from the 1888 first edition OS map (Anglesey sheet XXV.4)
Approximate location of stripped area in red dashed line

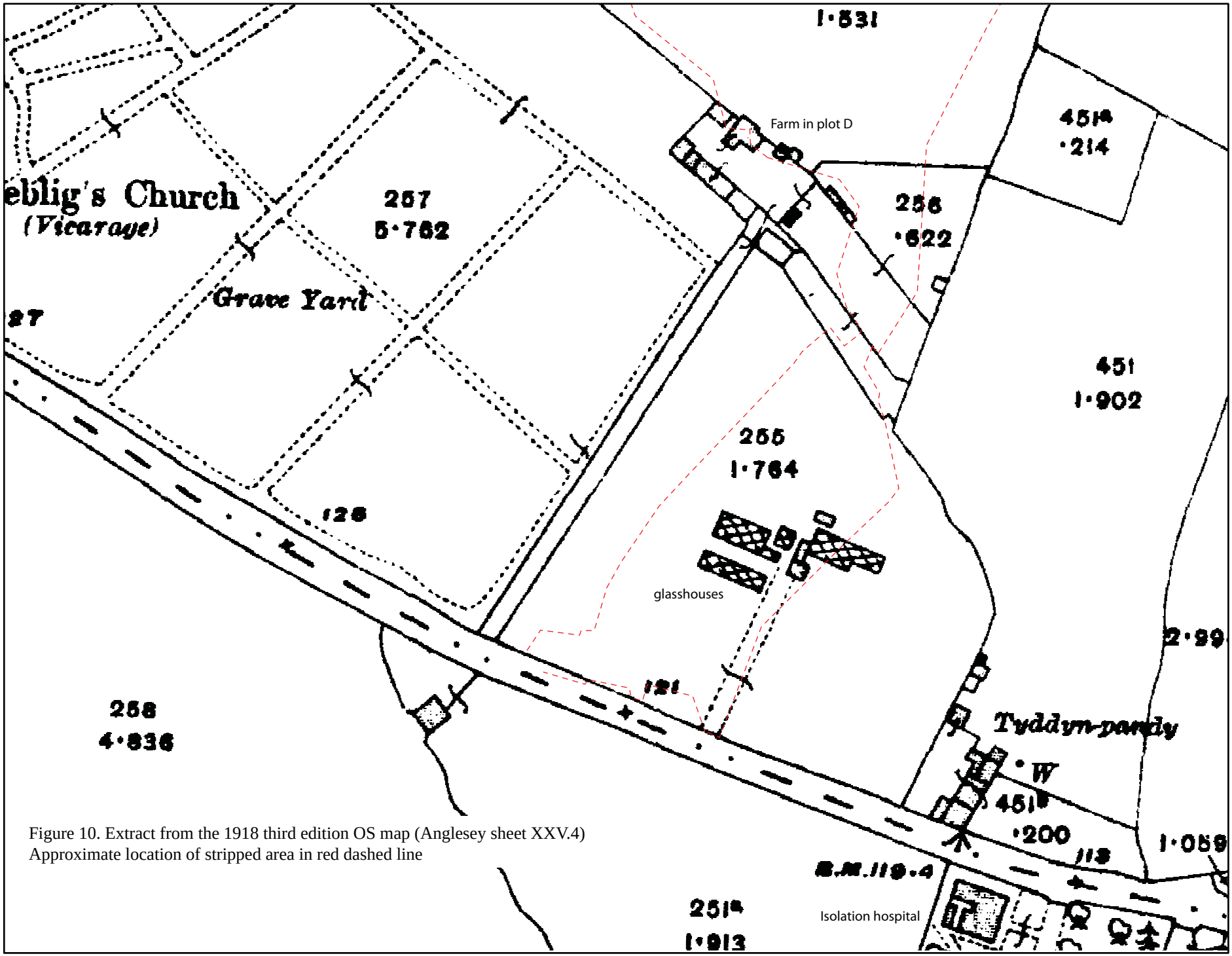


Figure 10. Extract from the 1918 third edition OS map (Anglesey sheet XXV.4)
Approximate location of stripped area in red dashed line

Plate 1. Aerial photograph of plot A in 2006
(copyright Royal Commission on the Ancient and Historical Monuments of Wales)

Plate 2. Aerial photograph of the cemetery in plot A during phase IV excavations in 2010
(courtesy of Gwynedd Archaeological Planning Service)

Plate 3. Mortuary enclosure [108] and graves from east

Plate 4. Mortuary enclosure [109] and graves from south-east

Plate 5. Mortuary enclosure [152] from east

Plate 6. Grave [5006] from north-east

Plate 7. Grave [200] from north-east

Plate 8. Graves [219] and [223] from north-east

Plate 9. Section of grave [200] showing stones built up against the sides from north-east

Plate 10. Mortuary enclosures [5003] and [5004] in plot B from south

Plate 11. Possible plank stain in grave [5005] from north-east

Plate 12. Sf507 and other stones in corner of mortuary enclosure [5004], from south-east

Plate 13. Sf504 in top of fill of grave [5005], from south-west

Plate 14. Oven [5009] fully excavated from north-west

Plate 15. Oven [105] fully excavated from north-east

Plate 16. Oven [184] half excavated from south-west

Plate 17. Ovens [278] and [260/279] half excavated from north-west

Plate 18. Oven [5009] half excavated showing collapsed roof material over fire chamber from south-east

Plate 19. Oven [249] half excavated showing collapsed roof material in fire chamber from south-west

Plate 20. Section of fire chamber in oven [5009] showing red collapsed roof material, from north-east

Plate 21. Section of oven [260] showing raked-out layers, from north-east

Plate 22. Section of oven [5009] showing layers built up in rake-out pit, from north-east

Plate 23. Structure (035) from the south-west

Plate 24. Structure (035) with structure (040) and other glasshouse remains in the background, from the south-east

Plate 25. Structure (009) from the south-west

Plate 26. Structure (009) and related features from the north

Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

Craig Beuno, Ffordd y Garth, Bangor, Gwynedd. LL57 2RT
Ffon: 01248 352535. Ffacs: 01248 370925. email:gat@heneb.co.uk