

Llaniestyn Churchyard Extension, Llanddona, Anglesey

Archaeological MAP2 Phase 4 Report (Analysis and
Report Preparation)



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Llaniestyn Churchyard Extension, Llanddona, Anglesey

Archaeological MAP2 Phase 4 Report (Analysis and Report Preparation)

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Non-Technical Summary

Gwynedd Archaeological Trust has been commissioned by Cyngor Ynys Môn to complete a post-excavation analysis and report on the information recovered from the excavation of an early medieval cemetery at St Iestyn's Church, Llanddona, Ynys Môn.

Sixty-one graves and associated features were identified during the archaeological mitigation. Thirty-one features, including a mortuary enclosure and 26 graves, were fully excavated, the remaining features and graves, located under the proposed road and car-park area, are to be preserved in situ.

The opened areas did not cover the full extent of the medieval cemetery. Whilst a possible edge to the burial ground was noted to the east, due to no further graves, and also to the south, the limits of the cemetery remain unknown. It appears likely however to have been an unenclosed cemetery, without a defined boundary enclosure.

The exposed areas of the medieval cemetery appear to have two focal areas: one consisting of 27 graves to the north-west, only one of which, Grave 21, has been excavated and one centred on the mortuary enclosure to the east consisting of 26 graves and associated features, most of which were excavated. Grave 19 was found to be a complex feature consisting of two graves within a mortuary enclosure and with subsequent activity associated with it. Neither cluster of graves would appear to be completely within the stripped areas, so this view may need to be modified in future, however there do appear to be no graves to the south west. This could possibly be as a result of the desirability of placing graves close to an important focal grave such as the mortuary enclosure or as a result of family or clan groupings.

The graves were a mixture of dug graves, 18 graves, and those with cist and packing stones, 29 graves, over both clusters of graves. Three of these contained quantities of surviving human bone. It appears that the variable, albeit very limited, preservation is due to a different soil morphology created where the bone had been protected by collapsed capping stones.

In general, the burials are morphologically of a type typically seen in early medieval cemeteries in the area from about 500AD to 1100AD, and it would seem likely that the burials date from this time, as a precursor to the current church site of St. Iestyn to the north-west which is believed to date from around 1100AD. The only radiocarbon dates available

from charcoal from within Grave 19a provided two calibrated dates of 707AD +/-33 and 727AD +/-33, and whilst these give no indication of the duration of the use of the cemetery, they fit well within the date range for the use of burial practices of the type identified at the site. The information recovered from the osteological and environmental analysis was of fairly limited value, although it did provide information that enabled the graves within the mortuary enclosure to be dated.

The stones used to make the cists were all of local origin, of which seven appeared to be worked and re-used from some previous structures. These stones can be suggested to have come from a building situated in the vicinity of the cemetery, the whereabouts of which is not known. The building must have been earlier in date than the cemetery, and a Roman date seems likely as stone buildings are not known in the area in the early post-Roman period.

It is recommended that a final report be prepared for publication and dissemination in a Welsh archaeological peer-reviewed journal, such as Archaeologia Cambrensis or Archaeology in Wales. This should be coupled with a brief comparison and analysis with the more limited work recently carried out at a similar cemetery at Llanbedrgoch, Ynys Môn.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was initially asked by *Cyngor Ynys Môn* to complete a post-excavation Assessment of Potential for Analysis of artefacts and ecofacts recovered following an archaeological controlled strip and excavation in advance of groundworks associated with a cemetery extension to the south-east of St Iestyn's Church, Llanddona, Ynys Môn (centred on NGR SH58577955; Figure 01; HER Primary Reference Number (PRN) 60985). The work took place under Planning Application No. 22LPA987/CC.

The initial cemetery extension proposal measured approximately 61m by 45m and was located within an enclosed field to the southeast of St Iestyn's Church (PRN 2659 & 7024) and to the east of Ty'n Llan House (PRN 6477; Figure 01). The extension area was designed to accommodate 207 burial spaces and include a boundary wall, access road with parking and an internal footpath (as indicated on client drawing 027.68.81.01). The proposals were modified as a result of the archaeological activity, resulting in a reduced footprint being made available for burials.

Sixty-one graves and associated features were identified during the archaeological mitigation. Thirty-one features, including 26 graves, were fully excavated, the remaining features and graves, located under the proposed road and car-park area, are to be preserved in situ (Figure 02).

The project was monitored by GAPS for the duration of the work. GAPS are tasked also with the monitoring all subsequent phases, including all post-excavation work and reports.

The post-excavation work is being undertaken as a phased process in accordance with guidelines specified in *Management of Archaeological Projects – MAP2* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2015). Five project phases are specified in *MAP2* (English Heritage, 1991):

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

The current report specifically relates to the analysis and report preparation (MAP2 Phase 4). Dissemination will be undertaken as part of MAP2 Phases 5.

The MAP2 Phase 4 Analysis involved the collation and analysis of the results of the recommendations of the Phase 3 assessment report, including reporting on the carrying out of radiocarbon dating recommended at Phase 3 of the project. The resultant analysis, along with contextualisation of the site, forms the basis of the report.

The archaeological work was undertaken in accordance with the following guidelines:

- English Heritage, 2015, *Management of Research Projects in the Historic Environment (MoRPHE)*.
- English Heritage, 1991, *Management of Archaeological Projects*
- English Heritage 2005 *New Guidelines for the Treatment of Human Remains Excavated from Christian Burial Grounds in England*
- English Heritage, 2011, *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation*. English Heritage Publications. Swindon.
- McKinley, Jacqueline I. and Roberts, Charlotte 1993, *Excavation and post-excavation treatment of cremated and inhumed human remains*. CIFA Technical Paper No. 13
- Royal Commission on Ancient and Historic Monuments of Wales 2015 *Guidelines for digital archives*.
- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2009 and 2014).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists, 2008 and 2014).

1.1 Acknowledgements

Wyn Jones of *Cyngor Ynys Môn* is thanked for all his guidance and practical assistance with this extended project, often in trying circumstances. The assistance and advice of Jane Kenney of GAT in the production of this report is gratefully acknowledged. The help of Jenny Emmett and Ashley Batten of GAPS is also acknowledged here.

2 PROJECT BACKGROUND

2.1 Introduction

The regional Historic Environment Record (Gwynedd Archaeological Trust, Craig Beuno, Garth Road, Bangor LL57 2RT), indicates that the known archaeological sites within the local area includes:

- Primary Reference Number (PRN) 2662 (SH58337961): Ffynnon Iestyn Well - Medieval Holy Well
- PRN 2659 (SH58507959): St. Iestyn's Church - Medieval Church. Grade II Listed Building
- PRN 7024 (SH58507959): Llaniestyn Parish Church – Medieval/ Post-medieval Church. Grade II Listed Building
- PRN 6477 (SH58537956): Ty'n Llan House - Post-medieval House

Both PRN 2659 and 7024 (Figure 01) relate to the Llaniestyn parish church which is dedicated to St. Iestyn. The present single cell church dates to the 12th century, with a 14th or 15th century east extension. The church includes a 14th century relief carving of St. Iestyn, probably commissioned by the patron who rebuilt the church at that time, Gwenllïan ferch Madoc and her nephew Gwilym (Haslam *et al.* 2009, 146). The church is bounded by an irregular dry stone wall, with an entrance to the southeast.

2.2 The Watching Brief

A watching brief took place from the 24th September 2015, with stone lines grave identified on 7th October 2015, and this was managed by Anne-Marie Oattes of GAT. The site was then cleaned and planned. One grave (Grave 21; Figure 02) was fully excavated as a sample to test for the level of bone preservation on the site.

This phase of work identified 31 early medieval graves. The details of this phase of the work are covered in the first interim report (Evans *et al.* 2015; Report 1277).

2.3 Controlled Strip and Excavation

The discovery of the graves in the watching brief phase of the work, and the likelihood of their presence extending further than the stripped area resulted in an archaeological controlled strip being required by GAPS of an area to the south of the proposed footpath area running west east of the site, which was to house the new burial plots. The first phase of this was carried out on the 11th and 12th January 2016, covering an area of approximately 40m by 5m. This was cleaned archaeologically in advance of survey and full excavation. Following the full excavation of this area to the south of the proposed cemetery footpath, ten further graves were recorded.

A further eight graves were identified during the topsoil stripping of a second 40m by 5m strip to the south of the earlier one. This was carried out on 16th and 17th February 2016, and involved the excavated topsoil being placed on the earlier opened strip. Twelve features were identified, eight of which were identified as graves. Three further features (52, 55 and 59) were identified within 1m of the southern edge of the excavation. They appeared to be further graves which extended beyond the limit of excavation. These were not excavated and will be preserved *in situ*.

The archaeological work resulted in a west-east orientated strip of land approximately 40m by 15m being made available for contemporary burials, with between 80-90 plots being created. The extent of the cemetery has been limited to this area in the short to medium term.

The archaeological mitigation was completed between September 2015 and March 2016 (Figure 02; GAT Report 1308). Forty-Seven graves and associated features were identified in total (Figure 02), of which, 31 features (including 26 graves) were fully excavated; the remaining features and graves, located under the proposed road and car-park area, were preserved *in situ*.

2.4 Post- Excavation Analysis

The interim and assessment of potential reports contain outline narratives for the sites and artefact and ecofact assessment carried out by specialists (Evans 2016 and 2017). These have been integrated and expanded, and closer consideration of the features also leads to an improvement in the understanding of the stratigraphy of the site. The context of the artefacts and ecofacts and their distribution over the site and their implications for the

function of the site has been considered. In addition to the site narratives and specific discussion of detailed features a full discussion investigating the issues raised by the excavation has been written. This includes contextualisation with comparable sites to allow full interpretation of the features and comparisons and contrasts with contemporary sites. This enables the site to be placed in its local and regional context.

3 THE EXCAVATION

For the purposes of this section, context numbers within square brackets (e.g. [05]) represent cut features, such as the grave, pits, ditches etc., and context numbers within round brackets (e.g. (08)) represent deposits and fills. Structural remains are indicated by curved brackets (e.g. {24}). Unless otherwise stated graves are orientated east-west, between 80° and 100°

3.1 Introduction to the Excavation

Sixty-one features, including graves, were identified over the entire site; however, only the thirty identified in the current phases were to be fully excavated. The remainder were to be preserved *in situ* (Plate 05). Upon excavation six proved to be ephemeral non archaeological features. Three features were noted close to and under the southern site edge, and these will be preserved *in situ* (Features 52, 55 and 59). Twenty-four graves were fully excavated in total (excluding the previously excavated Grave 21) and five other features. The overall site plan is presented as Figure 02, with the excavated features shown in detail in Figures 03 to 07.

However Grave 19 was found to be a complex feature consisting of two graves (19a and 19b) within a mortuary enclosure and with subsequent activity, including the digging of a third grave, associated with it. This feature was fully excavated during the first of the two subsequent phases of excavation work.

The features identified on the site are discussed below considering the site as a whole. They are shown and numbered on Figure 2. Graves and features shown fully shaded on the plan were fully excavated, and those shown in outline have been previously cleaned and recorded, but will be preserved *in situ*. Those shown in red were graves with evidence of stone cists, 29 in number. These were constructed of local schist unless otherwise specified. Those in yellow were earth dug graves, 21 in number and those in blue were features that were not graves. The mortuary enclosure is shown in green.

The archaeological deposits were noted to underlie a subsoil deposit of mid orangey brown silty clay loam (31), which was up to 0.11m deep. This was overlain by a topsoil of dark brown clay silt loam, up to 0.28m deep (01). These deposits were noted across the site, although the subsoil was shallower to the north-west, probably due to colluvial slippage to the south and east. All the archaeological deposits were cut into a mid-yellowish orange

boulder clay, with some large stone inclusions (08). This deposit is considered to be glacial and extends over the entire open area of the site. Patches of glacial deposited stone were noted within this deposit, some of which were initially interpreted as archaeological features but were subsequently found not to be so. All archaeological features are shown in detail on Figures 03 to 07.

3.1.1 Geology and Soil Morphology

The soil morphology consists of typical brown earths of the East Keswick 1 Association (BGS 1980), overlying schists and Gneisses of the Mona Complex and Gwna and Fydyln Groups. These consist of a varied sequence of grits, shales and some limestones, interbedded with sodic spilitic lavas and tuffs. Many of the limestones are oolitic or coarsely pisolitic (Smith and George 1961, 8-9).

3.2 Graves

3.2.1 The Mortuary Enclosure

(Feature 45, containing Graves 19a, 19b and 46; Figure 05, Plate 02)

Graves 19a and 19b were noted to be surrounded by a rectangular mortuary enclosure ditch, Feature 45, cuts [11, 13]. It was about 4.8m by 4.5m and the ditch profile was rounded, 0.75m wide and about 0.2m deep, although the width is variable. The enclosure was orientated east-west. The enclosure ditch had an entrance on the eastern side, with the two ditch termini clearly visible (Figure 05). It was clearly visible on the south side of Feature 19, and also to the east and west, but less so on the north where it had been disturbed by later features. It was filled by a mid-orangey brown silty clay containing small rounded and sub angular stones, and a small amount of charcoal (10,12). The mortuary enclosure was cut on the northern side by Grave 46 [25], with only an 'L' shaped section surviving at the north east of the enclosure.

The northern of the two enclosed graves (Grave 19a) consisted of a sub rectangular cut 2.08m by 0.84m and 0.5m deep with sharp break of slope to the sides and moderate to the base [20]. The main fill of the grave consisted of brownish grey clay silt with moderately frequent sub angular coarse gravel inclusions (21). Rough packing stones {41} were noted on the south side. These, 0.3m wide, had the effect of narrowing the width of the grave. Their straight edge with the grave fill (21) on the north side suggests that they were placed in the

grave after the insertion of a coffin or wooden surround in the grave (Plate 04). Dressed stones were set around the north, east and west sides of the grave cut in the upper part of the grave fill (40, small find 9). They seem to form a kerb around the grave (Plate 03-06).

The southern of the two associated graves surrounded by the mortuary enclosure (Grave 19b), consisted of a sub rectangular grave cut 2.12m by 0.87m and 0.39m deep [22]. The main fill of the grave cut consisted of a mid-brown clay silt, with occasional rounded stones and gravel (23). Rock crystal was obtained from this deposit (small find 6). An edging of stones (small find 8) was set along the southern side and part of the eastern edge of the southern grave, forming a kind of kerb {24}. The stones were not as regular or worked as {45}, within the adjacent grave [20], but still fairly regular. They were roughly rectangular in shape and up to 0.3m by 0.25m and 0.1m thick. The stones were tightly set together without bonding, and there was no evidence of an independent cut, suggesting that they were placed at the top of the grave after backfill deposit (23) had re-filled the grave, and above the likely level of the body.

The evidence from the mortuary enclosure graves suggests that some attempts at monumentality were involved in its construction.

Grave 46 consisted of a sub rectangular grave cut 2.64m long and up to 0.61m wide and 0.44m deep, with rounded corners and near vertical sides and a level base [25] (Figure 05, 07). It was cut into the northern side of the mortuary enclosure (34) around Grave 19. Two possible stake holes [42], fill (35) and [43], fill (36) and a pit or posthole [44] were cut into the top of this feature. Pit [44] was noted cutting into the central section of (26), the grave fill, and was 0.7m in diameter and 0.81m deep. It was filled with a mid-grey brown sandy silt loam with a boulder placed in the centre and with medium sized cobbles. A significant amount of charcoal (<5%) was noted within the deposit.

The main fill of the grave (26) was a darkish brown sandy clay loam with grave and rounded cobbles. Below this a primary fill of dark brown sandy silt loam was noted (34) which lay above the grave cut [25]. The possible stake holes were 0.08m by 0.07m and 0.4m deep, and contained a very dark brown silt loam. Their very ephemeral nature makes any interpretation of these very tentative at this time.

The interpretation of this feature is confusing. It is aligned east west and is similar in dimensions, though narrower than the grave cuts [20] and [22] which form grave 19. No evidence for human remains or cist stones were found within the cut and it is cut exactly

over the mortuary enclosure ditch, so it could be a recut section of ditch. However the depth and length suggest that it is a grave, of later date than the mortuary enclosure. Pit [44] would appear to be a later feature cut into the grave fill (26), and was probably not related to it, although it could represent a post hole for a wooden post that formed an element of monument superstructure.

3.2.2 *Grave 16*

Grave 16 consisted of a sub rectangular cut with sharp breaks of slope and steep concave sides [69], 2.16m long, 0.78 wide and 0.29m deep (Figures 04, 06). The cut is slightly larger than the grave space due to substantial grave capping and cist stones {71}. A deposit above the capping stone (70) contained a quartz pebble that was retained (small find 10). The capping stones consisted of loose irregular slabs up to 0.4m by 0.35m of mudstone. The side stones were of local schist up to 0.5m by 0.35m, and formed a clear cist arrangement. The capping stones appear to have collapsed into the grave, one of which was retained (small find 25). The main fill of the grave was mid-orangey brown silty clay with sand (75). It contained small fragments of charcoal and human bone, which were poorly preserved, and seem only to have survived at all because they were sealed beneath the capping stones. One 0.09m by 0.04m length of upper femur was noted in a very fragmentary condition (small find 15), and fragments of tibia or fibula from both lower legs (small finds 16 and 17). Due to the high acidic content of soil and wet conditions when excavating the bone was very fragmentary, and had to be removed with fill attached in order to keep them as intact as possible.

A fill above the capping stones {71} appears to have been a deposit that fell into the grave when the capping stones collapsed into it. This suggests that the cist still had a void with the body in it at the time of the collapse of the capping stones. A surrounding fill between the stones and the grave cut (80) was noted. This was a mid-grey brown silty clay between 0.04m and 0.08m thick. Along the southern edge of the grave the fill was a relatively thin layer, but increased along the north and east sides of the grave.

3.2.3 *Grave 18*

Grave 18 consisted of a cut 2.3m long and 0.64m wide, with a sharp break of slope and near vertical sides with a gently sloping east to west base [78] (Figure 04, 06). The main fill was a mid-greyish brown clay silt, with no evidence of surviving human remains (77). Two large

rough uncut slabs, and one regular stone possibly acted as marking stones at either end of the grave {79} as they protruded above the cut, and a third displaced stone were encountered. These are best interpreted not as cist stones but as markers at either end of the grave. One marker stone was retained (small find 24).

3.2.4 Grave 20

Grave 20 consisted of a sub rectangular cut 0.67m long, 0.46m wide and 0.14m deep, which from the evidence of its size, must have belonged to an infant [72] (Figure 05, 07; Plate 03). It was lined with blue-green cist stones {74} which were well formed around the grave. Flecks of quartz and quartz pebbles (small finds 11 and 12) were also identified within the grave fill (73), which was a mid-orangey brown silty clay. The cist stones varied in size from 0.23m by 0.14m to 0.16m by 0.14m. A thin (less than 0.1m) deposit (76) was noted between the cut [72] and the cist stones {74}. This was a dark grey-brown silty clay and can be interpreted as a backfill after the insertion of the cist stones.

Given the nature of the lining stones the grave was dug with care, and that it was positioned close to the mortuary enclosure 19 to the north-east, it is possible that the infant was of high status and possibly related to the people in the mortuary enclosure.

3.2.5 Grave 21

Grave 21 was a stone lined and capped cist grave, 1.75m long by 0.85m wide and orientated at about 80 degrees east northeast-west southwest (Figure 03, 06). It was located within the cluster of graves to the northwest of the site, and was the only example excavated within that area. It had large flat boulders laid on edge at the west end and along both sides (05), with one large flat boulder tipped slightly downwards across the top (03). Above the surviving capstones was a 0.07m thick layer of dark orangey brown deposit (02), which may in fact be a remnant of topsoil within a small well created in the top of the cist by the capstones.

The grave capping stones (03), sub rectangular and of local schist (up to 0.4m by 0.23m in size), consisted of two that survived *in situ* at the eastern end of the grave, and one 0.38m from the western head end of the grave, which had slipped into the grave with another small fragment of capping stone. A fourth smaller one, adjacent to the easternmost two, had slipped into the grave and was found within the grave fill context (04). This suggests that the hollow cist had at some time in antiquity collapsed allowing soil into it.

The main grave fill, 1.6m long, 0.48m wide and 0.32m deep, consisted of a rich mid orangey brown silty clay with small rounded gravel inclusions, with bone fragments (04). The bone noted within the fill was heavily decayed, but fragments of the skull and the femurs in their correct locations indicate that the skeleton had remained articulated, although it had possibly been somewhat damaged by the collapsed capping stones (Figure 05). The upper part of the left femur was reasonably well preserved and a 0.09m length of it was recovered (Small Find 1), and the skull, in very fragmentary condition was impossible to recover other than as part of a soil sample (Sample 01; Figure 05; Plate 04). It was located about 0.35m east from the western end of the grave. A few teeth were recovered within the soil samples from the grave fill (04). Two stones, which inclined at an angle of about 45 degrees and were about 0.28m long, were noted within the fill above the probable hip area of the burial. They may have been placed in this area, or may be collapsed capping stones.

The cist edging stones (05) were made of local schist and were slightly angled in to the grave, and were found all around the edge of it (Plate 01). There were somewhat larger stones used at the head, western end of the grave. The stones ranged in size from 0.6m by 0.32m to 0.2m by 0.2m in size and covered the full 0.32m depth of the grave. They were up to 0.1m thick, a thickness that was fairly uniform throughout the grave. Between the cist stone (05) and grave cut [07] was a thin layer of backfill between 0.05m and 0.2m thick (06). This consisted of a dark orangey brown silty clay with small rounded stones and gravel within it. This was merely a thin smear in places, with the edging stones placed right up against the grave cut, and almost pressed into it.

The grave cut [07] was sub rectangular in shape, with angular corners and a sharp break of slope to the base. It was 1.73m long, 0.7m wide and extended to a depth of 0.37m. The base was irregular due to the side cist stones having been pressed into the natural clay, particularly on the northern side of the grave. It was cut into natural glacial boulder clay (08).

3.2.6 *Grave 34*

Grave 34 consisted of a sub oval grave cut 0.76m by 0.7m and 0.24m deep [57] (Figure 04, 06). It was shallow with a somewhat 'pear-shaped' appearance, wider at the western end, with smooth sides. It was filled by a mid-orangey brown silty clay loam containing small rounded and sub angular stones. A small amount of charcoal was noted in the fill, as were some medium sized stones, up to 0.25m by 0.2m. The stones did not form any structure, but may have been packing stones within the grave, particularly at the head and foot end.

3.2.7 Grave 35

Grave 35 consisted of an ENE-WSW oriented sub-oval grave cut 1.19m long by 0.81m wide and 0.3m deep with a sharp break of slope and irregular sides [28] (Figure 04). The basal fill of this feature was mid-greyish brown silty clay, with small rounded and angular stone inclusions, and was 0.1m thick. This deposit was possibly a silting up within the grave before it was filled in. The upper fill within the grave was dark-orangey brown silty clay containing decayed orangey sandstone type irregular blocks which made up about half of the deposit. These stones were up to 0.4m by 0.2m in size and seem to have formed a small cairn which had slumped into the grave.

3.2.8 Grave 36

Grave 36 consisted of a sub rectangular grave cut with rounded corners 0.9m long, 0.7m wide and 0.3m deep, with a moderate break of slope to a relatively level base [38] (Figure 04, 06). It was filled with two deposits, a silty clay basal fill (46) and above that two capping stones {39} which appeared to have slipped into the grave whilst there was still a void within it. The fill (46), mid-greyish brown silty clay, contained tiny bone fragments which were too fragmentary to be collected other than as part of the bulk sample. The collapsed capping stones may have altered the soil morphology thereby slightly arresting the bone decay. Within fill (46) 40.3g of lime/mortar type material recovered from seven graves was recovered. The significance of this is not clear, and it is possible that they are not a deliberate deposition. The capping stones 0.7m long, 0.5m wide and 0.15m thick, were of limestone blocks and placed lengthways along the grave.

The grave appears to have been later than and truncated Grave 43.

3.2.9 Grave 37

Grave 37 consisted of a sub rectangular cut 1.9m by 0.7m and 0.28m deep [51] (Figure 04, 06). It had a sharp break of slope at the top, but the base was uneven with stones protruding through the natural. The main fill of the grave (52) was a mid-orangey brown silty clay loam, with occasional rounded and sub angular stones and charcoal (<0.1%) and bone (<0.1%). The bone was in a very fragmentary condition. The fill appears to be a silted up fill where the body used to be. The fill also contained a quartz stone, which was retained (small find 7). The fill is clearly later than the packing stones {53} which appear to have surrounded the body. The grave packing stones within the cut were irregular and made of shale, some small

slabs, other rounded and angular boulders up to 0.2m by 0.15m. They appear to represent packing rather than a formal cist. At its narrowest point there was only 0.35m between the stones on either side of the grave, so the body must have been quite small. There was a narrow fill (54), 0.2m wide, between the grave cut and the packing stones, of a mid-orangey brown silty clay loam.

3.2.10 Grave 40

Grave 40 consisted of a sub rectangular cut 1.82m long by 0.75m wide and 0.39m deep, with sharp break of slope to the sides and base, with a gently sloping base [64] (Figure 04, 06). The grave fill (63) consisted of a mid-greyish brown silty clay loam, with small rounded and sub angular stone inclusions, with a little evidence of charcoal (<0,1%). It contained packing stones {65} which must have been deposited before the grave fill. The stones were packed around the body which subsequently silted up. The stones were loose and of varied material and shape and size, consisting of rubble stone and rounded pebbles, up to 0.3m by 0.25m by 0.2m, some irregular shaped and some more squared, although none had been worked. They were not bonded in any way and seemed to form packing within the grave fill.

3.2.11 Grave 41

Grave 41 consisted of an east west grave cut [16], 1.5m by 0.55m (Figure 04, 06). It was somewhat irregular in shape, being pear-shaped and wider at the west end. At the east end it was cut by a small pit [18], which was filled with stones [19]. The probable grave was filled with a mid-orangey brown silty clay with small stones and gravel inclusions (17). The pit at the eastern end of the grave [18] was 0.5m by 0.36m and 0.3m deep. It was clearly a later cut than the grave as it cut fill (17). It was filled with stones, a mixture of angular chert and rounded large pebbles up to 0.5m by 0.3m in size up to the ground surface level (19). It can be suggested that it represents a pit for a cairn or possible grave marker at the eastern end of the grave.

3.2.12 Grave 42

A sub rectangular grave cut 2.1m long, 0.87m wide, with a sharp break of slope to a flat base [61] (Figure 04, 06). It appears to be an earth dug grave with a partial stone lining, truncated on its northern edge by the smaller Grave 35, cut [28]. A small fragment of skull was noted at the west end of the grave, included within the sample of fill (62), which was a mid-brown sandy silt loam. The lining stones {66} were most prominent at the east and west ends of the grave. On the eastern side there were four boulders along with a flat mudstone

lying on the base of the grave. Within the central part of the south facing edge of the grave were two medium sized boulders pressed into the edge of the grave along with a larger stone to the west side.

3.2.13 Grave 43

Grave 43 consisted of a possible cut 1.1m long, 0.6m wide and 0.12m deep [67] (Figure 04, 06). It had a sharp break of slope at the top of the cut, but was otherwise shallow with a flat base. It lay directly west of grave 37 and 35, and was truncated by [28] and [38]. The shallow cut contained no lining or capping stones, although several rounded white pebbles were noted in the centre of the base of the grave. The fill consisted of a dark greyish brown silty clay loam (68).

3.2.14 Grave 44

Grave 44 consisted of a sub rectangular cut 1.8m by 0.6m and 0.5m deep, with sharply sloped sides, particularly at the western end [56] (Figure 05, 07). The fill of [56] consisted of a mid-yellowish brown silty clay with occasional charcoal flecks (55). No human remains were noted within the fill.

3.2.15 Grave 47

Grave 47 consisted of a sub rectangular cut 1.8m long, 0.76m wide and 0.18m deep [94] (Figure 04, 07). It had near vertical sides and a varied break of slope to the base. The cist edging stones {92} consisted of natural flat stones, up to 0.9m in length, forming a good rectangle around the grave, with two long stones down each long side of the grave. The stones were prominent as they were raised above the surrounding graves and the upper parts survived within the subsoil layer (31), suggesting they could have formed kerbing around the grave. Two of these stones were retained for analysis (small find 23). This further suggests that graves in the southern part of the site had become somewhat truncated. There was some suggestion that the stones had been damaged by ploughing in historic times. The main fill of the grave was a mid-greyish brown clayey silt containing gravel and charcoal, but without any bone preservation (93). Between the grave and the cist stones was a mid-greyish brown clayey silt, up to 0.22m wide (95).

The grave is closely associated with Grave 58, a probable infant grave located immediately to the south west of it.

3.2.16 Grave 48

Grave 48 consisted of a sub rectangular cut 0.9m long, 0.58m wide and 0.2m deep, with a sharp break of slope at the top and moderately steep sloping sides and shallow base [89] (Figure 05, 07). Its shallow depth suggests that there had been some truncation of this feature, and its relatively short length suggests it was for an adolescent. A dark orangey brown silty clay loam fill with small to large sub angular stones (90) lies within packing stones {91}, which line the grave. No surviving bone was noted within the fill, but a small quantity of charcoal appeared to be present. The packing stones [91] consisted of schist irregular fieldstone blocks up to 0.2m by 0.15m by 0.5m in size. They lie within the grave cut, earlier than the grave fill (90) and later than the grave packing fill (96). There were four medium sized stones, and five smaller ones. The larger ones were located to the western end of the grave, with the smaller ones to the east and north, and were all of an irregular shape. The packing fill between the stones and the cut (96) was very thin, up to only 0.06m wide, and consisted of a dark orangey brown silty clay loam.

3.2.17 Grave 49

Grave 49 consisted of a sub rectangular cut with a sharp break of slope with irregular sides to an irregular base, 1.75m long, 0.55m wide and 0.22m deep [105] (Figure 05, 07). The cut was shallower at the eastern end of the grave. Small angular stones remained within the cut which was wider at the eastern end. One edging stone was noted within the fill at the eastern end. The fill of the grave (106) consisted of a mid-orangey brown silty clay with small rounded and sub angular stone inclusions. These included a large quartz stone and small pebble at the head end of the grave (small find 21).

3.2.18 Grave 51

Grave 51 consisted of a sub rectangular cut with a sharp break of slope, steep sides and a sharp break of slope to an irregular base, 1.12m long, 0.63m wide and 0.2m deep [110] (Figure 05, 07), and given its length was probably for an adolescent. There were stones on the surface that had probably formed marker stones, although these had already been damaged and moved by the plough. The fill consisted of a mid-orangey grey silty clay (108) with occasional charcoal flecks and quartz stones present (small find 22). Three possible packing stones were noted at the north side and western end of the grave.

3.2.19 Grave 56

Grave 56 consisted of a sub-oval cut 1.53m long, 0.45m wide and 0.25m deep, with steep sides and a sharp break of slope to the base [81] (Figure 04, 06). Along the southern edge of the cut a few edging stones were noted. The grave fill (82) consisted of a medium greyish brown silty clay containing small to medium angular stones. Within the deposit was a relatively high abundance of charcoal and quartz. Bright red stone fragments (<5mm in diameter) were noted within the deposit, which was not noted in any of the other graves (small finds 18 and 19). At the base of the deposit was a high level of black decayed stone and at the western end was a white boulder which may have been slightly visible at the head of the grave when it was originally dug.

3.2.20 Grave 57

Grave 57 consisted of a sub rectangular cut 0.85m long, 0.48m wide and 0.13m deep, with a sharp break of slope at the top with a slightly convex gentle slope to an uneven base [83] (Figure 04, 06). Given its shallow depth it appears to be somewhat truncated, and its short length suggests it was a juvenile burial. About 20cm to the south-east of the grave is a possible marker stone 0.3m by 0.2m of local schist. The fill consisted of a mid-orangey brown silty clay with small rounded stones and <0.1% charcoal (84). It had a uniform clayey consistency, and one larger stone was noted at the western end of the fill. Otherwise no packing or cist stones were noted.

3.2.21 Grave 58

Grave 58 consisted of a sub rectangular cut with near vertical sides and a sharp break of slope to a level base [102], 1.06m long, 0.46m wide and 0.15m deep (Figure 04, 07), suggesting a juvenile burial. The fill (101) consisted of mid-greyish brown clayey silt, with occasional small sub angular stones and charcoal flecks. The grave was orientated east northeast- west southwest.

Owing to its size it probably belonged to a small child, and due to its proximity to Grave 47 it can be suggested that there may be some familial relationship between them.

3.2.22 Grave 60

Grave 60 consisted of a sub oval cut with an irregular break of slope, with smooth sides to a level base, 1.49m long, 0.46m wide and 0.2m deep [103] (Figure 05, 07). The grave

appears, due to its size, to have belonged to a juvenile. At the eastern end of the grave lay a possible marker stone, this was no longer in context and appeared to have been disturbed by ploughing in historic times.

The main grave fill (104) consisted of mid-brown silty clay with small angular stones and flecks of charcoal present. Quartz fragments were also noted within this fill (small find 20). Edging stones were placed on the south and east side of the grave, mostly towards the foot end of it {99}. One blue-grey stone was placed towards the centre of the grave resembled many of the cist like lining stones. The others were rougher lining boulders. A fill between the grave cut [103] and the stones {99} was noted, consisting of a dark greyish brown silty clay, which was only 0.05m thick, but extended to 0.2m in depth (100).

3.3 Features

3.3.1 Feature 32

Feature 32 consisted of a sub oval cut 0.7m long, 0.48m wide and 0.28m deep [49]. It had a sharp break of slope and steep sides. The fill (50) consisted of mid-greyish brown silty clay with small to medium angular stone inclusions. There was also a small amount of charcoal present (<0.1%). The appearance of charcoal within the fill might suggest that the cut supported a large wooden post.

3.3.2 Feature 33

Feature 33 consisted of a sub-oval cut 1.1m by 0.69m and 0.31m deep [48]. It had concave irregular sides and was orientated north-south. The fill of Feature 33 [48] consisted of a dark orangey brown silty clay (47). It contained a large boulder 0.67m by 0.4m in size at its centre along with medium sized cobbles. This and the morphology of the feature suggest that it is not a grave, but its function is uncertain.

3.3.3 Feature 38

Feature 38 was a small hollow 0.6m by 0.5m and 0.13m deep [59]. The edges of the feature were mottled the irregularity of the sides looks like the feature was caused by root action. It contained a mid-orangey brown silty clay loam (60). It is considered to be a tree bole.

3.3.4 Feature 53

Feature 53 was a sub circular cut 0.26m by 0.15m and 0.05m deep [107], with gradual break of slope and rounded base. It was an ephemeral feature, possibly a post hole, but it may also be a natural deposit. It was filled with a very dark brown silty clay (108), with some evidence for the presence of charcoal.

3.3.5 Feature 54

An area of approximately 1.8m by 1.5m which was given Feature No. 54 appears to be an area of natural boulder clay with small-medium angular stone inclusions. They appear to be deposited by glacial action and do not represent an archaeological feature. Patches of organic material are occasionally noted, suggesting root disturbance in historic times, perhaps indicating that scrubland was once present on the site. The area is considered to be within the natural boulder clay glacial deposit (08).

4 SPECIALIST REPORTS

4.1 Specialist Assessment of the Worked Stone

The worked stone assessment of the stones recovered from the cist burials and the kerbs around Grave 19 was completed by Andrew Haycock of the Geology Department of the National Museum of Wales. The worked stone report assessed the lithology of the worked stones discovered at this site associated with the mortuary enclosure and cist graves. It identified that all the 19 stones studied were locally sourced, but of varied lithological types (Plates 07-08). It noted that thirteen of the stones were sourced from the Anglesey Grits of the Penmon area, which included seven that showed clear evidence of tooling on them. There were five stones of local mudstone and sandstone, and one of a local fossiliferous limestone. The seven stones with tooling on them are probably reused stones from a former building in the area.

The worked stone report is presented as Appendix II.

4.2 Specialist Assessment of Worked Flint Artefacts

Three lithic artefacts (SF3, SF60 and SF61) were examined from the mortuary enclosure ditch fill (10), grave fills of grave 21 (4) and grave 37 (52) by George Smith, the GAT specialist on prehistoric lithics. These were reported upon and it was suggested that one, SF61 showed evidence of prehistoric working. The flints must however be considered residual in the backfill of the medieval graves.

The worked flint report is included as Appendix III.

4.3 Specialist Assessment of the Archaeobotany and Osteoarchaeology

The Archaeobotany assessment was completed by Denise Druce of Oxford Archaeology North (Report No. 2016-17/1761). The report recommended no further direct archaeological study of the charred plant remains and charcoal. This is because the taphonomy of these remained in doubt and there is not much more that can be said about them or the contexts in which they were found.

Twenty samples (Appendix IV; 1-3, 6-7, 11, 16, 20, 22, 26, 30, 33, 35-40, 42, 46) were identified as having material suitable for radiocarbon dating; however their uncertain taphonomy meant that any dating received might be tenuous. Radiocarbon dating Sample 3 from the mortuary enclosure ditch, and Sample 11, from Grave 19 within the mortuary enclosure, were subsequently considered to offer the potential to provide a *terminus post quem* (date after which the feature was constructed) for the mortuary enclosure. Sample 11 provided calibrated radiocarbon dates of 707AD +/-33 and 727AD +/-33 were obtained (Appendix V; Ref: SUERC 71027-8 (GU 42716-7)).

It appears rather uncertain whether the blackthorn or cherry pip (*Hordeum*) that was identified was from a burial's stomach or was modern and brought down by worm action (Grave 44, context (55), Sample 26). As the latter is quite probable, it did not seem worth dating the pip.

The bone report was completed by Vickie Jamieson of Oxford Archaeology North (Report No. 2016-17/1761). The highly fragmented nature and the degradation of the bone meant that it was not possible to provide any significant information about the particular buried individuals, nor yield data that could be compared with other similar assemblages in the area.

Based on the fragmentary nature of the bone, further analysis was limited to radiocarbon dating. It was recommended that radiocarbon dates are obtained for two samples: one from Grave 16 and one from Grave 21. Unfortunately neither sample was able to provide enough collagen for dating purposes (Ref: SUERC GU 42714-5).

The Archaeobotany and Osteology report is presented as Appendix IV.

5 RESULTS AND INTERPRETATION

5.1 Historic Background

5.1.1 Introduction

The presence of early medieval graves at Llaniestyn was not referred to in any historical account, nor visible as a potential feature on any aerial photograph of the region. It was thus unknown before the commencement of the archaeological work. Aerial Photograph ADAS AP Film No. 555 frame 31 taken on 17th June 1992 was taken in good conditions and showed the site clearly as lying within a field of improved grassland, but no evidence of the site could be observed. The 1945 RAF aerial photographic survey of Ynys Môn, taken on 13th August 1945 resulted in the area of the site being omitted between frames 3041 and 3049, so no information was obtainable from that source.

5.1.2 *St. Iestyn's Church, Llaniestyn*

St. Iestyn's Church (PRN 7024; NGR SH58507959) is first mentioned in the Valuation of Norwich of 1254 (Lunt 1926, 191). According to the 19th-century writer Samuel Lewis the church was donated by Llwyelyn Fawr (c. 1172–1240) to the priory he had established at Llanfaes (Lewis 1849). The present single cell church is of the 12th century, although the east end is probably a 14th or 15th century extension. The nave seems to date from the 12th century, as evidenced by the blocked round-headed door in the west wall, discovered during restoration work of 1954. The chancel is thought to be of later date, with a 15th century east window, and the upper levels of the nave may also be of this later date. The south doorway dates from around 1500 and there is also a single roof truss of this date across the nave, and the south chapel was added in the 16th century. The building contains a 12th century font with three bands of decoration including chevrons, round-headed arches and crosses. There is a monumental carved sandstone slab of St. Iestyn upright on the west wall of the 16th century chapel, which is said to have lain in front of the high altar, but has been in its current position from at least the first half of the 19th century (Davidson 2000, 185). The inscription reads *H[I]C : JACET : SANGTUS : YESTINVS : CVI : /WEN[LLIA]N [F : MADO] C : ET : GRVFFVT : AP : GWILYM : O[BT]VLIT : IN OB/LACOEM : ISTAM : IMAGIN/NE : P : SALVTE : ANIMARVM : S* which can be translated as 'Here lies Iestyn to whom Gwenllian ferch Madog and Gruffydd ap Gwilym offered this image for the health of their souls'. It is made of grey sandstone, from Flintshire, an area where the donor of the effigy, Gruffudd ap

Gwilym, had land. He also had land at Llaniestyn, and it is quite probable that he and his family paid for rebuilding work at the church. The woman appearing in the inscription was Gruffudd ap Gwilym's aunt. The stone originates from the same workshop as similar memorials in the area, and there is one at Bangor Cathedral and also one to St Pabo at St. Pabo's Church, Llanbabo.

The churchyard covers 0.3 acres and has been extended on the west side of the church. The churchyard boundary wall to the north and east is somewhat curvilinear in character, and it is possible that this represents part of the early medieval *llan* or churchyard enclosure boundary, with the boundary and access track to the south being of post-medieval date.

None of the evidence at the church site can be demonstrated to be earlier than 12th century in date. St. Iestyn himself flourished in either the early 6th century (Williams 1852, 238) or during the 7th century (Baring -Gould 1911, 293-5) according to differing accounts. Whilst it is not conclusive, it is possible that the site was a new one begun in the 12th century associated with worship and the cult of St. Iestyn, and that the original religious and ritual focus of the area was associated with the cemetery site at Llaniestyn.

5.1.3 St. Iestyn's Well

The holy well of St. Iestyn (PRN 2662; SH58337961) is located in the corner of a field on Tyddyn Uchaf farm, 165m west of the church, and 160m west northwest of the cemetery site (Figure 01). There are no details known about this site in early medieval times, although it now appears to be under a covered structure and to have been used as a well in more recent times (Gwynedd HER; Parry *et al.* 2011). This later use is common to most identified holy wells. St. Iestyn's well is not discussed in detail in Jones' *The Holy Wells of Wales* (Jones 1954), who discusses the presence and uses of holy wells from pre-medieval times to the present day, including a discussion of the place names and associated beliefs and rituals, including adult baptism at Easter. In early medieval times baptism outside the church building was considered acceptable. It is widely thought that the saint's names of most wells indicate medieval origins, and some of these are confirmed in medieval saints' lives (Baring-Gould and Fisher 1911). The well is equidistant from both the church and the cemetery site, and it is likely that this well was in use at the time the cemetery at Llaniestyn was in use (and therefore probably pre-date the site of St. Iestyn's Church), and may well have played a part in the Christian religious rituals of the time, connected with birth and death.

5.1.4 Tan y Fynwent

The first reference to Tan y Fynwent, the farm on whose land the cemetery was located, is in the window tax returns for the parish of Llaniestyn is for the year 1756, when Richard Griffith paid 3s in tax (WQT/123/2). The property is not mentioned in the previous year's tax, so it possible that the property was only built that year, and that the land pattern was differently configured before that time. The name Tan y Fynwent does not necessarily suggest a folk memory of the medieval burials encountered, as it could merely reflect the fact the property is topographically below the current churchyard of Llaniestyn.

The land on which the excavation took place was noted on the Llaniestyn tithe map of 1850 to be within the 25 acre field 20 (Figure 08). This was noted on the apportionment to be the property of Sir John Hay Williams Bart., of Rhianfa, under the occupation of Hugh Oliver, and to be known as Tyddyn y Llan alias Tan y Fynwent. This farm is noted on the land tax of Llaniestyn in 1814 as occupied by John Jones and paying 3s in Land Tax (WQT/57). This remained the case for the first half of the 19th century. The first reference to Sir John Hay Williams as the owner of Tan y Fynwent is in 1807, having been transferred from the ownership of Lord Uxbridge sometime between 1794 and 1807. Few subsequent changes to the field systems were noted on the tithe map, with Rhôs Llaniestyn being a prominent feature.

Ty'n Llan (PRN 6477; NPRN 15933) is an altered eighteenth century single storey building with an attic and a roof covered with small slates. It had casement windows, exposed joints and old purlins in the northern wing, although it has undergone significant recent rebuilding. It lies immediately west of the cemetery excavation area and as the extent of the cemetery is not known in that direction, it is possible that it lies on part of it.

5.1.5 Early Medieval Burial

5.1.5.1 Introduction

Long cist cemeteries were in use from the 5th to the 12th centuries, after which time burial and church graveyards became the established practice. It is unclear whether there was an earlier church site at Llaniestyn, however the current church at Llaniestyn is known to date from the 12th century (Davidson 2000, 185), and may be on a different site from any earlier one.

5.1.5.2 The Mortuary Enclosure

The distinguishing characteristic of mortuary enclosures is a rectilinear ditch or trench enclosing an area of around 4m, along an axis which is generally west southwest- east northeast, and 3-4m along the north northwest-south southeast axis. They are found widely across Britain and Europe. In some cases, including at Llaniestyn, there is a gap in the enclosure ditch on the east northeast side, and the graves, which can vary in number, are centrally disposed within them (Longley 2009, 113). Typically there is one grave, exceptionally two or three. Variations in grave size suggest that these may be family plots, but the enclosures around multiple graves extend perpendicular to the grave axis to accommodate additional graves, and where there is a gap in the enclosure the central grave tends to point towards it. These variations suggest that mortuary enclosures may surround family plots.

Mortuary enclosures of this type in Wales are known from a number of sites across Wales. At Llandygai, Gwynedd there was one enclosure with a single grave and no entrance; at Tandderwen, Denbighshire nine enclosures, one with three graves and an entrance, one with a single grave and an entrance, seven with single graves and no entrances (James 1992, 92-93); at Capel Eithin, Anglesey one enclosure, two graves and an entrance, as at Llaniestyn; at Plas Gogerddan, Ceredigion three enclosures, one with multiple graves and an entrance, two with single graves and entrances; and Trefollwyn, Anglesey one enclosure, three graves, uncertain entrance. At Llanbeblig, Caernarfon, Gwynedd five mortuary enclosures were encountered, one with three graves and four with a single grave, all with entrances (Kenney and Parry 2013). All these mortuary enclosures, and the one at Llaniestyn, have orientations east northeast.

How these enclosures were used is an area that has raised much scholarly debate. The excavator at Tandderwen concluded that the ditch was a quarry for a low mound over the grave. The excavators of Capel Eithin and Plas Gogerddan considered the ditches, or trenches, to have supported free standing timber structures, either fences or the walls of roofed wooden buildings (*ibid.* 114-115; James 1992, 90-92; Murphy 1992). At Capel Eithin the gap was 0.75m, which compares very closely with the 0.68m at Llaniestyn. At Plas Gogerddan, however, the enclosure had a gap of 1.58m but a posthole was identified at the end of each terminal, narrowing the gap to 0.81m, and suggesting the former presence of a door or gate (Murphy 1992). At this site timber stains were identified in the ditch fill, further suggesting the possibility of a free-standing structure, although there is insufficient evidence to be clear about this.

5.1.5.3 Grave Morphology

The classic stone-lined grave, or long cist, has side and end slabs forming a rectangular box or cist, flat floor slabs and lintel stones as a cover. These fully enclosed graves are rare in Wales, although examples are known from excavation at Capel Eithin (Hedges 2016, 140-159), Ty Mawr and Parc Cybi (Kenney and Longley, *forthcoming*). Frequently some elements of these are missing, such as the lintels or basal slabs, and this is the case at Capel Eithin, Arfryn and Llaniestyn (Figure 02). There were no clear basal slabs present at Llaniestyn, although one may have been present in Grave 42, but lintels were common (34% of graves at Arfryn had lintel stones). The character of the cists at Llaniestyn is very similar to those found at Arfryn (*ibid.*, 147). These graves were intended to protect and contain an extended inhumation, and have their origins in the burial repertoire of late Roman Britain. A typical adult cist might measure 1.8m by about 0.4m, rectangular or tapering, coffin-like, towards the foot end to the east.

The dug graves at Llaniestyn tended to be slightly tapered from head to foot. The dug graves were totally backfilled with the topsoil and clay from their excavation and this produced a slightly darker fill in contrast to the natural yellowish brown boulder clay into which they had been dug. No dug graves at Llaniestyn produced any surviving skeletal material, suggesting that the soil morphology was affected by the presence of cist stones to affect the level of bone preservation to some extent.

Another form of grave identified is that of a wood-lined grave with stone supports external to the inhumation (Longley 2009, 108 Figure 6.2b). The survival of packing stones on a straight alignment within grave 19b within the mortuary enclosure can be tentatively suggested to have formed part of a grave of that type.

Although more individual instances of slab-lined graves are known than simple dug graves in the early medieval period, where reasonably sized samples have been recorded, dug graves often represent the majority of the population, for example at Llandough, Glamorgan, Capel Eithin, Ynys Môn, Llandygai (Lynch *et al.* 2004) and Berllan Bach, Bangor (Longley 1995), Atlantic Trading Estate, Barry Island (Newman and Parkin 1986), Tandderwen, Denbighshire (Brassil *et al.* 1991), and Plas Gogerddan, Ceredigion (Longley 2009, 112). Capel Maelog, Powys, was also a major cemetery of simple dug graves (Britnell 1990). At Arfryn, Bodedern, 39% of the graves were simple dug graves, with the remainder containing varying degrees of cist elements within them (Hedges 2016, 146-147). At Llaniestyn however there were 29

certain cist graves, and 18 probable earth dug graves identified, which represents a 38.2% proportion of dug graves, a very similar proportion. This is a somewhat disingenuous comparison however, since the extent of the cemetery was not identified at Llaniestyn. A small cist cemetery was discovered at NGR SH471375254 (PRN 31287), possibly associated with the site of Capel Garnedd Maes Lidr (PRN 2675), consisting of five adult and two infant graves during work in advance of a pipeline development. Of these six were cists and one a simple dug grave, however the graves identified may represent only a small proportion of the total as only those through which the pipeline passed were noted, and more were thought to exist to the east (Davidson *et al.* 2010, 21-22). Discussion about the proportion of dug and cist graves is clearly often hampered by the fact that the full extent of many of the cemeteries is not known. At a site at Llanbedrgoch, Ynys Môn an area of about 20m by 60m was recently topsoil stripped and the presence of at least 54 well preserved cist graves noted and mapped, east of the current eastern boundary wall of the churchyard of St Peter, but again the extent of the cemetery remains unknown (Evans, *forthcoming*).

The distinction between stone-lined graves and unprotected dug graves, and the absence of evidence cannot be relied on to indicate that organic features were never present. In some instances a chronological succession might be indicated, for example at Tywyn y Capel, Ynys Môn, the stratigraphic sequence showed that the cists were succeeded by unprotected dug graves (Longley 2009, 112). However, it was not possible to demonstrate any chronological sequence at Llaniestyn, due to the lack of radiocarbon dates obtained from the material recovered from the graves. The lack of intercutting of the graves, and therefore the limited identification of stratigraphic relationships, also reduced the possibility of proposing any phasing for the use of the cemetery. However the lack of intercutting does suggest that the graves are broadly contemporary as the locations of earlier graves do not appear to have been forgotten and therefore cut by later ones. This was also the case at Arfryn, Bodedern, Ynys Môn (Hedges 2016, 155- 158); although in that case there was a greater amount of information obtainable from the site morphology, enabling a tentative development of the site to be understood. In contrast to the cist graves, the visibility and identification of dug graves can also be problematic, as the backfill can be almost identical to the surrounding soils, and there is often less surviving evidence within them. At Arfryn this problem was addressed with a deliberate strategy to encourage dug graves to be revealed (*ibid.*).

Three of the graves contained quantities of human bone (Graves 16, 21 and 46). It appears that the variable preservation is due to a different soil morphology created as the bone had been protected by collapsed capping stones. Small quartz stones were recovered from a

twelve of the graves, 832.3g in total. The largest pebble was from grave 56, weighing 153.6g. Grave 20 was an infant grave north-east of the mortuary enclosure, contained 121.8g of quartz within a small cist. This is a large quantity given the small size of the grave. This, along with the fact that was an extremely high quality cist adjacent to the mortuary enclosure (Plate 03), suggests that it may be a burial of some significance.

There was a total of 123.5g of lime/mortar type material recovered from seven graves, with the largest quantity 40.3g, recovered from Grave 36. The interpretation of this is rather uncertain, and what the purpose of placing lime in burials was is unclear. It could have multiple purposes, including both its use as a disinfectant in cases of disease and its use as a factor of the demographic profile of the individual in the limed burials. The low number of graves in which this material was present indicates that it was not a uniform practice and that it could have multiple purposes, even within the same cemetery and broad cultural background (Schotsmans *et al.* 2015, 477).

5.1.5.4 Cemetery Morphology and Orientation

Topographic components within a cemetery can influence alignment, such as existing boundaries, roads and enclosures, but also funerary monuments or contemporary structures associated with the ritual of the cemetery (Hedges 2016). In the case of Llaniestyn this would include the mortuary enclosure. The ground also slopes off to the east of grave 51 and the mortuary enclosure feature 45 and the infant grave 20. No graves were found in this area and it can be postulated that the edge of the graveyard had been reached. These local topographic features are likely to have consciously played their part in the cemetery layout (Allen 2016), with its location overlooking the lower ground to the east, from which direction the cemetery would have created a visible spectacle. Graves 40, 48 and 49 are also aligned with the mortuary enclosure Graves 19a, 19b and 46 which may also relate to the focus on the mortuary enclosure.

Two distinct areas of burial were identified, one cluster focused on the mortuary enclosure containing 18 graves, and one to the north-west containing 27 graves. The former is clearly focussed on the mortuary enclosure, but the focus of the north-western group is unclear. The inferences that can be drawn from this are somewhat limited however by the fact that the extent of neither of these groups has been fully defined, however the absence of burials to the south-west does suggest that the two distinct groupings are a genuine feature of the cemetery. At Arfryn, Bodedern, Ynys Môn, two burial groups were identified in a cemetery of 118 graves, although this identification was helped by an understanding of their relationship

to a Bronze Age enclosed settlement (Hedges 2016, 155-159). At Llaniestyn the bodies were, in the two cases where this was discernible, extended supine inhumations with the head to the west, although bone preservation was very limited.

The preference for a west-east alignment of the grave is often ascribed to the triumph of Christianity. The rite also pre-dated the general acceptance of Christianity, and west-east orientation in Roman Britain may owe as much to the widespread popularity of eastern cults such as Mithraism (Lucy 2000).

There is a variety of orientation of the burials, and few of them can be considered true east. On Ynys Môn the range extends from around 15° to 175° (Hedges 2016). The arc of sunrise on the eastern horizon, which is sometimes taken to be a determinant for west-east orientation, extends from its maximum northerly limit at about 48° at midsummer to 131° at midwinter. The predominant orientation of graves is at about 75°. Sunrise at this point on the horizon would happen in mid to late April, a time when the main Christian festival of Easter is held, which celebrates regeneration and renewal. It is interesting to speculate that this might have been used as a focus for grave orientation (Brown 1983; Longley 2002; Longley 2016, 166-7).

At Llaniestyn the graves were orientated between 60° and 95°, with those within the mortuary enclosure being orientated at 80°, with 17 of them being orientated at about 75°, suggesting that there may be some validity in the Easter sunrise argument for grave orientation (Figures 03 to 05).

5.1.6 Dating the cemetery

The earliest available radiocarbon dates for cemeteries from north and west Britain are of the 5th and 6th centuries AD. Following specialist recommendations at the assessment stage of the project, two bone and two environmental samples were submitted for radiocarbon dating. The human remains were very poorly preserved, with bone present only in Graves 16, 21 and 45, and insufficient collagen was present to provide a date from any of these to provide a radiocarbon date, despite all the bone material being submitted for dating (Appendix V; Ref SUERC GU 42714-5). This is a problem common to sites on the highly acidic soils of much of north-west Wales. At Arfryn, Bodedern bone samples were obtained from six graves, but none of them provided enough collagen for a date to be obtained (Hedges 2016, 146). However, a date has been recently obtained from some disturbed bone recovered from a well-preserved long cist cemetery recently uncovered at Llanbedrgoch,

Ynys Môn. The bone was well preserved at this site because it was located within an area of limestone pavement, which was alkali. The cists remain unexcavated at that site, but some disturbed bone from Grave 18 of a fragment of tibia gave a calibrated radiocarbon date of 424 +/- 20 AD, which is a very early medieval date in the region (Ref: SUERC-64279 GU39323).

Two dates recovered from an environmental sample within Grave 19 at Llaniestyn (Sample 11; Appendix V), where calibrated dates of 707AD +/-33 and 727AD +/-33 were obtained (Appendix V; Ref: SUERC 71027-8 (GU 42716-7)). Unlike many early medieval cemeteries, where significant numbers of radiocarbon samples, of both bone and environmental remains were dated, the opportunities for this were limited at Llaniestyn due to the very poor bone preservation. The environmental samples did provide a mid-8th century early medieval date for the digging of the graves within the mortuary enclosure, indicating that the cemetery was in use during the early medieval period.

6 CONCLUSION AND RECOMMENDATION

6.1 Conclusion

An archaeological controlled strip followed by excavation was carried out during ground works associated with a proposed cemetery extension at St Iestyn's Church, near Llanddona. The archaeological work has resulted in a west-east orientated strip of land approximately 40m by 15m being made available for contemporary burials, with between 80-90 plots being created. The extent of the cemetery is to be limited to this area in the short to medium term.

The opened areas did not cover the full extent of the medieval cemetery. Whilst a possible edge to the burial ground was noted to the east (due to no further graves) and to the south (presence of an ancient trackway), the limits of the cemetery remain unknown (Figure 02). It appears likely however to have been an unenclosed cemetery, without a defined boundary enclosure (Edwards 2009, 5). It is also possible that it is an 'undeveloped' cemetery site; one that achieved ecclesiastical status rather late, a type of which it has been suggested may have been a kin burial ground whose attraction waned against the more powerful pull of church cult sites (James 1992, 101). The present church at Llaniestyn is known to date only from the 12th century, and then is constructed to the north west of the main cemetery area on slightly lower ground. It is possible that this church, probably a cult site as indicated by the medieval slab within the church to St. Iestyn, respects the then known burial site. Feature 45 was found to be a complex feature consisting of two graves within a mortuary enclosure and with subsequent activity associated with it.

The exposed areas of the medieval cemetery appear to have two focal areas, one consisting of 27 graves to the north-west, only Grave 21 of which has been excavated, and one centred on the mortuary enclosure to the east consisting of 26 graves and associated features, most of which were excavated (Figure 02). Neither cluster of graves is completely within the stripped areas, so this view may need to be modified in future, however there do appear to be no graves to the south west. This could possibly be as a result of the desirability of placing graves close to an important focal grave such as the mortuary enclosure (Brassil *et al.* 1991), or family or clan groupings, or because of their heightened visibility in these locations.

The graves were a mixture of at least 18 dug graves, and at least 29 graves with cist and packing stones, within both clusters of graves. Three of these contained quantities of

surviving human bone. It appears that the variable, albeit very limited, preservation is due to a different soil morphology created as the bone had been protected by collapsed capping stones.

Small quartz stones were recovered from a number of the graves. This phenomenon is widely noted in burials throughout Britain at this time, but is open to a range of interpretations (Buckberry 2007, 124). It is possible that they played some part in the early medieval burial ritual, being found in Anglo-Saxon as well as British burials of the time.

In general, the burials are morphologically of a type typically seen in early medieval cemeteries in the area (600AD to 1100AD), and it would seem likely that the burials date from this time, as a precursor to the current church site of St. Iestyn to the north-west which is believed to date from around 1100AD (Brassil *et al.* 1991; Longley 2009, 106-111). The only radiocarbon dates available from charcoal from within Grave 19a provided two calibrated dates of 707AD \pm 33 and 727AD \pm 33 (Appendix V), and whilst these give no indication of the duration of the use of the cemetery, they fit well within the date range for the use of burial practices of the type identified at the site.

The stones used to make the cists were all of local origin, of which seven appeared to be worked and re-used from some previous structures (Appendix II). In the case of the mortuary enclosure graves, they were clearly used to create some kind of kerb-like monument associated with the structure. These stones can be suggested to have come from a building situated in the vicinity of the cemetery, the whereabouts of which is not known. The building must have been earlier in date than the cemetery, and a Roman date seems likely as stone buildings are not known in the area in the early post-Roman period. This raises interesting questions about the likelihood of identifying archaeological evidence of Roman activity in the area.

No further direct archaeological study of the charred plant remains and charcoal was carried out. This is because the taphonomy of these remained in doubt and there is not much more that can be said about them or the contexts in which they were found. The highly fragmented nature and the degradation of the bone also meant that it was not possible to provide any significant information about the particular buried individuals, nor yield data that could be compared with other similar assemblages in the area.

6.2 Recommendations

There has been significant recent work carried out on medieval cemeteries on Ynys Môn, including recently at the new Llangefni Link Road (Parry, *pers. comm.*), and it is therefore an important area of current research. The site at Llaniestyn, along with one at Llanbedrgoch where an early radiocarbon date was obtained, is also mentioned in the current Research Framework for Early Medieval Wales (Cadw, seen at <http://www.archaeoleg.org.uk/>). The excavation at Llaniestyn has potential to address priorities **1- 3** and **8** of the research framework, which prioritise the identification and characterisation of early medieval sites and the understanding of their physical and temporal location within the wider landscape. Section **3.3**, relating to ecclesiastical sites, asks 'what are the origins, patterns of development and chronology of early medieval ecclesiastical sites in Wales and how do these relate to the emergence of the parish system (*ibid.*, 20), and this site has the potential to add to that debate. The priorities for Cemeteries and Osteological analysis (Section 3.4) include a requirement for a 'proactive shift towards the identification and excavation of sites ... with thorough post-excavation analysis factored in' (Edwards *et al.* 2017, 25). This project will assist with that objective. The limited nature of the bone preservation and other ecofactual evidence, along with few artefacts recovered means that priorities **4** to **7** will not be significantly addressed

As required by MAP2 Phase 5 (English Heritage 1991), it is recommended that a final archaeological report be prepared for publication and dissemination in a Welsh archaeological peer-reviewed journal, such as *Archaeologia Cambrensis* or *Archaeology in Wales*. This should be published along with a brief comparison and analysis with the more limited work recently carried out by GAT at a similar cemetery at Llanbedrgoch, Ynys Môn, in order that the results of recent work are fully contextualised with other early medieval cemeteries in the region and further afield.

The human remains recovered from the excavations should also now be re-interred without delay within St. Iestyn's Churchyard. It is also recommended that a public information display panel be prepared and placed in a suitable location at the site explaining what was uncovered at the site.

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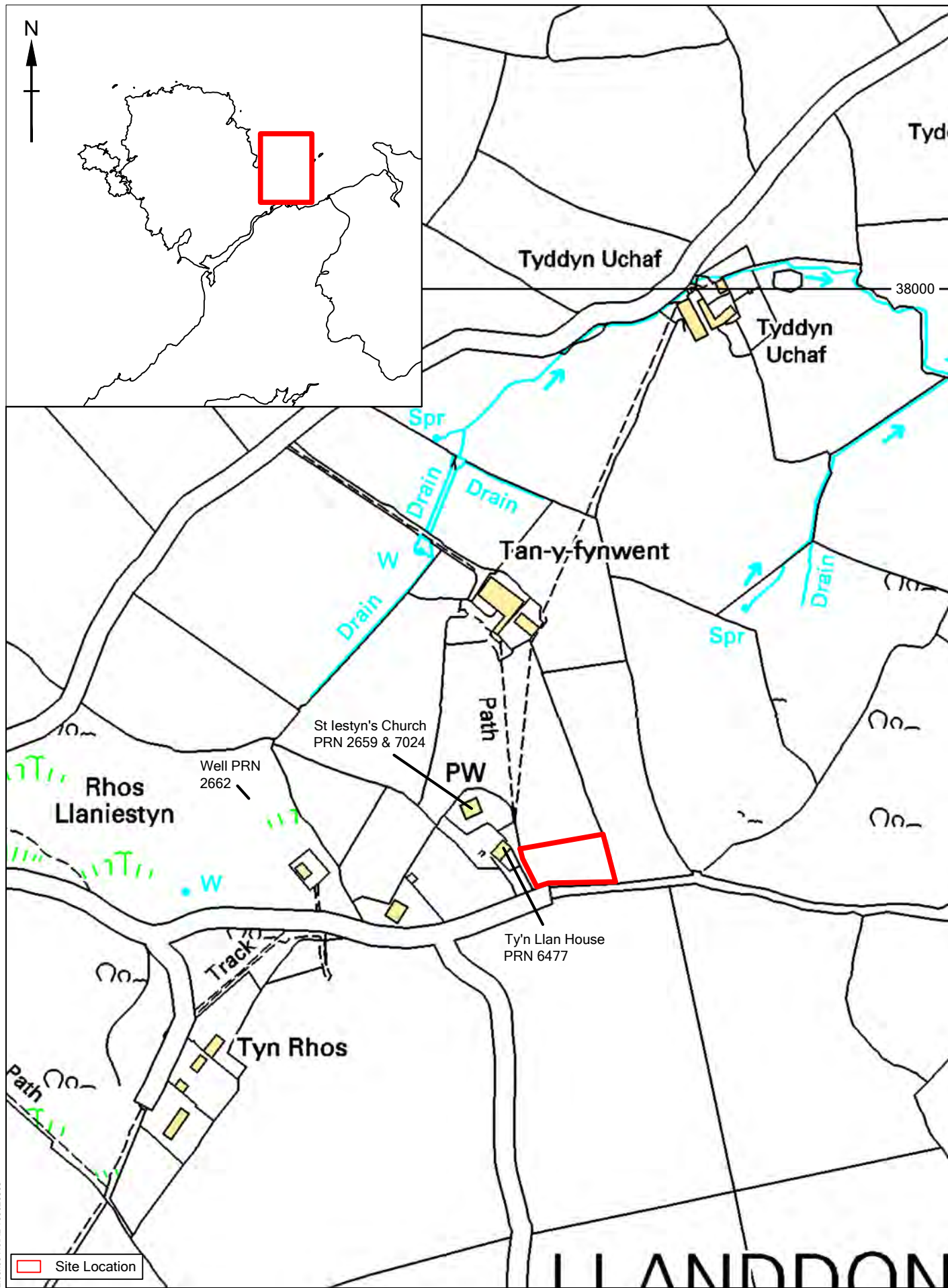
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0 200 m



Scale @ A4: 1:4000

Figure 01 - Site Location

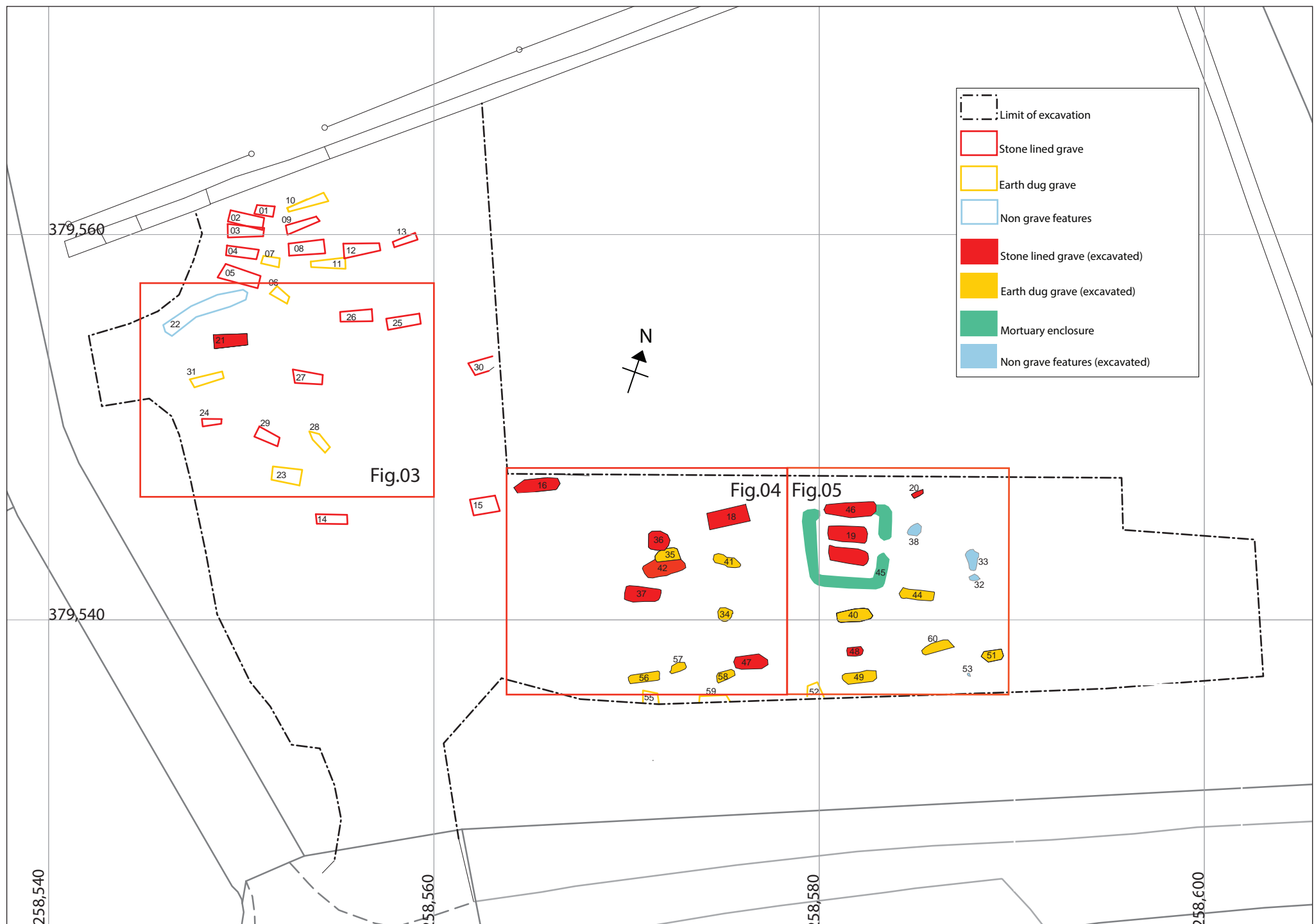
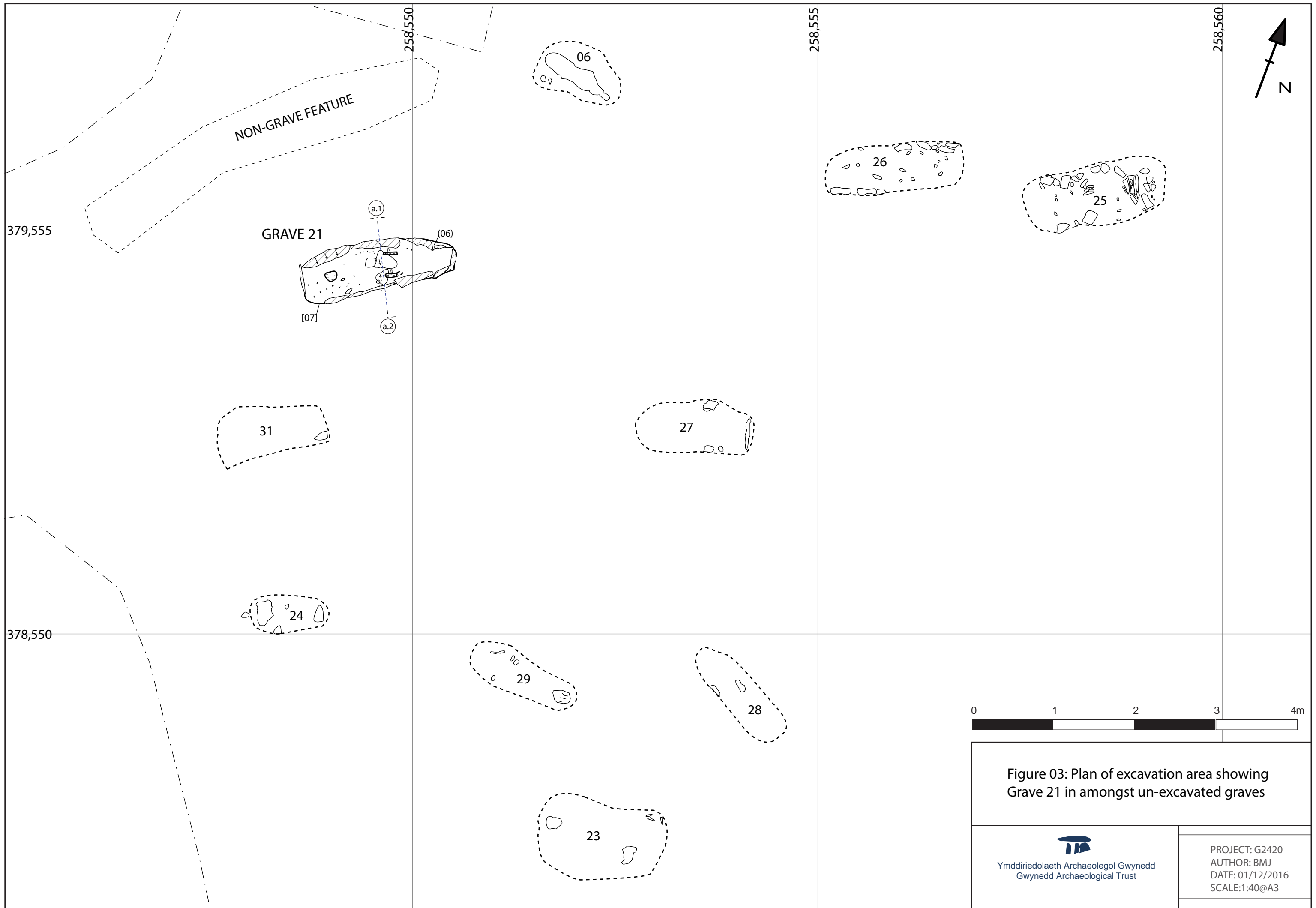


Figure 02 - Current extent of groundworks area and identified archaeological features (background based on client drawing 027.68.81.01)



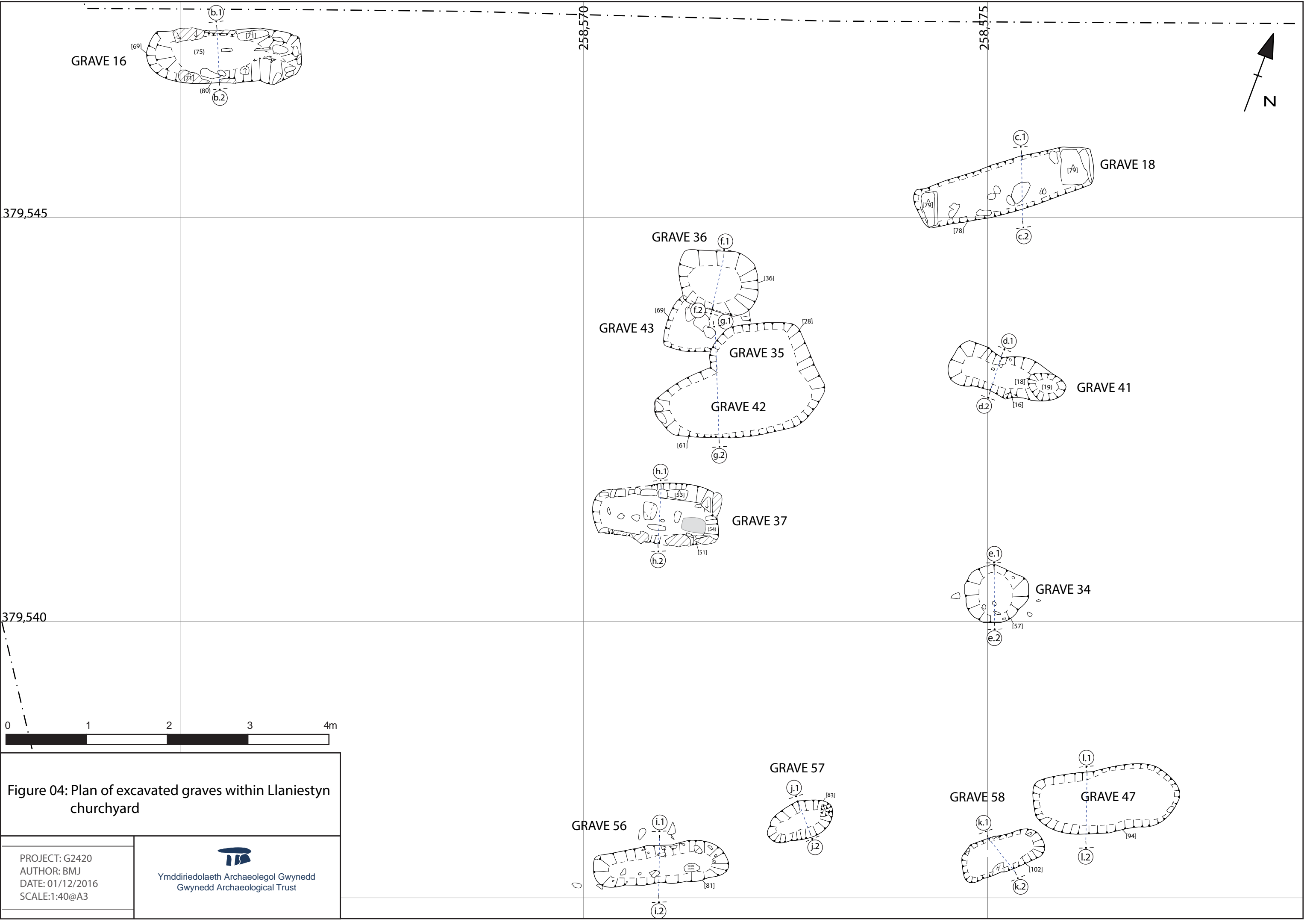
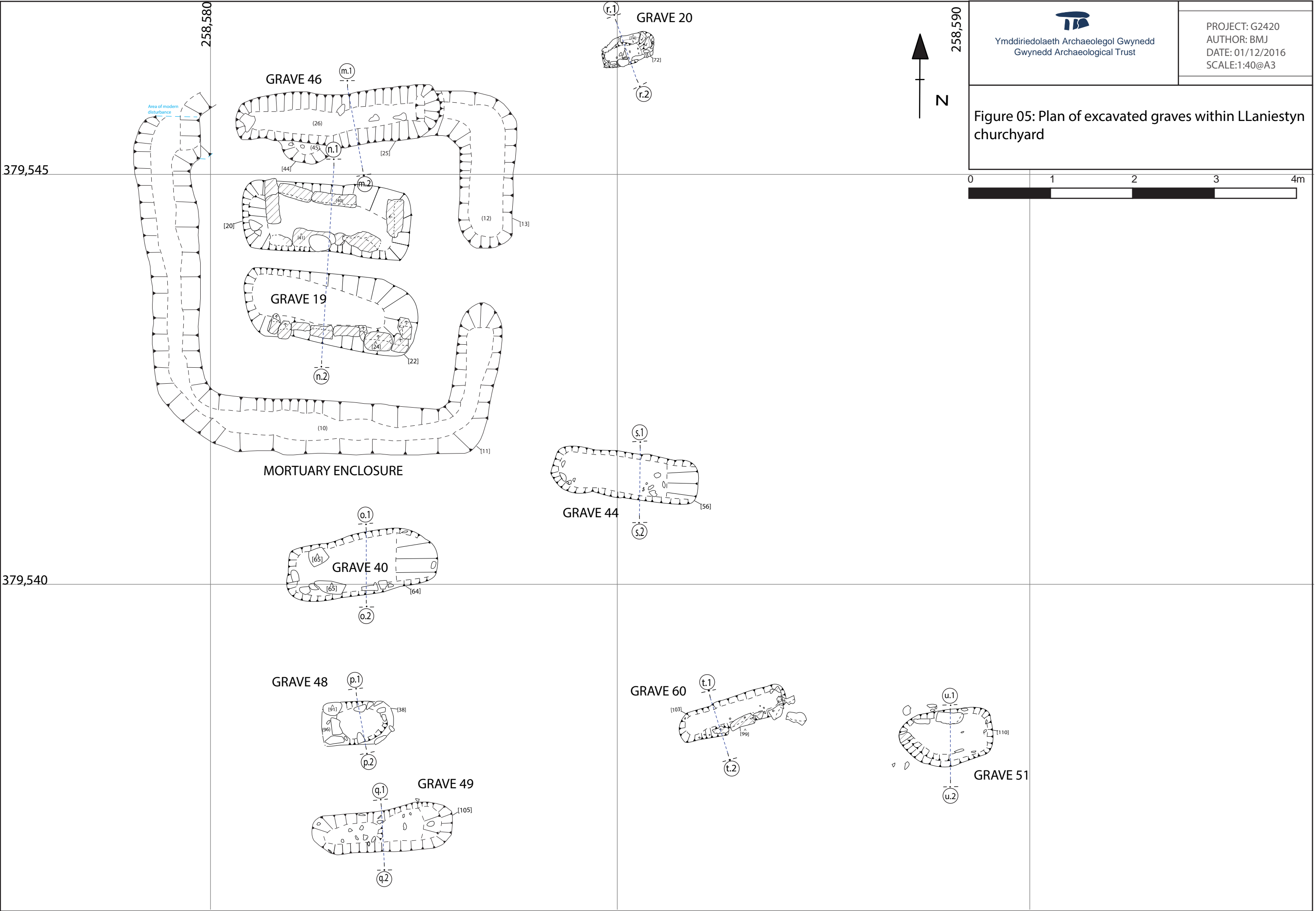


Figure 04: Plan of excavated graves within Llaniestyn churchyard



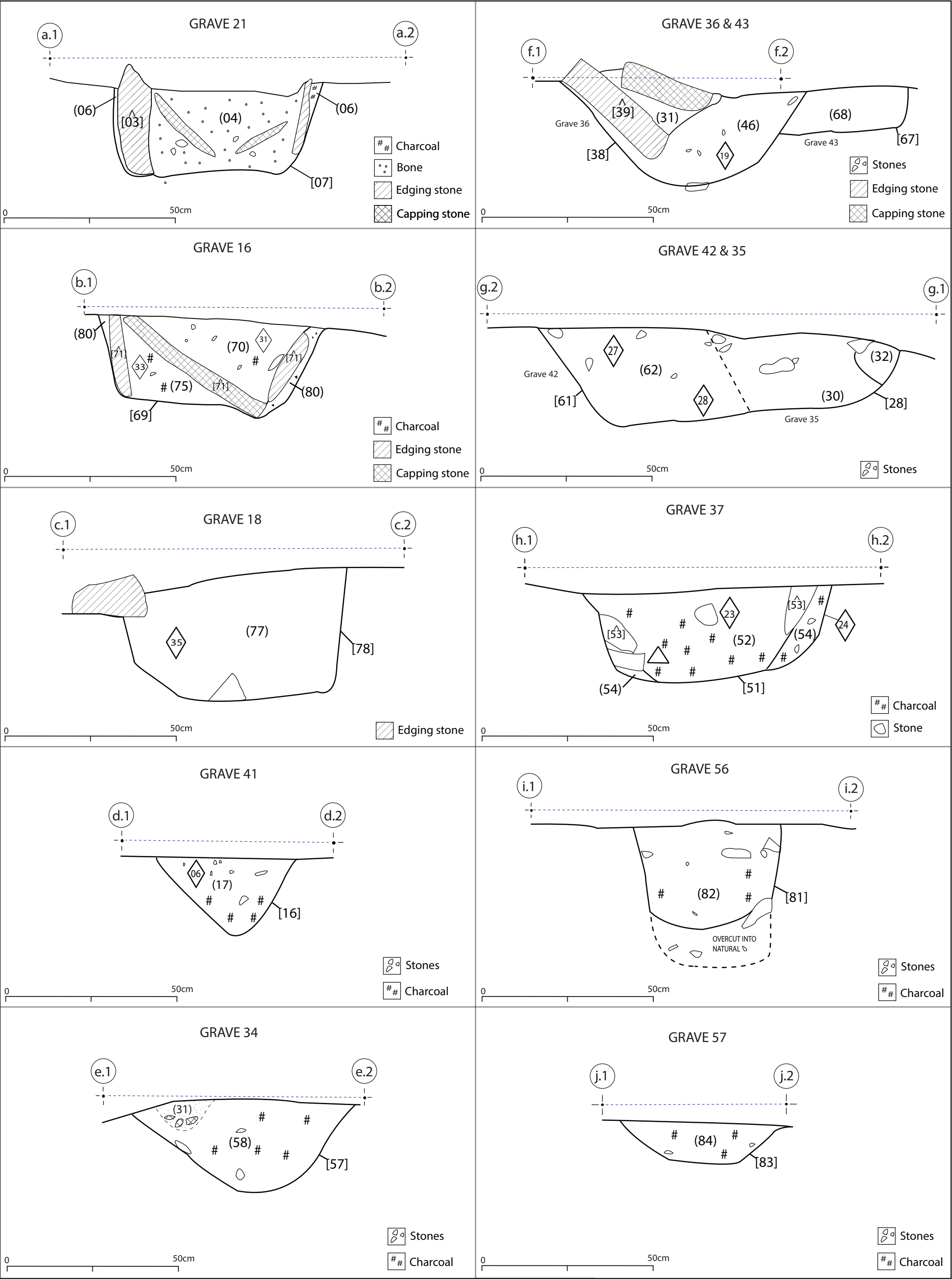


Figure 06: West facing sections of excavated graves within Llaniestyn churchyard

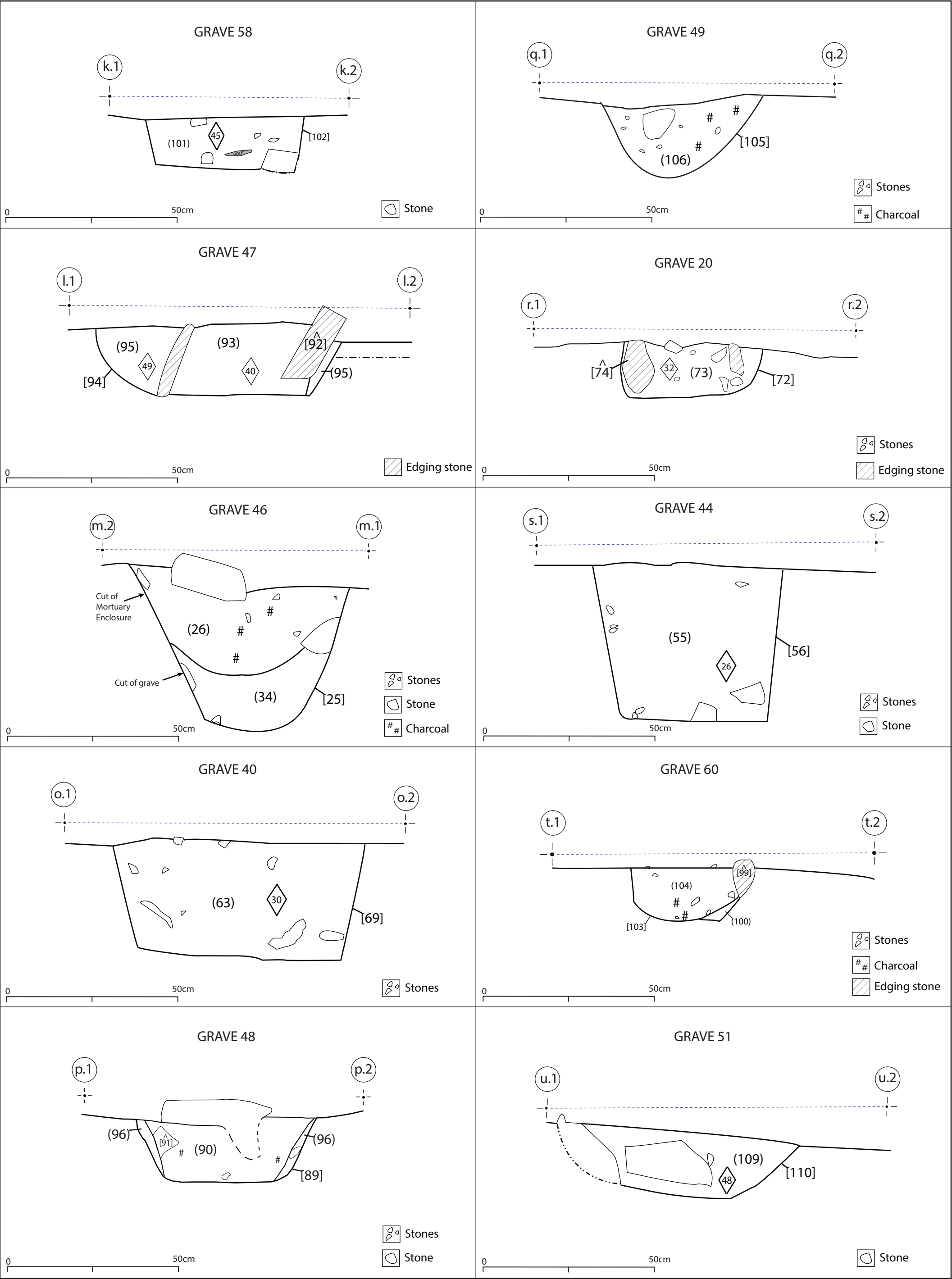


Figure 07: West facing sections of excavated graves within LLaniestyn churchyard



Plate 01: Mid-excavation view of Grave 21 showing cist stones. 1m Scale (photographic archive reference G2420_113)



Plate 02: Post-excavation view of mortuary enclosure surrounding Grave 19, with view of possible entrance to the East in relation to the rest of the site (photographic archive reference G2420_261)



Plate 03: Mid-Excavation view of the cist stones in Grave 20s infant burial (photographic archive reference G2420_348)



Plate 04: View of cranium as it appeared within Grave 21 (photographic archive reference G2420_106)



Plate 05: General view of unexcavated graves at north western end of site (photographic archive reference G2420_043)



Plate 06: General view at south east end of the site, post excavation. 1m x 2m scale. (photographic archive reference G2420_450)



Plate 07: Individual shot of edging stone from Grave 19, finds record no: 9 stone 1 and 2 of 5, after cleaning for analysis. It shows tooling marks indicating former use. 0.30m scale (photographic archive reference G2420_507)



Plate 08: Individual shot of edging stone from Grave 19, finds record no: 9 stone 4 of 5, after cleaning for analysis. 0.30m scale (photographic archive reference G2420_516)

8 Appendix I

8.1 Project Design for MAP2 Phase 4 Analysis and Report Preparation

ST IESTYN'S CHURCH, LLANDDONA

PROJECT DESIGN FOR ANALYSIS AND REPORT
PREPARATION (**MAP2 PHASE 4**) – (G2420)

Prepared for

Cyngor Ynys Mon

November 2016

Ymddiriedolaeth Archaeolegol Gwynedd

Gwynedd Archaeological Trust



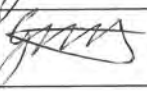
ST IESTYN'S CHURCH, LLANDDONA

PROJECT DESIGN FOR ANALYSIS AND REPORT PREPARATION (MAP2 PHASE 4)

Prepared for Cyngor Ynys Mon, November 2016

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| Approvals Table | | | | |
|-----------------|-------------------------|--------------|--|----------|
| | Role | Printed Name | Signature | Date |
| Originated by | Document Author | ROBERT EVANS |  | 23/11/16 |
| Reviewed by | Document Reviewer | JOHN ROBERTS |  | 23/11/16 |
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| Revision History | | | |
|------------------|--------------------|-------------|------------------|
| Rev No. | Summary of Changes | Ref Section | Purpose of Issue |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

All GAT staff should sign their copy to confirm the project design is read and understood and retain a copy of the specification for the duration of their involvement in this phase. On completion, the specification should be retained with the project archive:

Name

Signature

Date

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Cyngor Ynys Mon to complete a post-excavation Analysis and Report Preparation (**MAP2 Phase 4**). This follows a programme of archaeological mitigation during groundworks for a cemetery extension at St Iestyn's Church, Llanddona, Anglesey (NGR SH58577955; Figure 1).

The post-excavation will be undertaken as a phased process in accordance with guidelines specified in *Management of Archaeological Projects – MAP2* (English Heritage, 1991), and relevant guidelines from *Management of Research Projects in the Historic Environment* (English Heritage 2015). Five project phases are specified in *MAP2* (English Heritage, 1991):

- MAP2 Phase 1: Project Planning
- MAP2 Phase 2: Fieldwork
- MAP2 Phase 3: Assessment of Potential for Analysis
- MAP2 Phase 4: Analysis and Report Preparation
- MAP2 Phase 5: Dissemination

The current design specifically relates to Analysis and Report Preparation (**MAP2 Phase 4**). The proposed methodology and nominated specialists are noted in Sections 3.1 and 3.2. Dissemination of the results will be undertaken as part of MAP2 Phase 5.

Reference has also been made to the following guidelines:

- Campbell, G., Moffett, L. and Straker, V. *Environmental Archaeology: A guide to the theory and practise of methods, from sampling and recovery to post-excavation* (2nd edition). (English Heritage Publications. Swindon, 2011).
- *Standard and Guidance for Archaeological Excavation* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for Archaeological Watching Brief* (Chartered Institute for Archaeologists, 1995, rev. 2001, 2008 and 2014).
- *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (Chartered Institute for Archaeologists, 2009 and 2014).
- *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (Chartered Institute for Archaeologists, 2008 and 2014).
- *Royal Commission for Ancient and Historic Monuments Wales Guidelines for Digital Archives Version 1*

All phases of this project are being monitored by the Gwynedd Archaeological Planning Services (GAPS). The content of this and any future project designs and reporting must be approved by GAPS.

2 ARCHAEOLOGICAL RESULTS

2.1 Archaeological Watching Brief and Excavation

The archaeological mitigation was completed between September 2015 and March 2016 (Figure 02; GAT Reports 1277 and 1308). Sixty-one graves and associated features were identified (Figure 02), of which, 31 features (including 26 graves) were fully excavated; the remaining features and graves, located under the proposed road and car-park area, were preserved in situ.

The medieval cemetery appears to have two grave clusters, one consisting of 27 graves concentrated at the north-west end of site, and one centred on the mortuary enclosure (Feature 45) to the east of the site consisting of 26 graves and associated features. Neither grave clusters is completely within the stripped areas, so this view may need to be modified in future, however there do appear to be no graves at the south-west end. This could possibly be as a result of the desirability of placing graves close to an important focal grave such as the mortuary enclosure (Brassil *et al.* 1991), or family or clan groupings.

The graves were a mixture of dug graves (at least 18 graves), and those with cist and packing stones (at least 29 graves) over both clusters of graves (Figure 02). Two of these contained quantities of human bone (Graves 16 and 21). It appears that the variable preservation is due to a different soil morphology created as the bone had been protected by collapsed capping stones. Small quartz stones were recovered from a number of the graves.

2.2 MAP2 Phase 3 Assessment of Potential for Analysis

An assessment of the potential for analysis has been carried out on assemblages of bone, ecofacts, flint and worked stone from the cemetery excavation site at Llaniestyn which were retrieved during the excavation and during the recovery of ecofacts from the site environmental samples in house at GAT (MAP2 Phase 3; Evans 2016b).

2.2.1 Worked stone assessment

The worked stone assessment was completed by Andrew Haycock of the National Museum of Wales. The worked stone report assessed the lithology of the worked stones discovered at this site associated with the mortuary enclosure and cist graves. It identified that all the 19 stones were locally sourced, but of varied lithological types. It noted that thirteen of the stones were sourced from the Anglesey Grits of the Penmon area, which included seven that showed clear evidence of

tooling on them. There were five stones of local mudstone and sandstone, and one of a local fossiliferous limestone. The stones with tooling on them are probably reused stones from a former building in the area. There is no recommendation for further analysis work on the stones, and full photographic archive of the stones has been produced. It is therefore proposed that the stones be retained by *Oriel Ynys Môn*. Discussions with regards to the stones are ongoing with Esther Roberts and Ian Jones at the Oriel in order to arrange this.

2.2.2 *Flint assessment*

The flint assessment was completed by George Smith, Gwynedd Archaeological Trust. The flint report noted that of the three flints identified; only one was certainly noted to be of human agency and of prehistoric origin. The flints were from residual grave contexts, which does not relate to their original use. It is not recommended that the flints are retained.

2.2.3 *Archaeobotany assessment*

The Archaeobotany assessment was completed by Denise Druce of Oxford Archaeology North (Report No. 2016-17/1761). The report recommended no further direct archaeological study of the charred plant remains and charcoal. This is because the taphonomy of these remains in doubt and there is not much more that can be said about them or the contexts in which they were found.

Twenty samples (Appendix II; **1-3, 6-7, 11, 16, 20, 22, 26, 30, 33, 35-40, 42, 46**) were identified as having material suitable for radiocarbon dating; however their uncertain taphonomy meant that any dating received might be tenuous. Radiocarbon dating Sample **3** from the mortuary enclosure ditch, and Sample **11**, from Grave 19 within the mortuary enclosure, were subsequently considered to offer the potential to provide a *terminus post quem* (date after which the feature was constructed) for the mortuary enclosure.

It appears rather uncertain whether the blackthorn or cherry pip that was identified was from a burial's stomach or was modern and brought down by worm action. As the latter is quite probable, it did not seem worth dating the pip.

Upon the completion of the radiocarbon dating work, the charred plant remains will be disposed of.

2.2.4 Bone assessment

The bone report was completed by Vickie Jamieson of Oxford Archaeology North (Report No. 2016-17/1761). The highly fragmented nature and the degradation of the bone meant that it was not possible to provide any significant information about the particular buried individuals, nor yield data that could be compared with other similar assemblages in the area.

Based on the fragmentary nature of the bone, further analysis will be limited to radiocarbon dating. It was recommended that radiocarbon dates are obtained for two samples: one from Grave **16** and one from Grave **21**. Once the selected samples are submitted for radiocarbon dating, the remaining bone should be returned to St. Iestyn's Church for reburial in accordance with the Ministry of Justice licence.

3 METHODOLOGY – MAP2 PHASE 4 ANALYSIS AND REPORT PREPARATION

3.1 Bone Analysis

The dating of the bone material from within Graves 16 and 21 will help inform the chronology of the site. The available bone consists of 335g in Grave 16 and 447g in Grave 21. In general, the burials are morphologically of a type typically seen in early medieval cemeteries in the area (600AD to 1100AD) and it would seem likely that the burials date from this time, as a precursor to the current church site of St. Iestyn to the north-west which is believed to date from around 1100AD (Brassil *et al.* 1991; Longley 2009, 106-111).

It is recommended that radiocarbon dates are obtained for two bone samples: one from Grave **16** and one from Grave **21**, although it is possible that a date might not be returned due to the survival of insufficient carbon. It will be confirmed by the nominated laboratory (Scottish Universities Environmental Research Centre [SUERC], Glasgow) as to the viability of the samples, and to provide the radiocarbon dates if possible. These dates would be able to give a snapshot of the time when the cemetery was in use, but would be insufficient to indicate the duration of the use of the cemetery. The fragments listed below are to be sent for dating.

- Grave **16** (Small Finds 15 and 17; Context 75); Fragments of human tibia and fibula
- Grave **21** (Context 04); Fragment of Human Cranium

3.2 Archaeobotanical analysis

It is also recommended that radiocarbon dates are obtained from Samples **3** and **11** (Appendix 1). The charcoal samples are the only suitable dateable material from a grave within the mortuary enclosure (Sample **11**) and the mortuary enclosure itself (Sample **3**). If a plausible result was obtained from these samples this would be important in understanding the date of the most significant feature at the site, and would provide a *terminus post quem* for its use. Two dates will be obtained from each sample.

- Sample **3** (Context 12) Species: *calluna/Erica* (roundwood stem) Volume: <5 ml

- Sample **11** (Context 21) Species(1) *Hordeum* and *Avena* (2) *Alnus/Corylus* Volume: <5 ml

Derek Hamilton at SUERC has been contacted to advise on the radiocarbon dating, and it has been agreed that the SUERC Radiocarbon Dating Laboratory in East Kilbride will provide the dates required from the charcoal samples. The samples will be prepared in the laboratory and are analysed by Accelerator Mass Spectrometry (AMS).

3.3 Reporting

A final archive report will be prepared incorporating the results of the fieldwork (MAP2 Phase 2), as well as interpretation and discussion of the implications from the assessment and analysis (MAP2 Phases 3 and 4). The interim and assessment of potential reports contain outline narratives for the sites. These will need integrating and expanding, and closer consideration of the features is likely to lead to an improvement in the understanding of the stratigraphy of the site. The context of the artefacts and ecofacts and their distribution over the site and their implications for the function of the site will be considered. The narrative will be supported by appropriate illustrations and selected photography.

In addition to the site narratives and specific discussion of detailed features a full discussion investigating the issues raised by the excavation will be written. This will include research into comparable sites (e.g. Llanbedrgoch) to allow full interpretation of the features and comparisons and contrasts with contemporary sites. This will enable the site to be placed in its local and regional context.

The report will be produced in the following form

1. Front cover;
2. Inner cover;
3. Figures and Plates List
4. Non-technical summary;
5. Introduction;
6. Methodology – including specialist methodology;
7. Results – This will include the Bone and Charcoal Analysis (Radiocarbon Dating):
8. Conclusions and recommendations for dissemination (MAP2 Phase 5); *Note the conclusion will include a contextualisation of the results*
9. Figures; inc.:
 - location plan (copied from design);
 - site plan;
 - selected grave plans/sections;
 - any others deemed appropriate
10. Plates

11. Appendix I (GAT project design)
12. Appendix II (Specialist Report on radiocarbon dating);
13. Back cover

4 Further Recommendations

Following the production of the archive report, it is recommended that the results of the excavation are disseminated in an extended and in-depth article in an academic peer-reviewed journal, such as *Archaeology in Wales* or possibly *Archaeologia Cambrensis*. This article should also include information about the work carried out adjacent to Llanbedrgoch church where similar graves were uncovered. It is also suggested that a talk be presented in the local area giving the results of the project. These are recommended to cover the dissemination requirement under MAP2 Phase 5.

5 SOURCES CONSULTED

Cyngor Ynys Mon drawing 027.68.81.01

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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.

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Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2009 and 2014).

Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2008 and 2014).

Appendix I

Ecofact Register

| Sample No. | Context No. | Purpose of sample | No. of Box/Bag | Drawing No. | Sheet No. |
|------------|-------------|--|----------------|-------------|-----------|
| 1 | 4 | Human remains, shells etc. | 10 box | 01, 02, 03 | 01 |
| 2 | 10 | Dating, environment etc. | 1 box | 18 | 15 |
| 3 | 12 | Dating, environment etc. | 1 box | 17 | 14 |
| 4 | 10 | Dating, environment etc. | 1 box | 18, 20 | 15 |
| 5 | 10 | Dating, environment etc. | 1 box | 18, 20 | 15 |
| 6 | 17 | Human remains and associated micro fossils, dating (head) | 1 box | 23 | 16 |
| 7 | 17 | Human remains and associated micro fossils, dating (pelvic area) | 1 box | 23 | 16 |
| 8 | 23 | Human remains, head, middle and feet | 3 box | 17 | 14 |
| 9 | 19 | Human remains, and associated items, dating etc. | 1 box | 23 | 16 |
| 10 | 32 | Human remains | 1 box | 32 | 16 |
| 11 | 21 | Grave 19. Head upper, bones, dating etc. | 4 box | 24 | 17 |
| 12 | 26 | Human remains | 3 box | 28 | 18 |
| 13 | 35 | Stake hole - N | 1 bag | 18 | 15 |
| 14 | 36 | Stake hole - S | 1 bag | 18 | 15 |
| 15 | 37 | Primary fill of grave [22] - E end | 1 box | 35 | 17 |
| 16 | 45 | Fill of pit [44] | 1 box | 18 | 15 |
| 17 | 46 | Human remains (small frags noted when sample taken) - Head | 1 box | 34 | 16 |
| 18 | 30 | Human remains, basal deposit of possible grave | 1 box | 26, 33 | 16 |
| 19 | 46 | Human remains - foot end of grave | 1 box | 37 | 16 |
| 20 | 50 | Human remains - head of grave 32 | 1 box | 43 | 16 |
| 21 | 47 | Fill of [48] - charcoal, dating etc. | 1 box | 42 | 16 |
| 22 | 52 | Fill of [51] - Grave 37. Charcoal, bone etc. | 2 box | 51 | 19 |
| 23 | 52 | Fill of [51] - foot end of grave 37 | 1 box | 51 | 19 |
| 24 | 54 | Fill of [51] - plant micro etc. | 1 box | 51 | 19 |
| 25 | 58 | Fill of [57] - charcoal | 1 box | 56 | 19 |
| 26 | 55 | Possible human remains, dating etc. | 3 box | 57 | 19 |
| 27 | 62 | Fill of [61] - human remains and associated items, dating etc. | 1 box | 60, 32 | 16, 14 |
| 28 | 62 | Human bone | 1 bag | 60, 32 | 16, 14 |
| 29 | 62 | Human bone - head area | 1 bag | 60, 32 | 16, 14 |
| 30 | 63 | Human bone - dating etc | 3 box | 64 | 19 |
| 31 | 70 | Plant macrofossils etc | 1 box | 70 | 24 |
| 32 | 73 | Head end of grave - human remains, | 2 box | 75 | 24 |

| Sample No. | Context No. | Purpose of sample | No. of Box/Bag | Drawing No. | Sheet No. |
|-------------------|--------------------|---|-----------------------|--------------------|------------------|
| | | dating | | | |
| 33 | 75 | Head end of grave - human remains, dating | 1 box | 74 | 24 |
| 34 | 76 | Plant macrofossils etc | 1 box | 25 | 17 |
| 35 | 77 | Human remains, dating | 2 box | 79 | 25 |
| 36 | 75 | Foot end of grave, human remains, dating | 1 box | 74 | 24 |
| 37 | 80 | Plant macrofossils etc | 1 box | 74 | 24 |
| 38 | 82 | Human remains, microfossils, dating etc | 3 box | 84 | 26 |
| 39 | 84 | Human remains, microfossils, dating etc | 2 box | 88 | 24 |
| 40 | 93 | Human remains, microfossils, dating etc | 2 box | 91 | 25 |
| 41 | 95 | Dating, plant macrofossils etc. | 2 box | 91 | 25 |
| 42 | 90 | Human remains, microfossils, dating etc | 2 box | 93 | 24 |
| 43 | 96 | Plant macrofossils etc | 1 box | 93 | 24 |
| 44 | 104 | Human remains, microfossils, dating etc | 3 box | 101 | 26 |
| 45 | 101 | Human remains, microfossils, dating etc | 2 box | 100 | 25 |
| 46 | 106 | Human remains, microfossils, dating etc | 2 box | 106 | 27 |
| 47 | 108 | Dating, plant macrofossils etc. | 1 small bag | 104 | 27 |
| 48 | 109 | Human remains, microfossils, dating etc | 2 box | 109 | 28 |

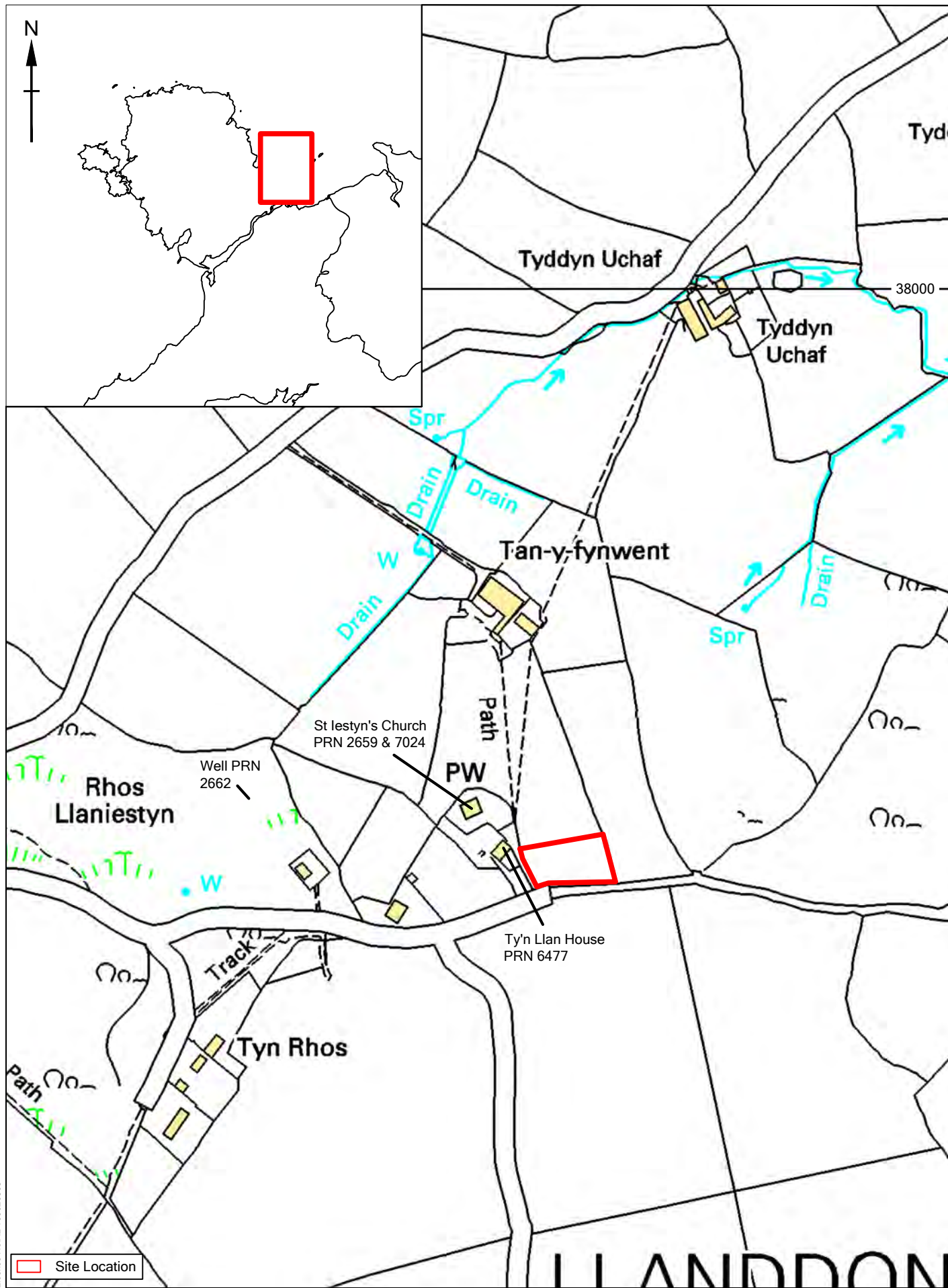
Appendix II

Finds Register

| Finds No. | Context No. | Site Sub. | Material | Description | Weight (g) | Plan No. | Sheet No. |
|-----------|-------------|-----------|--------------------|---|------------|----------|-----------|
| 1 | 4 | Grave 21 | Bone | Material from the left and right femur | 447 | 2 | 1 |
| 2 | 2 | Grave 23 | Quartz | Quartz pebble from upper fill of Grave 23 | 11.2 | 1 | 1 |
| 3 | 10 | [11] | Flint | Flint piece in mortuary ditch fill (10) | 3.2 | 20,18 | 15 |
| 4 | 31 | [22] | Pottery | Taken from subsoil lying directly above (23) | 11.1 | 18 | 15 |
| 5 | 31 | [20] | Pottery | Taken from subsoil lying directly above (21) | 2.1 | 18 | 15 |
| 6 | 23 | Grave 19 | Crystal | Found at base of (21) adjacent to human remains | | 24 | 17 |
| 7 | 52 | Grave 37 | Quartz stone | Quartz found within grave fill (52) | 12.4 | 52 | 19 |
| 8 | 24 | Grave 19 | Masoned Stone | Edging stones taken from S side of Grave 19 [22] | | 35 | 17 |
| 9 | 40 | Grave 19 | Masoned Stone | Edging stones taken from N end of Grave 19 [20] | | 36 | 17 |
| 10 | 70 | Grave 16 | Quartz | Irregular quartz pebble from upper fill (70) | 77.4 | 76 | 24 |
| 11 | 73 | Grave 20 | Quartz pebbles | Rounded quartz pebble w/ rose veins. Found nr W facing section | 20.1 | 75 | 24 |
| 12 | 73 | Grave 20 | Red granite/quartz | Large red/rose stone w/quartz veins. Found on surface of deposit | 92.5 | 75 | 24 |
| 13 | 75 | Grave 16 | Human Bone | Small fragments from fill (75) of grave 16 | 8.7 | 76 | 24 |
| 14 | 76 | Quartz 20 | Quartz | Small quartz pieces found | | 75 | 24 |
| 15 | 75 | Grave 16 | Bone | 0.19m length of upper femur within fill (75) of Grave 16 | 114 | 76, 81 | 24 |
| 16 | 75 | Grave 16 | Bone | 0.20m length of lower tibia, within fill (75) of Grave 16 | 139 | 76, 81 | 24 |
| 17 | 75 | Grave 16 | Bone | Lower tibia/fibula of right leg, within fill (75) of Grave 16 | 82 | 76, 81 | 24 |
| 18 | 82 | Grave 56 | Quartz | Assortment of quartz pieces from west section of Grave 56 | 35.5 | 84 | 26 |
| 19 | 82 | Grave 56 | Red-iron stone | Large, heavy, ferrous stone with natural markings | 67.3 | 84 | 26 |
| 20 | 104 | Grave 56 | Quartz | Large quartz stone, found near lining stone at head end of Grave 56 | 118.1 | 84 | 26 |

| Finds No. | Context No. | Site Sub. | Material | Description | Weight (g) | Plan No. | Sheet No. |
|------------------|--------------------|------------------|-----------------|---|-------------------|-----------------|------------------|
| 21 | 106 | Grave 49 | Quartz | Large quartz stone and small pebble in head end of grave 49 | 26.2 | 102 | 27 |
| 22 | 109 | Grave 51 | Quartz | Quartz piece within grave fill (109) of Grave 51 | 125.7 | 108 | 28 |
| 23 | 92 | Grave 47 | Masoned Stone | Edging/marker stones [92^] for Grave 47, two retained | | 91 | 25 |
| 24 | 79 | Grave 18 | Masoned Stone | Large, flat marking stone for Grave 18 | | 82 | 25 |
| 25 | 71 | Grave 16 | Masoned Stone | Collapsed capping stones for Grave 16, three retained | | 81 | 24 |

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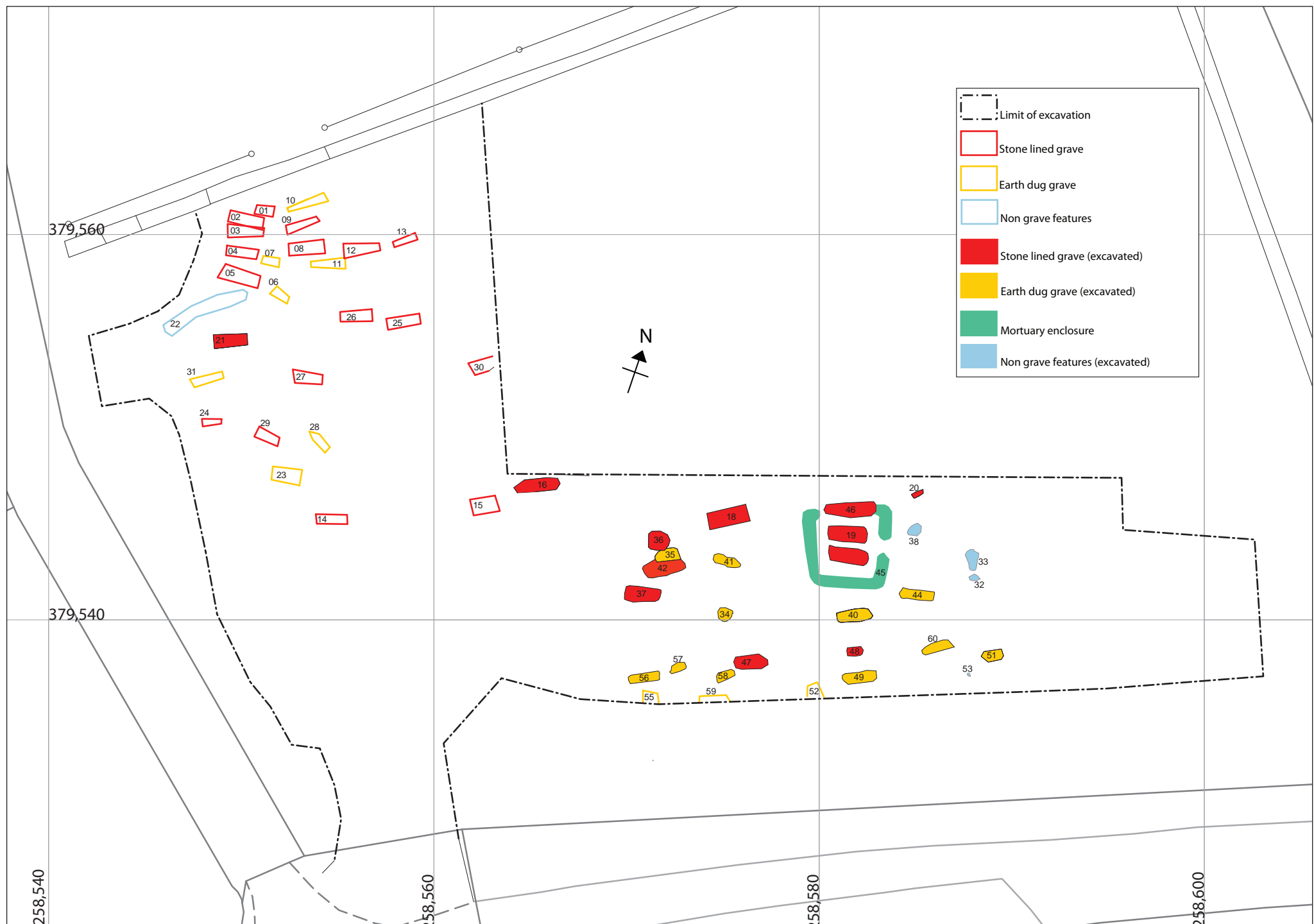
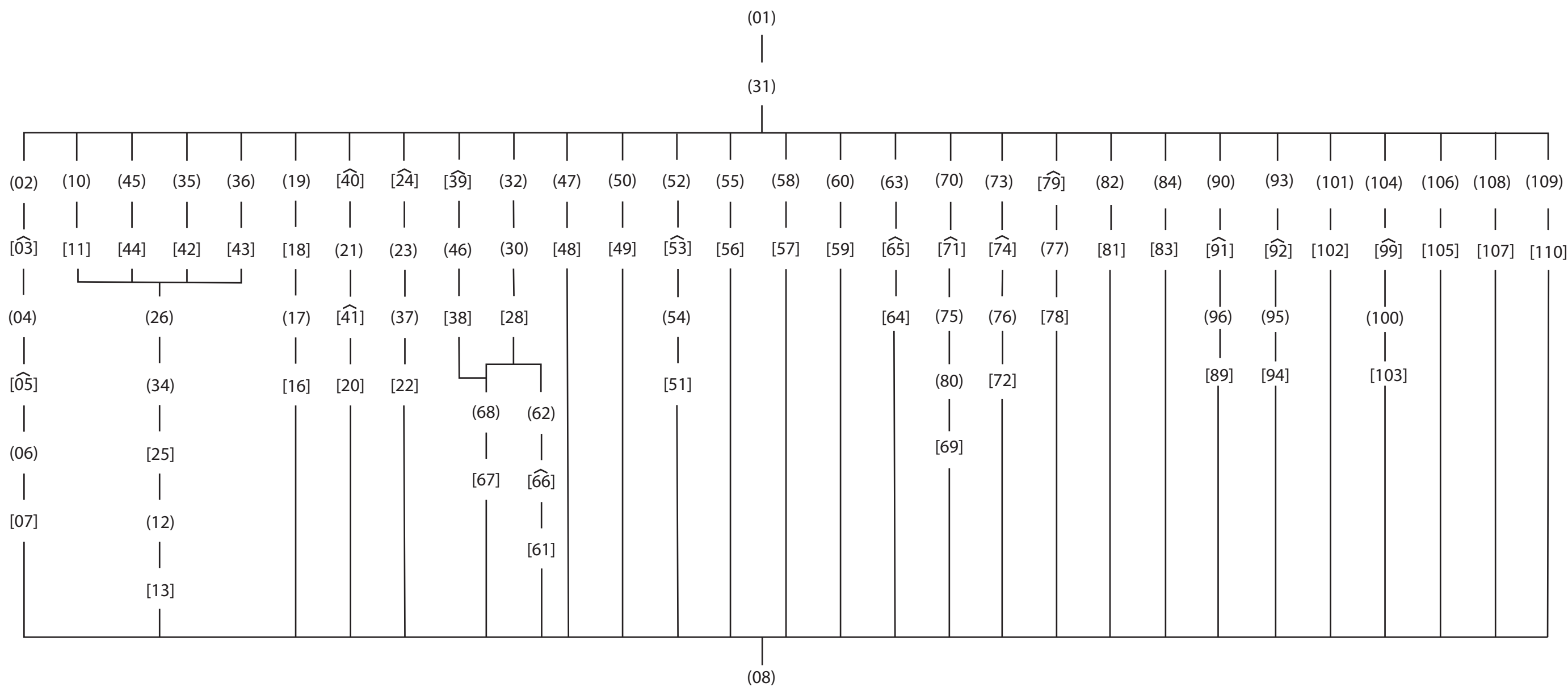


Figure 02 - Current extent of groundworks area and identified archaeological features (background based on client drawing 027.68.81.01)

9 Appendix II

9.1 Llaniestyn Churchyard site matrix



10 Appendix II

10.1 Worked Stone Specialist Report

A Petrological Examination of archaeological finds from St Iestyn's Church, Llanddona, Anglesey



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Mineralogy & Petrology Section: Department of Natural Science

Amgueddfa Cymru – National Museum Wales

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1. Introduction

This report was commissioned by the Gwynedd Archaeological Trust (GAT) to provide a petrological characterisation of 19 archaeological finds, excavated from graves during ground works associated with a proposed new cemetery close to St Iestyn's Church, Llanddona, Anglesey (Ordnance Survey grid reference SH 5855 7960). The report was undertaken by Andrew Haycock, Curator of Mineralogy and Petrology, Geology Section, Department of Natural Sciences, Amgueddfa Cymru – National Museum of Wales.

2. Methodology

A petrological examination of the archaeological finds was undertaken following standard methodology detailed in British Standard EN 12407(2007); initial observation was made with the naked eye followed by use of a x10 Gowllands lens and x20 Gem-A lens. Observations were restricted to visual identification, with the exception of 3 samples (G2420 92_23 1 of 2, G2420 92_23 2 of 2, G2420 71_25 3 of 3) where standard thin sections were produced from fragments that had naturally broken away from the finds. This allowed for more detailed examination.

A standard thin section (30µm) was prepared from each of these specimens and observed using a polarizing microscope (Leica Ortholux Pol). This allowed for high magnitude identification of the mineral grains (shape, colour, cement etc.) and textures present within each rock. Distinct differences in the colour of minerals in cross-polarized light (birefringence) allows for very accurate mineral identification. Vacuum impregnating of the thin section with a blue oil dye, allows measurement of the free pore space between the grains.

During visual examination, the colour of the stone was estimated using standard Munsell colour charts and is presented thus (Munsell number [colour name]), and the grain size characterised using standard terminology (very-fine grained < 187µm, fine-grained 187 – 250µm, medium-grained 250 – 500µm, coarse 500 – 1000µm, very coarse 1 – 2mm, granules 2 – 4mm, pebbles > 4mm).

The petrological samples were all imaged using a Canon EOS 5D with 24 – 105mm lens. Images of samples are included to reference specific features in particular samples, or highlight areas of interest found during observations.

3. Background Geology

The bedrock at the archaeological site is of altered lavas (metadolerite) and greenschists, of the Gwna Group. This unit is bounded to the west by mica schist and metabasites (blueschists and greenschists) of the Aethwy Belt, and bounded on the north-west side by the Berw Shear Zone. To the east and north-west, the unit is bounded by Ordovician age interbedded sandstone and mudstone.

To the north-east of the site, along the coast between Bwrdd Arthur and Penmon, Carboniferous aged limestones outcrop. These include the Leete, Loggerheads and Cefn Mawr Limestone formations of the Clwyd Limestone Group, Carboniferous Limestone Supergroup.

The Leete Limestones comprise rhythmic units of dark, argillaceous skeletal packstone and paler grainstone, overlain by porcellaneous limestone (Davies 2011). The Loggerhead Limestone consists mainly of pale, thickly-bedded, skeletal and peloidal packstones. On Anglesey these limestones are interbedded with distinctive sheet and channel sand bodies (Davies 2011). These coarse-grained and pebbly sandstones are commonly referred to as the 'Anglesey Grits'. The sandstones (quartz arenites) are extremely quartz rich (more than 95 %), with grains lightly cemented by quartz. Pebbles of quartz and jasper are common throughout. Overlying much of the solid geology in this region are Devensian age glacial tills.

A general overview of the solid geology and key can be seen in Figures 1 & 2.

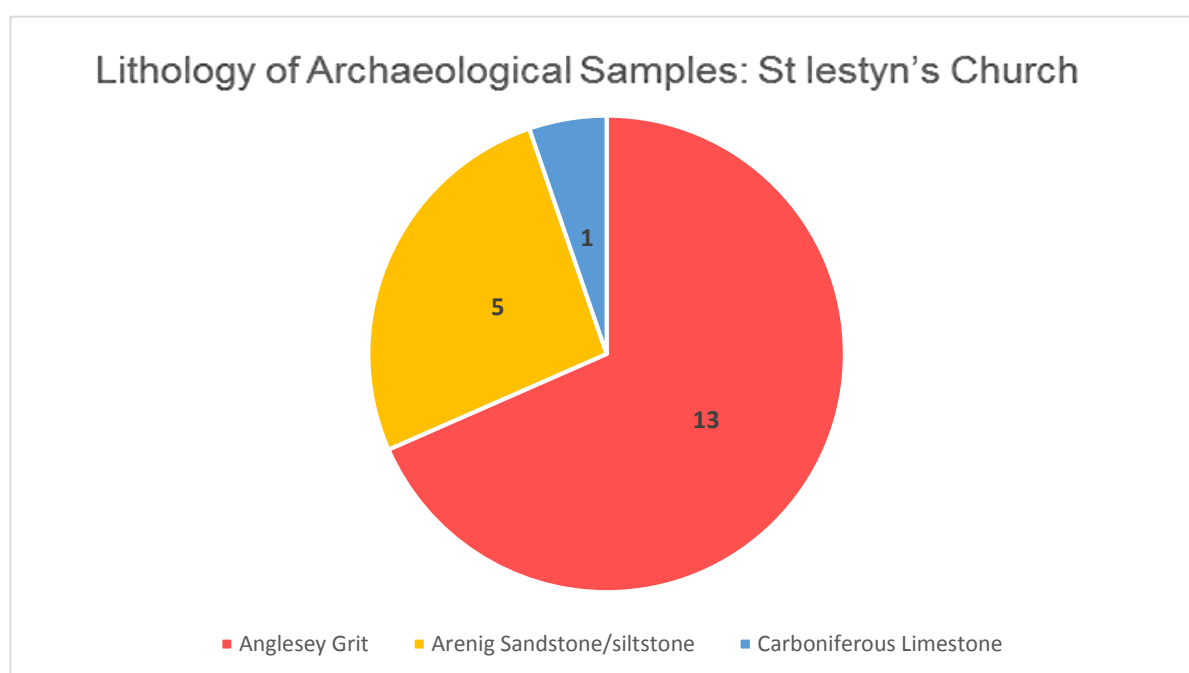
4. Petrological assessment of archaeological find

4.1 Summary

Nineteen archaeological finds were examined to determine their lithology and a potential source for the stones, by matching the observed characteristics to known lithologies local to the finds area and further afield.

It was determined that all 19 finds are sedimentary rocks and considered to be highly likely to have a local origin. Thirteen finds have been sourced from the Anglesey Grits found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. The Anglesey Grits are very quartz-rich sandstone (quartz arenite) with varied grain-size (medium-sand to large pebble size). Five of the finds (very fine-grained sandstone / siltstone) are highly likely to have a source in the local Ordovician mudstone and sandstone sequence. This outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

One find, a fossiliferous limestone (bioclastic packstone) is highly likely to have been taken from the dark, foetid argillaceous limestone (packstones) of the Leete Limestone Formation outcropping between Penmon, Llangoed and the coast north of Bwrdd Arthur.



4.2 Description of individual Archaeological finds

4.2.1 G2420: 40 9 - 1 of 5

A very quartz-rich sandstone with varied grain-size. The stone is predominantly medium (with some finer material) to very-coarse grained with granules and large pebbles up to 17mm. The lithology is cream coloured on a fresh surface, weathering Munsell 2.5Y 7/2 – 8/2 to 7/3 – 8/3 (light grey – pale yellow). It has a sub-angular to sub-rounded, grain-supported structure composed of rounded to well-rounded pebbles of quartz, red/orange coloured jasper and dark iron oxide grains, which can be seen amongst the quartz grains. The coarser granules and pebbles are more concentrated in the lower half of the block (as inspected), while the finer material to the upper part. This block is part of a 'fining upwards' sedimentary structure. The block appears to show evidence of working with tool marks on surfaces.

The sandstone (quartz arenite) matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.2 G2420: 40 9 - 2 of 5

This stone fits together with G2420 40_9 1 of 2, and is the larger of the two (see Figure 3).

A very quartz-rich sandstone with varied grain-size. The stone is predominantly medium (with some finer material) to very-coarse grained with granules and large pebbles up to 17mm. The lithology is cream coloured (lighter than 10YR 8/1 - white) on a fresh surface, weathering Munsell 10YR 7/3 – 8/3 to 7/4 – 8/4 (very pale brown). It has a sub-angular to sub-rounded, grain-supported structure composed of rounded to well-rounded pebbles of quartz, red/orange coloured jasper and dark iron oxide grains, which can be seen amongst the quartz grains. The coarser granules and pebbles are more concentrated in the lower half of the block (as inspected), while the finer material to the upper part. This block is part of a 'fining upwards' sedimentary structure. The block appears to show evidence of working with tool marks on surfaces.

The sandstone (quartz arenite) matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.3 G2420: 40 9 - 3 of 5

A very quartz-rich sandstone with varied grain-size. The stone is medium to very-coarse grained with granules and large pebbles up to 16-17mm, one pebble measuring 26mm. The lithology is cream coloured (lighter than 10YR 8/1 – white) on a fresh surface, weathering

Munsell 7.5YR 6/3 – 7/3 to 6/4 – 7/4 (pink to light brown). It has a sub-rounded to rounded, grain-supported structure composed of rounded to well-rounded pebbles of quartz, and red/orange coloured jasper. The pebbles are more concentrated in the lower half of the block, while the finer material to the upper part. Tool marks appear to be quite evident along the large faces and sides of the block. The large faces of the block are bound by bedding planes, one face is very pebbly (see Figure 4) whilst the opposite face is much finer-grained. This block is part of a 'fining upwards' sedimentary structure. The sides of the block do not appear to be natural joints or bedding planes, the tool marked surfaces (see Figure 4) suggest that the block has been worked.

The sandstone (quartz arenite) matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.4 G2420: 40 9 - 4 of 5

A very quartz-rich sandstone with varied grain-size. The stone is medium (with some finer material) to coarse-grained, with granules and medium pebbles up to 14mm. The lithology appears cream to yellow on a fresh surface, but there is little clean/fresh surface for accurate colour recording, it has weathered Munsell 10YR 7/2 – 7/3 to 8/2 – 8/3 (light grey to very pale brown). It has a sub-rounded to rounded, grain-supported structure composed of rounded to well-rounded pebbles of quartz, red/orange coloured jasper and dark iron oxide grains, which can be seen amongst the quartz grains. Crude bedding can be seen in the lateral surfaces of the block. Granules and pebbles are concentrated in thin horizons along crude bedding (at approx. 10 - 15° angle) between the two larger faces of the stone. This block is part of a cross-bedded sedimentary structure.

Prominent features that appear on the large faces and lateral surfaces of the block are interpreted as tool marks. The large faces are at an angle to the crude bedding so are unlikely to be bedding surfaces. The sides of the block do not appear to be natural joints or bedding planes

The sandstone (quartz arenite) matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.5 G2420: 40 9 - 5 of 5

A well-sorted quartz-rich sandstone medium to coarse grained grain-size with granules and rare medium sized pebbles up to 10mm. Very little clean/fresh surfaces for accurate colour recording, the sample was weathering Munsell 10YR 7/2 – 7/3 (light grey to very pale brown). It has a sub-rounded to rounded, grain-supported structure composed of rounded to well-rounded pebbles of quartz, orange coloured jasper and dark iron oxide grains, which can be seen amongst the quartz grains. Very weakly-developed bedding can be seen in the lateral surfaces of the block at an angle to the larger faces. This block forms part of a cross-bedded sedimentary structure.

Obvious 'tool marks' observed on the top surface of block (as found in-situ) are not natural in origin. They may be masonry marks, or alternatively a result of plough damage (see Figure 5).

The sandstone (quartz arenite) matches the lithology of the finer grained Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.6 G2420: 24 8 - 1 of 9

A well-sorted quartz-rich sandstone, medium to coarse grained grain-size, with some medium pebbles up to 10mm. The lithology is approx. Munsell 10YR 8/4 (very pale brown) on a fresh surface, but the sample was too dirty / lacking fresh surfaces for an accurate colour recording, weathering Munsell 10YR 6/3 – 7/3 (pale brown to very pale brown). It has a sub-rounded to rounded, grain-supported structure, with rare rounded to well-rounded pebbles of quartz. The stone appears to be roughly worked.

The sandstone (quartz arenite) matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.7 G2420: 24 8 - 2 of 9

A well-sorted quartz-rich sandstone, fine/medium to very coarse-grained grain-size, with granules and some small pebbles up to 8mm. The lithology is lighter than Munsell 2.5Y 8/2 (pale yellow) on a fresh surface, weathering Munsell 10YR 6/3 – 7/3 (pale brown to very pale brown). It has a sub-rounded to rounded, grain-supported structure, with occasional rounded to well-rounded pebbles of quartz and purple/red jasper. The stone appears to be roughly

worked. A good fresh surface allowed detailed observation of grains, the specimen is very quartz rich, with rare green coloured quartz.

The sandstone (quartz arenite) matches the lithology of the less pebbly Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.8 G2420: 24 8 - 3 of 9

A very well-sorted, homogenous, quartz-rich sandstone, fine/medium to granule size grains. The lithology is Munsell 5 Y 8/1 – 8/2 (white to pale yellow) on a fresh surface, weathering Munsell 10YR 7/4 – 8/4 (very pale brown). It has a sub-rounded to well-rounded, grain-supported structure. A good fresh surface allowed detailed observation of grains, specimen very quartz rich with pink quartz throughout. The stone appears to be roughly worked.

The sandstone (quartz arenite) matches the lithology of the less pebbly, more homogenous Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.9 G2420: 24 8 - 4 of 9

A quartz-rich sandstone, fine/medium to very coarse grained grain-size, with granules and medium pebbles up to 16mm, one large pebble 20mm. The lithology is cream – yellow on a fresh surface, weathering Munsell 2.5Y 8/3 (pale yellow). It has a sub-rounded to rounded, grain-supported structure, with sub-rounded to rounded pebbles of quartz, some mottled red and white, and rare elongated lithic clasts (5-11mm). Some green quartz and dark iron oxide grains observed throughout. Slight lamination / bedding observed in the sides of the block (see Figure 6) are parallel to the two larger faces, which are interpreted as bedding surfaces. The stone appears to be roughly worked. The larger faces defined by bedding, and the lateral faces worked.

The sandstone (quartz arenite) matches the lithology of the slightly pebbly Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.10 G2420: 24 8 - 5 of 9

A well-sorted, quartz-rich sandstone, medium to very coarse grained grain-size, with granules and small pebbles up to 5-6mm. The lithology is Munsell 2.5Y 8/3 (pale yellow) on weathered surfaces. It has a sub-rounded to rounded, grain-supported structure, with sub-rounded to rounded pebbles of quartz. Occasional clasts of red and green coloured, fine-grained, lithic material were observed. Coarse, up to granule size, grains are concentrated within 5-6mm thick bands observed in the sides of the block. The stone appears to be very well worked on one corner, with a very well rounded edge (see Figure 7).

The sandstone (quartz arenite) matches the lithology of the slightly pebbly Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.11 G2420: 24 8 - 7 of 9

A poor to moderately-sorted, quartz-rich conglomerate sandstone, coarse-grained to conglomeratic (with very large pebbles up to 35-36mm). No fresh surface for Munsell colour observation was present, but on weathered surfaces is Munsell 10YR 8/3 - 8/4 (very pale brown). It has a sub-rounded to rounded, grain-supported structure, with numerous sub-rounded to rounded pebbles of milky quartz and some red jasper (see Figure 8), and green grains of quartz. Very crude lamination were observed in the sides of block, parallel to the two larger faces. The stone appears to be roughly worked on the lateral sides of the block, one edge particularly flat and straight in comparison to the other edges (see Figure 8).

The sandstone (quartz arenite conglomerate) matches the lithology of the very pebbly Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.12 G2420: 24 8 - 8 of 9

A well-sorted, quartz-rich sandstone, medium to very coarse grained grain-size, with granules and medium pebbles up to 10mm. No fresh surfaces were present for Munsell colour observation, the colour was approximated as cream/pale yellow. The lithology is Munsell 10YR 8/2 - 8/3 (very pale brown) on weathered surfaces. It has a sub-rounded to rounded, grain-

supported structure, with sub-rounded to rounded pebbles of quartz. The stone has been obviously worked on one of the large faces, prominent marks show working in two different direction, these marks are not natural in origin (see Figure 9). The lateral surface of the block do not appear to be natural joints or bedding planes.

The sandstone matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.13 G2420: 24 8 - 9 of 9

A well-sorted, quartz-rich sandstone, medium to coarse grained grain-size, with numerous granules and some medium pebbles up to 22-23mm throughout. No good fresh surface for Munsell colour observation. The lithology is Munsell 10YR 7/2 - 7/3 (light grey to very pale brown) on weathered surfaces. It has a sub-rounded to rounded, grain-supported structure, with sub-rounded to rounded pebbles of quartz. One yellow/green coloured lithic clast may be reworked schist material from the Gwna Group. The stone appears to be roughly worked.

The sandstone matches the lithology of the Anglesey Grits, found within the Carboniferous Loggerheads Limestone Formation outcropping north-east and north-west of Penmon. It is therefore reasonable to conclude it has a source in this local lithology.

4.2.14 G2420: 71 25 1 of 3

A very well-sorted, very-fine grained sandstone / siltstone, rich in quartz, mica and dark iron oxide grains. No fresh surface for Munsell colour observation, with iron discolouration: 10 YR 8/5 – 8/6 (yellowish brown to brownish yellow), elsewhere weathering 10YR 6/4 – 6/6 (light yellowish brown to brownish yellow). It has rounded to well-rounded grains, and is very finely laminated (see Figure 10). The rock splits readily along the laminations, the largest faces of the block is oriented parallel to them, and represent a natural bedding surface. It is not possible to say if this block has been spilt by hand or its form is defined by natural fractures. The sides of the block whilst perpendicular to bedding, appear to have quite a strong, straight and smooth edge. This would suggest fracturing along a natural joint surface. The siltstone is quite soft, and no obvious tool marks appear to be present.

Based on observations of thin section samples taken from samples G2420 92_23 2 of 2 and 71_25 3 of 3 (see below), this rock has a very similar lithology to them, and is therefore interpreted as being from the same source.

The compaction of grains observed in the two thin sections (resulting from the burial history) suggests the rock is Ordovician in age, rather than a younger lithology such as the Carboniferous sequence which has not been so extensively buried. It is unlike sandstones observed (both in hand specimens and thin section) from the Carboniferous sequence of Anglesey.

It is highly likely that this lithology was sourced from the local Ordovician mudstone and sandstone sequence, which outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

4.2.15 G2420: 71 25 2 of 3

A very well-sorted, very-fine grained sandstone / siltstone, rich in quartz, mica and dark iron oxide grains. The lithology is Munsell 10 YR 6/2 – 7/2 (light brownish grey to light grey) on a fresh surface, weathering 10YR 6/4 – 6/8 (light yellowish brown to brownish yellow). It has rounded to well-rounded grains, and is very finely laminated. The rock splits readily along these laminations and the largest faces of the block are oriented parallel to them and represent a natural bedding surface. It is not possible to state whether this block has been spilt by hand or has split naturally along these planes. The sides of the block whilst perpendicular to bedding, appear to have quite a strong, straight and smooth edge. This would suggest fracturing along a natural plane of weakness e.g. jointing. The siltstone is quite soft, and no obvious tool marks were observed.

Based on observations of thin section samples taken from samples G2420 92_23 2 of 2 and 71_25 3 of 3 (see below), this rock has a very similar lithology and it is highly likely that it is derived from the same source.

The compaction of grains observed in the two thin sections (resulting from its burial history) suggests the rock is Ordovician in age rather than a younger lithology such as the Carboniferous sequence which has not been so extensively buried. It is unlike sandstones observed (both in hand specimens and thin section) from the Carboniferous sequence of Anglesey.

It is highly likely that this lithology was sourced from the local Ordovician mudstone and sandstone sequence, which outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

4.2.16 G2420: 71 25 3 of 3

A very well-sorted, iron-rich, very-fine grained sandstone / siltstone, rich in quartz, mica and dark iron oxide grains. The lithology is Munsell 10 YR 6/6 (brownish yellow) on a fresh surface, weathering 10YR 6/3 – 6/4 (pale brown to light yellowish brown). It has rounded to well-rounded grains, and is very finely laminated. The rock splits readily along these laminations, the largest faces of the block are oriented parallel to them and are defined by natural bedding surfaces. As the rock would be easy to split along these laminations it is not possible to state if the form of the stone is entirely natural in origin or if it has been fashioned by human intervention. The sides of the block (perpendicular to bedding) appear to have quite a strong straight and smooth edge. This would suggest the rock has fractured along a natural plane of weakness e.g. jointing. One large fragment from this stone was acquired for thin sectioning. This fragment had previously split away from the rest of the block leaving a very straight edge (see Figure 11). This appears to confirm the straight edges of the block have formed naturally along pre-existing lines of weakness. The siltstone is quite soft, and no obvious tool marks appear to be present.

In thin section of the fragment, the composition of the siltstone as identified in hand specimens was confirmed. In addition lithic grains and small very-fine black grains were observed. The sub-lithic arenite – siltstone shows pressure solution between many of the grains, providing a more compact texture, and with a low estimated porosity of 2%.

The compaction of the grains observed in thin section (resulting from its burial history) suggests the rock is Ordovician in age rather than a younger lithology such as the Carboniferous sequence which has not been so extensively buried. It is unlike sandstones observed (both in hand specimens and thin section) from the Carboniferous sequence of Anglesey.

It is highly likely that this lithology was sourced from the local Ordovician mudstone and sandstone sequence, which outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

4.2.17 G2420: 92 23 1 of 2

A dark-coloured, very-well sorted, fine-grained, fossiliferous limestone. The lithology is Munsell 10YR 5/1 – 5/2 (grey to greyish brown) on a fresh surface, and 10YR 6/1 – 6/2 (grey to light brownish grey) on a weathered surface. Rich in fossil fragments (<2mm) and carbonate veins throughout. The rock has a strong reaction to dilute hydrochloric acid, which confirms the presence of calcium carbonate. The stone is crudely laminated and has split into a large

narrow elongate slab. The larger faces are parallel to bedding and represent a bedding surfaces. No obvious tool marks were observed in the lateral surface of the stone.

A fragment taken away for detailed study and thin section preparation allowed for further identification. Under a binocular microscope, the limestone was confirmed to be packed with numerous fossil fragments including crinoids, foraminifera, brachiopods and tiny, black phosphatic teeth of fish (shark). In thin section the features observed in hand specimen were confirmed. The limestone is composed almost entirely of grain-supported fossils fragments with a carbonate cement, typical of a bioclastic packstone.

The source of the limestone is very likely local, as the lithology matches that of the dark, foetid argillaceous limestone (packstones) of the Leete Limestone Formation outcropping between Penmon, Llangoed and the coast north of Bwrdd Arthur.

4.2.18 G2420: 92 23 2 of 2

A very well-sorted, iron-rich, very-fine grained sandstone / siltstone, rich in quartz, mica, with black and orange iron oxide grains and iron pyrite. A pitted surface has resulted where some of the pyrite has been weathered out. The lithology is Munsell 10 YR 5/2 – 5/3 (greyish brown to brown) on a weathered surface. The stone is very finely laminated, and splits readily along these layers. The largest faces of the block are oriented parallel to these laminations and are defined by natural bedding surfaces. Many fragments have broken away along different layers on this surface resulting in a slightly stepped appearance. It is not possible to state whether this block has been spilt by hand or naturally weathered as such. The sides of the block (perpendicular to bedding) appear to have quite a strong, straight and smooth edge. This would suggest the rock has fractured along a natural line of weakness e.g. jointing. The siltstone is quite soft, and no obvious tool marks appear to be present.

A fragment taken away for detailed study and thin section preparation allowed for further identification. Under a binocular microscope, the nature of the siltstone as identified in hand specimen was confirmed.

In thin section the lithic arenite - siltstone shows pressure solution between many of the grains providing resulting in compact texture, porosity was estimated at 5-10%. The compaction of the grains observed in thin section (resulting from its burial history) suggests the rock is Ordovician in age rather than a younger lithology such as the Carboniferous sequence which has not been so extensively buried. It is unlike sandstones observed (both in hand specimens and thin section) from the Carboniferous sequence of Anglesey.

It is highly likely that this lithology was sourced from the local Ordovician mudstone and sandstone sequence, which outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

4.2.19 G2420: 79 24 1 of 1

A very well-sorted, iron-rich, very-fine grained sandstone / siltstone, rich in quartz, mica, with black and orange grains of iron oxide and pyrite. A pitted surface has resulted where some of the pyrite has been weathered out. The lithology is Munsell 10 YR 6/4 (light yellowish brown)) on a weathered surface. The stone is very finely laminated, and will split readily along these laminations. The largest faces of the block are oriented parallel to these laminations and are defined by them. One large face is very flat, whilst the opposite face is less planar and contains several reworked clasts of very fine lithic material (up to 30mm). Although the surface of the stone is defined by the lamination surfaces, it is not possible to say if this has formed naturally or was split by human activity.

The sides of the block (perpendicular to bedding) appear to have quite a strong, straight and smooth edge. This would suggest the rock has fractured along a natural line of weakness e.g. jointing. The siltstone is quite soft, and no obvious tool marks appear to be present.

Based on the observations of thin section samples taken from samples G2420 92_23 2 of 2 and 71_25 3 of 3 (see below), this rock has a very similar lithology to these samples, and it is highly likely that it is from the same source.

The compaction of grains observed in the two thin sections (resulting from its burial history) suggests the rock is Ordovician in age rather than a younger lithology such as the Carboniferous sequence which has not been so extensively buried. It is unlike sandstones observed (both in hand specimens and thin section) from the Carboniferous sequence of Anglesey.

It is highly likely that this lithology was sourced from the local Ordovician mudstone and sandstone sequence, which outcrops to the east of the site around Llangoed and Llanfaes, and to the north-west near Pentrellwyn.

5. Figures

Figure 1: General overview of the solid geology around St Iestyn's Church, Llanddona, Anglesey

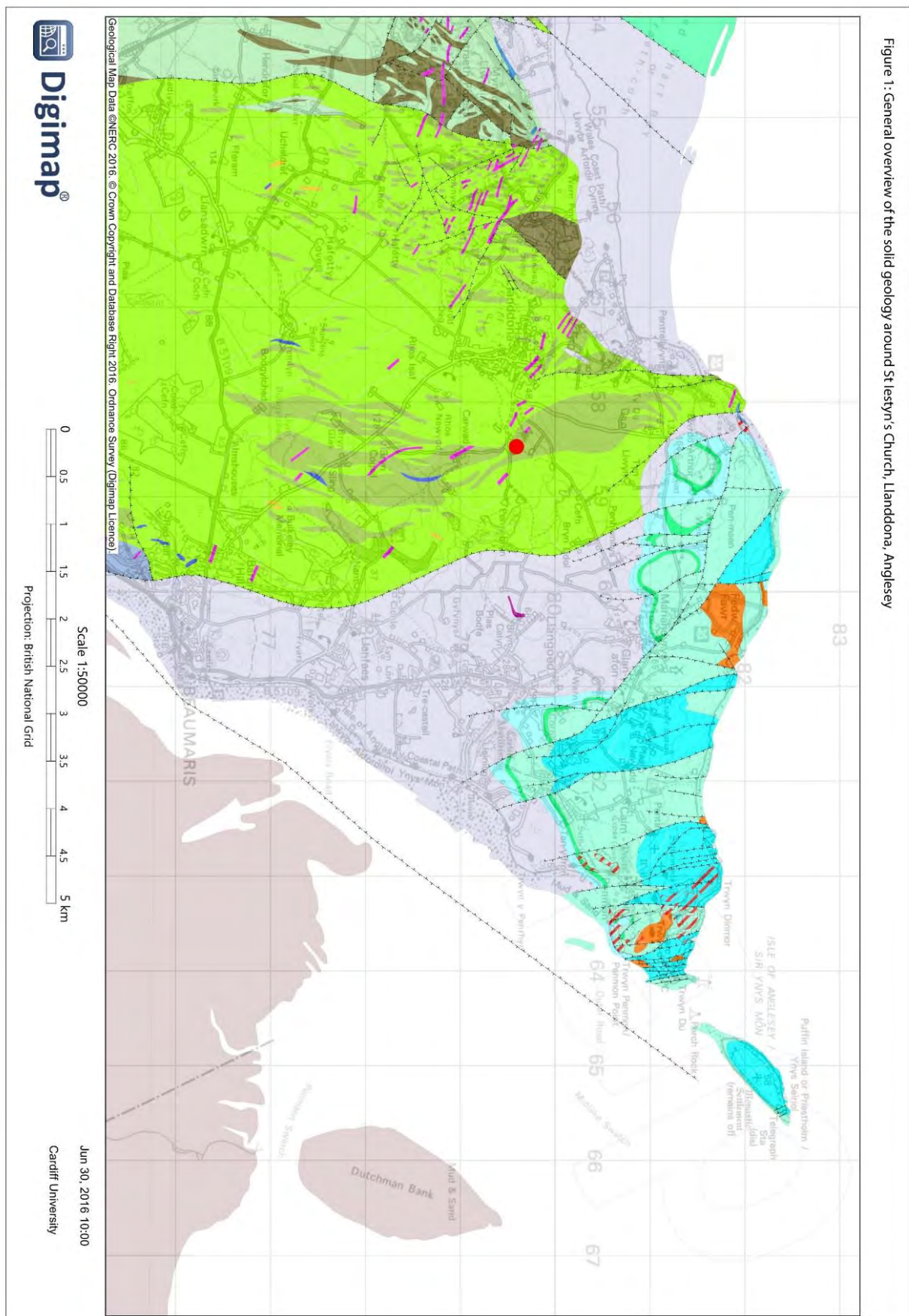


Figure 2: Key to lithological units to accompany Fig. 1

























| Bedrock | |
|---|---|
| Cefn Mawr Limestone Formation - Sandstone(CFML-SDST) |  |
| Ordovician Rocks (Undifferentiated) - Mudstone And Sandstone, Interbedded(ORD-MDSA) |  |
| Gwna Group - Quartzite(NGW-QZITE) |  |
| Leete Limestone Formation - Limestone, Micritic(LEEL-LMMC) |  |
| Baron Hill Formation - Volcaniclastic Rocks (Both Pyroclastic & Reworked Volcanic Rocks)(BAH-VLSS) |  |
| Careg Onen Formation - Sandstone And Mudstone(OCO-STMD) |  |
| Loggerheads Limestone Formation - Sandstone(LGHL-SDST) |  |
| Loggerheads Limestone Formation - Limestone(LGHL-LMST) |  |
| Red Wharf Limestone Formation - Limestone(REL-LMST) |  |
| Gwna Group - Schist(NGW-SCH) |  |
| Leete Limestone Formation - Limestone(LEEL-LMST) |  |
| Ordovician Rocks (Undifferentiated) - Ironstone(ORD-FEST) |  |
| Gwna Group - Pelite(NGW-PEL) |  |
| Central Anglesey Shear Zone And Berw Shear Zone (Undifferentiated) - Schist, Hornblende(CABSZ-HBSCH) |  |
| Central Anglesey Shear Zone And Berw Shear Zone (Undifferentiated) - Schist, Glaucophane(CABSZ-GLSCH) |  |
| Unnamed Igneous Intrusion Of Unknown Age - Microgabbro(UIIN-MCGB) |  |
| Central Anglesey Shear Zone And Berw Shear Zone (Undifferentiated) - Schist, Mica(CABSZ-SCHM) |  |
| Cambrian And Ordovician Rocks (Undifferentiated) - Mudstone, Siltstone And Sandstone(CAOR-MDSS) |  |
| Cefn Mawr Limestone Formation - Limestone(CFML-LMST) |  |
| Gwna Group - Metabasaltic-Rock(NGW-MBAR) |  |
| Artificial Ground | |
| Made Ground (Undivided) - Artificial Deposit(MGR-ARTDP) |  |
| Mass Movement | |
| Linear Features | |
| Alteration Areas | |
| Faults | |
| Fault, observed, displacement unknown |  |
| Fault, inferred, displacement unknown |  |
| Fold Axes | |
| Fossil Horizons | |
| Landforms | |
| Mineral Veins | |
| Rock Units | |
|  St Iestyn's Church, Llanddona | |

Figure 3: Image showing specimens G2420: 40_9 - 1 of 5 (right) and 2 of 5 (left) were originally joined together



Figure 4: Specimen 40_9 - 3 of 5: Pebble rich horizon in lower half of block and tool marks on lateral surface (nearest viewer).



Figure 5: Specimen 40_9 - 5 of 5: Obvious 'tool marks' observed in face of block (nearest viewer) NB these may be masonry marks, or alternatively the result of plough damage



Figure 6: Specimen 24_8 - 4 of 9: Lamination / bedding observed in lateral surface of block (nearest viewer), note occasional quartz pebbles.

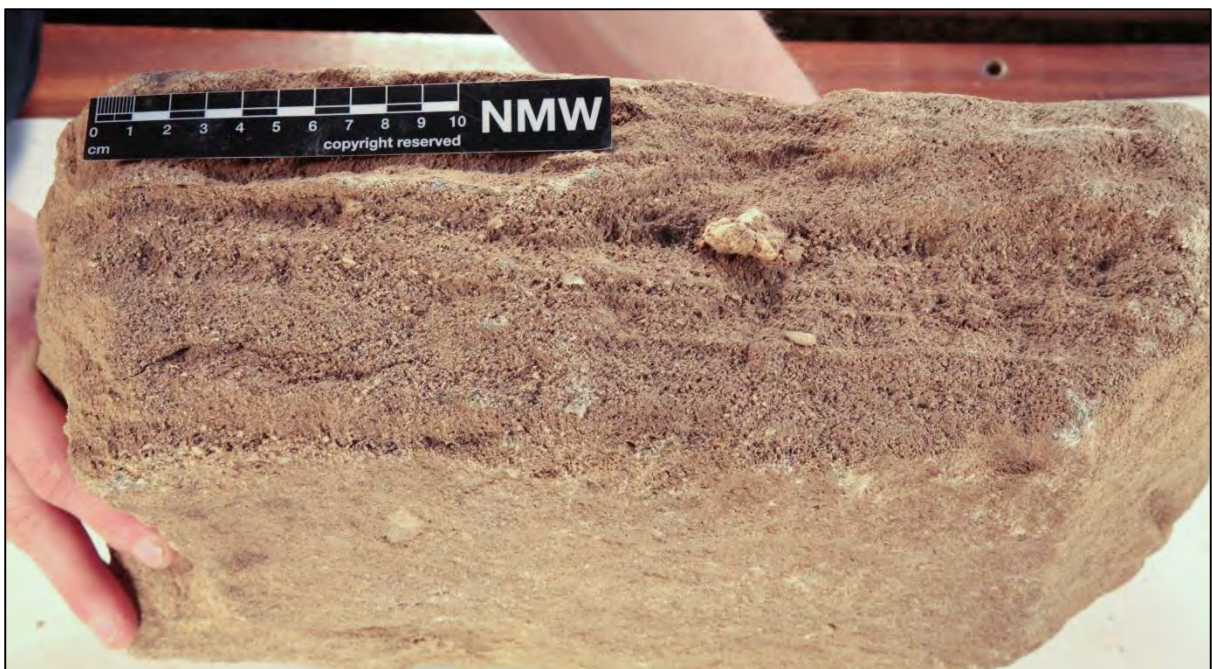


Figure 7: Specimen 24 8 - 5 of 9: Very well rounded corner of block showing evidence of working by hand



Figure 8: Specimen 24 8 - 7 of 9: Conglomerate rich in quartz pebbles and jasper, straight and flat worked edge (base of image)



Figure 9: Specimen 24_8 - 8 of 9: *Obvious masonry marks observed on large face of block (nearest viewer)*



Figure 10: Specimen 71_25 1 of 3: *Laminations observed in lateral face of block*



Figure 11: Specimen 71 25 3 of 3: *Fragment splitting away from main block leaving very straight edge*



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11 Appendix III

11.1 Flint Specialist Report

WORKED FLINT REPORT, LLANIESTYN CHURCHYARD EXTENSION

SF3, Context 10. Secondary flake fragment. Grey-brown translucent flint. 25mmx20mmx4mm

Thin yellow-brown cortex. Pronounced bulb and with battering around the bulbar end suggesting difficult flake removal. No secondary working. Possibly a scalar waste piece, which would be of Early Neolithic date but could also just be a natural pebble broken by plough impact, for instance.

SF60, Context 04. Primary microfragment. Black opaque flint. 07mmL max. Partly rolled outer surface shows it is just a broken fragment of natural flint gravel.

SF61, Context 52. Thin tertiary flake tip fragment. Mid-grey flint. 08mmL max. Probably part of a quite neatly struck flake but broken due to fractures from slight burning. No secondary working but the thin, sharp tip has microchipping and edge polish suggesting the piece is a utilised flake fragment. Undatable but indicating that there was some early prehistoric activity in the vicinity.

12 Appendix IV

12.1 Archaeobotany and Osteoarchaeology Specialist Report



Llaniestyn Churchyard Extension (G2420), Llanddona, Anglesey

Palaeoenvironmental and Osteological Assessment Report



Oxford Archaeology North

October 2016

**Gwynedd Archaeological
Trust**

Issue No: 2016-17/1761

OAN Job No: L10984

NGR: SH 5857 7955

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National Grid Reference: SH 5857 7955

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SUMMARY

Oxford Archaeology North (OA North) was commissioned by Gwynedd Archaeological Trust in June 2016, to assess the flots and human bone from bulk and hand-retrieved samples taken during excavation works in advance of an extension of the cemetery at Llaniestyn Churchyard, Llanddona, Anglesey (SH 5857 7955), in February 2016. Although no firm dating evidence is available for the site, the burials are morphologically of a type typically seen in early medieval cemeteries in the area (*c* AD 600 to *c* AD 1100). Bulk samples, from several graves and associated mortuary features, were processed by Gwynedd Archaeological Trust, and assessed by a palaeobotanist for the survival of any organic remains that might provide information on any burial practices, or burial conditions. In addition, several, hand-retrieved, fragments of human bone were assessed by an osteologist for their potential for analysis. Both sets of data were also assessed for their potential to provide suitable material for radiocarbon dating. Little organic material was recovered, and the assessment demonstrated that there was no potential for palaeoenvironmental analysis. Similarly, due to its highly fragmented and degraded state, no further work is warranted on the bone. Radiocarbon dating could be attempted on bone fragments from graves **16** and **21**. Charred plant remains, and a single uncharred fruit stone, may also provide suitable material for radiocarbon dating, although their uncertain taphonomy means that any resulting dates remain tenuous.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank Gwynedd Archaeological Trust, in particular Bethan Jones, for commissioning the work. Denise Druce carried out the palaeoenvironmental assessment of the bulk samples, whilst Vickie Jamieson assessed the human bone, both contributing to the report. Editing and quality assurance was provided by Rachel Newman, Senior Executive Officer, Research and Publication.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

- 1.1.1 Archaeological investigations carried out in advance of an extension of the cemetery at Llaniestyn Churchyard, Llanddona, Anglesey (SH 5857 7955), in February 2016, revealed a number of graves morphologically of a type typically seen in early medieval cemeteries in the area (*c* AD 600 to *c* AD 1100; Gwynedd Archaeological Trust 2016). Other features, including a ditch surrounding a mortuary enclosure, and a pit, were also discovered. In line with current practice, bulk samples were taken for the assessment of the survival of any organic remains that might provide information on burial practices, or burial conditions, and suitable material for radiocarbon dating. Any surviving bone fragments were also retrieved to assess their potential for analyses and dating. Gwynedd Archaeological Trust commissioned Oxford Archaeology North (OA North) in June 2016 to carry out the assessment of the processed material.

1.2 QUANTIFICATION

- 1.2.1 In total, 54 environmental bulk samples were processed by Gwynedd Archaeological Trust and assessed by OA North. Of these, eight were taken from specific locations within grave **21** (from fill **04**; *Appendix 1*); the remaining 47 came from 23 other graves (details of which are given in *Appendix 2*), the mortuary enclosure ditch, (fill **10**), and a pit (fill **45**). The osteological samples comprised a minimum of three individuals from fragments found within graves **16**, **21** and **45**, and very small fragments were recovered from a further five individuals from graves **19**, **20**, **37**, **44** and **58**.

1.3 METHODOLOGY

- 1.3.1 Following processing by Gwynedd Archaeological Trust, the dried flots were sent to OA North, where they were assessed under a binocular microscope and their contents recorded. The flots were scanned using a Leica stereo-microscope and any plant material, including fruits, seeds, charcoal and wood fragments, was quantified, provisionally identified, and assessed, following Historic England guidelines (English Heritage 2011). Other remains, such as bone, molluscs, insects, small artefacts, industrial/metal waste, and coal/heat-affected vesicular material (havm), were also quantified. The presence of modern contaminants, such as modern roots, was also noted. Quantification is based on a score of 1 to 4 where 1 = rare (one to five items), 2 = present (6-25), 3 = common (26-100), 4 = abundant (>100 items). Nomenclature of the plant remains follows Stace (2010).
- 1.3.2 Any charcoal fragments within the bulk samples were quantified and provisionally identified where possible. In particular, the presence of any short-lived wood species, such as alder (*Alnus glutinosa*) or hazel (*Corylus avellana*), was noted. Charcoal identifications were made with reference to Hather (2000), and modern reference material.

- 1.3.3 Osteological assessment was undertaken in accordance with published guidelines (Brickley and McKinley 2004; Buikstra and Ubelaker 1994; Cox and Mays 2003). All skeletal remains were examined macroscopically and recorded using *pro-forma* recording forms. It should be noted that, due to the highly fragile nature of the skeletal remains, they had not been washed prior to assessment.
- 1.3.4 Completeness was estimated by recording, as a percentage, how much of the skeleton had survived and assigning it to one of the following categories: 0-25% complete; 25-50% complete; 50-75% complete; 75-100% complete. The condition of the bone was assessed according to the degree of erosion of the bone surface and how much of the epiphyses (the ends of the bones) and cancellous bone (the spongy bone that is beneath the outer layer) had survived. Based on these factors, the remains were assigned to one of the following categories put forward by Brickley and McKinley (2004):
- Grade 0: surface morphology clearly visible with fresh appearance to bone and no modifications;
 - Grade 1: slight and patchy surface erosion;
 - Grade 2: more extensive surface erosion than grade 1 with deeper surface penetration;
 - Grade 3: most of bone surface affected by some degree of erosion; general morphology maintained but detail of parts of surface masked by erosive action;
 - Grade 4: all of bone surface affected by erosive action; general profile maintained and depth of modification not uniform across whole surface;
 - Grade 5: heavy erosion across whole surface, completely masking normal surface morphology, with some modification of profile;
 - Grade 5+: as Grade 5 but with extensive penetrating erosion resulting in modification of profile.
- 1.3.5 All observations were made by scanning each skeletal fragment. While these observations provide adequate guidance to the potential of the material for further work they are, by their very nature, preliminary and subject to change as a result of any possible future high-resolution examination.
- 1.3.6 The potential of the remains to yield information relating to age and sex was estimated by determining if the appropriate skeletal elements were present so that standard methods could be employed (Brickley and McKinley 2004). The remains of the skeletons were also assessed for their potential to yield metrical data, in particular that which will allow stature estimation and facilitate age estimation for sub-adults, and sex estimation for adults. Stature may be estimated from human skeletal remains by applying the maximum length of complete long limb bones to the regression equations set out by Trotter and Gleser (1958; revised by Trotter 1970). Potential for metrical assessment was scored on a scale of 1-5, where 1 denotes skeletons that showed no potential (*ie* no elements could be measured owing to fragmentation/poor preservation), and 5 denotes skeletons that showed

considerable potential (*ie* the full range of standard cranial and post-cranial measurements could be taken).

- 1.3.7 Other observations pertaining to metrical assessment involved noting which skeletal remains had sufficiently preserved bones, in particular crania, that could facilitate comparisons. All observations were made by scanning each skeletal fragment. While these observations provide adequate guidance to the potential of the material for further work they are, by their very nature, preliminary and subject to change as a result of any possible future high-resolution examination.
- 1.3.8 An assessment of the potential for the skeletal remains to yield non-metrical data was scored on a scale of 1-5, where 1 denotes skeletons that showed no potential for non-metrical analysis (*ie* preservation prevented the observation of all standard cranial and post-cranial sites) and 5 denotes skeletons that showed considerable potential for non-metrical analysis (*ie* all standard cranial and post-cranial sites could be scored).

2. RESULTS

2.1 PALAEOENVIRONMENTAL ASSESSMENT

- 2.1.1 The results of the palaeoenvironmental assessment are given in *Appendices 1* and *2*, where the potential of each sample to sustain palaeoenvironmental analysis, as well as for providing suitable material for radiocarbon dating, is given. Very few charred plant remains were present, which comprised rare cereal grains, including barley (*Hordeum* sp), wheat (*Triticum* sp), and grass/heathgrass (Poaceae/*Danthonia decumbens*) seeds. Several of the samples contained charred grass stem and rhizome/tuber fragments. Charcoal was generally more abundant, and many of the samples contained frequent/common identifiable fragments greater than 2mm in size. These were dominated by short-lived taxa, including heather/heath (*Calluna vulgaris*/*Erica* sp), Leguminosae (includes gorse and broom), alder (*Alnus glutinosa*) or hazel (*Corylus avellana*). What appears to be a single uncharred (mineralised?) blackthorn/cherry (*Prunus* sp) endocarp was recovered from grave **49** (sample 46). which, given its context, could represent an *in-situ* item (possible from stomach content?) preserved either by the human burial environment, or by contact with metal.
- 2.1.2 As well as modern roots, the majority of the samples contained rare waterlogged seeds as well as earthworm eggs, and small fragments of coal. These are all likely to be modern and intrusive.

2.2 OSTEOLOGICAL ASSESSMENT

- 2.2.1 ***Completeness of skeletal remains:*** the skeletal remains were all less than 25% complete, mostly less than 5% complete. Most of the graves were empty, the bodies having decayed as a result of the silty clay nature of the soil that they were buried in. Graves **16**, **21** and **45** yielded small fragments of bone still *in situ* in the burial position, suggesting that they had not been previously disturbed, and it was the general ground conditions that contributed to the surviving level of completeness. Fragments found in a further five graves within the soil samples were so small that they could not be given a completeness rating.
- 2.2.2 ***Condition of skeletal remains:*** the condition of the remains ranges from poor to destroyed. Grave **45** only had skull fragments surviving and was in a poor condition, at Grade 4 (*Section 1.3.4*). Although graves **16** and **21** had slightly more surviving elements, the condition of the bone was classed as destroyed, given the high level of erosion. All other fragments have been classified as destroyed.
- 2.2.3 ***Estimation of biological age:*** due to the high level of erosion and lack of completeness of the skeletal remains, there are not enough relevant indicators surviving to provide an estimate of biological age for any of the individuals. However, the surviving teeth fragments from graves **16**, **21** and **37** suggest that these individuals were adults.

- 2.2.4 **Estimation of biological sex:** none of the skeletal fragments had enough features surviving to determine biological sex.
- 2.2.5 **Metrical analysis:** the potential for metrical analysis, both cranial and post-cranial, is non-existent within the assemblage. None of the skeletal remains have complete bones to allow measurements to be taken.
- 2.2.6 **Non-metrical analysis:** the potential for non-metric analysis is nil within this assemblage, as the skeletons were in a highly degraded state of preservation.
- 2.2.7 **Potential to yield palaeopathological data:** of the surviving skeletal remains that were preserved enough to allow macroscopic examination of pathological conditions, none could be determined, as a result of the erosion of the cortical bone. Therefore, none of the skeletal remains could contribute to an understanding of the health status of this particular population. Within grave 16, an adult upper third molar was identified with moderate wear. Five adult teeth, all from the mandible, were recovered from grave 21, which had very little wear on them, suggesting a young adult. Grave 37 yielded a lower left adult second molar with moderate wear upon it. No dental pathology, such as caries, calculus or dental enamel hypoplasia, was observed on any of the surviving teeth.

2.3 ARCHIVING

- 2.3.1 All paperwork generated during the palaeoenvironmental and osteological assessments will be lodged with the main site archive produced by Gwynedd Archaeological Trust.

2.4 DISCUSSION AND RECOMMENDATIONS

- 2.4.1 **The palaeoenvironmental remains:** as is often the case with sites of this nature, the assessment showed that palaeoenvironmental remains were sparse. Very little material was recovered from the graves, which potentially could have contained stomach contents, funerary items, or clothing and personal adornment. Where charred material was present, it was mostly observed in small quantities, and probably represented either redeposited material, or debris originating from the surface through which the graves were cut. The presence of charred rhizome/tuber fragments may indicate the burning of turves. In addition, the presence of heathgrass seeds and heather/heath wood charcoal suggests the burning of heathland vegetation. Given the context of the charred material, however, it is not clear whether the material stems from *in-situ* vegetation, or from heathland resources being brought onto the site.
- 2.4.2 The single mineralised? fruit endocarp from grave 49 is of interest. Given its context, it could represent an *in-situ* item (possible from stomach content?) preserved either by the burial environment, or by contact with metal.

- 2.4.3 Given the paucity of the charred remains from the site, no further work is warranted. In addition, although much of the charred material would provide adequate material for radiocarbon dating (*Appendix 2*), their uncertain taphonomy means that any dating may be tenuous. The single uncharred fruit endocarp may be suitable for radiocarbon dating, but the fact that it appears to be mineralised means that its carbon content may be reduced.
- 2.4.4 ***The osteological remains:*** the remains assessed are fragments of a small assemblage that is potentially significant for this location, given the early medieval date of the site. However, the highly fragmented nature and the degradation of the bone has meant that it has not been possible to provide any significant information about these particular individuals. No further work in terms of analysis is recommended, as they could not yield the required data for comparison with other similar assemblages, or within their own local population. Radiocarbon dating could be attempted on fragments from graves **16** and **21**, but the destructive nature of these tests means that only one attempt from each grave would be possible and the fragments may not contain enough carbon to date. Strontium analysis could be conducted on the teeth from graves **16**, **21** and **37**, but without any other biological information the results would be of limited value.

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APPENDIX 1: PALAEOENVIRONMENTAL ASSESSMENT RESULTS, GRAVE 21

| Sample no | Context Details (04) | Flot Vol (ml) | Charred Plant Remains | >2mm Charcoal | Potential for analysis | Radiocarbon Dating Potential |
|-----------|-------------------------|------------------|--|---|---------------------------|---------------------------------|
| 01 | Leg, east section | <5 | (1) indeterminate cereal grain fragment and weed seed | (1) indeterminate | None | No |
| 01 | Middle section | <5 | (1) cf <i>Triticum aestivum</i> -type grain | (1) indeterminate | None | Yes |
| 01 | Middle section | <5 | - | (1) poorly preserved, but includes <i>Alnus/Corylus</i> | None | Yes |
| 01 | - | <5 | - | (1) includes short-lived taxa | None | Yes |
| 01 | Western end | <5 | - | - | None | No |
| 01 | Left upper body | <5 | - | (1) includes roundwood (small) | None | No |
| 01 | Right upper body | <5 | - | (1) includes <i>Alnus/Corylus</i> | None | Yes |
| 01 | West end | <5 | (1) <i>Triticum aestivum</i> -type and cf <i>Avena</i> grain | (1) indeterminate | None | Yes |

Remains are scored on a scale of 1 to 4, where (1) = <5 items, (2) = 6-25, (3) = 26-100, and (4) = >100 items.

APPENDIX 2: PALAEOENVIRONMENTAL ASSESSMENT RESULTS

| Sample no | Context no | Sample Vol (l) | Context Details | Flot Vol (ml) | Charred Plant Remains | >2mm Charcoal | Other Remains | Potential for further analysis | Radiocarbon Dating Potential |
|-----------|------------|----------------|--|---------------|---|--|---------------|--------------------------------|------------------------------|
| 1 | 04 | 78.4 | Grave 21 | <5 | (1) small culm node | (2) <i>Alnus/Corylus</i> | - | None | Yes |
| 2 | 10 | 6 | Grave 45 | <5 | (1) indeterminate cereal grain | (1) indeterminate | - | None | Yes |
| 3 | 12 | 7.5 | - | <5 | (1) stem fragments | (1) includes <i>Calluna/Erica</i> sp roundwood | - | None | Yes |
| 4 | 10 | 7 | Mortuary enclosure (east end/entrance) | <5 | - | (1) indeterminate | - | None | No |
| 5 | 10 | 4 | Feature 45 | <5 | - | (1) indeterminate | - | None | No |
| 6 | 17 | 9 | Grave 41 | <5 | (1) <i>Danthonia decumbens</i> , stem/rhizome fragments | (1) includes small roundwood | - | None | Yes |
| 7 | 17 | 7 | Grave 41 | <5 | - | (1) includes small roundwood | - | None | Yes |
| 8 | 23 | 19 | Grave 19 | <5 | - | - | - | None | No |
| 9 | 19 | 4.5 | - | <5 | (1) stem/rhizome fragments | (1) indeterminate | - | None | No |
| 10 | 32 | 8 | - | <5 | - | - | - | None | No |
| 11 | 21 | 36 | Grave 19 | <5 | - | (1) <i>Alnus/Corylus</i> | - | None | Yes |
| 12 | 26 | 19 | Grave 46 | <5 | - | - | - | None | No |
| 13 | 35 | very small bag | Grave 46 – northern stakehole | <5 | - | - | - | None | No |
| 14 | 36 | very small bag | Grave 46 – southern stakehole | <5 | - | - | - | None | No |
| 15 | 37 | 8 | - | <5 | - | - | - | None | No |
| 16 | 45 | 9 | Pit 44 | <5 | (1) <i>Hordeum</i> sp and cf <i>Avena</i> sp grain grains | (2) <i>Alnus/Corylus</i> | - | None | Yes |
| 17 | 46 | 9 | Grave 36 | <5 | - | - | - | None | No |

| Sample no | Context no | Sample Vol (l) | Context Details | Flot Vol (ml) | Charred Plant Remains | >2mm Charcoal | Other Remains | Potential for further analysis | Radiocarbon Dating Potential |
|-----------|------------|----------------|-----------------|---------------|---|---|---------------|--------------------------------|------------------------------|
| 18 | 30 | 7 | Grave 35 | <5 | - | - | - | None | No |
| 19 | 46 | 8 | Grave 36 | <5 | - | - | - | None | No |
| 20 | 50 | 9 | - | <5 | - | (1) cf Leguminosae | - | None | Yes |
| 21 | 47 | 8.5 | - | <5 | - | - | - | None | No |
| 22 | 52 | 16 | Grave 37 | <5 | (1) stem/rhizome fragments | (1) cf <i>Calluna/Erica</i> sp | - | None | Yes |
| 23 | 52 | 9 | Grave 37 | <5 | | (1) indeterminate | - | None | No |
| 24 | 54 | 9 | - | <5 | (1) cf cereal grain | (1) indeterminate | - | None | No |
| 25 | 58 | 7 | Grave 34 | <5 | | - | - | None | No |
| 26 | 55 | 17 | Grave 44 | <5 | (1) <i>Hordeum</i> sp grain, indeterminate fruit/seed, stem fragments | (1) includes short-lived taxa | - | None | Yes |
| 27 | 62 | 9 | Grave 42 | <5 | - | (1) roundwood (small) | - | None | No |
| 29 | 62 | 7 | Grave 42 | <5 | - | (1) roundwood (small) | - | None | No |
| 30 | 63 | 11 | Grave 40 | <5 | (1) <i>Triticum</i> sp grain | (2) includes <i>Calluna/Erica</i> sp, and Leguminosae | - | None | Yes |
| 31 | 70 | 9 | Grave 16 | <5 | - | (1) roundwood (small) | - | None | No |
| 32 | 73 | 19 | Grave 20 | <5 | - | (1) roundwood (small) | - | None | No |
| 33 | 75 | 8 | Grave 16 | <5 | (1) indeterminate cereal grain | (1) includes roundwood and cf <i>Alnus/Corylus</i> | - | None | Yes |
| 34 | 76 | 5.5 | Grave 20 | <5 | - | (1) roundwood (small) | - | None | No |

| Sample no | Context no | Sample Vol (l) | Context Details | Flot Vol (ml) | Charred Plant Remains | >2mm Charcoal | Other Remains | Potential for further analysis | Radiocarbon Dating Potential |
|-----------|------------|----------------|-----------------|---------------|--|--|--|--------------------------------|------------------------------|
| 35 | 77 | 11 | Grave 18 | <5 | - | (2) includes Leguminosae, <i>Quercus</i> sp, and <i>Calluna/Erica</i> sp | - | None | Yes |
| 36 | 75 | 17 | Grave 16 | <5 | - | (2) includes small roundwood and short-lived taxa | - | None | Yes |
| 37 | 80 | 9 | Grave 16 | <5 | - | (1) includes <i>Calluna/Erica</i> sp roundwood | - | None | Yes |
| 38 | 82 | 22 | Grave 56 | <5 | - | (1) includes Leguminosae roundwood | - | None | Yes |
| 39 | 84 | 17 | Grave 57 | <5 | (1) indeterminate cereal grain | (2) includes short-lived taxa | - | None | Yes |
| 40 | 93 | 15.5 | Grave 47 | <5 | - | (2) includes <i>Calluna/Erica</i> sp | - | None | Yes |
| 41 | 95 | 6 | Grave 47 | <5 | - | - | - | None | No |
| 42 | 90 | 16 | Grave 48 | <5 | (1) indeterminate cereal grain, <i>Danthonia decumbens</i> | (1) includes Leguminosae roundwood | - | None | Yes |
| 43 | 96 | 9 | Grave 48 | <5 | - | (1) roundwood (small) | - | None | No |
| 44 | 104 | 25 | Grave 60 | <5 | (1) indeterminate tuber/rhizome fragments | (1) indeterminate | - | None | No |
| 45 | 101 | 13 | Grave 58 | <5 | - | (1) indeterminate | - | None | No |
| 46 | 106 | 19 | Grave 49 | <5 | - | (1) indeterminate | (1) cf mineralised <i>Prunus</i> sp endocarp | None | Yes |
| 47 | 108 | 1 bag | - | <5 | - | - | - | None | No |
| 48 | 109 | 16 | Grave 51 | <5 | (1) Poaceae seeds, indeterminate tuber fragments | - | - | None | No |

Remains are scored on a scale of 1 to 4, where (1) = <5 items, (2) = 6-25, (3) = 26-100, and (4) = >100 items.



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13 Appendix V

13.1 SUERC Radiocarbon Dating Certificates



RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code GU42714

Submitter Bethan Jones
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Gwynedd
LL57 2RT

Site Reference G2420 Llaniestyn Churchyard
Context Reference (04) Grave 21
Sample Reference Find no. 26

Material Bone : Human

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Nayantub

Date :- 25/01/2017



RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code GU42715

Submitter Bethan Jones
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Gwynedd
LL57 2RT

Site Reference G2420 Llaniestyn Churchyard
Context Reference (75) Grave 16
Sample Reference Find no. 15 - 17

Material Bone : Human

Result Failed: insufficient carbon.

N.B. Any questions directed to the Radiocarbon Laboratory should quote the GU coding given above.

The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

Checked and signed off by :-

P. Nayantub

Date :- 25/01/2017

RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code SUERC-71027 (GU42716)

Submitter Bethan Jones
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Gwynedd
LL57 2RT

Site Reference G2420 Llaniestyn Churchyard
Context Reference (21) Grave 19
Sample Reference 11

Material Charcoal : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -25.6 ‰

Radiocarbon Age BP 1244 \pm 33

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

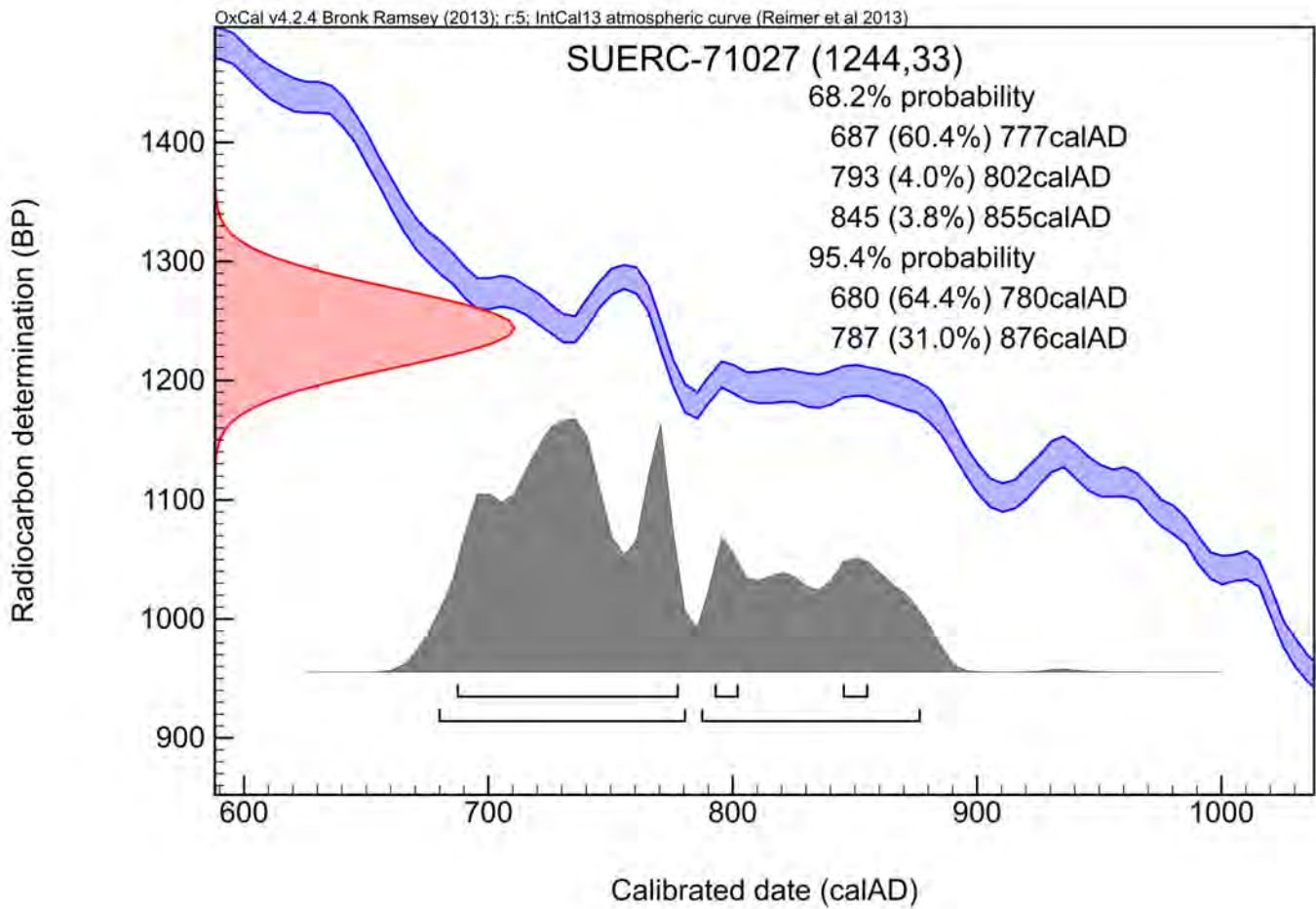
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 25/01/2017

Checked and signed off by :- *P. Nayantub*

Date :- 25/01/2017

Calibration Plot



RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code SUERC-71028 (GU42717)

Submitter Bethan Jones
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Gwynedd
LL57 2RT

Site Reference G2420 Llaniestyn Churchyard
Context Reference (21) Grave 19
Sample Reference 11

Material Charcoal : *Corylus avellana*

$\delta^{13}\text{C}$ relative to VPDB -26.6 ‰

Radiocarbon Age BP 1230 \pm 33

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

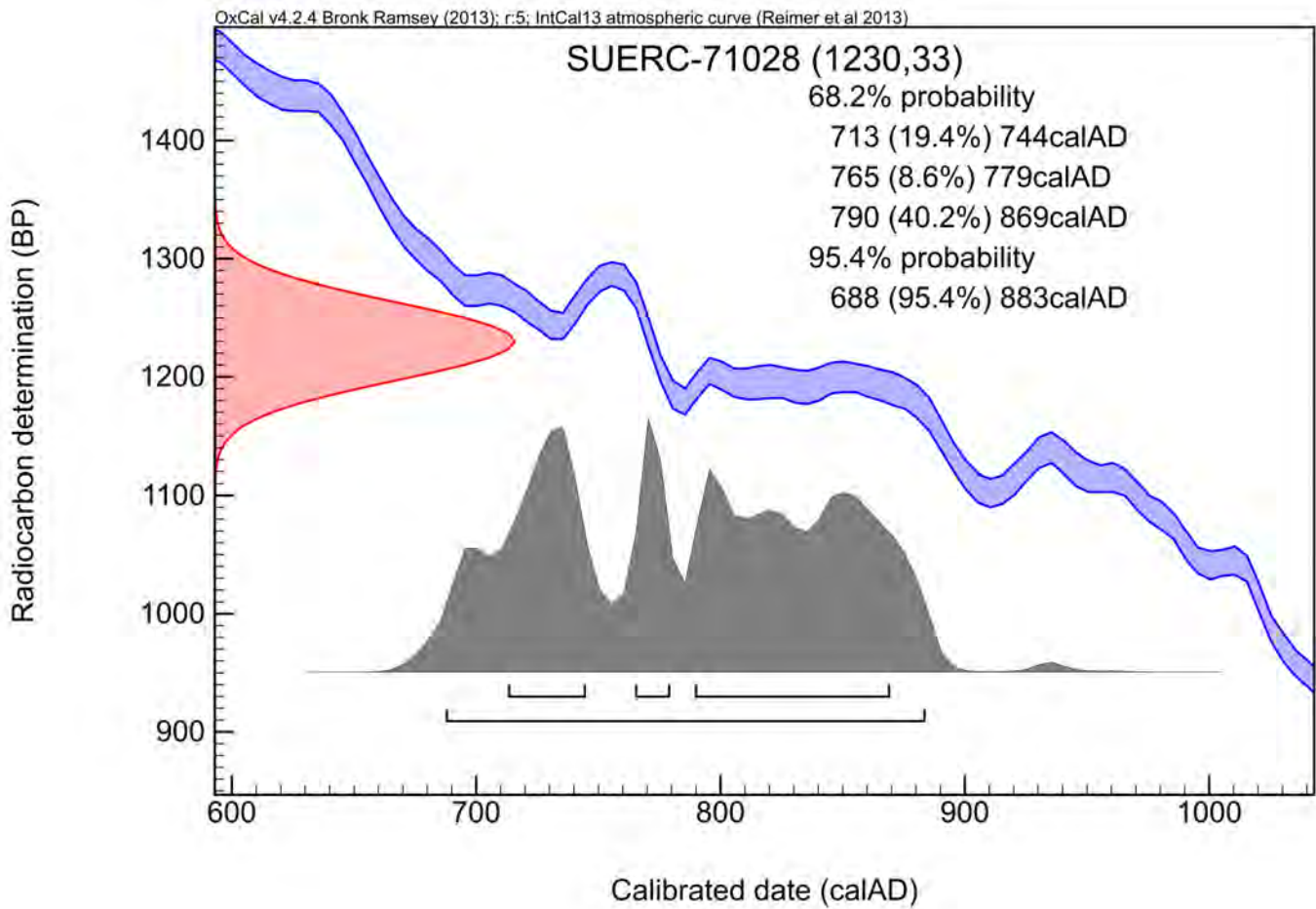
Conventional age and calibration age ranges calculated by :- E Dunbar

Date :- 25/01/2017

Checked and signed off by :- P. Nayantub

Date :- 25/01/2017

Calibration Plot



RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code SUERC-71029 (GU42718)

Submitter Bethan Jones
Gwynedd Archaeological Trust
Craig Beuno
Garth Road
Gwynedd
LL57 2RT

Site Reference G2420 Llaniestyn Churchyard
Context Reference (12) Mortuary Enclosure
Sample Reference 3

Material Charcoal : Calluna/Erica

$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰ assumed

Radiocarbon Age BP 2074 \pm 33

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

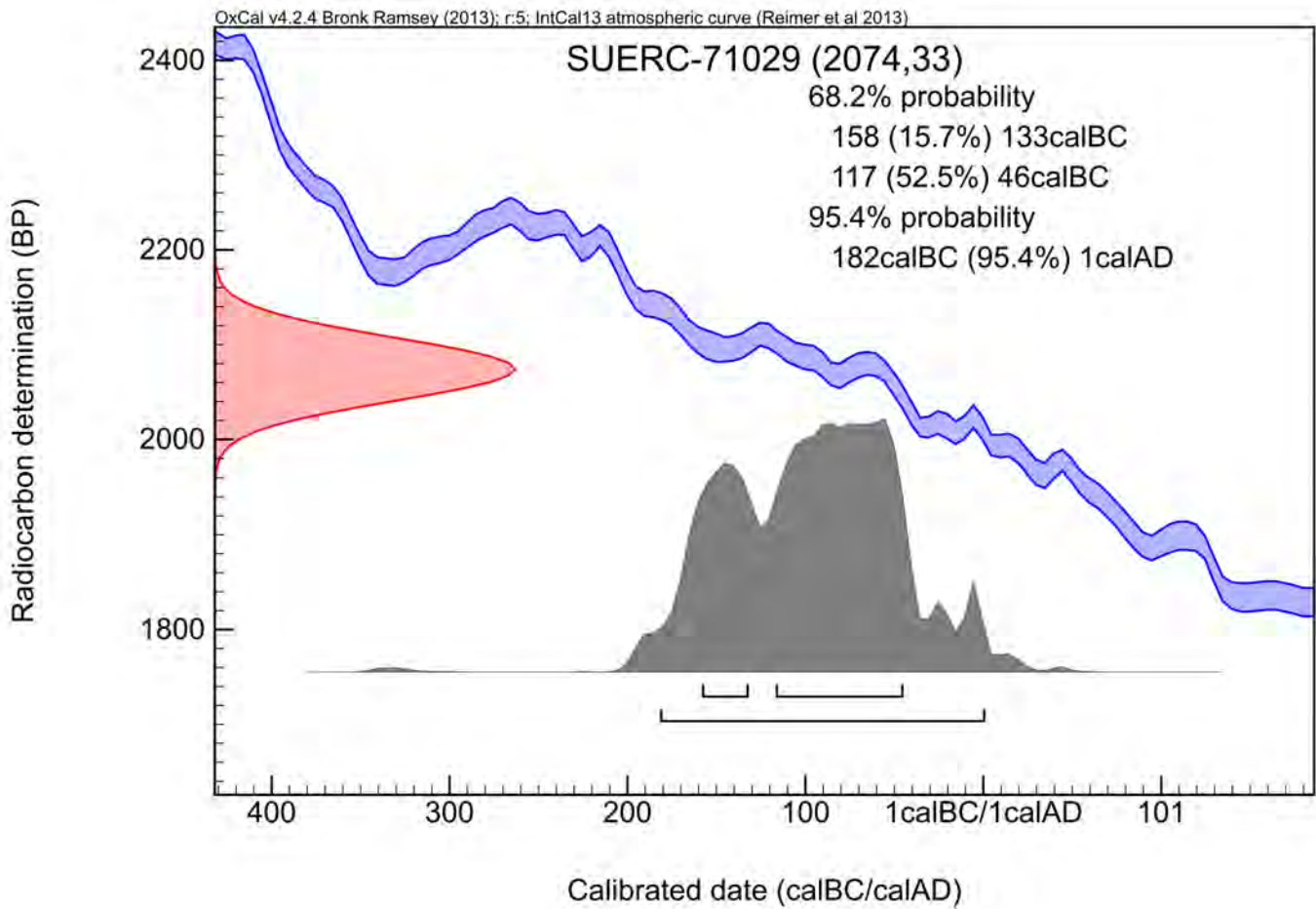
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 25/01/2017

Checked and signed off by :- *P. Nayantub*

Date :- 25/01/2017

Calibration Plot



RADIOCARBON DATING CERTIFICATE

25 January 2017

Laboratory Code SUERC-71030 (GU42719)

Submitter Bethan Jones
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Site Reference G2420 Llaniestyn Churchyard
Context Reference (12) Mortuary Enclosure
Sample Reference 3

Material Charcoal : Calluna/Erica

$\delta^{13}\text{C}$ relative to VPDB -25.0 ‰

Radiocarbon Age BP 166 ± 33

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.

The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4).

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email Gordon.Cook@glasgow.ac.uk or telephone 01355 270136 direct line.

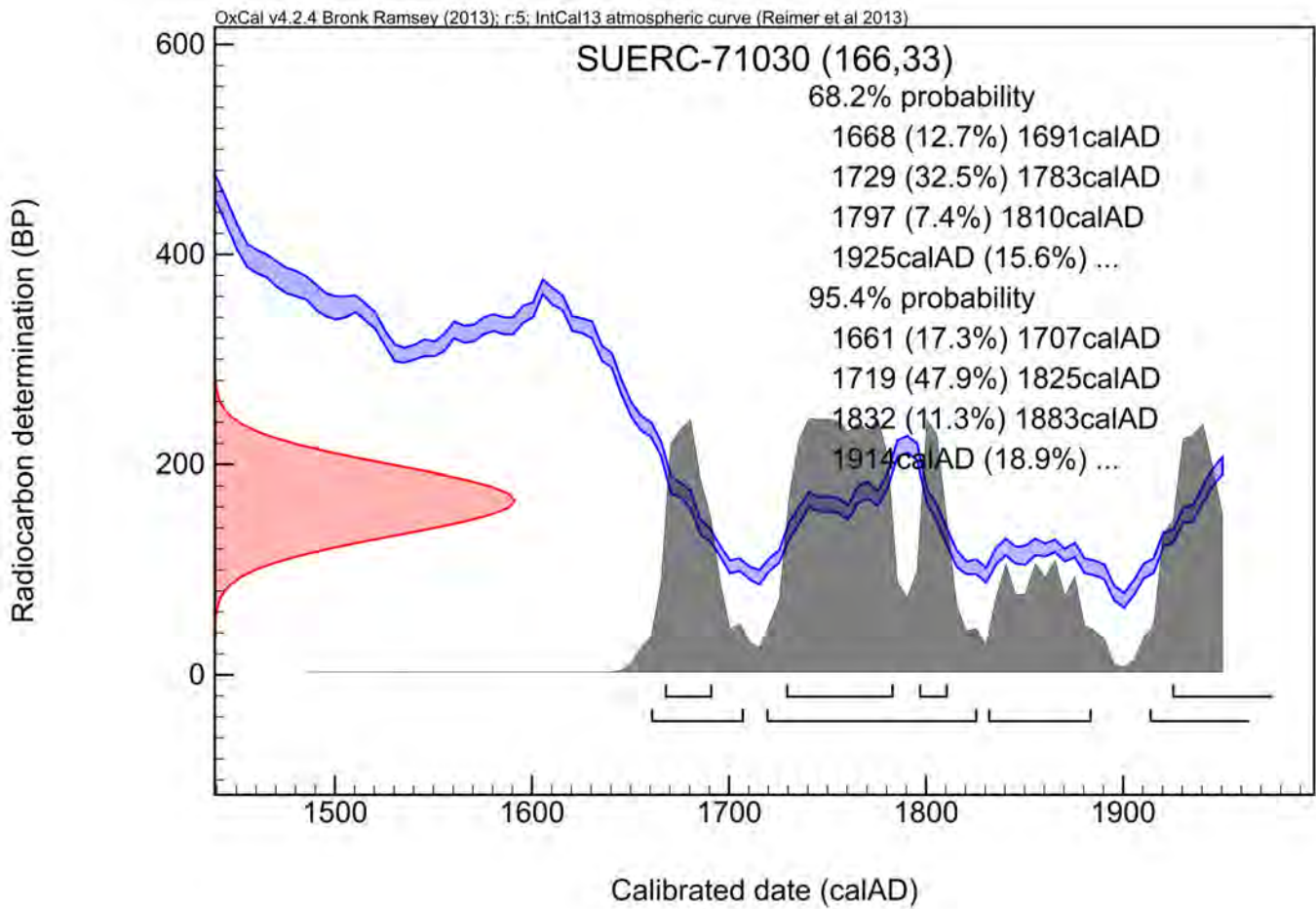
Conventional age and calibration age ranges calculated by :- *E. Dunbar*

Date :- 25/01/2017

Checked and signed off by :- *P. Nayumbu*

Date :- 25/01/2017

Calibration Plot





Gwynedd Archaeological Trust
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