Results of Archaeological Works at

Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn

NGR SH30870 40646







C.R Archaeology Compiled by Catherine Rees & Matthew Jones on Behalf of Amgueddfa Forwrol Llŷn

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1.0 Introduction

C.R Archaeology were instructed by Amgueddfa Forwrol Llŷn to conduct archaeological works at St Mary's Church, Nefyn.

St Mary's Church, Stryd Y Llan, Nefyn (figure 1) is a Grade II Listed Building (Cadw ID: 4371) within the ancient community of Nefyn on the north-western coast of the Llŷn Peninsula. Works were undertaken in two phases with the first carried out in 2013 to rectify structural problems to the church (which included the underpinning of the building), provide drainage and to erect a new storage shed with solar panels. Further works were conducted in 2015 to provide additional drainage, create a new path and lay a base for a play area. The locations of all trenches/groundworks monitored are shown in figure 2. These works are part of a larger redevelopment project which aims to create a vibrant and modern heritage centre for both the local community and visitors. The site is under the ownership of the Church in Wales but as it is in use as a museum it is no longer subject to Ecclesiastical Exemption.

The current church building was erected in 1825-7 on the site of a much earlier building. Little is know of the architecture of the previous building although it had important historical associations. The earliest surviving records date from the mid 12th Century and detail how Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted Nefyn Church, its appurtenances and the associated land to the Augustinian Abbey of Haughmond. In 1535 the church had the status of vicarage of the Abbey. St Mary's Nefyn survived the reformation and became a parochial church. It is currently in use as a maritime museum.

A specification was originally written following a discussion with Development Control Archaeologist Jenny Emmett of GAPS (31st October - 1st November 2013) as a methodology for a programme of works at the site. A separate document detailing the methodology for the excavation of human remains was produced on 17 November 2013. An updated document was produced on the 5th February 2015 to reflect the results of previous archaeological works at the site to date and the lapse of time between the current works and the previous works. The three specifications are included as Appendix A.

During the first phase of works at St Mary's a cist burial which was radiocarbon dated to AD 1165 to 1270 along with the remains of a substantial wall, believed to belong to an ancillary building of Medieval date were uncovered. Disarticulated human remains were also encountered which were not studied and were reburied on the site. The second phase of works uncovered further disarticulated human remains and an unstratified bronze ring broach which was believed to have originally been used as a shroud pin. A Post Medieval stone tomb was also encountered and a photographic record was made but as the grave was below the depth of disturbance it was left untouched.



Figure 1. St Mary's Church Location Map (Source: OS Open Data Mapping Contains Ordnance Survey data © Crown copyright and database right 2013)



Figure 2. Works Undertaken at Amgueddfa Morwrol Nefyn. Areas Requiring Archaeological Works are Marked in Orange

2.0 Project Aims & Objectives

The aims of this programme of works were to monitor all ground works associated with the current redevelopment of the church and to record any archaeological remains.

The objective of the archaeological programme was to establish and make available information about the archaeological resource existing on the site.

3.0 Scheme of Works - Methodology

3.1 Desk Based Research

A history of the site has been compiled utilising material sourced from Bangor University and Caernarfon Archives. A full map progression of the area has been undertaken. Where appropriate the archive information has been supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER has been conducted examining the area within a 500m radius of the site.

The RCAHMW database and the commission's survey of the area were also consulted. The information collected is discussed within the main report text.

The works were carried out accordance with the CIfA Standards and Guidance documents.

This material forms the historical background for a full archaeological report. The report will include the results of the watching brief and basic photographic survey.

3.2 Photographic Survey

A basic photographic survey was conducted of the church interior and exterior. Due to the extreme issues with the structural integrity of the church the building had been secured with scaffolding prior to our arrival on site and some elements of the exterior are therefore obscured from view. Works to the interior had also begun and the and majority of the interior had been clad in wood and/or was obscured by scaffolding and building material.

3.3 Methodology for Archaeological Watching Brief

All intrusive ground works at the site were monitored by archaeologists from C.R Archaeology. The site was machine excavated using a mechanical excavator with toothless bucket.

All archaeological features, structures or remains identified in the course of the excavation were trowel cleaned by hand. Investigation of such features, structures or deposits was sufficient to determine their character, date, significance and quality. When features yielded suitable material for dating/environmental processing then samples were taken for processing off site. In this instance a 100% sample was taken of the material from within a grave cut.

GAPS were informed of the discovery of a cist burial and a mitigation strategy was agreed before works progressed.

Fieldwork was be conducted by Matthew Jones & Iwan Parry. Staff members are qualified, experienced archaeologists and cv's can be provided on request.

3.3.1 Recording

The record forms at C.R Archaeology are based on the English Heritage system and full written, graphic and photographic records were made in accordance with the English Heritage *Field Recording Manual*. Sample forms can be provided on request. The written record comprises completed *pro-forma* record sheets.

Plans, sections and elevations were produced on gridded, archive standard stable polyester film at scales of 1:10, 1:20 or 1:50, as appropriate. Representative measured sections were prepared as appropriate showing the sequence and depths of deposits. A temporary benchmark (TBM) was established on the site and plans, where possible elevations and sections contain grid and level information relative to OS data. All drawings are numbered and listed in a drawing register, with drawing numbers being cross-referenced to written site records.

A high-resolution digital camera was used to create a photographic record of the site. This was comprised of photographs of archaeological features and appropriate groups of features and structures. Included in each photograph was an appropriate scale and north arrow. All photographic records have been indexed and cross-referenced to written site records. Details concerning subject and direction of view will be maintained in a photographic register, indexed by frame number. Images from photography will be stored in a loss-less digital format in this case '*.TIF'.

A 'harris matrix' diagram has been constructed for the excavated area.

3.3.2 Additional Mitigation/Contingency Measures

Upon the discovery of a substantial Medieval wall during the excavation of the shed foundations and a cist grave during the underpinning of the church, C.R Archaeology immediately informed both the client and the development control archaeologist and consultation took place between C.R Archaeology, GAPS and the client with regards to the most suitable course of action.

Where necessary disarticulated human remains were removed from the path of the works and were replaced at the bottom of the trenches prior to the reinstatement of the ground.

When the cist grave was uncovered the company abided by the requirements of Section 25 of the Burial Act 1857. The appropriate Ministry of Justice licence was acquired to excavated and remove the body from site for scientific analysis before being returned to the church. A separate methodology was agreed with GAPS which details the analysis, storage and reburial of the remains.

No artefacts were recovered which fall within the scope of the Treasure Act 1996.

3.3.3 Recovery, Processing and Curation of Artefactual Material

All recovered artefactual material has been retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (IfA 2008) and First Aid for Finds (Watkinson & Neal 2001).* The aim is to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (IfA 2008).

All artefactual material has been bagged and labelled with the site code and context number prior to their removal from site. The archive reference number will be clearly marked on all finds.

Each assemblage has been examined according to typological or chronological criteria and conservation needs identified. An assessment report of all post-medieval material was produced by Matthew Jones and further specialists were appointed as required.

Following analysis all archaeological material recovered will be retained by the Maritime Museum. Processed assemblages will be boxed according to issued guidelines and a register of contents compiled prior to deposition.

The works were carried out in accordance with The Chartered Institute for Archaeologists: Standard and Guidance for Archaeological Watching Brief (Revised 2014).

3.3.4 Archive Compilation

All records created during the fieldwork were checked for consistency and accuracy and form part of the *Primary Site Archive (P1)* (EH 2006). The archive contains all data collected, including records and other specialist materials. It will be ordered, indexed, adequately documented, internally consistent, secure, quantified, conforming to standards required by the archive repository and signposted appropriately to ensure future use in research, as detailed in the English Heritage *Management of Research Projects in the Historic Environment* (MoRPHE) methodology.

The archive will be assembled in accordance with the guidelines published in, *Standards in the museum care of archaeological collections* (Museums & Galleries Commission 1994), *Guidelines for the preparation of excavation archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* (AAF 2007).

All materials contained within the *Primary Site Archive (P1)* that are subsequently identified by the *Assessment Report (P2)* as appropriate for analysis will be processed by suitable specialists and the resultant *Research Archive (P3)* will be checked and ordered according to *MoRPHE* criteria.

The museum will be notified in advance of the proposed work and the deposition of any archive created by this archaeological project and archive material will be deposited in accordance with the museum's terms and conditions for archive deposition.

3.4 Timetable for Proposed Works

Works at St Mary's Church will commence on the 5th November 2013 and were conducted on a day rate basis with staff attending the site as necessary throughout the development process. Gwynedd Archaeological Planning Services were informed of the exact site days to allow monitoring of works.

3.5 Staffing

The project was managed by Matthew Jones (BA Archaeology), MA Archaeology) and site work was conducted by Matthew Jones and Iwan Parry. All staff have a skill set equivalent to the IfA AIfA level. C.Vs for all staff employed on the project can be provided on request.

All projects are carried out in accordance with CIfA Standard and Guidance documents.

3.6 Monitoring

The project was subject to monitoring by Gwynedd Archaeological Planning Services. The monitor was given prior notice of the commencement of the fieldwork. GAPS were notified in writing of the commencement dates for archaeological site work.

3.7 Health and Safety

A risk assessment was conducted prior to the commencement of works and site staff were familiarised with its contents. A first aid kit was located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work.

This consisted of:

- Safety Helmets (EN397)
- Hi-visibility vests (EN471)
- Safety footwear steel toecap and mid-sole boots and Wellingtons (EN345-47)
- Gloves

All staff have passed at least a CITB health and safety test at operative level and carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363).

C.R Archaeology staff also complied with all Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

3.8 The Report

The report clearly and accurately incorporates information gained from the programme of archaeological works. It presents the documentary evidence gathered in such a way as to create a clear and coherent record. The report contains a site plan showing the locations of photographs taken.

The report includes:

- A copy of the agreed specification
- A location plan
- Drawings detailing the locations of all excavated areas
- All identified features plotted on an appropriately scaled plan of the development site
- Appropriately scaled trench plans and sections showing identified features and significant finds
- Full dimensional and descriptive detail of all identified features
- A brief descriptive account of the building, building history and building phases
- Architects and historical plans and elevations if available
- A plan illustrating the location and direction of any photographs or drawings
- A full bibliography of sources consulted
- An archive compact disc

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

3.8.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project Specification.

4.0 Geographical and Geological Context

4.1 Topography

The site is located within the ancient town of Nefyn and is the original Parish Church.

Nefyn is a small town on the north-western coast of the Llŷn Peninsular.

4.2 Geology

The superficial geology of the site is described as "glacial sand and gravel". The deposit is described as "sand and gravel with rare clay interbeds; often cross-bedded; of glacial origin." The bedrock is recorded as "Llanvirn Rocks (Undifferentiated)" and no further detail is given (www.bgs.ac.uk).

5.0 Historical Background

Research was conducted at Bangor University Archives and Caernarfon Archives. Relevant information from these searches is included below. Where the exact location of find spots/sites are unknown this information is included only if it is felt relevant to provide an indication of the archaeology of the area.

A search of the Gwynedd Historic Environment Record was conducted on the 31st January 2014. A search covering a 500m radius from the central point of the development (SH 30872 40648) was conducted. The Royal Commission database was also utilised to provide additional information on sites of importance within the Parish boundaries of Nefyn. A detailed investigation at Parish level was not however conducted.

5.1 Prehistoric

Mesolithic

There were no Mesolithic remains within the 500m search radius. Roland Bond (Bond 2008: 12) discusses finds of flint and stone tools found within the Nefyn parish area although none where listed in the Royal Commission or HER search areas.

Neolithic

There were no Neolithic remains within the 500m search radius. Roland Bond (Bond 2008: 12) discusses finds of flint and stone tools found within the Nefyn parish area although none where listed in the Royal Commission or HER search areas.

Bronze Age

There were no Bronze Age remains within the 500m search radius. Roland Bond (Bond 2008: 12) discusses finds of urns and tools within the Nefyn parish and he lists a number of standing stones although none where listed in the Royal Commission or HER search areas.

Iron age/ Romano-British

There were no Iron Age remains within the 500m search radius. There is a large promontory fort - Trwyn Porth (NPRN 302273) located to the west of the study area and the 1936 RCAHMW Inventory includes a possible hut circle settlement to the east of the church (RCAHMW 1936: 85).

5.2 Early Medieval

A stone with an inscribed cross (NPRN 275727) was discovered at Ty'n-y-Cae farm and is now used as a lintel for a barn/cow shed. The stone has been dated to the 7th century (Bond 2008: 12). The stone was originally placed on top of a mound facing towards the sea. The mound has since been destroyed but it was noted that it was located in a field called Cae Pen-y-maen and was found to have contained human bones (Owen 1896: 170-171).

The field where the cross was found was locally know as an area which had produced small copper coins (Owen 1896: 170-171).

It has been suggested that the church of St Mary's (PRN 4316) which was completely rebuilt in 1825 has an Early Medieval foundation date. The church is located on the Pilgrimage Route to Bardsey Island.

5.3 Medieval

The earliest documentary reference to Nefyn is as a landing place for Gruffudd Ap Cynan in the mid 11th century (Evans 1990) although it is unclear as to the precise nature of the settlement there at this time.

Further information can be found in grants of land in Nefyn which were granted by Cadwaladr ap Owain to the Augustinians of Haughmond in Shropshire in a documents dated 1155-6 and 1161-2 (Bond 2008: 17).

In his tour of 1188 Gerald of Wales stayed at Nefyn of the 9th of April and it is thought that Nefyn held an important place as part of the pilgrimage route with a religious house (priory) with boarding which catered for pilgrims on their way to Bardsey Island (Thorpe 2004: 183).

Turvey records that Nefyn was established as a borough some time before AD 1200 but notes that it does not seem to have been fortified and may have been centred around the mote (Turvey 2007: 6). There are also suggestions that there may have been a Princely Llys (PRN 6622) within the area although no evidence of this has been found.

Nefyn Priory (PRN4317) is mentioned in the records of Caernarvon dated to 1252. The site of the priory is suggested to have been sited to the south-east of St Mary's Church. This location is attributed to a title deed of 1585 discussing land called Tir y Manach (Monks land) and tithe map field name evidence naming Bryn Mynach and Cae Mynach (Hill and Monks Field) (Bond 2008: 16).

Later grants of land in Nefyn were recorded to the Haugmond Abbey by Dafydd ab Owain in 1177 and 1190 and later by Llywelyn ap lorwerth in 1230. During the same period there is evidence for the town of Nefyn expanding as a trading centre and records show the a grant of bondsman was witnessed by two burgessess of the town (Carr 1995:70).

The town was served by a mill with two other mills listed as operating within the associated manor (Bond 2008: 20). In 1252 William, Prior of Nefyn was a witness concerning an agreement about tenurial arrangements in Aberdaron (GAT Report PRN 33497).

There are the remains of a motte (NPRN 308100, PRN 1535) to the east of the site. The area is surrounded by the remnants of a Medieval farming landscape which was identified through a Gwynedd Archaeological Trust landscape project (PRN 3408). This system includes strip field systems (PRN 13936,13937,13934,13935), field banks (PRN 17197,17199) and lynchets (PRN 17198).

Nefyn came under the control of the English Crown following the collapse of the House of Gwynedd with the death of Llywelyn ap Gruffudd. In 1284 Edward I held an elaborate tournament at the town to celebrate his victory and his choice of site would suggest that Nefyn (PRN 6529) held a elevated position within Welsh society. Nefyn expanded greatly at this time and its expansion in trade and social position meant that, like many Medieval towns, Nefyn was severely affected by the Black death in the mid 1300's (Bond 2008: 20).

Tokens made from tin-plate which appear to copy a design of Charles VI of France which were struck in 1389 and thought to come from the low countries or German (PRN 5554) have been discovered with 500m of the development site.

The revolt of Owain Glyndwr in 1400 focused on the town as it had expanded and flourished under English rule and his attack on Nefyn was so systemic and the damage so great that it was reduced to the status of a village (Hodges 1995: 169).

In 1535 on the eve of the Dissolution of the Monasteries the church had the status of vicarage of the Abbey (PRN 33497).

5.4 Post-Medieval/ Modern

The town of Nefyn developed throughout this later period and become well known for herring fishers, agriculture and boat building. The development of quarries to the east of the town in the 1800's was also undertaken.

A watch tower (NPRN 34168, PRN 12718) was built on the remains of the motte in the early 19th century and is associated with the protection of the large herring fishing fleet.

In this period the town developed and expanded this can be seen by the large number of buildings constructed during the 1800's. The Royal commission lists sixteen important buildings dating from this period.

The current church of St Mary's was constructed in 1825-1827 (NPRN 43787, PRN 4316).

5.5 Cartographic Evidence

Nanhoron Estate map of Nefyn of 1778 (Figure 3)

This was the earliest map sourced which depicts the grounds of the church. The church building itself is not shown and this document simply depicts a square shaped ground plan of the enclosing church yard. The land to the south-east, south and west all appear to very under developed and are listed as being owned by Lord Newborough.

Glynllifon Survey (Early Nineteenth Century) (Figure 4)

This survey shows very little change to the surrounding area or church yard when compared to the 1778 Nanhoron plan. It does however show the plan of the church, although no great detail has been drawn and it appears as a roughly drawn rectangle but this source shows that the previous church building occupied the same approximate area and floor plan as the current building.

Cefnamwlch Estate 1813 Plan of Nefyn (Figure 5)

The church and church yard are shown on this plan although this source provides little detail of the area. The church grounds appear to have a more rounded western end than is shown on earlier documents but this may simply reflect the differing styles of the cartographers as none of these earlier sources are hugely accurate.

1840 Tithe map (Figure 6)

The tithe map shows that the church grounds are very similar to the modern day lay out. It is rectangular in plan with right angle corners at the north-east, west and south-west. The south-east corner is slightly rounded, as it is today, in order to accommodate a historic right of way.

The current church (built 1825-27) was erected by the time of this document which is the first to show the "new" building. This is reflected in the clear plan of the structure provided by this map. The church is shown to now have a porch and corner buttresses. Development of the area around









the church has continued and a building is shown built up against the exterior of the church yards northern wall.

1880's Photograph of St Mary's Church (Figure 7)

A photograph held by the National Library of Wales (catalogue number vtls003363781) dated to the 1880's shows the north-eastern corner of the church grounds. Grave stones are shown covering the area from the church to the church grounds walls. This is now clear of grave stones and it is unknown as to when these where removed.

1888, 1901 & 1920 Ordnance Survey Maps (Figures 8 - 10)

The 1888, 1901 and 1920 Ordnance Survey Maps all show the church as it is displayed in the tithe map. The only change is that the ditch/lowered walkway around the church is shown on the first edition map but it is unclear whether this feature was added between 1841 and 1889 or if it was simply omitted from earlier maps. The buildings against the exterior north wall are now shown as being separated into five square rooms.

Nefyn Lands Sale Catalogue 1924

A sale catalogue of lands around Nefyn showed no changes to the site or to the immediate surrounding area and is based upon the 1920 Ordnance Survey Map and is therefore not included.

RCAHMW 1951 Photographic Survey (Figures 11 - 14)

A series of four photographs were taken of the church exterior (two photographs) and interior (two photographs) by the Royal Commission in 1951. These photographs show the building whist it was still in use for worship and prior to the cement re-pointing carried out in the 1970's.

1959 Ordnance Survey Map (Figure 15)

The 1959 Ordnance Survey Map shows the removal of the segmented building along the northern exterior church yard wall. There is a break shown in the south eastern church yard wall circuit. There appears to have been very little change to the church or surrounding area after this point.



6.0 Results of Archaeological Works

Basic Photographic Record of Church Building (Plates 1 - 8)

A basic photographic record of the church building was made. It must however be noted that the works undertaken in the 1970's completely stripped out the original nineteenth century interior and the cement re-pointing led to many of the structural problems being rectified by these works.

Structural issues had necessitated the beginning of works prior to our involvement with the project and when the record was made scaffolding had already been erected around the building exterior and within the building interior obscuring much of the church. Detailed analysis is therefore not possible but it was clear from a cursory examination that the building is predominantly a single phase construction (1825 - 7) and that little if any use of earlier structural features was made. Later works were undertaken in the 1970's to repair the building on conversion to the Maritime Museum but unfortunately building practices during this period were somewhat different to those adopted for the repair of historic buildings today and much of this is now being replaced.

Foundation of shed and electric cable trench (Plates 9 – 13, Figure 16)

To the south of the site the foundations of a shed approximately 3.5m x 3.0m were excavated. An electrical cable trench approximately 12m in length was also excavated which ran from the south-eastern corner of the church to the north-east corner of the shed foundation trench. The excavation was carried out by hand by to a maximum depth of 0.30m.

Below the topsoil/turf layer (05), two contexts were identified. Context (01) was a dark brown silt clay with frequent sub-angular medium to large shale and slate slabs. Frequent modern material was encountered within this deposit which dated it to the later 20th century. This deposit was mixed and contains fragments of human bone. This deposit overlaid context (02), a yellowy-brown silty sand gravel with rare medium sized sand stone and sub-angular slate slabs. Within context (02) and additional number, (04), was assigned to an area with a high concentration of stone although this was later found to be part of context (02) and the number was voided.

Initially the relationship between the two contexts described above was unclear and a sondage measuring $1m \ge 0.5m$ was excavated at their interface. Within this exploration trench the remains of a substantial wall were identified (03). It was aligned on an east-west axis and was constructed using local stone and a lime mortar. What was presumably the inner face appeared to have been rendered with a light tight grained off-white lime plaster. The wall was below the development depth and was therefore not fully excavated. A small sondage 0.32m in depth was excavated against the face of the wall which was found to continue below this depth. The line of the wall was chased within the footprint of the proposed building and was found to extend beyond the excavated area. The wall was 0.90m in width.

It is unclear as to the exact date of the walls construction but as no buildings appear on any of the earlier maps sourced it would seem likely to be of considerable antiquity and the construction style and material is indicative of a broadly Medieval build date. The wall is 0.90m in width and would have been part of a large structure, presumably an element of the pre-reformation suite of buildings at Nefyn. The pre-1825 church building is shown on earlier cartographic sources as occupying the location of the current church and therefore this is clearly an ancillary structure or outbuilding.







Figure 16. Plan of Shed Foundation Trench Showing Wall (03)



The cable trench was excavated from the north eastern corner of the shed foundation toward the south eastern corner of the church. It was excavated by hand to a depth of 0.30m. The turf/topsoil layer had a depth of 0.18m-0.23m and contained bone fragments and a fragment of carved slate which appears to have come from a tomb. This stone could not be attributed to any of the tombs seen standing on site. The lower deposit was yellowy brown silt gravel (02) identified in and continuing from the shed foundation trench, no features or artefacts were recovered from this deposit.

Underpinning trenches around St Mary's Church – General Description (Plates 14 – 16, Figure 17)

The church is set within a trench approximately 1m wide, with the ground behind this trench held back by a retaining wall opposite the church. The depth of the trench is approximately 0.60m and all underpinning trenches where cut from this depth. To distinguish between this area and the shed foundation trench context numbers for this trench begin at (101).

A series of trenches approximately 1m in length and 0.70m in width were excavated within the 1m trench. Approximately fifty percent of the width of these trenches lay under the church wall. These trenches were combined to create a continuous trench around the north-eastern, eastern gable end and the south-eastern side of the church.

The upper deposit surrounding the church was heavily disturbed and was comprised of mid-brown soil with modern gravel deposits (context 101). It had a depth of between 0.15m and 0.25m. Disarticulated and broken/smashed bone was present within this deposit. U-shaped ceramic drain pipes were encountered at a depth of between 0.10m and 0.18m which ran the length of the church on the northern and southern ranges. The pipes were roughly central within the excavation trench. The northern and south-east corners of the church also had large ceramic L-shaped drain pipes buried near them and there was a disturbed area around at the base of the southern wall.

Underpinning trenches around St Mary's Church - Southern Trench (Plates 17 - 19)

Working from east to west the excavation began in the south-eastern church corner and an articulated skeleton was identified in the north facing section. It was located at a depth of 0.45m below the existing ground level. The cut and fill for this burial were identified as the grave fill was a more well sorted sand gravel. As this burial was not affected by the development it was not recorded or excavated and the section was protected with matting and wooden shuttering.

Continuing west, approximately 3.30m from the south-eastern corner of the church a second burial was identified. In this instance the upper portion of the skeleton (skeleton 1) had been heavily damaged by the addition of Victorian drainage and by the placement of a wooden post as part the shuttering to protect the church wall. The lower half of the skeleton was hand excavated and recorded but not lifted as it was located outside the underpinning work area. The upper cut of the grave was unclear and could not be identified. The bone was in poor condition but the remains of both left and right femur and tibia survived insitu at a depth of 0.32m and these were found within a clear cut. The cut [103] had straight sides, a rounded break of slope and a flat base. The fill (104) was the same well sorted sand and gravel as encountered in the previous grave. A damaged and disarticulated jaw bone which may have been associated with this skeleton was recovered which showed the eruption of some "adult" or permanent teeth and some remaining "baby" or deciduous teeth which would indicate that the individual was between six and twelve years at the time of death. These remains were not retained for further study and were reburied on site following the completion of the works.



Plate 15. Works to Underpin St Mary's Church

Plate 16. Excavation Within Underpinning Pits Below St Mary's Church Showing Restrictive Working Conditions



Plate 19. Articulated Lower Limbs in Grave On Southern Side of Church

Plate 20. Disarticulated Remains and Ceramic Pipe at North-Eastern Corner of Church

Underpinning trenches around St Mary's Church - Gable End (East)

No graves or articulated human remains where encountered within the underpinning trenches in this area although a small number of disarticulated bones were recovered from the upper layer (101). These were bagged and stored on site and reburied following the completion of works.

Underpinning trenches around St Mary's Church - Northern Trench (Plate 20)

Working from east to west, the excavation began in the north-eastern corner of the church. This corner had been heavily disturbed by later works and a large quantity of damaged bone was encountered in a single spot. This is indicative of the reburial of remains and it would seem likely that this activity was related to the excavations associated with the placement of the aforementioned drains. Where it was necessary to move the remains they were bagged and stored onsite and reburied following the completion of works.

Cist Burial (Plates 21 - 30, figure 17)

A stone lined and capped cist grave (group number 105) was identified along the northern wall of the church. This grave was excavated in two stage due to the nature of the underpinning work with the lower limbs excavated and removed as phase 1 (plates 21 - 25), followed by the remainder of the body as phase 2 (plates 26 - 30). This feature will however be discussed as a whole. It must however be noted that the conditions of excavation were very difficult with a confined space within which to work and poor light. The grave fill was gridded and taken for wet sieving off site and this led to the recovery of a further coffin nail and a number of bones and bone fragments.

The grave was encountered at a depth of 0.50m below the current ground level and was within the underpinning trench. It was located approximatively 0.60m from the retaining wall and lay partially (0.10m) below the current church. The depth from the Victorian church wall foundation base to the top of the grave was 0.30m. The grave cut [110] measured 1.87m in length and was 0.41m in width. It had steep, near vertical sides and a flat base.

The overlying soil (101) was a mixed dark brown clay silt with rounded stone inclusions and gravels. This layer also contained damaged human bone and a complete human femur was recorded in the section between the retaining wall and the underpinning trench cut. Below this was a light yellow brown (102) sandy gravel with small angular and rounded stones. This deposit also covered the cist grave.

Due to the similarities between the backfill above the grave and context (102) it was not possible to tell what depth the grave had been cut from and thus to determine the stratigraphy between this and other grave features. Due to the difficult working conditions and the narrow trench dimensions the grave cut was not visible in plan and the grave was initially identified by the uncovering and partial removal of 2 of the grave cap stones (106). This cover consisted of six angular slabs with rounded corners. All the slabs where unevenly shaped but there was little overlapping of the stones and they did not form a continuous sealed entity. The stones where balanced on the grave side (107), foot (108) and head stones (109) which formed the main body of the grave construction. The largest covering slabs measured 0.80m by 0.60m and the smallest slab 0.80m by 0.50m. The capping stones were between 0.08m and 0.11m in thickness.

There was a gap 0.07m wide between the head stone lining and the cap stone in which there were placed three pebbles, with two of them rounded white quartz pebbles. It is considered that these stones were carefully selected and deliberately placed here as part of a form of grave decoration or ritual practice.





Plates 21 & 22. Lower (Eastern) Cist Element Pre-excavation
Plates 23 & 24. Lower (Eastern) Cist Showing Lower Limbs
Plate 25. Lower (Eastern) Cist Element Following Removal of Remains



Plates 26 & 27. Upper (Western) Cist Element Pre-excavation
Plates 28 & 29. Upper (Western) Cist Showing Upper Limbs & Skull
Plate 30. Upper (Western) Cist Element Following Removal of Remains

On the removal of the covering slabs it was evident that the area within the cist had not been backfilled within the stone box although a small amount of material had fallen into the grave during backfilling (context 110). It was found to contain the remains of a single human skeleton. The northern side of the grave was constructed using five stone slabs, whilst the southern side was constructed using seven slabs. The gaps between these side slabs where deliberately packed with smaller stones. The head and foot stones overlapped the edges of the side slabs. The height/depth of the side slabs used in the grave lining was very uniform and were approximately 0.40m in height. There were no slabs lining the base of the grave. The material at the base of the grave was indistinguishable from context (102).

The Skeleton (Skeleton 2)

As is characteristic of Christian burial the body was supine and had been laid with the head at the western end of the grave. The skeleton had been laid out with straight legs evenly spaced with the upper torso turned towards to south. The right arm partially overlay the torso and the left arm on the out side of torso on the southern side of the grave. The skull was also facing to the south. This placement of the body with the limbs at slightly odd angles is indicative of it having been buried in a loosely fitting shroud which would not have fixed the arms in a specific position when laying out the deceased (for example it would have retained the position of the arms/hands on the pelvis or placed together as if in prayer), but would have prohibited the repositioning of the body once in the ground. There were no shroud pins recovered during the excavation and it is therefore likely that the individual was sewn into the shroud. Two iron nails were however identified at the feet of the skeleton with a third nail recovered through sampling which came from the right shoulder area. It is therefore clear that the individual was placed within a wooden coffin before being placed in the stone cist. A similar body position could have been the result of the body being placed in a closed coffin prior to be placed in the grave and the body may have simply rolled a little when it was interred.

The following section details the analysis of the Nefyn skeleton and covers oesteology, isotopic analysis and radiocarbon dating.

Osteological report on Skeletal Remains by Stefanie Vincent

Bone Preservation and Skeletal Completeness

Skeletal completeness and bone preservation were estimated by visual assessment. Bone preservation was variable; with the post cranial skeleton exhibiting surface erosion between grades 3-4 (Brickley and McKinley, 2004). The skull was most heavily affected with most elements showing grade 5 surface erosion. Completeness is based on the estimated percentage of skeletal elements present and found to be 60%.

A full inventory of the existing elements can be found in Appendix B.

Sex and Age Determination

The individual examined is a female adult whose age at death is estimated to be 50+ years old. Identification of adult sex was determined using cranial and pelvic morphology (White, 2005). Adult age was estimated using molar wear (Brothwell, 1981) exclusively as no other elements commonly used to age remains were preserved.

Stature

Adult stature was estimated using Trotter and Gleser (1958, in Brothwell, 1981, pg 100). Height estimation (using the femur and tibia) is 154cm.

Oral Pathology

In the three molars present the dentine is fully exposed, and wear on the M2 and M3 is excessively uneven. There is evidence of continued eruption of the molars (minimum distance between CEJ and aveolar process is 4.5mm), which has been linked to excessive crown wear (Ogden, 2008). Supra-gingiveal calculus scored 0, using the criteria of Dobney and Brothwell (1987).

Health

The only sign of pathology in this individual is the presence of a third intercondylar tubercle of Parsons (TITP) on the right tibia. TITP has been linked to injury of the anterior cruciate ligament (Mays and Cooper, 2009). Links have been suggested between TITP and activity, however further work is needed in this area before such definitive links can be made.

Summary of Osteological Report

The individual interred within the cist grave was a female, aged over 50 and c. 154cm in height. The teeth showed evidence of heavy and uneven ware and there is evidence that she may have been involved in heavy work. There was no obvious cause of death or chronic ill health.

Stable isotope analysis of Nefyn individual by Amy Jeffrey

Introduction

Isotope analysis has been undertaken to understand the diet and possible origin of the Nefyn individual. The strontium and oxygen isotope composition of the tooth enamel can be used to explore whether the individual is local to North-West Wales, while the carbon and nitrogen isotope composition of the bone collagen will show whether the individual had a mainly marine or terrestrial diet.

Strontium and Oxygen Isotopes in Human Tooth Enamel

Human permanent molar teeth form between birth and adolescence. Once tooth enamel is formed it is not remodelled, so the strontium and oxygen isotopes in the enamel, derived from food and water consumed by the individual, reflect the time of tooth formation. As this methodology in archaeology becomes more commonplace, there is an ever-growing database of reference data from across the British Isles (Evans et al. 2010; Evans et al. 2012) that can be used to determine whether individuals from archaeological sites are 'local' (during their childhood they lived in their burial location), or 'non-local' (they spent their childhood in a different location to where they are buried) (Evans et al. 2006).

The strontium isotope composition (⁸⁷Sr/⁸⁶Sr) of tooth enamel is derived from the average ⁸⁷Sr/⁸⁶Sr composition of an individual's diet, which is closely related to that of the local biosphere, such the underlying geology, soils and plants (Price et al. 2002; Bentley 2006). Rocks that are considered geologically young (<1-10 mya) tend to have low ⁸⁷Sr/⁸⁶Sr values of ~0.706, while older rocks have higher ⁸⁷Sr/⁸⁶Sr values (~0.72) (Price et al. 2002). Although the underlying geology is the dominant influence on the ⁸⁷Sr/⁸⁶Sr values of the environment, other processes can contribute to biosphere averaging processes (Evans et al. 2010). Sea-spray and high precipitation can influence the ⁸⁷Sr/⁸⁶Sr composition of the local biosphere, with some coastal locations displaying ⁸⁷Sr/⁸⁶Sr values close to 0.7092, the ⁸⁷Sr/⁸⁶Sr composition of seawater (Evans et al 2010). The effect of sea-spray and precipitation on the ⁸⁷Sr/⁸⁶Sr composition of the local biosphere has been observed on Anglesey, where the measured bioavailable strontium is closer to the ${}^{\bar{8}7}$ Sr/ 86 Sr composition of sea-water even though the underlying geology is pre-Cambrian and should record a higher ⁸⁷Sr/⁸⁶Sr composition (Evans et al. 2010). The geology of North Wales spans a broad time range from late Precambrian rocks on the island of Anglesey (> 500 mya) to Carboniferous sediments in the north-east of the country (Ashbourn 2010). The variable geology and effect of sea-spray and high precipitation means that the ⁸⁷Sr/⁸⁶Sr composition of bioavailable strontium in North Wales displays a range of values from 0.709-0.713 (Evans et al. 2010).

The oxygen isotope composition (δ^{18} O) of tooth enamel reflects the δ^{18} O composition of drinking water, which in turn is related to that of meteoric water. The δ^{18} O composition of meteoric water is influenced by several parameters such as source water, altitude, temperature and proximity to the coast (Dansgaard 1964). There is a notable depletion in ¹⁸O from SW-NE across the British Isles, resulting in the extreme west coasts of Britain and Ireland having higher δ^{18} O meteoric water values relative to more easterly locations (Darling et al. 2003a; 2003b; 2006).

Carbon and Nitrogen Isotopes in Human Bone Collagen

Palaeodiet studies commonly use the collagen component of the bone that reflects the protein component of the diet. Bones are constantly re-modelled throughout the life of an individual so the dietary signal reflected in the bone collagen represents an average diet signal of several years. The carbon isotope composition of bone collagen ($\delta^{13}C_{col}$) is used to distinguish between the consumption of marine or terrestrial resources, and between C₃ and C₄ plants (Smith and Epstein, 1971; O'Leary, 1981). It is expected that the Nefyn individual would have consumed a pure C₃ diet (given the temperate climate and crop consumption), therefore the $\delta^{13}C_{col}$ will be used to determine the main source of the dietary protein (marine vs. terrestrial). An individual that consumed a 100% marine protein diet would have a higher $\delta^{13}C_{col}$ composition of ~-12‰, while an individual that had a 100% terrestrial protein diet would have a lower $\delta^{13}C_{col}$ of ~-20‰ (Richards et al. 2006). Therefore, in North Wales higher $\delta^{13}C_{col}$ values are likely due to the increased consumption of marine resources.

Nitrogen is incorporated into the food chain from the atmosphere and soils, and follows up the food chain from producers to consumers. There is a tropic level enrichment in ¹⁵N of between 3-5‰ between prey and consumer (Schoeninger and DeNiro, 1984), so the nitrogen isotope composition of bone collagen ($\delta^{15}N_{col}$) increases with trophic level. Marine food chains are longer than those in terrestrial ecosystems, meaning that high trophic level marine fish and mammals have higher $\delta^{15}N_{col}$ relative to their terrestrial counterparts (Schoeninger and DeNiro, 1984). The $\delta^{15}N_{col}$ can be used in combination with $\delta^{13}C_{col}$ to distinguish between marine and terrestrial resources.

Methodology

The individual's teeth were very worn, meaning that little enamel was present on the teeth, which the teeth that could be sampled for isotope analysis. Ideally, both oxygen and strontium isotope analysis should be carried out on the same tooth, however, the M1 was the only tooth that yielded enough enamel for strontium isotope analysis. Oxygen isotope analysis was undertaken on the M2, to prevent the physiological effects of weaning influencing the $\delta^{18}O$ composition of the tooth. The M1 starts to form early in life, approximately birth to 3 years, while the M2 forms between 3-10 years, however it must be noted that these ages can vary considerably between individuals (White 2005). Important to this study is the fact that the 87 Sr/ 86 Sr and $\delta^{18}O$ of the teeth will not reflect the same temporal periods; although both the M1 and M2 formed during childhood the isotopic signals will not overlap.

Strontium Isotope Methodology

Exterior surfaces of the M1 were cleaned thoroughly using a sand blaster (aluminium oxide). \sim 20mg of enamel was drilled from the tooth using a diamond burr tipped drill. The enamel was digested in concentrated HNO₃ for 1 hour at 140°C in closed Teflon beakers. The enamel samples were then prepared for Sr column separation following the chemistry after Pin et al. (1994), after which samples were then ultrasonicated for 30 minutes. Strontium samples were analysed as 200ppb 0.2% HNO3 solution. The strontium isotope analyses were performed on a Nu Instruments NuPlasma HR in the MC-ICP-MS facility, housed in the Department of Geological Sciences, University of Cape Town, South Africa. The reference standard for tooth enamel was NIST 987 (0.710255). All the strontium data obtained was corrected for Rb interference.

Oxygen Isotope Methodology

Exterior surfaces of the M2 were cleaned thoroughly using a sand blaster (aluminium oxide). ~10mg of enamel was drilled from the tooth using a diamond burr tipped drill. Tooth enamel pretreamtent followed protocols described in Sponheimer (1999), in which a brief (30 min) wash in 1.5% (v/v) sodium hypochlorite solution was followed by a 10 min wash in 0.1M acetic acid. The samples were freeze-dried, before measurement in a Thermo Finnigan Delta V Advantage mass spectrometer equipped with a Gasbench II in the Stable Light Isotope Laboratory, University of Bradford. International standards CO-1 (calcite) and CO-8 (calcite) were used together with an internal standard Merck CaCO3. Analytical precision as indicated by multiple replicates was better than 0.1 for δ^{13} C and 0.2 for δ^{18} O.

Carbon and Nitrogen Isotope Methodology

BetaAnalytical carried out carbon and nitrogen isotope analysis of the bone collagen.

Results and Discussion

Strontium Isotope Composition of Enamel

The ⁸⁷Sr/⁸⁶Sr composition of the M1 was 0.7098 ± 12 (2 σ). This value is consistent with measurements on biosphere water samples from North Wales (including the Lleyn Peninsula and Anglesey), which yielded ⁸⁷Sr/⁸⁶Sr values ranging from 0.710-0.713 (Evans et al. 2010) (Figure A). The ⁸⁷Sr/⁸⁶Sr composition of the M1 falls within the strontium range reported for the North Wales biosphere (0.709-0.713) (Evans et al. 2010). The value is also consistent with other strontium measurements carried out on three human molar teeth in North Wales from Great Orme and Tywyn y Capel, that had ⁸⁷Sr/⁸⁶Sr values between 0.7104 and 0.7108 (Figure 1). The results indicate that the Nefyn individual most likely spent the early part of their childhood in the North Wales region. However, because the ⁸⁷Sr/⁸⁶Sr composition of the Nefyn molar tooth also falls into strontium values found across large areas of Britain and Ireland (See Evans et al. 2010 and Kundson et al. 2012 for values of bioavaliable strontium values across the British Isles) including Dublin, the Isle of Man, South Wales and the West of England (Hermer et al 2013; Hermer et al. 2014; Chenery et al. 2010; Kundson et al. 2012), it cannot be ruled out that they may have spent their early childhood in another part of the British Isles.

Oxygen Isotope Composition of Enamel

The δ^{18} O composition of the M2 enamel carbonate was -4.8‰. The vast majority of palaeomobility studies carried out in Britain use the δ^{18} O composition of the enamel phosphate. Therefore, to enable direct comparisons between the δ^{18} O values of the Nefyn individual and other humans across Britain, the enamel carbonate value was converted to the δ^{18} O value of enamel phosphate using the relationship described by Chenery et al. 2012, giving a δ^{18} O enamel phosphate value of 17.2‰. This value falls within the range of values noted for the British Isles (16.8-18.6‰) (Evans et al. 2012) (Figure 2). The δ^{18} O composition of the Nefyn individual is lower than other published values from North Wales (Great Orme and Tywyn y Capel), which yielded values from 17.9-18.6‰ (Figure B) (Evans et al. 2012). Figure 2 shows that the δ^{18} O composition of the Nefyn individual lies in the lower range of values reported from the British Isles. The mean δ^{18} O composition of human enamel phosphate from across the British Isles is 17.7‰± 1.4. Individuals local to the west coast, where rainfall is higher, tend to have higher δ^{18} O values (~18.2‰ ± 1), while east coast populations, where rainfall is relatively lower, have values of ~17.2% \pm 1.3 (Evans et al. 2012). δ^{18} O composition of human tooth enamel from locations with similar meteoric water values (Darling et al. 2003a) in the west of the country gave δ^{18} O values of 17.6 to 19.3‰ in South Wales (Helmer et al. 2013) and 17.2 to 19.0‰ on the Isle of Man (Helmer et al. 2014). These data ranges show that the Nefyn δ^{18} O values falls at the lower end of the ranges displayed in these locations.





Figure A. Strontium Levels from North Wales

Figure B. Oxygen Isotope Values from North Wales

The results therefore appear to show that the Nefyn individual has a lower $\delta^{18}O$ composition to that expected for northwestern Wales. The $\delta^{18}O$ composition of the tooth enamel is more comparable to values that are found in the central and eastern British Isles (Evans et al 2010). If the $\delta^{18}O$ composition of the tooth enamel is converted directly to drinking water values using the equation in Chenery et al. (2012) this gives a value of -7.3‰. This value is consistent with drinking water values in central and east England and eastern Ireland (Darling et al. 2003a), which may suggest that she was local to one of these regions during childhood. However, it must be stressed that $\delta^{18}O$ can be extremely variable in water sources and human teeth, and the lower $\delta^{18}O$ composition of the Nefyn individuals tooth could simply reflect isotopic variation. Conclusions are limited because this study only uses $\delta^{18}O$ from one human.

Carbon and Nitrogen Isotope Composition of Enamel

The $\delta^{15}N_{col}$ and $\delta^{13}C_{col}$ was 10.7‰ and -21.3‰, respectively. The results indicate that the Nefyn individual consumed mainly terrestrial dietary protein, meaning that the individual had a largely terrestrial based diet. However, without isotopic baseline values from the local ecosystem and environment, interpretations are somewhat limited.

Conclusion

While the strontium and oxygen isotope data is not conclusive, it is probable that the Nefyn individual spent her early childhood in the North Wales region, and could therefore be regarded as 'local'. The carbon and nitrogen isotope analysis indicated that the individual had a largely terrestrial based diet.

Radiocarbon Dating Results - Works conducted by Beta Analytic Inc.

The following results were obtained from Beta Analytic Inc. The full report is included as Appendix D.

Conventional radiocarbon age 810 ± 30 BP 2 Sigma calibrated result 95% probability Cal AD 1165 to 1270 (Cal BP 785 to 680) Intercept of radiocarbon age with calibration curve Cal AD 1225 (Cal BP 725) 1 Sigma calibrated results 68% probability Cal AD 1215 to 1260 (Cal BP 735 to 690)

Drainage Channel Around Northern and Eastern Church Ditch (Plates 31 - 32)

In 2015 the second phase of works was undertaken at the church. The first element of these works was the hand excavation of a drainage ditch within the existing revetted trench around the church. It was approximately 0.40m wide and up to 0.55m in depth and was located directly against the outer revetment wall (plates 31 - 32).

These works uncovered two contexts which ran around the whole excavated trench. The upper deposit (201) was 0.2m in depth and was a loose, mixed, dark grey-brown sandy silt. It contained frequent modern rubbish and was evidently a modern accumulation.

Below this was context (202) a loose, mid brown-orange silty sand containing approximately 15% sub-rounded and rounded stones/pebbles. This deposit is the same as context (102) identified during the previous works. This deposit contained a small bronze ring broach and a small scrap of bronze sheet which are detailed in the finds section.

Excavation of New Pathway (Plates 33 – 39, figure 18)

The pathway was excavated by machine and the soil depth was a graded, varying in depth between 0.6m (western end) and 0.3m (eastern end). The strip was was approximately 12m in length and was between 1.80m and 2.20m in width.

Nine possible grave cuts were identified in plan which were clearly visible following the removal of the turf layer but once the subsoil had been reached were very difficult to see. Three soil horizons were identified during works, a dark brown topsoil/turf layer (203), context (204) a dark brown silt clay subsoil deposit. This deposit overlaid context (205), a yellowy-brown silty sand gravel. The material which was used as backfill within the possible graves was almost identical to context (205) and no numbers were attributed to these possible cuts as they were not investigated further.

Within these grave cuts was a stone built crypt (206) (see plates 35 - 38). This monument was not excavated as it was below the development depth and was only identified as a small stone, which had been used as capping, was disturbed. The cut was stone lined and measured 0.7m x 2m and was at least 1.0m in depth and contained the remains of at least 3 individuals and there was the partial survival of at least one wooden coffin. A basic photographic record was made using flash photography through the small hole exposed. This monument was presumably of Post-Medieval date.

Wave Sign Trench (Plate 40)

A small trench measuring $0.7m \times 1.4m$ was excavated in the north-eastern corner of the church yard. It varied in depth between 0.4m - 0.5m and contained the same sequence of deposits as described above and there was a possible grave cut at the base of the trench.




Plate 33. Works to Create New Path in Churchyard

Plate 34. Works to Create New Path in Churchyard - Showing Grave Cuts









Boat Sculpture and Hard-standing Trench (Plates 41 - 42)

The final trench dug was a $2.5m \ge 5.7m$ trench to the east of the site. It was machine excavated to a depth of 0.3m on western side and benched to form level area on eastern side. A central posthole to hold the sculpture measuring $0.4m \ge 0.55m$ was excavated to a depth of 0.45m. No grave cuts or human remains were uncovered during these works and the same sequence of deposits as identified during the excavation of the pathway trench was encountered.

6.1 Finds

A number of artefact were recovered during the works at St Mary's Church but due to the disturbed nature of the church yard area, with the exception of the coffin nails associated with the burial, all items were not recovered insitu and had been disturbed by grave digging or later works to the site.

Hammer Stone (Plates 43 - 44)

A small hammer stone was recovered from the mixed soil (01) within the shed foundation area. It is a fairly uniform ovoid beach pebble measuring 7.5cm by 7.0cm and is made of a fine grained granite. The stone fits fits comfortably in the hand and has clearly been used as a tool. The smaller arch of the ovoid has a large flake taken from its side and the opposing edge shows evidence of wear and has a sub-circular area 2.5cm by 2 cm of intense pecking. One of the larger sides shows evidence of being burnished or rubbed.

Hammer stones do not necessarily belong to the prehistoric period and are often a single use artefact although the evidence of two uses for the stone would point towards a prehistoric date. There is very little evidence for prehistoric activity in the area this could be down to the fact that there has been very little excavation or construction carried out in the modern period where archaeology work has been carried out.

Stained Glass (Plate 44).

A small fragment of stained glass 4 cm by 2cm was collected from the top soil (105). The glass shows some laminating and has a light green colour staining. It is possible that this glass dates from the Medieval period although it could be a later replacement piece. It is thought that this glass belonged to the previous building that was demolished when the current church was built in 1825.

Medieval Pottery (Plate 45)

A single sherd of medieval pottery was recovered from the fill (104) of the partially destroyed grave excavated on the southern length of the church underpinning.

The shred was triangular in shape and was 3cm along its longest axis and 2.5cm at its base (widest point). It was 0.6cm in thickness. Its exterior is smooth with a light green-brown glaze. There is a row of incised single dots and although the line of these dots is relatively level the distances between the marks are not uniform. The interior is rough and has a possible finger impression.

The fabric an orange-red colour with a dark grey core. It has visible quartz inclusions which correspond with the description of Cheshire Plain fabric (Papazian & Campbell 1992: 55). The distribution of this pottery is mainly coastal within North Wales and Papazian & Campbell's distribution map show that examples have previously been found on the Llŷn. This material is of late thirteenth to fourteenth century (Papazian & Campbell 1992: 54).

Copper/Bronze Sheet Fragment (Plate 46)

A small piece of thin copper sheet was recovered from context (202). It is not possible to determine what this used for, but it could been an off-cut or stray fragment used as seal for water proofing the roof this was popular in the 19th and 20th centuries (Radlett & Herts 1955).





Medieval Ring Brooch (Plate 47, figures 19 & 20)

A small ring brooch was recovered from context (202) during the excavation of the drainage trench near the porch in the northern elevation.

It is a copper alloy brooch with a circular frame and a circular body. The brooch is 2.5cm in diameter and the diameter of the body is approximately 0.2cm. The frame appears to have originally been lager in size and it is evident that at some point in time the frame broke and both ends were folded over each other to form a seal. The pin length is approximately 2.7 cm with a rounded body and a folded triangular shaped head attachment. The repair of this item shows a desire to extend the life of the object and this could either be interpreted as curation of a cherished object or heirloom, or the disposal of a broken brooch rather than a new item within a grave context.

The brooch is decorated with an incised line decoration and the frame has eight groupings of five to eight lines placed fairly evenly around the frame. There does not appear to be any order to the placement of these groups although any over all pattern may have been lost due to the earlier damage. The pin is decorated with angled incised lines creating a line of triangles near the base of the pin. There is a set of two opposing triangle designs before the pattern returns to a single triangle design.

Documented examples of securely dated brooches of this style would suggest this brooch is likely to date from 13th to 14th century (Hattatt 2007: 285, Egan & Pritchard 2002: 247). Excavations at St. John's Priory in Carmarthen uncovered five bronze 'shroud pins' of 13th to 14th Century date. Three of these pins were found in-situ within a grave and were positioned around the pelvis, possibly holding on a covering garment or a shroud pinned at this point. The Carmrthen examples were described as being more 'utilitarian than decorative' (James 1985: 142).

A penannular brooch is also recorded from the Early Medieval/Mdieval mound at Towyn y Capel, Anglesey (Longley & Richards 2000) which could be taken as evidence for a long held tradition of using penannular/ring brooches as shroud pins.

Similar stylistic examples have also been found out of context near Talwrn, Anglesey (Frances Lynch pers com) and at excavations at Llys Rhosyr near Newborough, Anglesey (Johnston 2000). The examples from both these sites were given similar date ranges to the Nefyn Brooch.

The brooch was more than likely used as a shroud pin and the recovery of the item as a stray find would indicate that other disturbed burials of that date could be within the area. This would seem highly likely given that the site is known to have been used for burials from at least the late twelfth century if not earlier.

Iron Nails Associated with Cist Burial (Plate 48)

Four iron nails were recovered from the fill of the cist with three marked on the drawing. The fourth was found through sample processing but came from the sample area below the head /skull. The are the remains of wood recorded on two of nails both from the feet area.

It is unclear as to whether these iron nails represent coffin fittings but it is interesting that they appeared in two distinct areas. This is unlikely to be due to variations in preservation conditions and may have resulted from the coffin having been constructed using a mixture of iron and wooden pegs (Shoesmith 1980: 30). The nails could also have been positioned in this manner if the body was placed on some form of carrying structure or bier, which only had nails at the top and bottom to secure it.

Post-Medieval Ceramics

A single sherd of post medieval pottery was recovered from the top soil. It is triangular in shape and measures 3cm - 4cm - 3.5cm. The fabric is a light red /pink with a slight sheen indicating the use of crushed quartz as a temper. The interior has been smoothed and a is a darker pink/red colour. The exterior has a dark brown glaze. This material is Buckley Ware and finds are common throughout North Wales.

7.0 Discussion of Results of Archaeological Works

Two significant discoveries were made during the archaeological works at St Mary's Church, Nefyn – a substantial wall uncovered during the excavation of shed foundations and a stone cist burial partially buried below the current church. The implications of these finds will be discussed individually below.

Stone Wall Uncovered During Shed Foundation Excavation

It is unclear as to the exact date of the walls construction but as no buildings appear on any of the earlier maps sourced it would seem likely to be of considerable antiquity and the construction style and material is indicative of a broadly Medieval build date. The wall is 0.90m in width and would have been part of a large structure, presumably an element of the pre-reformation suite of buildings at Nefyn. The pre-1825 church building is shown on earlier cartographic sources as occupying the location of the current church and therefore this is clearly an ancillary structure or outbuilding.

It would be of interest to trace the survival of this wall to see if a return could be found but due to its location in a graveyard it is felt unwise to undertake this work unless necessitate by other factors (such as excavation for underground services).

Cist Burial

The term cist describes a stone built coffin or box and is most commonly associated with Bronze Age Beaker or Early Medieval burials. This grave type is not however exclusive to these periods and this style of burial appears in smaller numbers in other periods. The Nefyn example contained an extended inhumation within a long-cist.

The cist uncovered at Nefyn was presumed on discovery to belong to the Early Medieval grave tradition and to possibly be contemporary with the founding of the church. Somewhat unusually for North Wales the human remains within the grave were found to have partially survived and were therefore available for analysis. A surprisingly late radiocarbon date of Cal AD 1165 to 1270 (2 Sigma calibrated result 95% probability) was obtained which would place the burial as an outlying, very late example of this burial tradition. In order to place this late example into context the Early Medieval cist burial of North-west Wales will be briefly discussed.

By the 4th century AD there appears to be two styles of Christian burial recognised in the West of Britain. In the first group the body was laid in an extended position with few if any grave goods. It was orientated on a east-west axis and the cist was constructed of stone lining, cap stones and stone lintels in various combinations. The second burial group was more commonly orientated on a north-south axis and displayed a high degree of variety in terms of grave goods and burial positions (Petts, 2004: 78).

The first group was most commonly found in managed groupings with graves respecting each other. Some groupings were buried within squared ditched enclosures which may have represented the remains of foundations for walls or fences. The type of cist used by these groups favoured the use of the long-cist as opposed to the squarer prehistoric, stone lined graves (Longley & Richards 2007).

Longley & Richards (2001) have observed that these early burial sites do not necessarily develop into churches and the cemetery is often located on the outside of the settlement. The 8th century saw the establishment of churches within villages as part of their parochial status. Pennant Melangell in Montgomeryshire is an exception to this, and in this instance a foundry burial may have been the stimulus behind the church construction. The suggestion that by this period the people being buried in this manner are practising some form of organised Christianity or at least live in a society in which the display of the Christian style in burial was important.

The St Mary's Burial in a Regional Context

Longley & Richards (2001) study identified 47 locations in Gwynedd and Anglesey where Early Medieval burial is recorded dated from AD400 to AD 1100 of which 20 sites contained long-cists. Of the 47 sites eleven are found near later church sites. Chronologically these burials pre-date the earliest surviving structural evidence and in some cases these burials pre-date the establishment of the church. Arnold & Davies (2000) have shown that although cist burials have been found associated with churches throughout Wales independent dating evidence has shown that many are of an early medieval date. It must however be noted that there is a general paucity of radiocarbon dates for cist burials believed to belong to this period and the possibility raised by the outlying date of this burial must be that this tradition is longer lived than is commonly acknowledged.

The inhumation at St Mary's belongs to the long-cist burial type which is described by Longley & Richards as classically having "side and end slabs forming a rectangular box or cist, flat floor slabs and lintel stones as a cover". It does however qualify this slightly by stating that "basal slabs would seem to be rare". It would therefore seem that the Nefyn example is not unusual in its lack of floor stones and conforms to the general long-cist model. The same can be said of the shape and size of the cist which is rectangular and exhibits a very slight narrowing at the eastern, foot end of the grave. The size range for a typical adult grave was determined to be 1.60m - 1.90m in length (with most clustering around 1.75 - 1.80m) and 0.40m - 0.60m in width (Longley & Richards 2001: 22). The Nefyn grave measured 1.87m in length and was 0.41m in width which makes it unexceptional in terms of size.

It is also of note that the iron nails with some surviving wood which were found within the cist are not uncommon within this type of burial monument and timer components are noted as being present at a number of sites either as lining within the cists, beirs or coffins (Longley & Richards 2001: 22).

Beyond describing the general characteristics of long-cist burials within Wales it is somewhat difficult to discuss the phenomena further in relation to the late date of the Nefyn example as to date there are very few securely dated sites to which the remains can be compared. Post excavation is still ongoing following the discovery of a cemetery at Parc Cybi, Ty Mawr Holyhead in 2007 when 23 cist burials were excavated, some of which contained human remains and excavations and it is hoped that in the near future dates will be obtained from this material for comparison.

Within north-west Wales the most relevant site with secure radiocarbon dates which can be discussed in relation to the later cist burial tradition at Nefyn is the grave yard site of Towyn Y Capel at Trearduer Bay, Holyhead. The site is a former chapel and cemetery and lay on an isolated mound just above the high-water mark of a sandy bay formally known as St Bride's (St Ffraid's) Bay and although it was believed to be of considerable antiquity references to the site could not be found which pre-dated the mid-sixteenth century. In 1846 W.O Stanley recorded that the mound was 31 feet in diameter above the surrounding sward, and 36 feet above the shore. The top was 50 feet in diameter and the diameter at the base was 250 feet. The graves in the mound were arranged in four or five tiers and were mainly long-cists although plain graves were noted. One third of the mound had been washed away by 1846 and it had "wholly perished" by 1868. Errosion contined and large numbers of burials were exposed over the next 150 years (Davidson 2009: 167 - 171).

Full excavation of the site was undertaken over two seasons in 2002 and 2003 and during this time 24 long cist burials and around a hundred non-cist burials were excavated. Ten of the skeletons were radiocarbon dated, four from the cist graves and six from non-cist graves. The cist burials dated between AD 650 - 870 and the non-cist burials between AD 650 - 1220 (Ibid 180 - 181).

Although the dated sample of the skeletal remains is small in relation to the numbers burial at the site it does once more reinforce that as a general characteristic cist graves have fallen out of favour by the end of the Early Medieval period and have been replaced by non-cist dug graves but this may not necessarily be the case. Anecdotally at least it does appear that the Nefyn example is somewhat unusual for the period but as we have stated before far more radiocarbon dates are needed to establish whether this is an exceptionally late survivor or if we need to rethink the date range attributed to the long-cist burial tradition.

The St Mary's Burial in a National Context - Instances of the Late Cist Burial Tradition in the United Kingdom 1100 – 1300 AD

In order to place the date of the Nefyn burial within a wider context where it can be compared with a larger number of securely dated sites searches of Pastscape (Historic England HER database) and the Historic Scotland Online SMR were made. These searches produced very few examples of later cist graves and it does appear to be an unusual interment type for this period. There are however a small number of other graves, which although not quite as late as this are approaching a 12th Century date.

Scotland

Dr Adrián Maldonado undertook a major study of early medieval burials in Scotland as an element of his PhD research. His extensive thesis showed that as is the case with dated examples in Wales most cist graves date from the 5th to 9th centuries. He does however identify a site at Kingston, North Berwick, Lothian where a total of 21 long cist graves were discovered when a water pipe line was being laid. Further evaluation uncovered 22 further dug and stone lined long-cists with or without capstones. Pottery from the top soil dated from the $12^{th} - 14^{th}$ century and it has been suggested that the area hand fallen out use by the later date. The latest radiocarbon date obtained for this burial group has a calibrated date of AD 890-1160 but unfortunately it is unclear as to whether this date is for a cist or non-cist burial (Maldonado 2013).

England

Major excavations undertaken at Castle Green in Hereford uncovered a large amount of burials in the 1970's. Only one example of a cist was found during these works but historical sources have recorded others had previously been excavated at the site. The cist grave was constructed using flat irregular lining lining stones with rounder packing stones in between. Unlike the Nefyn example it also has a defined head stone head box. The cist burial was radiocarbon dated to between AD 1035 – AD1175 and the excavator notes that, based on the stratigraphical evidence, the the later date is more likely with a date in the first half of the 12th century favoured (Shoesmith 1980: 29). As at Nefyn the skeleton was determined to be an adult female but as the sample size for later cist burials is so small no meaningful conclusion can be drawn from this.

At St Helen's Church on the Isles of Scilly four "lintel graves" were excavated within the burial ground. These graves are exceptionally late cist burials as a silver penny of Richard II and a bronze band recovered from the grave fills indicate a 14th or possibly 15th century date. It has been noted that these graves are similar to those found at Tresco Abbey but these graves do not have a secure date (www.pastscape.org.uk).

Graves uncovered at Chapel of St Uny, Wendron, Cornwall have been assigned a 12th century or later date and included some cist graves. These graves were dated using their association with medieval pottery which was attributed to the 12th Century (www.pastscape.org.uk). This dating is interesting but it is unclear as to whether all graves could be securely assigned to this period.

Ireland

A less detailed study of dated long-cist burials was made of the Irish evidence although work by O'Sullivan, McCormick & Kerr (2014) concludes that, as is generally the case in Wales, Scotland and England, the use of long-cists is predominantly an Early Medieval (AD 400 – AD 1100) practice with very few burials dated to later than AD 1000 (O'Sullivan, McCormick & Kerr 2014: 283 - 290).

Dating Conclusion

Having examined a larger data set by extending the area and number of dated burials it does very much appear that the Nefyn skeleton is a genuinely unusual burial for this period and as a burial style it has fallen out of favour around two-three hundred years prior to the inhumation. A handful of other burials from this period have been identified although the dates are not necessarily as secure as one would hope.

One cannot help but wonder why the return to a much earlier mode of burial is adopted in this instance as it is clearly a conscious decision to bury the individual in this way. This burial rite is far more elaborate and time consuming to undertake than the excavation of a simple dug grave with no lining but without clear dating for other burials on site it is unclear how common this practise is. It could simply be that this particular community continued to use cists long after they had been abandoned elsewhere and they held some sort of special significance in this area. How widespread this practise is is unknown as there is simply not the securely dated evidence found at sites in north west Wales to draw any further conclusions from. This late date does however raise the strong possibility that when dating cist graves in the area on typological grounds along a much longer potential date range should be considered.

The Use of White Quartz in Medieval Burial Practises

As noted in the results section two quartz pebbles were incorporated into the capstone arrangement and were carefully placed between the first and second of the western (head end) stones. The use of white quartz stone is recognised as a widespread mortuary ritual with these stones being utilised in a range of ways. This included the rite of placing white granite or quartz pebbles within the grave, or in the hand or mouth of the corpse. Speculation has been made as to why this material was afforded special status and was a recurrent burial theme. It has been suggested that the inherent physical properties of quartz are likely to have given it occult value. Quartz is piezoelectric and when struck or rubbed together it produces a faint glow (thermoluminescence) (Gilchrist 2008).

Medieval examples of pebbles placed in the mouth are known from numerous English parish churches including four from St Nicholas Shambles, Greater London, and one from Raunds (Northamptonshire). Examples also come from the religious houses of St James, Bristol, St Mary's, Stratford Langthorne, St Mary Graces, Greater London, and from the lay cemetery at Worcester Cathedral Priory (ibid).

White, beach-rolled quartz pebbles were commonly included in burials in Ireland, Scotland and the Isle of Man, and in these regions people used them as prayer beads or counters at holy wells up to the 20th century. The stones incorporated into the Nefyn grave are beach rolled stones and are in-keeping with this tradition. Similar stones were found at Towyn y Capel and Davidson (2009: 208) describes them as the only contemporary finds associated with long-cist and non-cist burials.

They occurred in early and later medieval graves at St Ethernan, Isle of May (Fife), in several later medieval and post-medieval graves at the women's cemetery on Iona (Argyll and Bute), and they were widespread in graves at Whithorn, with 1,794 pebbles collected from medieval graves of the 13th to mid-15th centuries, some of which also had coins and cattle teeth deposited. Approximately two-thirds of the 1,275 inhumations excavated at the parish cemetery of Ballyshannon record them, deliberately placed in the hands of the corpses. This rite was more geographically widespread in early-medieval burials, including Wearmouth, Llandough (The Vale of Glamorgan), Kellington (North Yorkshire), Capel Maelog (Powys) and Barnstaple (Devon) (Gilchrist 2008).

The occurrence of quartz pebbles in British mortuary contexts pre-dates Christianity and they are also found in association with prehistoric burials and monuments. From the prehistoric period through to the later medieval period, they are particularly concentrated in the Isle of Man, Wales, Scotland and Ireland. Chris Fowler has argued that the substance of quartz as a raw material carried the symbolic associations of the seashore and mountains. Prehistoric people may have regarded it as generative or transformative, with its incorporation in mortuary contexts conveying the symbolism of water and new beginnings. To medieval Christians, water also symbolised rebirth through baptism, and the light-emitting properties of quartz may have added connotations of purity and salvation through the cleansing fires of purgatory (ibid).

The Position of the Cist Burial

The cist burial was found beneath the church wall during the underpinning works. It is however unclear as to whether this location should be attributed any special significance as it is not known where within the Nefyn plot the contemporary church was located or indeed what the size and floor plan of this structure was, as all we know is that the church occupied the current location from at least 1788.

Local inhabitants visiting the site recalled that the church alterations in the 1970's removed a large number of graves and grave slabs when a concrete floor was laid but without having any further information about these it is very difficult to draw conclusions. It was however stated by several people that there were skips on site with skulls visible.

Isotopic Analysis Discussion

The isotopic analysis of the Nefyn individual has yielded some very interesting, if inconclusive results. The strontium values obtained are consistent with those from other sites in North Wales but it is noted that these values are not dissimilar from those obtained across a large area of Britain and Ireland including Dublin, the Isle of Man, South Wales and the West of England so it cannot therefore be ruled out that they may have spent their early childhood in another part of the British Isles.

The results of the oxygen isotopic analysis were not within the expected range for north-western Wales, with the $\delta^{18}O$ composition of the tooth enamel being of a more comparable to values that are found in the central and eastern British Isles. Rather intriguingly if the $\delta^{18}O$ composition of the tooth enamel is converted directly to drinking water values the value obtained is consistent with drinking water values in central and east England and, of significance given the strontium results, eastern Ireland. This may suggest that she was local to one of these regions during childhood. This interpretation must however be qualified by the fact that $\delta^{18}O$ can be extremely variable in water sources and human teeth, and the lower $\delta^{18}O$ composition of the Nefyn individuals tooth could simply reflect isotopic variation. Conclusions are limited because this study only uses $\delta^{18}O$ from one human.

While the strontium and oxygen isotope data is not conclusive, it was felt on balance that it was most probable that the Nefyn individual spent her early childhood in the North Wales region, and could therefore be regarded as 'local'. This does not rule out her having origins further afield, notably on the east coast of Ireland – a place with very strong kinship and trading ties with the Llŷn, but rather highlights the difficulties faced when analysing a single individual rather than a group within which comparisons can be drawn. The conclusion may therefore be subject to revision at a later date should other skeletal material from this area become available for study.

The carbon and nitrogen isotope results indicate that the Nefyn individual consumed mainly terrestrial dietary protein, meaning that the individual had a largely terrestrial based diet. This is an unexpected finding considering the coastal location of Nefyn and it is interesting to consider why it might be that there was an absence of marine species within this individuals diet.

It is well documented that during the Medieval period that the church heavily regulated the populations diet with prohibitions on certain foodstuffs, particularity meat on specific days/festivals and for the laity approximately half the year was ordained to be meat-free. This led to a massive demand for fish and fresh fish commanded high prices. For the lowest strata of society the requirement to abstain from meat would however have made relatively little difference, especially in the countryside as the peasant diet centred upon grains (Galloway 2007: 1-2). The lack of a marine dietary element may therefore have been an indication of lower economic status and possibly hint at an agricultural occupation for the individual and her family rather than belonging to the fishing community which would presumably have had access to the resource. However, as with the other analysis caution must once more be stressed as without isotopic baseline values from the local ecosystem and environment, interpretations are somewhat limited and it is unclear as to how the local environmental factors may have influenced the test results.

Circumstantially it may be taken that the heavy ware on the individuals teeth could have been the result of consumption of bread with a high grit content which would be an indicator of low status, but we must also take into account that this woman would be considered to have been of old age and there may be other factor affecting the ware. There is also some skeletal evidence to suggest that the woman may have some indicators of having carried out hard works during her life which would indicate low status but again this evidence is circumstantial.

8.0 Conclusion

Excavations at St Mary's Nefyn have uncovered a series of finds and features of archaeological interest. Structural evidence for a potentially large building beneath the shed foundations is believed to be a Medieval outbuilding for the church, possibly an accommodation block for pilgrims or clergy. The discovery of a cist grave when underpinning the church provided the rare opportunity to conduct radiocarbon dating, skeletal analysis and isotopic on human remains within this grave type and the results have shown a very late date for the cist tradition, potentially causing a rethink of accepted typological dating. Although a little inconclusive in themselves the isotopic analysis has provided an excellent data baseline for future research in the area.

The watching briefs undertaken have demonstrated the high archaeological potential of the churchyard area and the favourable conditions for the survival of human remains of considerable antiquity.

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Appendix A.

Specifications for Archaeological Works

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Specification for Archaeological Watching Brief

Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn ichaeologi

NGR SH30870 40646

Report Number CR55-2013



C.R Archaeology Compiled by Catherine Rees on Behalf of Amgueddfa Forwrol Llŷn

Specification for Archaeological Watching Brief at Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn

Planning Application Number: National Grid Reference: Client:

Report Author: Report Number: Date: N/A SH30870 40646 Amgueddfa Forwrol Llyn

Aichaeoloc

Catherine Rees CR55-2013 01/11/2013

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Figure 1. Site Location Map

1.0 Introduction

C.R Archaeology have been instructed by Amgueddfa Forwrol Llŷn to conduct archaeological works at St Mary's Church, Nefyn.

St Mary's Church, Stryd Y Llan, Nefyn (Figure 1) is a Grade II Listed Building (Cadw ID: 4371) within the ancient community of Nefyn on the north-western coast of the Llŷn Peninsula. Works are currently under way at the site to rectify structural problems, provide drainage and to erect a new storage shed with solar panels. This is part of a larger redevelopment project which aims to create a vibrant and modern heritage centre for both the local community and visitors. The site is under the ownership of the Church in Wales but as it is no longer in use for active worship is no longer subject to Ecclesiastical Exemption.

This specification has been written following a discussion with Development Control Archaeologist Jenny Emmett of GAPS (31st October - 1st November) as a methodology for a programme of works at the site.

The current church building was erected in 1825-7 on the site of a much earlier building. Little is know of the architecture of the previous building although it is known to have important historical associations. The earliest surviving records date from the mid 12th Century and detail how Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted Nefyn Church, its appurtenances and the associated land to the Augustinian Abbey of Haughmond. In 1535 the church had the status of vicarage of the Abbey. St Mary's Nefyn survived the reformation and became a parochial church. It is currently in use as a maritime museum.

This specification details a scheme of works for a watching brief but given the antiquity of the site it should be noted that there must be a contingency for further mitigation should articulated human remains, structural evidence of the earlier church or significant archaeological remains be uncovered.



Figure 1. St Mary's Church Location Map (Source: OS Open Data Mapping Contains Ordnance Survey data © Crown copyright and database right 2013)

2.0 Project Aims & Objectives

The aims of this element of the programme of works are to monitor all ground works associated with the current redevelopment of the church and to record any archaeological remains.

A basic photographic record of the church building will also be made with exterior and interior elevations photographed.

einen tionition tionition The objective of the archaeological programme is to establish and make available information about the archaeological resource existing on the site.

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3.0 Historical Background

Due to this project being undertaken as an emergency measure and at short notice it has not been possible to compile a detailed history of the church at this stage. A more comprehensive historical background will be compiled following the completion of works.

The following excerpt has been taken from the Gwynedd Archaeological Trust's Nefyn and Morfa Nefyn Historic Landscape Characterisation and is intended to provide a basic context for the site (Source: www.heneb.co.uk/llynhlc/llynhlcareasenglish/nefyn20.html).

"This character area includes the borough town of Nefyn and the more recent community of Morfa Nefyn. The area is bounded on the north by the sea; on the west by the limit of Morfa Nefyn and westernmost extent of relict Medieval field systems; on the south by the northern limit of Cors Geirch and on the east by the igneous intrusions of Garn Boduan, Mynydd Nefyn and Gwylwyr.

The earliest indication of human activity in this area are two funerary monuments of the Bronze Age; a possible Early Bronze round barrow in a field near Ty Mawr at the eastern extent of Morfa Nefyn and urn burials of approximately the same period 100m to the west (PRNs 2340, 17211). There are important Iron Age fortifications immediately to the west and east of the area but not within it.

The present church at Nefyn is a completely rebuilt structure of 1825-7. The earlier church is little known in respect of its architecture. Its historical associations, however, are important. The ancient church was first recorded, as far as records survive, in the mid-twelfth century. Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted the church of Nefyn and its appurtenances and all the land where the church is, between two small brooks which define the boundaries, to the Augustinian Abbey of Haughmond. The grant also came with land outside Nefyn on the south-east slopes of Mynydd Nefyn.

Three further grants of land in Nefyn ensued, in favour of Haugmond Abbey by Dafydd ab Owain, twice between 1177 and 1190 and Llywelyn ap Iorwerth, in 1230. In these charters and grants we may be witnessing an early instance, in North Wales, of the transition from ancient clas church to its replacement by one of the 'modern' pan-European orders; in this case, an Augustinian priory. In

1301 David ap Madoc, a chaplain of Nefyn, renounced any claim to the church of Nefyn and stated that he had been brought up in the Augustinian priory with the canons and had, for a long time, officiated within the church. The only explanation for anyone to think that there might be such an issue would be that a residue of the old clas continued, in some way, to serve the church. One secular member of the Nefyn community, Madoc Clericus (calling himself a merchant) may have been a relation of David ap Madoc. In 1252 William, Prior of Nefyn was a witness concerning an agreement about tenurial arrangements in Aberdaron. In 1535 the church had the status of vicarage of the Abbey, on the eve of the dissolution. St Mary's Nefyn continued, as a parochial church. It is now a maritime museum and has been replaced by St David's church on Tower Hill.

We do not know the size or the status of Nefyn in, say, the late eleventh century when Gruffudd ap Cynan brought his boat into the harbour of Porth Nefyn, although it would be reasonable to suppose it was already a significant or, at least, notable place. The presence of an earthwork castle at Nefyn, of probably late eleventh-century date, may be indicative of the Norman advance into Gwynedd and, at least, provides an additional indication of the strategic importance of the location. The nature of the Augustinian order is that its members go out into the world, unlike closed orders, and provide various priestly functions including the care of parishes. We might expect, and the grants to Haugmond suggest it, that a village had grown in the vicinity of the church. In April, 1188, on the eve of Palm Sunday, Gerald and Archbishop Baldwyn stayed in Nefyn, on their peregrination in support of the Crusade.

By the thirteenth century the township of Nefyn can be identified as a royal maerdref, a manorial estate in the hand of the Prince and the focus for the management of the collection of rents and dues from the Prince's bond tenants and also those dues which were owed by the freeholders across the commote of Dinllaen. In 1293, ten years after the conquest of Gwynedd, Edward I raised a subsidy on moveable goods to help pay for his Scottish war. The document provides an insight into the economic resources and productive capacity of Nefyn. Nefyn, during the course of the thirteenth century had been granted borough status as Pwllheli had, before the conquest. Nefyn, at this time, was a much larger community. There were 93 taxpayers. There was a priest, the sons of a smith or smiths (no doubt they pursued their fathers' occupation), a drover, an innkeeper and his children, a goldsmith and many more. The most wealthy had 14 or 15 or so cattle, 2 or 3 horses, some sheep and 6 or 7 crannocks of flour and grain. Six individuals described themselves as merchants. Forty-one individuals had fishing nets, some had 2, 3 or 4 nets and four individuals had boats. Two

members of the community, Ieuan ap Madoc and Dafydd ap Thum had few animals, but they did have 2 boats and 7 nets between them. The community of Nefyn had, in total, 264 cattle, 49 horses, 205 sheep, 41 draught animals and were capable of producing 138 crannocks of flour and grain, mostly oats and some barley.

Although some aspects of the infrastructure of the maerdref ceased to be relevant after the conquest, surveys and ministers' accounts continued to refer to customary dues which were, perhaps, more appropriate to the maerdref in the Age of Princes. The rents were paid in cash and that was what mattered. However, the commuted labour services provide a glimpse of the operation of the traditional maerdref.

Nefyn, in the thirteenth-century, had 120 acres of demesne land and a garden. The manor also had a productive turbary, a valuable source of fuel, which was to become an issue centuries later. Renders of four crannocks of rye flour and barley were required. The tenants had to provide certain labour services as part of their rent. They had to make good the manor, repair the roof of the hall and work of the houses. They had to cut turves and bring in fuel for the fire and light it. They also had to supply hams for the table and chickens.

There were agricultural works to be done too, including working with the harvest in autumn. Nefyn had three mills, not all within the township itself.

In 1349 Nefyn was granted to Nigel Loryng, the Black Prince's chamberlain. In 1355 Loryng advised the Black Prince to enfranchise Nefyn (and Pwllheli) and create a free borough there. In recognition of his service at Poitiers, in 1356, Nigel Loryng was granted the two boroughs, in perpetuity for the annual rent of one rose (T Jones Pierce, 1972, 151).

Pennant called Nefyn a small town in the 1770s. The Revd. Bingley, in 1814, thought it a small and insignificant ... surrounded by mountains and appearing altogether separated from the world. Hyde Hall, four years earlier, took a more detailed look. He thought the assemblage of main houses were somewhat larger than those commonly met in the region, and although scattered, his impression was of a nucleated centre of population. Recent houses were slated, but the majority were still thatched. Nevertheless, Hyde Hall saw some cause for optimism in that slates were being used at all, one of

the signs of 'improvement' as he would put it.

The coastline from Penrhyn Bodeilias to Penrhyn Nefyn is a long sweeping bay where, at the western end, Penrhyn Nefyn provides a good sheltered harbour on the lea side of the point. In the middle ages the community of Nefyn had several nets and boats and fishing continued to be important. Hyde Hall remarked on the herring curing houses along the bay. There were about 40 boats in Nefyn when Hyde Hall visited in 1810. Each was owned by several individuals, as many as seven taking shares in a boat. The herring fishing was seasonal and many of the fishermen had other occupations, mostly working on the farm. This was the common pattern all round the coast of Llyn. Nefyn was also a ship-building town. It could not compete with Porthmadog and Pwllheli but it did produce around 100 ships between the end of the eighteenth century and the end of the nineteenth centuries. Nefyn had a ropewalk at the south end of town, which, of course, was an adjunct of the maritime nature of the community.

At the turn of the eighteenth/nineteenth century almost all the buildings in the borough were concentrated in the area of the cross; at the junction of Stryd y Ffynnon (Well Street), Stryd y Plas and High Street; and north along Stryd y Ffynon. A scatter of buildings stood south of the church along Stryd y Llan (Church Street) and to the north of the church. The two streets, Stryd y Plas and High Street diverge in a south and south-westerly direction from the Cross, creating a space within that triangle where the Maes, or Green, stood. The well stood at the south end of Stryd y Ffynnon and the stream which emerged from it ran more or less down the centre of the street.

There are clear indications of the former presence of Medieval open fields, to the north-west, southwest and east of the town. The clearest indications lie between Nefyn and the sea. They may be identified by their enclosure within clawdd banks of parcels of unenclosed quillets, which retain, in their boundaries, the sinuous curves of arable ploughlands. A Glynllivon estate map of 1815 and the Tithe map of around 1839 both show several long, narrow, quillets within the clawdd boundaries. The quillets themselves are not fenced and it is rare that two quillets in the hand of one tenant are juxtaposed, reflecting an ancient tradition of sharing the land. On the evidence of these maps it would seem that large quilleted areas remained unenclosed, almost until the middle of the nineteenth century. Immediately adjacent to Nefyn lay the free township of Morfa, occupying the coastline between Penrhyn Nefyn and Bwlch Bridin and the territory inland as far as the northern limit of Cors Geirch. In 1806 a new turnpike road was driven across Llyn from Traeth Mawr to Porthdinllaen. This new road provided a focus for settlement to the west of Nefyn at Morfa Nefyn. The road is clearly identifiable from its ruler-straight sections, crossing the old road from Nefyn westward along the coastal route, through Edern and Tudweiliog and on to Aberdaron. Some settlement had already taken place along the old road. Now development focussed on the crossroads.

The expansion of settlement during the nineteenth century created a rather dispersed pattern comprising almost 100 properties extending the lengths of both roads within Morfa Nefyn. The premises comprise large detached houses, terraced houses, a vicarage, police station, a Calvinistic Methodist chapel, a Congregationalist chapel, a Baptist chapel, St. Mary's Mission chapel and an Inn at the crossroads, together with early vernacular cottages such as Caer Pwll, on the Aberdaron road. During the course of the twentieth century the total number of properties rose to over 400. Many of these were built in the early twentieth century as seaside villa residences but there have been, also, more recent estate developments towards the western end.

The fields to the north and south of the developed area at Morfa Nefyn display an even more extensive survival of relict open field quillets, fossilised by their enclosure within clawdd banks, than those closer to Nefyn itself. The sweeping pattern of the former medieval ploughlands is unmistakeable.

Historic Landscape Character

Nefyn is an ancient community which has retained many of the components of an earlier landscape in its street plan and other surviving features. Nefyn also has detailed documentation regarding the former presence of a royal llys of the Welsh princes, in the context of an important commotal maerdref.

The surviving features which identify the components of a medieval landscape include: The street plan, forking at the south end of Stryd y Ffynnon into the High Street and Stryd y Plas, defining the triangular area of the Maes and the Cross at its apex.

•The site of the church and churchyard in the hand of the Augustinian house of Haughmond by the second half of the twelfth century with possibly more ancient origins

•A late eleventh-century earthwork castle to the west of the Cross

•The possibility of identifying the burgages of the borough of Nefyn, from the thirteenth century, which are most likely to be found concentrated on both sides of Stryd y Ffynnon, the west side of High Street and around the Maes

. sur Sources •Extensive relict open-field quillets of medieval origin to the north-west and south-west of the town and, even more so, across the land of Morfa, now Morfa Nefyn" (Source: Gwynedd

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4.0 Geographical and Geological Context

4.1 Topography

The site is located within the ancient town of Nefyn and is the original Parish Church.

Nefyn is a small town on the north-western coast of the Llŷn Peninsular.

4.2 Geology

The superficial geology of the site is described as "glacial sand and gravel". The deposit is described as "sand and gravel with rare clay interbeds; often cross-bedded; of glacial origin." The no ĥ Archaet A bedrock is recorded as "Llanvirn Rocks (Undifferentiated)" and no further detail is given (www.bgs.ac.uk).

5.0 Scheme of Works - Methodology

5.1 Desk Based Research

A history of the site will be compiled utilising material sourced from Bangor University and Caernarfon Archives. A full map progression of the area will be undertaken. Where appropriate the archive information will be supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER will be conducted examining an area within a 500m radius of the site.

The RCAHMW database and the commission's survey of the area will also be consulted. The information collected will be discussed within the main report text.

The works will be carried out accordance with the IfA Standards and Guidance (www.archaeologists.net).

This material will form the historical background for a full archaeological report. The report will include the results of the watching brief and basic photographic survey.

5.2 Photographic Survey

A basic photographic survey of St Mary's Church, Nefyn will be undertaken. This will include:

- 1) A photographic survey of the exterior of the building
- 2) A photographic survey of the interior of the building

The methodology employed will conform to the requirements of photographic recording to the equivalent of a Level 1 Survey, as specified in *Understanding Historic Buildings: A Guide to Good Recording Practice* (English Heritage 2006) and will include works specified in points 1-2.

5.2.1 Equipment

A photographic survey of the building will be undertaken using a 14.2 mega-pixel Sony Alpha-350 digital camera with a variety of standard and other lenses using a tripod where necessary. Images will be captured in RAW format for later processing into high resolution JPG and TIFF files.

Where possible all exterior and interior elevations of the building will be photographed with scales from ground level. Additional photographs will be taken detailing important architectural features.

5.3 Methodology for Archaeological Watching Brief

All intrusive ground works at the site will be monitored by an archaeologist from C.R Archaeology. Where possible the site will be machine excavated using a mechanical excavator with toothless bucket.

Any archaeological features, structures or remains identified in the course of the excavation will be trowel cleaned by hand. Investigation of such features, structures or deposits will be sufficient to determine their character, date, significance and quality. If features yield suitable material for dating/environmental processing then samples will be taken for processing off site. The size of these samples will depend on the size of the feature but for smaller features a sample of up to 95% will be taken. For larger features a sample of up to 40 litres will be taken. GAPS will be informed of the discovery and a mitigation strategy agreed before works will progress.

Fieldwork is to be conducted by Matthew Jones of C.R Archaeology. Staff members are qualified, experienced archaeologists and cv's can be provided on request.

5.3.1 Recording

The record forms at C.R Archaeology are based on the English Heritage system and full written, graphic and photographic records will be made in accordance with the English Heritage *Field Recording Manual*. Sample forms can be provided on request. The written record shall comprise completed *pro-forma* record sheets.

Plans, sections and elevations will be produced on gridded, archive standard stable polyester film at scales of 1:10, 1:20 or 1:50, as appropriate. Representative measured sections will be prepared as appropriate showing the sequence and depths of deposits. A temporary benchmark (TBM) will be established on the site and plans, elevations and sections will contain grid and level information relative to OS data. All drawings will be numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A high-resolution 14.2mp Sony Alpha digital camera will be used to create a photographic record of the site. This will be comprised of photographs of archaeological features and appropriate groups of

features and structures. Included in each photograph will be an appropriate scale, north arrow and a record board detailing the site name, number and context number. All photographic records will be indexed and cross-referenced to written site records. Details concerning subject and direction of view will be maintained in a photographic register, indexed by frame number. Images from photography will be stored in a loss-less digital format in this case '*.TIF'.

A 'harris matrix' diagram will be constructed for the excavated area.

5.3.2 Additional Mitigation/Contingency Measures

In the event of a significant archaeological discovery being made during the excavation C.R Archaeology will immediately inform both the client and the development control archaeologist. Consultation will take place between C.R Archaeology, GAPS and the client with regards to the most suitable course of action. Given the lack of information regarding the pre 1825-7 church the uncovering of structural remains associated with an earlier structure would be considered to be highly significant and would require additional mitigation measures.

In the event that human remains are encountered every effort will be made not to disturb them. Should it be necessary disarticulated human remains will be temporarily removed from the path of the works and will be replaced at the bottom of the trenches prior to the reinstatement of the ground.

In the event that articulated human remains are encountered works in this area will cease with immediate effect the appropriate bodies will be informed. The company will abide by the requirements of Section 25 of the Burial Act 1857. Any arrangements regarding the discovery of human remains will be at the discretion of HM Coroner whose instruction/permission will be sought. All human remains are to be preserved *in situ*, covered and protected. They will only be removed in exceptional circumstances and with the appropriate Ministry of Justice licence, environmental health regulations, Coroner's permission and, if appropriate, in compliance with the Disused Burial Grounds (Amendment) Act 1981 or other local Act, with adequate security provided in such cases.

Following the obtaining of the appropriate permissions the excavation of in-situ human skeletal remains will only be undertaken following the production of a separate methodology to be agreed with GAPS which details the analysis, storage and reburial of the remains.
Any artefacts recovered that fall within the scope of the Treasure Act 1996 will be reported to the landowner, GAPS and to HM Coroner.

5.3.3 Recovery, Processing and Curation of Artefactual Material

All recovered artefactual material will be retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (IfA 2008) and First Aid for Finds (Watkinson & Neal 2001).* The aim will be to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (IfA 2008).

All artefactual material will be bagged and labelled with the site code and context number prior to their removal from site. The archive reference number will be clearly marked on all finds.

Each assemblage will be examined according to typological or chronological criteria and conservation needs identified. An assessment report of all post-medieval material will be produced by Matthew Jones and further specialists will be appointed as required. A list of specialists will be prepared prior to the post-excavation phase of works.

Specialist conservation will be undertaken by an approved conservator on advice provided by a suitable specialist. This will be conducted in accordance with guidelines issued by the Institute for Conservation.

Following analysis all archaeological material recovered will be retained by the Maritime Museum. Processed assemblages will be boxed according to issued guidelines and a register of contents compiled prior to deposition.

The works will be carried out in accordance with The Institute for Archaeologists: Standard and Guidance for Archaeological Watching Brief (Revised 2008).

5.3.4 Archive Compilation

All records created during the fieldwork will be checked for consistency and accuracy and will form part of the *Primary Site Archive (P1)* (EH 2006). The archive will contain all data collected, including records and other specialist materials. It will be ordered, indexed, adequately documented, internally consistent, secure, quantified, conforming to standards required by the archive repository

and signposted appropriately to ensure future use in research, as detailed in the English Heritage *Management of Research Projects in the Historic Environment* (MoRPHE) methodology.

The archive will be assembled in accordance with the guidelines published in, *Standards in the museum care of archaeological collections* (Museums & Galleries Commission 1994), *Guidelines for the preparation of excavation archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* (AAF 2007).

All materials contained within the *Primary Site Archive (P1)* that are subsequently identified by the *Assessment Report (P2)* as appropriate for analysis will be processed by suitable specialists and the resultant *Research Archive (P3)* will be checked and ordered according to *MoRPHE* criteria.

Bangor Museum will be notified in advance of the proposed work and the deposition of any archive created by this archaeological project and archive material will be deposited in accordance with the museum's terms and conditions for archive deposition.

5.4 Timetable for Proposed Works

It is envisaged that this phase of works at St Mary's Church will commence on the 5/6th November and is to be conducted on a day rate basis. Gwynedd Archaeological Planning Services will be informed of the exact site days to allow monitoring of works.

5.5 Staffing

The project will be managed by Matthew Jones (BA Archaeology), MA Archaeology). Site work is also to be conducted by Matthew Jones with additional staff brought in as required. All staff will have a skill set equivalent to the IfA AIfA level. C.Vs for all staff employed on the project can be provided on request.

All projects are carried out in accordance with IfA Standard and Guidance documents.

5.6 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. The monitor will be given prior notice of the commencement of the fieldwork. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the commencement of works. GAPS will be notified in writing of the commencement dates for archaeological site work.

5.7 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Safety Helmets (EN397)
- Hi-visibility vests (EN471)
- Safety footwear steel toecap and mid-sole boots and Wellingtons (EN345-47)

Any further PPE required will be provided by C.R Archaeology

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363) or a Site Visitor card.

C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

5.8 The Report

The report will clearly and accurately incorporate information gained from the programme of archaeological works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. The report will contain a site plan showing the locations of photographs taken.

The report will include:

- A copy of the agreed specification
- A location plan
- Drawings detailing the locations of all excavated areas
- All identified features plotted on an appropriately scaled plan of the development site
- Appropriately scaled trench plans and sections showing identified features and significant finds
- Full dimensional and descriptive detail of all identified features
- A brief descriptive account of the building, building history and building phases
- Architects and historical plans and elevations if available
- A plan illustrating the location and direction of any photographs or drawings
- A full bibliography of sources consulted
- An archive compact disc

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

5.8.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project Specification.

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Specification for Excavation of Human Remains

Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn ichaeoloog

NGR SH30870 40646

Report Number CR55a-2013



C.R Archaeology Compiled by Catherine Rees on Behalf of Amgueddfa Forwrol Llŷn

Specification for Excavation of Human Remains at Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn

Planning Application Number: National Grid Reference: Client:

Report Author: Report Number: Date: N/A SH30870 40646 Amgueddfa Forwrol Llyn

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Catherine Rees CR55a-2013 17/11/2013

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Illustrations

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St Mary's Church, Stryd Y Llan, Nefyn (Figure 1) is a Grade II Listed Building (Cadw ID: 4371) within the ancient community of Nefyn on the north-western coast of the Llŷn Peninsula. Works are currently under way at the site to rectify structural problems, provide drainage and to erect a new storage shed with solar panels. This is part of a larger redevelopment project which aims to create a vibrant and modern heritage centre for both the local community and visitors. The site is under the ownership of the Church in Wales but as it is not in use for active worship is not subject to Ecclesiastical Exemption.

The current church building was erected in 1825-7 on the site of a much earlier building. Little is know of the architecture of the previous building although it is known to have important historical associations. The earliest surviving records date from the mid 12th Century and detail how Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted Nefyn Church, its appurtenances and the associated land to the Augustinian Abbey of Haughmond. In 1535 the church had the status of vicarage of the Abbey. St Mary's Nefyn survived the reformation and became a parochial church. It is currently in use as a maritime museum.

A specification (CR55-2013) was written following a discussion with Development Control Archaeologist Jenny Emmett of GAPS (31st October - 1st November) as a methodology for a programme of works at the site.

It was however noted in this document that the specification detailed a scheme of works for a watching brief only and contained the contingency that a further mitigation strategy would be designed should articulated human remains, structural evidence of the earlier church or significant archaeological remains be uncovered.

During the watching brief human remains were encountered and this document has been prepared as a method statement for the excavation of these remains.

The Minister of Justice has been contacted and an application made to remove human remains from the site for examination by an osteologist and for preparation of a sample for radiocarbon dating.



Figure 1. St Mary's Church Location Map (Source: OS Open Data Mapping Contains Ordnance Survey data © Crown copyright and database right 2013)

2.0 Project Aims & Objectives

The aim of this element of the programme of works is to record disarticulated and articulated human remains recovered during works at Nefyn Church. The excavation of a single cist burial believed to be of an Early Christian type is to be conducted. This burial lies partially beneath the 1825 church and must therefore be very carefully excavated in stages.

The objective of this archaeological programme is to devise a methodology whereby the maximum amount of information possible to be gathered.

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3.0 Historical Background

Due to this project being undertaken as an emergency measure and at short notice it has not been possible to compile a detailed history of the church at this stage. A more comprehensive historical background will be compiled following the completion of works.

The following excerpt has been summarised from the Gwynedd Archaeological Trust's Nefyn and Morfa Nefyn Historic Landscape Characterisation and is intended to provide a basic context for the site (Source: www.heneb.co.uk/llynhlc/llynhlcareasenglish/nefyn20.html).

Nefyn is an ancient community which has retained many of the components of an earlier landscape in its street plan and other surviving features. Nefyn also has detailed documentation regarding the former presence of a royal llys of the Welsh princes, in the context of an important commotal maerdref.

The present church at Nefyn is a completely rebuilt structure of 1825-7. The earlier church is little known in respect of its architecture. Its historical associations, however, are important. The ancient church was first recorded, as far as records survive, in the mid-twelfth century. Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted the church of Nefyn and its appurtenances and all the land where the church is, between two small brooks which define the boundaries, to the Augustinian Abbey of Haughmond. The grant also came with land outside Nefyn on the south-east slopes of Mynydd Nefyn.

Three further grants of land in Nefyn ensued, in favour of Haugmond Abbey by Dafydd ab Owain, twice between 1177 and 1190 and Llywelyn ap Iorwerth, in 1230. In these charters and grants we may be witnessing an early instance, in North Wales, of the transition from ancient clas church to its replacement by one of the 'modern' pan-European orders; in this case, an Augustinian priory. In 1301 David ap Madoc, a chaplain of Nefyn, renounced any claim to the church of Nefyn.

In 1535 the church had the status of vicarage of the Abbey, on the eve of the dissolution. St Mary's Nefyn continued, as a parochial church. It is now a maritime museum and has been replaced by St David's church on Tower Hill.

4.0 Geographical and Geological Context

4.1 Topography

The site is located within the ancient town of Nefyn and is the original Parish Church.

Nefyn is a small town on the north-western coast of the Llŷn Peninsular.

4.2 Geology

The superficial geology of the site is described as "glacial sand and gravel". The deposit is described as "sand and gravel with rare clay interbeds; often cross-bedded; of glacial origin." The no în Archaet Archaet bedrock is recorded as "Llanvirn Rocks (Undifferentiated)" and no further detail is given (www.bgs.ac.uk).

5.0 Scheme of Works – Methodology

This document has been produced to supplement document CR55-2013 and the general site methodologies are detailed in the original document. They will not be replicated here – this section details only the methodologies to be employed in relation to the recovery and recording of human remains.

5.1 The Recovery and Recording of Human Remains

During the Watching Brief phase of works human remains were recovered from the areas excavated for the underpinning of the church walls. Different methodologies will be employed depending on the nature and position of the remains encountered. As stated in the English Heritage Recording Manual (2010: Module 10) "For each grave forethought is needed so that procedures can be completed before the end of the working day". Therefore graves which are encountered towards the end of the day will be left in situ for the following day and excavation will not be undertaken unless it can be completed before the end of work. Skeletal remains will not be left exposed overnight.

5.1.1 Disarticulated Human Remains Recovered During Excavation

Where disarticulated human remains are encountered they are to be collected and their place of discovery recorded. They are then to be stored on site and will be reburied on completion of the project.

5.1.2 Articulated Remains Uncovered During Excavation

To date two partial graves have been uncovered during works. Where possible the extent of the grave cut will be defined in plan and the skeleton exposed, recorded and planned at a scale of 1:10. The bones which lie within the development area will be lifted and stored on site and will be reburied on completion of the project. This is in line with the English Heritage Annex E5 Point 183 in "Guidance for Best Practice for Treatment of Human Remains Excavated from Christian Burial Grounds in England" (the recommendations of which also apply to Christian burials in Wales). The section entitled "Excavation of Skeletons Lying Partly Under Baulks" specifies that when a skeleton lies partly beyond the excavation trench limits only that part of the skeleton which lies within the trench area is to be lifted, with the remainder left insitu.

The second grave which was encountered during works appeared in the trench section. It is therefore proposed that this burial not be excavated but be protected insitu. It is to be initially covered with terram with wooden planking placed alongside the body and secured using wooden posts. The area between the planking and the body is to be filled with gravel.

5.1.3 Excavation Strategy for Cist Burial

The cist burial is at the lowest depth required for excavation. This form of grave structure is indicative of an Early Christian date and is therefore considered to be a significant discovery. Although it lies partially beneath the church wall, in this instance, it is proposed that this grave be excavated in its entirety. This is once more in line with the English Heritage Guidance (ibid Point 187) which recommends that if a skeleton is considered to be osteologically or archaeologically important it should be lifted in its entirety provided that it does not cause disturbance to other burials.

Due to the position of the cist it will however not be possible to record and lift the remains in a single event. Significant health and safety issues are posed by the location of the burial partially beneath the church wall which is to be underpinned. The excavation strategy has therefore been designed with reference to the methodology proposed by the contractor.

It has been proposed that the cist be excavated in three phases (dependent on the length of the cist which is as yet unknown). In Phase One the eastern end of the cist will be excavated and recorded to a point where an adequate portion of the cist and skeleton (if preserved) are exposed. If the grave proves to be larger than initially thought it will be excavated to a pre-placed cross beam which is in use to retain the wall. The cist and any other archaeological remains will then be recorded, removed from the area and retained. A small test excavation will be carried out determine if any other archaeological remains survive below this level. If not the area will back filled to level. If there are further remains below this depth the monitoring archaeologist will be contacted and further mitigation discussed.

Following the completion of Phase One, Phase Two will safely secure the area to allow further works to be undertaken. In this phase terram and a wooden board will be placed between the excavated and unexcavated areas (to protect the unexcavated area) and the excavated area will be filled with concrete to act as the original under-pinning and to secure this section of the church wall.

When the concrete has set Phase Three will commence which will involve the uncovering, recording and excavation of the remainder of the grave. It must be noted that should the grave extend beyond a safe distance under the wall or excavation pose any danger to the structure or excavator this phase can not be attempted.

5.1.3.1 Excavation Methodology

The cist structure will be trowel cleaned and fully exposed in plan before being photographed and drawn at a scale of 1:20. A written record will also be made. The top slabs will then be numbered and removed and the grave fill excavated to expose the skeleton. All grave fill will be coarse sieved on site to recover all surviving human remains and any small artefacts such as shroud pins etc associated with the grave. A separate context number will be assigned to the material above and below the body and a written context record will be compiled for each deposit.

The skeleton will be assigned a Skeleton Number and a written record compiled on pro-forma sheets. If possible the exposed the skeleton will be photographed vertically with an appropriate scale (although the position of the remains in relation to the church wall may make this impossible). Additional close-up shots and photographs from a variety of different angles will also be taken.

The skeleton will be drawn at a scale of 1:10. If necessary this will be supplemented by the redrawing of certain areas at a larger scale to record the details of grave goods, coffin fittings etc. Due to the position of the skeleton it may not be possible to take levels on the grave itself and should this be the case a measurement from the base of the grave by the skull, sacrum and feet will be taken in relation to a fixed point on which a level may later be taken (such as the top of the retaining wall of the graveyard).

Once the recording of the bones is complete they will be lifted and bagged as follows: left leg, right leg, lower torso. If they can be recovered the skull, torso, left arm, right arm. Four separate bags will also be used for the right and left hands and feet. Any disarticulated bones in the grave fill will be bagged separately. The various bags will all be stored together in a larger storage container until permission to remove them from site for analysis has been acquired. When permission has been granted the remains are to be sent to oesteoarchaeologist Stefanie Vincent (MA) for initial analysis. Following this Stefanie will process the remains for radiocarbon dating at Beta Analytic (UK). If funding is available it may also be possible that the remains undergo isotopic analysis.

Following the lifting of the bones all the soil remaining on the grave floor will be recovered as four separate bulk samples: one from the head, one from the torso, one from the stomach area and one from the leg/foot area. If an area has to split due to excavation phases then a sample will be taken from both sides. The samples will be wet sieved and sorted to recover small grave goods/bones. It may be possible that the sample from the stomach area be sent to a specialist for environmental analysis to investigate the presence of parasites or dietary remains but this is as yet undetermined as further funding must first be sort.

Once the grave fill has been removed any side and base slabs forming the cist will be photographed, drawn and recorded before being lifted and retained for possible future use in an exhibition. Each slab will be numbered for ease of reconstruction.

5.1.3.2 Recording Forms

The record forms at C.R Archaeology are based on the English Heritage system and full written, graphic and photographic records will be made in accordance with the English Heritage *Field Recording Manual*. Sample forms can be provided on request. The written record shall comprise completed *pro-forma* record sheets.

Plans, sections and elevations will be produced on gridded, archive standard stable polyester film at scales of 1:10, 1:20 or 1:50, as appropriate. Representative measured sections will be prepared as appropriate showing the sequence and depths of deposits. A temporary benchmark (TBM) will be established on the site and plans, elevations and sections will contain grid and level information relative to OS data. All drawings will be numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A high-resolution 14.2mp Sony Alpha digital camera will be used to create a photographic record of the site. This will be comprised of photographs of archaeological features and appropriate groups of features and structures. Included in each photograph will be an appropriate scale, north arrow and a record board detailing the site name, number and context number. All photographic records will be indexed and cross-referenced to written site records. Details concerning subject and direction of view will be maintained in a photographic register, indexed by frame number. Images from photography will be stored in a loss-less digital format in this case '*.TIF'.

A 'harris matrix' diagram will be constructed for the excavated area.

5.2 Additional Mitigation/Contingency Measures

In the event of a significant archaeological discovery being made during the excavation C.R Archaeology will immediately inform both the client and the development control archaeologist. Consultation will take place between C.R Archaeology, GAPS and the client with regards to the most suitable course of action.

Any artefacts recovered that fall within the scope of the Treasure Act 1996 will be reported to the landowner, GAPS and to HM Coroner.

Although the church is leased by Amgueddfa Forwrol Llyn it is owned by The Church in Wales who retain all rights and responsibilities to the graveyard and those interred therein. Diocesan permission has been granted for works to be conducted and the Diocese will be consulted regarding the reburial of human remains on site. As it is proposed that should any remains survive within the cist structure they be analysed by an oesteoarchaeologist and dated off site a license from the Ministry of Justice has been applied for.

5.3 Recovery, Processing and Curation of Artefactual Material

All recovered artefactual material will be retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (IfA 2008) and First Aid for Finds (Watkinson & Neal 2001).* The aim will be to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (IfA 2008).

All artefactual material will be bagged and labelled with the site code and context number prior to their removal from site. The archive reference number will be clearly marked on all finds.

Each assemblage will be examined according to typological or chronological criteria and conservation needs identified. An assessment report of all post-medieval material will be produced by Matthew Jones and further specialists will be appointed as required. A list of specialists will be prepared prior to the post-excavation phase of works.

Specialist conservation will be undertaken by an approved conservator on advice provided by a suitable specialist. This will be conducted in accordance with guidelines issued by the Institute for Conservation.

Following analysis all archaeological material recovered will be retained by the Maritime Museum. Processed assemblages will be boxed according to issued guidelines and a register of contents compiled prior to deposition.

The works will be carried out in accordance with The Institute for Archaeologists: Standard and Guidance for Archaeological Excavation (Revised 2008).

5.4 Archive Compilation

All records created during the fieldwork will be checked for consistency and accuracy and will form part of the *Primary Site Archive (P1)* (EH 2006). The archive will contain all data collected, including records and other specialist materials. It will be ordered, indexed, adequately documented, internally consistent, secure, quantified, conforming to standards required by the archive repository and signposted appropriately to ensure future use in research, as detailed in the English Heritage *Management of Research Projects in the Historic Environment* (MoRPHE) methodology.

The archive will be assembled in accordance with the guidelines published in, *Standards in the museum care of archaeological collections* (Museums & Galleries Commission 1994), *Guidelines for the preparation of excavation archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* (AAF 2007).

All materials contained within the *Primary Site Archive (P1)* that are subsequently identified by the *Assessment Report (P2)* as appropriate for analysis will be processed by suitable specialists and the resultant *Research Archive (P3)* will be checked and ordered according to *MoRPHE* criteria.

It is envisaged that Nefyn Maritime Museum will retain any site archive and artefactual material. The exception to this is the human remains which are to reburied at the site. Archive material will be deposited in accordance with the museum's terms and conditions for archive deposition.

5.5 Timetable for Proposed Works

It is envisaged that this phase of works at St Mary's Church will commence on the 17th November and is to be conducted on a day rate basis. Gwynedd Archaeological Planning Services will be informed of the exact site days to allow monitoring of works.

5.6 Staffing

The project will be managed by Matthew Jones (BA Archaeology), MA Archaeology). Site work is also to be conducted by Matthew Jones. All staff will have a skill set equivalent to the IfA AIfA level. C.Vs for all staff employed on the project can be provided on request.

All projects are carried out in accordance with IfA Standard and Guidance documents.

5.7 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. The monitor will be given prior notice of the commencement of the fieldwork. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the commencement of works. GAPS will be notified in writing of the commencement dates for archaeological site work.

5.8 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Safety Helmets (EN397)
- Hi-visibility vests (EN471)
- Safety footwear steel toecap and mid-sole boots and Wellingtons (EN345-47)

Any further PPE required will be provided by C.R Archaeology

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363) or a Site Visitor card.

The principle contractor is responsible for the overall H&S on site and for the implementation, erection and maintenance of safety equipment such as acrows or scaffolding. C.R Archaeology staff will comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

Due to the antiquity of the skeletal material it is felt unlikely that any pathogens or fungal spores will have survived in the burial environment. However as an additional precaution disposable gloves will be worn during excavation.

It is recognised that psychological stress may occur during the excavation of human remains. Although this is more common amongst those working with human remains preserving soft-tissues it is a consideration here and if at any time staff are feeling uncomfortable/anxious then they are to withdraw from the excavation area.

Although considered unlikely should a lead coffin be encountered then gloves must be worn. If the ground conditions are dusty then a suitable mask covering the nose and mouth must also be worn to minimise the risk of lead inhalation.

5.9 The Report

The results of the excavation of human remains will be added to the main report detailing the results of the whole programme of works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. The report will contain a site plan showing the locations of photographs taken.

The report will include:

- A copy of the agreed specification
- A location plan
- Drawings detailing the locations of all excavated areas
- All identified features plotted on an appropriately scaled plan of the development site
- Appropriately scaled trench plans and sections showing identified features and significant finds
- Full dimensional and descriptive detail of all identified features
- A brief descriptive account of the building, building history and building phases

- Architects and historical plans and elevations if available
- A plan illustrating the location and direction of any photographs or drawings
- All specialist reports in full
- A full bibliography of sources consulted
- An archive compact disc

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

5.9.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project Specification.

copyright

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copyright

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Specification for Archaeological Watching Brief

Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn ichaeoloos

NGR SH30870 40646

Report Number CR55-2015



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Specification for Archaeological Watching Brief at Amgueddfa Forwrol Llŷn, St Mary's Church, Nefyn

Planning Application Number: National Grid Reference: Client:

Report Author: Report Number: Date: N/A SH30870 40646 Amgueddfa Forwrol Llyn

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Catherine Rees CR55-2015 Revised 05/02/2015

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Illustrations

Figure 1. Site Location Map

1.0 Introduction

C.R Archaeology have been instructed by Amgueddfa Forwrol Llŷn to conduct archaeological works at St Mary's Church, Nefyn.

St Mary's Church, Stryd Y Llan, Nefyn (Figure 1) is a Grade II Listed Building (Cadw ID: 4371) within the ancient community of Nefyn on the north-western coast of the Llŷn Peninsula. Works have recently been undertaken at the site to rectify structural problems, provide drainage and to erect a new storage shed with solar panels. This is part of a larger redevelopment project which aims to create a vibrant and modern heritage centre for both the local community and visitors. The site is under the ownership of the Church in Wales but as it is in use as a museum it is no longer subject to Ecclesiastical Exemption. The works which are to conducted under watching brief conditions at the site are machine excavation for drainage works.

This specification was originally written following a discussion with Development Control Archaeologist Jenny Emmett of GAPS (31st October - 1st November 2013) as a methodology for a programme of works at the site. It has been modified to reflect the results of archaeological works at the site to date and the lapse of time between the current works and the previous works.

The current church building was erected in 1825-7 on the site of a much earlier building. Little is know of the architecture of the previous building although it is known to have important historical associations. The earliest surviving records date from the mid 12th Century and detail how Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted Nefyn Church, its appurtenances and the associated land to the Augustinian Abbey of Haughmond. In 1535 the church had the status of vicarage of the Abbey. St Mary's Nefyn survived the reformation and became a parochial church. It is currently in use as a maritime museum.

Recent works uncovered a cist burial which was radiocarbon dated to the 12th Century A.D and the remains of a substantial wall, believed to belong either to an earlier church building or a related structure. The results of this work are as yet not complete as further specialist analysis is required to enable the full interpretations of the results. Disarticulated human remains were also uncovered which were not studied and which were reburied on the site.

This specification details a scheme of works for a watching brief but given the antiquity of the site it should be noted that there must be a contingency for further mitigation should articulated human remains, structural evidence of the earlier church or significant archaeological remains be uncovered.

2.0 Project Aims & Objectives

The aims of this element of the programme of works are to monitor all ground works associated with the current redevelopment of the church and to record any archaeological remains.

The objective of the archaeological programme is to establish and make available information about the archaeological resource existing on the site.



Figure 1. St Mary's Church Location Map (Source: OS Open Data Mapping Contains Ordnance Survey data © Crown copyright and database right 2013)

3.0 Historical Background

A more comprehensive historical background detailing the history of the church and area will form part of the forthcoming publication and the following section is intended merely to provide a context for the upcoming works.

The following excerpt has been summarised from the Gwynedd Archaeological Trust's Nefyn and Morfa Nefyn Historic Landscape Characterisation and is intended to provide a basic context for the site (Source: www.heneb.co.uk/llynhlc/llynhlcareasenglish/nefyn20.html).

Nefyn is an ancient community which has retained many of the components of an earlier landscape in its street plan and other surviving features. Nefyn also has detailed documentation regarding the former presence of a royal llys of the Welsh princes, in the context of an important commotal maerdref.

The present church at Nefyn is a completely rebuilt structure of 1825-7. The earlier church is little known in respect of its architecture. Its historical associations, however, are important. The ancient church was first recorded, as far as records survive, in the mid-twelfth century. Cadwaladr, son of Gruffudd ap Cynan and brother of Owain Gwynedd, granted the church of Nefyn and its appurtenances and all the land where the church is, between two small brooks which define the boundaries, to the Augustinian Abbey of Haughmond. The grant also came with land outside Nefyn on the south-east slopes of Mynydd Nefyn.

Three further grants of land in Nefyn ensued, in favour of Haugmond Abbey by Dafydd ab Owain, twice between 1177 and 1190 and Llywelyn ap Iorwerth, in 1230. In these charters and grants we may be witnessing an early instance, in North Wales, of the transition from ancient clas church to its replacement by one of the 'modern' pan-European orders; in this case, an Augustinian priory. In 1301 David ap Madoc, a chaplain of Nefyn, renounced any claim to the church of Nefyn.

In 1535 the church had the status of vicarage of the Abbey, on the eve of the dissolution. St Mary's Nefyn continued, as a parochial church. It is now a maritime museum and has been replaced by St David's church on Tower Hill.

4.0 Geographical and Geological Context

4.1 Topography

The site is located within the ancient town of Nefyn and is the original Parish Church.

Nefyn is a small town on the north-western coast of the Llŷn Peninsular.

4.2 Geology

The superficial geology of the site is described as "glacial sand and gravel". The deposit is described as "sand and gravel with rare clay interbeds; often cross-bedded; of glacial origin." The bedrock is recorded as "Llanvirn Rocks (Undifferentiated)" and no further detail is given (www.bgs.ac.uk).

5.0 Scheme of Works - Methodology

5.1 Desk Based Research

A history of the site will be compiled utilising material sourced from Bangor University and Caernarfon Archives. A full map progression of the area will be undertaken. Where appropriate the archive information will be supplemented with information from local libraries and specialist interest websites & journals.

In order to identify the character of archaeological remains in the vicinity of the site a search of the Gwynedd HER will be conducted examining an area within a 500m radius of the site.

The RCAHMW database and the commission's survey of the area will also be consulted. The information collected will be discussed within the main report text.

The works will be carried out accordance with the IfA Standards and Guidance (www.archaeologists.net).

This material will form the historical background for a full archaeological report. The report will include the results of the watching brief and basic photographic survey.

5.2 Photographic Survey

A basic photographic survey was conducted as part of the previous phase of works.

5.3 Methodology for Archaeological Watching Brief

All intrusive ground works at the site will be monitored by an archaeologist from C.R Archaeology. Where possible the site will be machine excavated using a mechanical excavator with toothless bucket.

Any archaeological features, structures or remains identified in the course of the excavation will be trowel cleaned by hand. Investigation of such features, structures or deposits will be sufficient to determine their character, date, significance and quality. If features yield suitable material for dating/environmental processing then samples will be taken for processing off site. The size of these samples will depend on the size of the feature but for smaller features a sample of up to 95% will be taken. For larger features a sample of up to 40 litres will be taken. GAPS will be informed of the discovery and a mitigation strategy agreed before works will progress.

Fieldwork is to be conducted by Iwan Parry. Staff members are qualified, experienced archaeologists and cy's can be provided on request.

5.3.1 Recording

The record forms at C.R Archaeology are based on the English Heritage system and full written, graphic and photographic records will be made in accordance with the English Heritage *Field Recording Manual*. Sample forms can be provided on request. The written record shall comprise completed *pro-forma* record sheets.

Plans, sections and elevations will be produced on gridded, archive standard stable polyester film at scales of 1:10, 1:20 or 1:50, as appropriate. Representative measured sections will be prepared as appropriate showing the sequence and depths of deposits. A temporary benchmark (TBM) will be established on the site and plans, elevations and sections will contain grid and level information relative to OS data. All drawings will be numbered and listed in a drawing register, these drawing numbers being cross-referenced to written site records.

A high-resolution digital camera will be used to create a photographic record of the site. This will be comprised of photographs of archaeological features and appropriate groups of features and structures. Included in each photograph will be an appropriate scale, north arrow and a record board detailing the site name, number and context number. All photographic records will be indexed and cross-referenced to written site records. Details concerning subject and direction of view will be maintained in a photographic register, indexed by frame number. Images from photography will be stored in a loss-less digital format in this case '*.TIF'.

A 'harris matrix' diagram will be constructed for the excavated area.

5.3.2 Additional Mitigation/Contingency Measures

In the event of a significant archaeological discovery being made during the excavation C.R Archaeology will immediately inform both the client and the development control archaeologist. Consultation will take place between C.R Archaeology, GAPS and the client with regards to the most suitable course of action. Given the lack of information regarding the pre 1825-7 church the uncovering of structural remains associated with an earlier structure would be considered to be highly significant and would require additional mitigation measures.

In the event that human remains are encountered every effort will be made not to disturb them. Should it be necessary disarticulated human remains will be temporarily removed from the path of the works and will be replaced at the bottom of the trenches prior to the reinstatement of the ground.

In the event that articulated human remains are encountered works in this area will cease with immediate effect the appropriate bodies will be informed. The company will abide by the requirements of Section 25 of the Burial Act 1857. Any arrangements regarding the discovery of human remains will be at the discretion of HM Coroner whose instruction/permission will be sought. All human remains are to be preserved *in situ*, covered and protected. They will only be removed from the site in exceptional circumstances and with the appropriate Ministry of Justice licence, environmental health regulations, Coroner's permission and, if appropriate, in compliance with the Disused Burial Grounds (Amendment) Act 1981 or other local Act, with adequate security provided in such cases.

Following the obtaining of the appropriate permissions the excavation of in-situ human skeletal remains will only be undertaken following the production of a separate methodology to be agreed with GAPS which details the analysis, storage and reburial of the remains.

Any artefacts recovered that fall within the scope of the Treasure Act 1996 will be reported to the landowner, GAPS and to HM Coroner.

5.3.3 Recovery, Processing and Curation of Artefactual Material

All recovered artefactual material will be retained, cleaned, labelled and stored according to *Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (IfA 2008) and First Aid for Finds (Watkinson & Neal 2001).* The aim will be to create a stable, ordered, well-documented, accessible material archive forming a resource for current and future research (IfA 2008).

All artefactual material will be bagged and labelled with the site code and context number prior to their removal from site. The archive reference number will be clearly marked on all finds.

Each assemblage will be examined according to typological or chronological criteria and conservation needs identified. An assessment report of all post-medieval material will be produced by Matthew Jones and further specialists will be appointed as required. A list of specialists will be

prepared prior to the post-excavation phase of works.

Specialist conservation will be undertaken by an approved conservator on advice provided by a suitable specialist. This will be conducted in accordance with guidelines issued by the Institute for Conservation.

Following analysis all archaeological material recovered will be retained by the Maritime Museum. Processed assemblages will be boxed according to issued guidelines and a register of contents compiled prior to deposition.

The works will be carried out in accordance with The Institute for Archaeologists: Standard and Guidance for Archaeological Watching Brief (Revised 2008).

5.3.4 Archive Compilation

All records created during the fieldwork will be checked for consistency and accuracy and will form part of the *Primary Site Archive (P1)* (EH 2006). The archive will contain all data collected, including records and other specialist materials. It will be ordered, indexed, adequately documented, internally consistent, secure, quantified, conforming to standards required by the archive repository and signposted appropriately to ensure future use in research, as detailed in the English Heritage *Management of Research Projects in the Historic Environment* (MoRPHE) methodology.

The archive will be assembled in accordance with the guidelines published in, *Standards in the museum care of archaeological collections* (Museums & Galleries Commission 1994), *Guidelines for the preparation of excavation archives for long-term storage* (United Kingdom Institute for Conservation, 1990) and *Archaeological Archives: A guide to best practice in creation, compilation, transfer and curation* (AAF 2007).

All materials contained within the *Primary Site Archive (P1)* that are subsequently identified by the *Assessment Report (P2)* as appropriate for analysis will be processed by suitable specialists and the resultant *Research Archive (P3)* will be checked and ordered according to *MoRPHE* criteria.

Bangor Museum will be notified in advance of the proposed work and the deposition of any archive created by this archaeological project and archive material will be deposited in accordance with the museum's terms and conditions for archive deposition.

5.4 Timetable for Proposed Works

It is envisaged that this phase of works at St Mary's Church will commence on the 5/6th November and is to be conducted on a day rate basis. Gwynedd Archaeological Planning Services will be informed of the exact site days to allow monitoring of works.

5.5 Staffing

The project will be managed by Matthew Jones (BA Archaeology), MA Archaeology). Site work is also to be conducted by Iwan Parry with additional staff brought in as required. All staff will have a skill set equivalent to the IfA AIfA level. C.Vs for all staff employed on the project can be provided on request.

All projects are carried out in accordance with IfA Standard and Guidance documents.

5.6 Monitoring

The project will be subject to monitoring by Gwynedd Archaeological Planning Services. The monitor will be given prior notice of the commencement of the fieldwork. A projected time-scale and copy of the risk assessment can be provided on request to the monitoring body prior to the

commencement of works. GAPS will be notified in writing of the commencement dates for archaeological site work.

5.7 Health and Safety

A risk assessment will be conducted prior to the commencement of works and site staff will be familiarised with its contents. A first aid kit will be located in the site vehicle.

All staff will be issued with appropriate Personal Protective Equipment (PPE) for the site work. Initially this is anticipated to consist of:

- Safety Helmets (EN397)
- Hi-visibility vests (EN471)
- Safety footwear steel toecap and mid-sole boots and Wellingtons (EN345-47)
- Gloves

All staff will have passed at least a CITB health and safety test at least operative level and will carry a Construction Related Organisation (CRO) White Card for Archaeological Technician (Code 5363) or a Site Visitor card.

C.R Archaeology staff will also comply with any Health and Safety Policy or specific on-site instructions provided by the client or their appointed Principal contractor or H&S coordinator.

5.8 The Report

The report will clearly and accurately incorporate information gained from the programme of archaeological works. It will present the documentary evidence gathered in such a way as to create a clear and coherent record. The report will contain a site plan showing the locations of photographs taken.

The report will include:

- A copy of the agreed specification
- A location plan
- Drawings detailing the locations of all excavated areas
- All identified features plotted on an appropriately scaled plan of the development site
- Appropriately scaled trench plans and sections showing identified features and significant finds
- Full dimensional and descriptive detail of all identified features
- A brief descriptive account of the building, building history and building phases
- Architects and historical plans and elevations if available
- A plan illustrating the location and direction of any photographs or drawings
- A full bibliography of sources consulted
- An archive compact disc

A copy of the report in Adobe PDF format will be sent to the appropriate monitoring archaeologist for approval before formal submission. A bound paper copy and PDF digital copy of the report will be submitted as part of the formal submission. A digital Adobe PDF version and a bound paper copy of the final report and will be lodged with the Gwynedd Historic Environment Record within six months of completion of fieldwork.

5.8.1 Copyright

C.R Archaeology and sub-contractors shall retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it hereby provides a licence to the client and the local authority for the use of the report by the client and the local authority in all matters directly relating to the project as described in the Project Specification.

6.0 Bibliography

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- Watkinson, D. & Neal, V. 2001. *First Aid for Finds.* London. United Kingdom Institute for Conservation of Historic & Artistic Works

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Appendix B.

Location and Directions of Photographic Plates

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Appendix B. Location and Direction of Photographic Plates

Appendix C.

Osteological report on Skeletal Remains by Stefanie Vincent

ut

Osteological report on skeletal remains excavated from Nefyn Church, Gwynedd

MSN-CR562013

Prepared for CR Archaeology ncent By S. Vincent copyint

This report contains the results of osteological analysis carried out on Skeleton 1 from Nefyn Church, Gwynedd (site code MSN-CR562013).

Redeposited material

A small fragment of burnt human bone was also identified in the assemblage. No further work was carried out on this redeposited material.

Bone preservation and skeletal completeness

Skeletal completeness and bone preservation were estimated by visual assessment. Bone preservation was variable; with the post cranial skeleton exhibiting surface erosion between grades 3-4 (Brickley and McKinley, 2004). The skull was most heavily affected with most elements showing grade 5 surface erosion. Completeness is based on the estimated percentage of skeletal elements present and found to be 60%.

A full inventory of the existing elements can be found in appendix A.

Sex and Age determination

The individual examined is a female adult whose age at death is estimated to be 50+ years old. Identification of adult sex was determined using cranial and pelvic morphology (White, 2005). Adult age was estimated using molar wear (Brothwell, 1981) exclusively as no other elements commonly used to age remains were preserved.

<u>Stature</u>

Adult stature was estimated using Trotter and Gleser (1958, in Brothwell, 1981, pg 100). Stature estimation (using the femur and tibia) is 154cm.

Oral Pathology

In the three molars present the dentine is fully exposed, and wear on the M2 and M3 is excessively uneven. There is evidence of continued eruption of the molars (minimum distance between CEJ and aveolar process is 4.5mm), which has been linked to excessive crown wear (Ogden, 2008). Supra-gingiveal calculus scored 0, using the criteria of Dobney and Brothwell (1987).

<u>Health</u>

The only sign of pathology in this individual is the presence of a third intercondylar tubercle of Parsons (TITP) on the right tibia. TITP has been linked to injury of the anterior cruciate ligament (Mays and Cooper, 2009). Links have been suggested

between TITP and activity, however further work is needed in this area before such definitive links can be made.

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<u>References</u>

- opyric

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Buikstra and Uberlaker (Volume Eds). 1994. Standards for Data Collection from Human Skeletal Remains. *Arkansas Archaeological Survey Research Series*. No. 44.

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Finnegan, M. 1978. Non-metric Variation of the Infracranial Skeleton. *Journal of Anatomy*. 125, 23-37.

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Appendix A: Raw Data

Dentition

	Left					Right										
Tooth	0	7	6	5	Α	2	2	4	1	2	2	Α	5	4	7	0
Position	0	1	0	5	4	3	2	I.		2	3	4	5	0	1	0
Maxillary																
Teeth																
Mandibular															Ś	
Teeth	•	•	•													

Key: . = tooth present in socket, X = post mortem tooth loss, 0 = congenital absence, T = socket missing but tooth present, * = ante mortem tooth loss, A = periapical void, D = deciduous tooth, C = carie present, blank = tooth and socket missing.

Skeletal Elements

70% complete, occipital, L&R parietal, L Temporal, partial frontal, L						
zygomatic						
60% fragmented.						
Posterior arch of Atlas only.						
4 fragmentary lamina						
Superior articular face	ts and body of S1					
Left	Right	Unknown				
		1 shaft frag				
	Medial90%					
P50%	P60%, D5%					
100%						
M30%	P50%					
10%	10%					
100%	100%					
P20%, D30%	100%					
	M40%					
90%	90%					
100%	100%					
2	2	2				
2	2	2				
		2				
	70% complete, occipit zygomatic 60% fragmented. Posterior arch of Atlas 4 fragmentary lamina Superior articular face Left P50% 100% M30% P20%, D30% 90% 100% 2 2 2	70% complete, occipital, L&R parietal, L Tempy zygomatic 60% fragmented. Posterior arch of Atlas only. 4 fragmentary lamina Superior articular facets and body of S1 Left Right Medial90% P50% P60%, D5% 100% 100% 100% 10% 100% 100% 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				

Key: P = proximal, M = midshaft, D = distal, blank = element missing. % present estimated by visual assessment.

Cranial Measurements

1

Due to the fragmentary nature of the cranium, no cranial measurements (as described in Buikstra and Uberlaker, 1994) could be taken.

Post-cranial Measurements

Post-cranial measurements are selected from Buikstra and Uberlaker (1994).

Measurement	Left	Right	
ClavLength	-	-	
HumLength	-	-	
HumHDL	41.8	41.7	
HumMidMax	-	-	
HumMidMin	-	-	
HumEPW	-	-	
RadLength	212	-	
UInLength	-	-	
FemLength	407	402	
FemHead	40.8		
FemAPSubTroc	24.2	24.0	
FemMLSubTroc	35.7		
FemMidAP	25.7	26	
FemMidML	26.8	-	
FemBiCond		-	
TibLength	-	325	
TibAP	-	25.8	
TibML	-	20.4	
FibLength	-	-	

Non-metric variation

Non-metric variations are a range of minor variations in presence or morphology of structures such as foramina or facets. While it has been established that some traits (such as the Inca bone) have a genetic component, the causes of the majority of the traits are unknown. Both cranial and post-cranial non-metric variations were recorded. The post-cranial traits were taken from Finnegan (1978) and the cranial traits from Berry and Berry (1967).

X

Cranial non-metrics

Non-metric trait	L	R	
Metopic Suture	1		
Supra Orbital Foramen	-	0	
Zygomatic facial foraman	0	-	
Accessory infra-orbital foramen	-	-	
Coronal Ossicle	-		
Bregmatic Bone	-		
Epipteric Bone	-	-	
Sagital ossical	0		
Lambdoid ossicle	1		
Asterionic Bone	-	-	
Ossicle in occipito-mastoid suture	-	-	

Non-metric trait	L	R	
Pariatal Notch Bone	-	-	
Pariatal Foramen	0	0	
Mastoid Foramen extra-sutural	1	-	
Auditory exostosis	0	-	
Condylar canal	-	-	
Condoylar facet double	-	-	
Divided hyperglossal canal	-	-	
Foramen ovale incomplete	-	-	
Accessory lesser palatine			
foramen	-	-	
Palatine Torus	-	-	
Mandibular torus	0		
Mental foramen double	-	-	
Mylohyoid bridge	-	-	

Key: 1 = trait present, 0 = trait absent, - = trait unobservable due to missing or damaged element.

Post cranial non-metrics

			$(\land$		
Non-me	tric Trait		R		
Atlas Fa	Atlas Facet Double				
Posteric	or Bridging	*	*		
Lateral I	Bridging	*			
Acromia	al Articular Facet	*	*		
Supra-S	capular Foramen	*	*		
Os Acro	miale	*	*		
Supra-C	Condyloid Process	*	*		
Septal A	Aperture	*	*		
Spina B	ifida	*			
Sacralis	ation of L5	*			
Acetabu	ılar Crease	*	*		
Accesso	bry Sacral Facets on Ilium	*	*		
Fossa o	f Allen	0	0		
Poirier's	Facet	-	0		
Plaque	Formation	0	0		
Exostos	is in Trochanteric Fossa	0	1		
Vastus I	Notch	-	-		
Vastas I	Fossa	-	-		
Emargir	nate Patella	-	-		
Medial S	Squatting Facets	0			
Lateral	Squatting Facets	0			
Anterior	Calcaneal Facets Double	0	0		
Anterior	Calcaneal Facets Absent	0	0		

Key: 1 = trait present, 0 = trait absent, - = trait unobservable due to missing or damaged element.

1

Appendix D.

Beta Analytic Inc Radiocarbon Dating Report

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Consistent Accuracy Delivered On-time Beta Analytic Inc. 4985 SW 74 Court Miami, Florida 33155 USA Tel: 305 667 5167 Fax: 305 663 0964 Beta@radiocarbon.com www.radiocarbon.com

Darden Hood President

Ronald Hatfield Christopher Patrick Deputy Directors

April 30, 2014

Ms. Catherine Rees CR Archaeology 22 Heol Fryn, Mochdre Colwyn Bay, Conwy, Wales LL28 5BD UnitedKingdom

RE: Radiocarbon Dating Result For Sample NEFYNRCAR601

Dear Ms. Rees:

Enclosed is the radiocarbon dating result for one sample recently sent to us. The report sheet contains the Conventional Radiocarbon Age (BP), the method used, material type, and applied pretreatments, any sample specific comments and, where applicable, the two-sigma calendar calibration range. The Conventional Radiocarbon age has been corrected for total isotopic fractionation effects (natural and laboratory induced).

All results (excluding some inappropriate material types) which fall within the range of available calibration data are calibrated to calendar years (cal BC/AD) and calibrated radiocarbon years (cal BP). Calibration was calculated using the one of the databases associated with the 2013 INTCAL program (cited in the references on the bottom of the calibration graph page provided for each sample.) Multiple probability ranges may appear in some cases, due to short-term variations in the atmospheric ¹⁴C contents at certain time periods. Looking closely at the calibration graph provided and where the BP sigma limits intercept the calibration curve will help you understand this phenomenon.

Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference and consistent with all past Beta Analytic radiocarbon dates. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result.

All work on this sample was performed in our laboratories in Miami under strict chain of custody and quality control under ISO-17025 accreditation protocols. Sample, modern and blanks were all analyzed in the same chemistry lines by professional technicians using identical reagents and counting parameters within our own particle accelerators. A quality assurance report is posted to your directory for each result.

As always, your inquiries are most welcome. If you have any questions or would like further details of the analysis, please do not hesitate to contact us.

Thank you for prepaying the analyses. As always, if you have any questions or would like to discuss the results, don't hesitate to contact me.

Sincerely,

arden Hood

Page 1 of 3

BETA ANALYTIC INC.

DR. M.A. TAMERS and MR. D.G. HOOD

4985 S.W. 74 COURT MIAMI, FLORIDA, USA 33155 PH: 305-667-5167 FAX:305-663-0964 beta@radiocarbon.com

REPORT OF RADIOCARBON DATING ANALYSES

Ms. Catherine Rees

BETA

Report Date: 4/30/2014

CR Archaeology

Material Received: 4/11/2014

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 378224	750 +/- 30 BP	-21.3 o/oo 15N/14N=+10.7 o/oo	810 +/- 30 BP
SAMPLE : NEFYNRCAR601 ANALYSIS : AMS-Standard deliver MATERIAL/PRETREATMENT : (2 SIGMA CALIBRATION : (y bone collagen): collagen extrac Cal AD 1165 to 1270 (Cal BP 7	tion: with alkali 785 to 680)	5
		PLCI	
	C.S.		
	M ^t		
	0		
0023			

Dates are reported as RCYBP (radiocarbon years before present, "present" = AD 1950). By international convention, the modern reference standard was 95% the 14C activity of the National Institute of Standards and Technology (NIST) Oxalic Acid (SRM 4990C) and calculated using the Libby 14C half-life (5568 years). Quoted errors represent 1 relative standard deviation statistics (68% probability) counting errors based on the combined measurements of the sample, background, and modern reference standards. Measured 13C/12C ratios (delta 13C) were calculated relative to the PDB-1 standard. The Conventional Radiocarbon Age represents the Measured Radiocarbon Age corrected for isotopic fractionation, calculated using the delta 13C. On rare occasion where the Conventional Radiocarbon Age was calculated using an assumed delta 13C, the ratio and the Conventional Radiocarbon Age will be followed by "*". The Conventional Radiocarbon Age is not calendar calibrated. When available, the Calendar Calibrated result is calculated from the Conventional Radiocarbon Age and is listed as the "Two Sigma Calibrated Result" for each sample.

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS



Database used INTCAL13

References

Mathematics used for calibration scenario

A Simplified Approach to Calibrating C14 Dates, Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2):317-322 References to INTCAL13 database

Reimer PJ et al. IntCal13 and Marine13 radiocarbon age calibration curves 0-50,000 years cal BP. Radiocarbon 55(4):1869-1887.

Beta Analytic Radiocarbon Dating Laboratory

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

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