Archaeology Wales

# Land off Nant-y-Gamar Road, Llandudno

Archaeological Evaluation



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&

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Report No. 2011



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# Archaeology Wales

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# Summary

In September 2021, Archaeology Wales Ltd carried out an archaeological field evaluation at land off Nant-y-Gamar Road, Llandudno, Conwy, LL30 1YE centred on NGR SH 80078 81850.

Six evaluation trenches were excavated within the development area to determine the presence or absence and the character of archaeological remains present within the site. The work is informed by a previous Desk Based Assessment and Geophysical Survey. The latter detected multiple anomalies of uncertain origin within the development area.

Within Trench 6 two archaeological features were excavated, a large pit containing no dateable material and a gully containing charred grain, which was radiocarbon dated to the Romano-British period. Three modern land drains were also recorded within this trench.

All work conformed to Standard and Guidance for Archaeological Field Evaluation (CIfA 2020) and Standards and Guidance for Archaeological Artefact and Environmental Collection, Documentation Conservation and Research (CIfA 2020).

# Crynodeb

Ym mis Medi 2021, cynhaliodd Archaeology Cymru Cyf werthusiad maes archeolegol ar dir ger Ffordd Nant-y-Gamar, Llandudno, Conwy, LL30 1YE, y mae ei ganolbwynt wedi'i leoli yn NGR SH 80078 81850.

Cloddiwyd chwe ffos gwerthuso o fewn yr ardal ddatblygu i ganfod presenoldeb neu ddiffyg presenoldeb a chymeriad y gweddillion archeolegol sy'n bodoli o fewn y safle. Mae'r gwaith wedi'i hysbysu gan Asesiad Desg ac Arolwg Geoffisegol blaenorol. Gwnaeth yr arolwg ganfod nifer o anomaleddau heb darddiad pendant o fewn yr ardal ddatblygu.

O fewn Ffos 6, cafodd dwy nodwedd archeolegol eu canfod, sef pwll mawr nad oedd yn cynnwys unrhyw ddeunydd y gellid ei ddyddio, a cheunant yn cynnwys grawn golosgedig, a gafodd ei ddyddio gan ddefnyddio dull radiocarbon i'r cyfnod Romano-Prydeinig. Cofnodwyd tri draen tir modern hefyd o fewn y ffos hon.

Roedd yr holl waith yn cydymffurfio â'r Safonau a'r Canllawiau ar gyfer Gwerthusiad Maes Archeolegol (Sefydliad Siartredig yr Archeolegwyr 2020) a'r Safonau a'r Canllawiau ar gyfer Casglu Arteffactau Archeolegol ac Amgylcheddol, Gwarchod Dogfennau ac Ymchwil (Sefydliad Siartredig yr Archeolegwyr 2014).

# 1. Introduction

- 1.1.1. In September 2021, Archaeology Wales Ltd (henceforth AW) was commissioned by Heritage Archaeology to carry out an archaeological field evaluation at land off Nanty-Gamar Road, Llandudno, Conwy, LL30 1YE centred on NGR SH 80078 81850 (Figures 1 and 2). Associated development proposals include the construction of 49 dwellings across the site.
- 1.1.2. Gwynedd Archaeological Planning Service (GAPS) requested that an archaeological field evaluation was carried out to assess the potential impact of the development on the archaeological resource.
- 1.1.3. The field evaluation was carried out under the supervision of Siân Thomas, with assistance from Rose Griffin. The project was managed by Irene Garcia Rovira (MCIfA AW Project Manager).
- 1.1.4. All work conformed to Standard and Guidance for Archaeological Field Evaluation (CIFA 2020) and Standards and Guidance for Archaeological Artefact and Environmental Collection, Documentation Conservation and Research (CIFA 2020).

# 2. Site description and archaeological background

# 2.1. Location, Topography, and geology

- 2.1.1. The site is located to the east of Nant-y-Gamar Road and is 44m to the south of Llandudno Bay. The site is formed by two areas, with Area 1 forming a large roughly rectangular area which is bounded to the west by Nant-y-Gamar Road, to the north by Ysgol y Gogarth, to the south by Bodfan Road and to the east by open fields. Trenches 1 to 5 were located within Area 1. The second area was to the north-east of Area 1 and was formed of an irregular area of land. It was bounded to the west by Ysgol y Gogarth, to the north by a private road and to the east and south by open fields. Trenche 6 was located within Area 2 (Figure 2).
- 2.1.2. The site was comprised of enclosed arable pasture. The site was sloped gently down from the south and south-west towards Llandudno Bay beyond the site. The south-western end of the site was approximately 20.71m aOD, with the northern part of the site being approximately 8.65m aOD.
- 2.1.3. The underlying geology is comprised of three different bedrock formations, which form bands running under the site from north-east to south-west. The most northly of the bedrock formations is the Nod Glas formation, which is a sedimentary bedrock comprised of mudstone that formed approximately 449 to 454 million years ago. The central band of bedrock is the Conwy Mudstones formation, which is also a sedimentary bedrock comprised of mudstone that formed that formed approximately 444 to 449 million years ago. The final bedrock band is the Llandovery Rocks formation, which

is also a sedimentary bedrock comprised of mudstone that formed approximately 433 to 444 million years ago. These are overlain by Devensian Till which formed up to 2 million years ago (BGS, 2021).

## 2.2. Archaeological and Historic Background

- 2.2.1. The site has been subjected to a number of non-intrusive works, including a Desk Based Assessment (DBA) and a Geophysical survey – see Kelly 2021 and Kenyon 2021 respectively.
- 2.2.2. The DBA noted that prehistoric activity going as far back as the Palaeolithic period, with caves in the limestone cliff just to the south of the proposed development site having been used as rock shelters for seasonal hunter gather communities (Kelly, 2021).
- 2.2.3. The copper mines of the Great Orme, which is located 3km to the north-west of the site, are thought to date back to the Bronze Age, although the main period of activity occurred during the 19th century, with the development of settlement nearby and of public houses and other amenities for the mine workers (Kelly, 2021).
- 2.2.4. An Iron Age hillfort is also known on the Great Orme, although there is no activity of this date within loser proximity to the site. There is also very little evidence of Roman activity within the area, with the only a hoard of coper alloy Roman objects known, which was discovered through metal detecting on the Little Orme, approximately 1.5km to the north-east of the site (Kelly, 2021).
- 2.2.5. The geophysical survey carried out by Magnitude Surveys (Kenyon, 2021) did not document anomalies that were of certain archaeological origin. However, multiple anomalies of uncertain origin were recorded within the development area, with these being targeted by Trenches 1 to 4.

# 3. Methodology

- 3.1.1. The work was undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Field Evaluation* (2020).
- 3.1.2. A total of six evaluation trenches, each measuring 30m in length, were excavated within the bounds of the planned development area. The trenches were positioned to maximise the retrieval of archaeological information and to ensure that the archaeological resource was fully understood. Trenches 1 to 4 were positioned to test anomalies detected through the geophysical survey of the site, with potential linear and curvilinear features being evaluated by Trenches 1, 2 and 4 and potential pit features being evaluated by Trench 3 (Figure 3). The locations and dimensions of the trenches were agreed with GAPS prior to the commencement of works.
- 3.1.3. The trenches were machine-excavated within the planned development area (Figure

2). As per the WSI, the trenches were stripped to the top of the archaeological horizon in spits, using a tracked 360° mechanical excavator with a toothless ditching bucket, under direct archaeological supervision. The removal of the overburden soils was done under the supervision of a competent archaeologist. Where no archaeological features were encountered the trenches were stripped to the natural horizon.

3.1.4. Any archaeological remains encountered were cleaned, excavated where appropriate, and recorded through the use of proforma recording sheets, photography, and GPS.

# 4. Results

#### 4.1. Trench 1

- 4.1.1. Trench 1 measured 30m in length by 2m in width and had a depth of 0.5m (Figure 4 and Plates 1 and 2). The natural horizon (1002) was encountered at a depth of 0.3m below ground level and had an observed thickness of 0.2m. It was comprised of a mid brownish-orange clay sand. It contained occasional small to medium rounded stones, and large sub-angular stones, which were observed throughout.
- 4.1.2. It was overlain by subsoil (1001) which was comprised of a mid greyish-brown clay sand, with occasional small to medium rounded stones. The subsoil had a maximum thickness of 0.2m.
- 4.1.3. This was overlain by topsoil (1000) which was comprised of a mid reddish-brown loam, which had occasional small, rounded stones inclusions. The topsoil had a maximum thickness of 0.1m. No datable material was recovered from within the trench.

#### 4.2. Trench 2

- 4.2.1. Trench 2 measured 30m in length by 2m in width and had a depth of 0.5m (Figure 4 and Plates 3 and 4). The natural horizon (2002) was encountered at a depth of 0.3m below ground level and had an observed thickness of 0.2m. It was comprised of a mid brownish-orange clay sand. It contained moderate small to medium rounded stones, with some bands of denser stones.
- 1.2.2. It was overlain by subsoil (2001) which was comprised of a mid greyish-brown clay sand, with occasional small to medium rounded stones. The subsoil had a maximum thickness of 0.2m.
- 4.2.3. This was overlain by topsoil (2000) which was comprised of a dark greyish-brown loam, which had no observable inclusions. The topsoil had a maximum thickness of 0.1m. No datable material was recovered from within the trench.

4.2.4. The trench had been located to target a strong agricultural anomaly which ran northnorth-west to south-south-east through the centre of Area 1. In the eastern end of the trench an area of rooting was evident running across the trench, and it is likely this was the remains of an old hedgerow.

## 4.3. Trench 3

- 4.3.1. Trench 3 measured 30m in length by 2m in width and had a depth of 0.45m (Figure 4 and Plates 5 and 6). The natural horizon (3002) was encountered at a depth of 0.3m below ground level and had an observed thickness of 0.15m. It was comprised of a mid brownish-orange clay sand. It contained moderate small to medium rounded stones.
- 4.3.2. It was overlain by subsoil (3001) which was comprised of a mid greyish-brown silty sand, with frequent small to medium rounded stones. The subsoil had a maximum thickness of 0.2m.
- 4.3.3. This was overlain by topsoil (3000) which was comprised of a mid reddish-brown loam, which had no observable inclusions. The topsoil had a maximum thickness of 0.1m. No datable material was recovered from within the trench.
- 4.3.4. Trench 3 had also been located to target the strong agricultural anomaly and again, as with Trench 2, an area of rooting was evident at the far north-eastern end of the trench. This appears to support the suggestion that the anomaly relates to the line of an old hedgerow.

# 4.4. Trench 4

4.4.1. Trench 4 measured 30m in length by 2m in width and had a depth of 0.55m (Figure 4 and Plates 7 and 8). The natural horizon (4002) was encountered at a depth of 0.35m below ground level and had an observed thickness of 0.2m. It was comprised of a mid brownish-orange clay sand. It contained moderate small to medium rounded stones, which were observed throughout. At the north-western end of the trench frequent manganese fragments were observed within the natural.

It was overlain by subsoil (4001) which was comprised of a mid greyish-brown silty sand, with frequent small to medium rounded stones. The subsoil had a maximum thickness of 0.25m.

4.4.3. This was overlain by topsoil (4000) which was comprised of a mid reddish-brown loam, which had no observable inclusions. The topsoil had a maximum thickness of 0.1m. No datable material was recovered from within the trench.

#### 4.5. Trench 5

- 4.5.1. Trench 5 measured 30m in length by 2m in width and had a depth of 0.6m (Figure 4 and Plates 9 and 10). The natural horizon (5002) was encountered at a depth of 0.36m below ground level and had an observed thickness of 0.24m. It was comprised of a mid brownish-orange clay sand. It contained occasional small to medium rounded stones.
- 4.5.2. It was overlain by subsoil (5001) which was comprised of a mid greyish-brown silty sand, with occasional small to medium rounded stones. The subsoil had a maximum thickness of 0.25m.
- 4.5.3. This was overlain by topsoil (5000) which was comprised of a dark reddish-brown loam, which had no observable inclusions. The topsoil had a maximum thickness of 0.11m. No datable material was recovered from within the trench.

#### 4.6. Trench 6

- 4.6.1. Trench 6 measured 30m in length by 2m in width and had a depth of 0.45m (Figure 5 and Plates 11-14). The natural horizon (6002) was encountered at a depth of 0.4m below ground level and had an observed thickness of 0.05m. It was comprised of a mid brownish-red, sandy clay. It contained occasional medium to large rounded stones.
- 4.6.2. Pit [6003] had been cut into the natural and measured 1.2m by 1.1m with a depth of 0.1m. The pit contained single fill (6004) which was comprised of a mid reddishbrown sandy clay, with moderate small to medium stone inclusions. The fill contained a small number of animal bone fragments and a fragment of CBM, which was not closely datable, see section 5. The pit had been truncated by land drain [6005], which measured 3.1m by 0.18m. The land drain was not excavated so the depth is unknown. It was filled by (6006) which was comprised of a mid greyishbrown sandy clay, with reddish mottling. The fill contained frequent small to medium rounded pebbles.

I.6.3. Gully [6007] was aligned north-west to south-east and had also been cut through the natural horizon. The gully measured 3m by 0.4m and had a depth of 0.15m. It contained single fill (6008) which was comprised of a dark greyish-black sandy clay. The fill contained abundant charred cereal grains and a moderate amount of animal bone. The gully had been truncated by land drain [6009], which followed the same alignment as the gully.

4.6.4. It was overlain by deposit (6001) which was comprised of a mid brownish-grey sandy silt, with frequent medium to large angular stones and CBM fragments. The deposit was formed of crush material and had likely been lain down as the sub-base for a

compound used during the construction works on the neighbouring school. The deposit had a maximum thickness of 0.2m.

4.6.5. This was overlain by topsoil (6000) which was comprised of a dark reddish-brown loam, which had occasional small angular to sub-angular stone inclusions. The topsoil had a maximum thickness of 0.1m.

# 5. The Finds

- 5.1.1. A total of 34 artefacts, weighing 405g were recovered during the course of the evaluation. All artefacts were dealt with in accordance with the professional standards set in the Chartered Institute for Archaeologists' Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (2014b). The artefacts were washed and dried or, where washing was not appropriate, dry brushed.
- 5.1.2. After washing or dry brushing all of the artefacts were assessed to ensure none needed immediate stabilisation.
- 5.1.3. The finds are catalogued in Table 1, with the majority having been recovered from Trench 6.

Trench	Context Number	Object Type	Quantity	Weight (g)	Description
3	3001	Clay tobacco pipe		3	Undiagnostic stem
6	6004	СВМ	1	17	Possible brick fragment
6	6004	Animal Bone	6	38	Fragmented and eroded long bone fragments - species not identified.
6	6008	Animal Bone	26	346	Butchered elements of sheep including metatarsal, teeth, ribs and fragments of scapular.

Table 1: Quantification of the artefacts recovered from the site.

# 5.2. Trench 3

5.2.1.

A single clay tobacco pipe stem, likely to be post medieval in date, was recovered from subsoil (3001).

# 5.3. Trench 6

5.3.1. A fragment of possible brick or imbrex tile was recovered from fill (6004) of shallow pit [6003]. The fragment was poorly fired with a black core. If it is indeed an imbrex tile then the shape indicates it is likely of medieval date but it is not possible to be

certain at present. As such it is only possible to assign a date range of Roman to post medieval.

- 5.3.2. Fragments of animal long bone were also recovered from shallow pit [6003]. It was not possible to identify the fragments to species.
- 5.3.3. A further 26 fragments of animal bone were recovered from fill (6008) of shallow gully [6007]. The skeletal elements present belonged to a sheep and included a metatarsal, teeth, rib and scapular fragments. Some of the bones displayed evidence of butchery in the form of cut and chop marks, indicating this was likely representative of food waste.

# 6. Environmental Samples

#### 6.1. Methodology

- 6.1.1. A single 20 litre soil sample was recovered from the fill of Gully [6007]. The sample was returned to Archaeology Wales' Finds and Environmental processing facility, where it was processed using a three tank, recycled water flotation system. During the flotation process, a 500μm mesh was used to collect the residue and a 300μm mesh to collect the flot. The residue was then washed through a sieve stack containing 10mm, 5mm, 2mm and 500μm mesh sizes. Each fraction was kept separate to aid drying.
- 6.1.2. Once dry the residue was sorted for artefacts and ecofacts. Material was extracted from all residues greater than 2mm and separated according to type. A magnet was passed over the <2mm residue in order to collect any magnetic residue present. This was then scanned by eye for any obvious signs of hammerscale. The flots were scanned by eye for environmental remains.

#### 6.2. Flot Report

6.2.1. The flot produced by the sample from Gully [6007] contained abundant charred cereal grain as well as occasional small fragments of animal bone.

# 6.3. Residue Report

The residue contained abundant, highly fragmented animal bone including teeth and jaw fragments and occasional very small fragments of burnt bone. Occasional very small (<4mm) and eroded fragments of likely intrusive CBM were present. Frequent charcoal was present along with frequent charred plant remains in the form of charred cereal grains and possible chaff fragments. A very small magnetic residue was collected from <2mm fraction of the residue. No evidence of hammerscale was identified and it is therefore likely that this was natural in origin.

6.3.1.

#### 6.4. Summary

- 6.4.1. The large amount of charred grain in the sample could indicate an accidental charring event, perhaps in an attempt to dry the grain. The grain is highly distorted in shape indicating it has been heated to very high heat. The distortion also makes identification more difficult a specialist archaeobotanist should be consulted in order to obtain species identification. The charcoal present is fragmented and less abundant than the charred grain, indicating the deposit is unlikely to represent material directly from the hearth.
- 6.4.2. The fragmented animal bone present within the deposit is likely to be related to the animal bone removed from the same context during excavation and is therefore likely to be sheep. The butchery marks identified on the bones recovered during excavation indicate this is likely to be food waste.
- 6.4.3. The very small quantity of tiny CBM fragments is suggested to be intrusive due to its size and highly eroded state.

#### 6.5. Conclusion

It is likely that the material recovered from gully [6008] is representative of midden material from nearby domestic activity.

# 7. Archaeobotany Specialist Report Wendy Carruthers

#### 7.1. Introduction

7.1.1. During a small evaluation at Nant y Gamer Road near Llandudno, Conwy, being carried out in 2021 by Archaeology Wales (AW) a single soil sample was taken from a gully for the recovery of environmental information. The site had produced very few features and no securely dateable material apart from charred plant remains present in the gully fill. Because the feature was located between the Great Orme and the Little Orme, two impressive limestone ridges with long histories of being of great ritual significance, it was considered important to determine the age and character of the plant assemblage.

2. Soils in the immediate vicinity are derived from sand dunes and are lime-rich, moderately fertile, sandy and free-draining. More fertile soils are present on the Great Orme peninsular to the north-west of the site and the Little Orme to the east. Poorer, more clayey and loamy soils can be found to the south of the site (www.landis.org.uk/soilscapes/).

#### 7.2. Assessment method

7.2.1. The 20 litre soil sample (sample 1, context 6008) was processed by AW staff using standard methods of flotation. A 300 micron mesh was used to catch the flot and a

500micron mesh was used to retain the residue. Once dry, the residue was sorted for artefacts and ecofacts by AW staff and any plant remains recovered were sent to the author, along with the dry flot.

- 7.2.2. Assessment was carried out by the author as follows; the flot volume was measured and the flot was passed through a graduated stack of sieves of minimum mesh 250 microns and maximum mesh of 3.35mm. Each fraction was then scanned under an Olympus SZX7 stereo-microscope (x8 to x 56). Where items were extracted from the flot they were put in a labelled glass jar which was placed in the flot bag. Identifications were based on the author's reference collection and Cappers et al (2006) and nomenclature follows the traditional system in Zohary et al (2013) for cereals and Stace 2010 for other plants.
- 7.2.3. Because the 180ml flot contained a high concentration of charred cereal remains (described below) only 50% of the flot was scanned and semi-sorted (i.e. betterpreserved, identifiable items were extracted in case they were needed for dating). This method provided enough information to enable the assemblage to be roughly characterised and also to determine what type of charred plant remain should be selected for radiocarbon dating. An automatic seed counter was used to count the extracted charred plant remains. Two of the best-preserved hulled wheat grains were submitted for dating. Hulled wheat was chosen partly because it was the most frequent cereal in the sample, and because enough chaff was present to confirm that spelt (Triticum spelta) was the species present, a crop that is only common in the Iron Age and Roman periods in Wales.

#### 7.3. Results

7.3.1. The state of preservation of the charred plant remains was not particularly good, with silt encrustation being heavy in places, and grain distortion and fragmentation being common. This is a frequent problem on the often acidic and sandy soils of Wales. It makes identification difficult for many items by obscuring important features but, because this assemblage was large, sufficient reasonably well-preserved items were present to provide useful information. Small items such as weed seeds, however, may sometimes be too heavily encrusted to be recognised so these could be under-represented in the final data, following full analysis.

7.3.2. Items were roughly quantified as follows for assessment purposes:

+ = occasional (c.1-4)

++ = several (c. 5-14)

- +++ = frequent (c. 15-100)
- ++++ = abundant (>100)

# 7.3.3. The following items were noted as being present in the 50% of the flot scanned for assessment purposes:

Taxon	Frequency	Notes
<i>Triticum</i> cf. <i>spelta</i> (spelt-type grains)	++++	Hulled wheat grains, most grains typical of spelt wheat in form. As grain morphology is too variable to be identified with certainty these are called spelt-type grains. Some fused in pairs in spikelet formation – suggests at least some burnt in spikelet form, not fully processed grains. 2 good grains submitted for dating. Over 1000 grains were present in the 50% subsample.
Hordeum sp. (barley grain)	++	Too poorly preserved to confirm if hulled (but most likely to be hulled)
Indeterminate grains and grain fragments	+++	Fragments added together to find equivalent in whole grains
<i>Triticum spelta</i> L. (spelt glume base	++	
Triticum dicoccum/spelta (emmer/spelt glume baases and spikelet forks)	++	1.0
<i>Bromus</i> sp. (brome grass caryopsis fragment)	+	
Poaceae (small grass seed)	+	, <u>(</u> )
Quercus sp. (oak charcoal)	20 frags	Flakey fragments >3mm , no round-wood

Table 2: Results from 50% flot scan

- 7.3.4. Full sorting during the analysis stage should reveal a wider range of taxa and a greater number of chaff fragments, since these smaller items are less easy to spot amongst poorly preserved silt-encrusted charred material.
- 7.3.5. Seeds from the Chenopodiaceae family (includes common weeds of disturbed soils such as fat hen and orache) were common in the sample and when broken open were found to have no embryo and uncharred seed coats. This suggests that these item were intrusive so they have not been quantified. These items are commonly present as contaminants and can easily be distinguished from archaeobotanical charred plant remains so do not present a problem.

Large, identifiable fragments of charcoal were not frequent in the flot and the only taxon observed was oak (Quercus sp.), recovered as flakes of charcoal with no roundwood present. Selection for oak suggests that the charcoal may derive from an industrial hearth rather than a domestic one. No other environmental remains were present in the flot apart from charred plant remains.

#### 7.4. Discussion and recommendations for future work

7.4.1. The charred plant assemblage has been dated to the Middle Roman period on the basis of a radiocarbon date of 120-248 cal AD at 94.3% probability (Rhiannon Philp,

7.3.6.

pers.comm.) obtained from a well-preserved spelt-type grain (Triticum cf. spelta). Almost all of the c. 2000 grains in the sample are likely to have been spelt, according to grain morphology and, most importantly, the identification of chaff fragments (glume bases and spikelet forks). This fits in with archaeobotanical findings from across the British Isles since the dominant cereal is almost always spelt wheat at this time. Welsh examples of Roman spelt-dominated assemblages include Iron Age to late 4th century samples from Segontium (Caernarfon) Roman Fort, where spelt was the most frequent cereal throughout the periods examined (Nye 1993). No evidence of imported foods, herbs or spices were recovered from this site. Samples from a mainly later 2nd to early 4th century AD settlement at Plas Coch, Wrexham, were also dominated by spelt wheat and, as at Segontium and many other Roman sites, traces of emmer and barley were present. A possible fragment of coriander was the only notable 'exotic' food remain (Caseldine 2011). Its presence may be due to a possible small Roman villa or administrative building being on the site, perhaps raising the status of foods being consumed.

- 7.4.2. The assemblage from the gully at Nant y Gamar Road appears to consist of fully processed spelt grains as very few chaff fragments and weed seeds were recovered. Although the state of preservation of the assemblage was not good making it hard to find small items during scanning due to them being obscured beneath silty concretions, most of the cereal grains were reasonably well-preserved and not excessively vacuolated. It is possible that there had been some loss of more readily destroyed chaff fragments due to charring, as described by Boardman and Jones (1990), and this needs to be explored in more detail during the full analysis, but this is unlikely to fully explain the very clean nature of the grain deposit (i.e. cleaned of chaff and weed seeds during processing). The few barley grains observed may be contaminants, representing crops previously grown on the wheat fields.
- 7.4.3. Concentrations of charred cereal remains are often found in association with corn dryers, particularly in the later Roman period. However, where grain is recovered from the flues and stoke pits of corn dryers, repeated exposure to high temperatures often results in the grains being very badly vacuolated. This was not the case in the Nant y Gamar Road sample. In addition, the mixing of fuel waste (usually rich in the preferred fuel, cereal processing waste, in the Roman period) and spikelets being dehusked usually means that corn dryer assemblages often contain high concentrations of chaff (van der Veen 1989). It appears then that the source of this concentration of grain is unlikely to have been sweepings from a corn dryer.

Therefore the c. 2000 cf. spelt grains (based on the 50% scan) present in the 20 litre soil sample from the gully probably represents either accidentally or deliberately burnt stored grain. There was no evidence that malting had been taking place (i.e. no signs of sprouting) and no obvious signs of pest infestation (i.e. exit holes in the grains from the grubs of storage pests, particularly around the embryo) so accidental and deliberate burning for these reasons can be ruled out. It is thought that the deposit may represent midden material (Rhiannon Philp, pers. comm.) so perhaps the grain was burnt in an accidental/deliberate fire. Further analysis may help to clarify the situation, though why material has become charred is often a difficult question to answer.

7.4.5. If further weed seeds and chaff fragments are recovered when the sample is fully sorted there is some potential for information about crop husbandry practices to be obtained. It is likely that the most fertile soils in the area would have been used to grow spelt, though additional factors need to be taken into account such as the depth of soil, aspect and local weather conditions. In the immediate area the loamy, clayey soils to the south of the site might be more suitable than the free-draining sandy soils on which the site is located. Hexaploid wheats are high yielding so require richer, more moisture-retentive soils to maintain good yields over a period of time.

# 8. Radiocarbon Dating

# 8.1. Methodology

- 8.1.1. Charred spelt grains were selected from the archaeobotanical assemblage from Gully [6007] for radiocarbon dating. Charred plant remains such as seeds and grain are good sources for radiocarbon dating because they are representative of short-life material, likely charred soon after collection and delicate, meaning that if they exist in volume within a context, it is likely that they are within their primary deposition context and likely buried soon after charring, providing the closest date to the event.
- 8.1.2. The sample, weighing a total of 40mg, was submitted to Beta Analytic radiocarbon lab, where it was submitted to an acid/alkali/acid pre-treatment involving the sample being crushed and dispersed in deionised water, then washed in hot hydrochloric (HCL) acid to eliminate carbonates, followed by an alkali wash in Sodium Hydroxide (NaOH) and then a final acid rinse to neutralise the solution before it is dried and converted into solid granite form ready for dating using the accelerator mass spectrometer (Beta Analytic 2021).
- 8.1.3. Dates were calibrated using the INTCAL20 radiocarbon age calibration curve (Reimer et al. 2020). Calibrated dates were rounded to the nearest 10 years, as recommended by Mook (1986) due to the conventional radiocarbon ages having error margins greater than 25 years.

# Results

The full result from Beta Analytic can be found in Appendix II of this report. The radiocarbon sample returned a conventional radiocarbon age of 1850±30 BP. The date was calibrated using the INTCAL20 calibration curve, returning a calibrated date range of 120-250 cal AD at 94.3% probability. This dates the charred grain recovered from gully [6007] to within the Romano-British period.

# 9. Discussion and Conclusions

- 9.1.1. In September 2021, AW was commissioned to carry out a six-trench evaluation across the development site. Trenches 1 to 4 were located across anomalies detected by the geophysical survey conducted across the site. These largely proved to be of geological origin. The anomalies at the north-western end of Trench 1were likely caused by sandier bands within the natural, while the linear anomalies were likely caused by ploughing.
- 9.1.2. A strong agricultural anomaly was target by Trenches 2 and 3 and this proved to be the remains of hedgerow, with rooting encountered within these trenches along the line of the anomaly. The undetermined weak anomalies within these trenches were geological, with concentrations of stone within the natural the likely cause. This was also the likely cause for the weak anomaly at the south-eastern end of Trench 4.
- The only archaeological features encountered were recorded within Trench 6 and 9.1.3. consisted of a large, shallow pit and a small gully, both of which had been truncated by land drains. Animal bones were recovered from both features, as well as a fragment of CBM from pit [6003]. The CBM was not closely datable. An abundant amount of charred plant remains in the form of charred cereal grains were also recovered from gully [6007]. The charred remains have been interpreted as representing the result of an accidentally or deliberately burnt grain store followed by fairly rapid deposition after the event. They included species such as spelt and Barley. A radiocarbon date was obtained from charred spelt grains within the gully, which indicate that they were charred and deposited within the Romano-British period (120-250 cal AD). This fits with the species identified within the assemblage. The Romano-British date is of particular interest, given the lack of previous evidence for activity from this period in the immediate and surrounding area, as mentioned in the historic background section above. In particular, no Romano-British settlement evidence has yet been identified within the vicinity of the site, but the remains identified within gully [6007] suggest that domestic activity occurred in close proximity to the evaluated development site.
- 9.1.4. Based on the results of the evaluation it is considered unlikely that any archaeological features would be impacted by the development within Area 1. It is however, considered possible that further archaeological features could be encountered within Area 2.

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Figure 3. Plan of the trench locations overlaying the results of the geophysical survey undertaken by Magnitude Surveys .







# 12. Plates



*Plate 2: North-west facing section of Trench 1, looking south-east. 1m scale.* 



Plate 3: Trench 2, looking north-east. 2x1m scale.



Plate 4: South-east facing section of Trench 2, looking north-west. 1m scale.



Plate 6: North-west facing section of Trench 3, looking south-east. 1m scale.



Plate 8: South-east facing section of Trench 4, looking north-west. 1m scale.



*Plate 10: South-south-west facing section of Trench 5, looking north-north-west. 1m scale.* 



*Plate 11: Trench 6, looking north-north-west. 2x1m scale.* 



Plate 12: South-west facing section of pit [6003] and land drain [6005]. 1m scale.



Plate 13: South-west facing section of pit [6003] and land drain [6005]. 1m scale.



Plate 14: South-east facing section of gully [6007] and land drain [6009]. 1m scale.

Archaeology Wales APPENDIX I: Context Inventory

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Trench	Context	Context Type	Description	Date
Trench 1	1000	Deposit	Topsoil – Mid reddish-brown loam, very occasional small rounded stones	
Trench 1	1001	Deposit	Subsoil – Mid greyish-brown clay sand, occasional small rounded stones	
Trench 1	1002	Deposit	Natural – Mid brownish-orange clay sand, occasional large – small stones	
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Trench 2	2000	Deposit	Topsoil – Dark greyish-brown loam, no inclusions	
Trench 2	2001	Deposit	Subsoil – Mid greyish-brown clay sand, occasional small – medium stones	
Trench 2	2002	Deposit	Natural – Mid brownish-orange clay sand, moderate small – medium rounded stones with some bands of denser stones	
Trench 3	3000	Deposit	Topsoil – Mid reddish-brown loam, no inclusions	
Trench 3	3001	Deposit	Subsoil – Mid greyish-brown silty sand, frequent small rounded stones	
Trench 3	3002	Deposit	Natural – Mid brownish-orange clay sand, moderate small rounded stones with some denser patches	
Trench 4	4000	Deposit	Topsoil – Mid reddish-brown loam, no inclusions	
Trench 4	4001	Deposit	Subsoil – Mid greyish-brown sandy silt, occasional small – medium stones	
Trench 4	4002	Deposit	Natural – Mid brownish-orange clay sand, moderate small – medium stones. NW end of trench had very frequent manganese flecks and was much sandier than the rest of the trench	
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Trench	Context	Context Type	Description	Date
Trench 5	5000	Deposit	Topsoil – Dark reddish-brown loam, no inclusions	
Trench 5	5001	Deposit	Subsoil – Mid greyish brown silty sand, occasional small stones	
Trench 5	5002	Deposit	Natural – Mid brownish orange clay sand, occasional small – medium stones	
Trench 6	6000	Deposit	Topsoil – Dark reddish-brown loam, occasional small stones	
Trench 6	6001	Deposit	Subsoil – Mid brownish-grey sandy silt, frequent medium – large stones, brick and tile fragments	
Trench 6	6002	Deposit	Natural – Mid brownish-red sandy clay, occasional medium – large stones	
Trench 6	6003	Cut	Cut of large shallow pit – Irregular shallow pit with concave sides and an irregular base. Been truncated by land drain [6005]	
Trench 6	6004	Fill	Fill of large shallow pit [6003] – Mid reddish-brown sandy clay, moderate small – medium stones and degraded organic material	Roman to post medieval
Trench 6	6005	Cut	Cut of a land drain – NE-SW orientated land drain that truncates pit [6003]	
Trench 6	6006	Fill	Fill of a land drain [6005] – Mid greyish-brown with red mottling, sandy clay. Frequent small – medium rounded pebbles	Modern
Trench 6	6007	Cut	Cut of a shallow gully – NE-SW orientated gully with sloping sides and an uneven base. Truncated by land drain [6009]	
Trench 6	6008	Fill	Fill of a shallow gully [6008] – Dark greyish-black sandy clay, occasional small rounded stones and frequent medium stones. Also degraded organic materials	
Trench 6	6009	Cut	Cut of a land drain – NE-SW orientated land drain that truncates [6007]	
Trench 6	6010	Fill	Fill of a land drain [6009] – Mid reddish brown sandy silt, frequent small rounded stones	Modern
	CO	57		

Archaeology Wales APPENDIX II: Beta Analytic Radiocarbon Report

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# BetaCal 4.20

# **Calibration of Radiocarbon Age to Calendar Years**

(High Probability Density Range Method (HPD): INTCAL20)



# Beta Analytic Radiocarbon Dating Laboratory

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

Archaeology Wales APPENDIX III: Written Scheme of Investigation

# Result</t

ARCHAEOLOGY WALES Revealing the past, informing the future

Archaeology Wales Ltd The Reading Room, Town Hall, Llanidloes SY18 6BN T: 01686 440371 E: info@arch-wales.co.uk www.arch-wales.co.uk

# WRITTEN SCHEME OF INVESTIGATION

# FOR AN ARCHAEOLOGICAL

# **TRENCHED EVALUATION AT**

# Land off Nant-y-Gamar Road, Llandudno



# Heritage Archaeology

Project No: 2930

September 2021



Archaeology Wales Limited The Reading Room, Town Hall, Great Oak Street Llanidloes, Powys SY18 6BN Tel: +44 (0) 1686 440371 Email: admin@arch-wales.co.uk

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# Summary

This Written Scheme of Investigation (WSI) details the proposal for an archaeological field evaluation to be undertaken in association with the proposed development of 49 dwellings at land off Nant-y-Gamar Road, Llandudno, Conwy, LL30 1YE - NGR SH 80078 81850. It has been prepared by Archaeology Wales Ltd for Heritage Archaeology.

GAPS have requested that a field evaluation is carried out in order to confirm the nature and extent of any buried archaeological remains that may be affected by groundworks associated with the proposed development. The work is informed by a previous Desk Based Assessment and Geophysical Survey. The latter detected multiple anomalies of uncertain origin within the development area.

All work will be undertaken in accordance with the standards and guidelines of the Chartered Institute for Archaeologists (2020).

# 1. Introduction and planning background

- 1.1. This WSI details the proposal for a field evaluation to be undertaken in association with the proposed development of 49 dwellings at land off Nant-y-Gamar Road, Llandudno, Conwy, LL30 1YE - NGR SH 80078 81850 (Figure 1).
- 1.2. Gwynedd Archaeological Planning Service (GAPS) requested that an archaeological field evaluation is carried out to assess the potential impact of the development on the archaeological resource.
- 1.3. This WSI has been prepared by Irene Garcia Rovira, Archaeology Wales Ltd (henceforth - AW) at the request of Heritage Archaeology.
- 1.4. The methodology set out in this WSI has been agreed with GAPS in its capacity as archaeological advisors to the local planning authority (CCC). The purpose of the proposed field evaluation is to provide the local planning authority with the information they are likely to request in respect of the proposed development, the requirements for which are set out in Planning Policy Wales Revised Edition.11, Section 6.1 (2021) and Technical Advice Note (TAN) 24: The Historic Environment (2017). The work is to highlight and assess the impact of the proposed development on the archaeological resource.

1.5. All work will conform to the Standard and Guidance for Archaeological Field Evaluation (ClfA 2020) and be undertaken by suitably qualified staff to the highest professional standards. AW is a Registered Organisation with the ClfA.

# 2. Site Description

- 2.1. The proposed development site is located 44m S of Llandudno Bay, E of Nant-y-Gamar Road. The site is located within the coastal lowland area, sloping down from N to S. It is bordered to the N by a school, to the S by woodland, to the W by a housing estate and to the E by agricultural land.
- 2.2. The underling geology is defined by the Nod Glas Formation to the north, Conwy Mudstones Formation and Llandovery Rocks (Undifferentiated) mudstone through the centre of the survey area, and limestone of the Clwyd Limestone Group to the south. Superficial deposits consist of Devensian Diamicton Till (Kenyon 2021).

# 3. Historic background

- 3.1. The site has been subjected to a number of non-intrusive works, including a Desk Based Assessment (DBA) and a Geophysical survey see Kelly 2021 and Kenyon 2021 respectively.
- 3.2. The DBA noted that prehistoric activity going as far back as Palaeolithic chronologies is documented within 1km of the proposed development, in cave sites. The assessment also detected Neolithic finds.
- 3.3. Great Orme copper mine is thought to have been exploited as far back as the Bronze Age, although its main episodes of activity occurred during the 19<sup>th</sup> century, with the development of settlement nearby and of public houses and other amenities for the mine workers.
- 3.4. While there is no Iron Age activity detected, a hoard of Roman finds was found at Little Orme.

3.5. The geophysical survey carried out by Magnitude Surveys (Kenyon 2021) did not document anomalies of certain archaeological origin. However, multiple anomalies of uncertain origin were recorded within the development area.

# 4. Objectives

# Field evaluation

- 4.1. The objective of the intrusive trial trench evaluation will be to locate and describe archaeological features that may be present within the development area as suggested. The work will elucidate the presence or absence of archaeological material, its character, distribution, extent, condition, and relative significance. The work will include an assessment of regional context within which the archaeological evidence rests and will aim to highlight any relevant research issues within national and regional research frameworks.
- 4.2. A report will be produced that will provide information which is sufficiently detailed to allow the archaeological resource to be better understood. The information could then be used to help inform further archaeological work undertaken in association with the proposed development.

# 5. Timetable of works

- 5.1. It is planned that the trenched evaluation will start on the 13<sup>th</sup> of September 2021. GAPS will be informed of any changes to the schedule.
- 5.2. The report will be submitted to the client and to GAPS within a month of the completion of the fieldwork. A copy of the report will also be submitted to CCC. A copy of the report will also be sent to the regional Historic Environment Record.

# 6. Methodology

# **Field Evaluation**

- 5.17. The work will be undertaken to meet the standard required by The Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Field Evaluation* (2020).
- 5.18. The archaeological project manager in charge of the work will satisfy herself that all constraints to ground works have been identified, including the siting of live services and Tree Preservation Orders.
- 5.19. The agreed evaluation trenches (Figures 2) will be positioned to maximise the retrieval of archaeological information within accessible areas, and to ensure that the archaeological resource is understood.

- 5.20. It is proposed that six trenches measuring 30m long x 1.8m wide, will be machine-excavated within the planned development area (Figures 2).
- 5.21. The exact positioning of the trenches will depend on the position of any extant services or other obstructions that come to light during the initial phase of ground works. The locations and dimensions of the trenches have been agreed with GAPS.
- 5.22. The evaluation trenches will be excavated to the top of the archaeological horizon by a 360 excavator or similar machine fitted with a toothless grading bucket under close archaeological supervision.
- 5.23. All areas will be subsequently hand cleaned using pointing trowels and/or hoes to prove the presence, or absence, of archaeological features and to determine their significance. The excavation of the minimum number of archaeological features will be undertaken, to elucidate the character, distribution, extent and importance of the archaeological remains. As a minimum small discrete features will be fully excavated, larger discrete features will be half-sectioned (50% excavated) and long linear features will be sample excavated along their length - with investigative excavations distributed along the exposed length of any such feature and to investigate terminals, junctions and relationships with other features. Should this percentage excavation not yield sufficient information to allow the form and function of archaeological features/deposits to be determined full excavation of such features/deposits may be required.
- 5.24. Sufficient excavation will be undertaken to ensure that the natural horizons are reached and proven, where this can be practically and safely achieved. If safety reasons preclude manual excavation to natural, hand augering may be used to try to assess the total depth of stratification within each area. The depth of the excavation will conform to current safety requirements. If excavation is required below 1m the options of using shoring will be discussed with the client and GAPS, but the intention would be to stop at safe depths.

# <u>Contingency</u>

- 5.25. Should potentially significant archaeological features be encountered during the course of the evaluation then GAPS and the client will be informed at the earliest possible opportunity.
- 5.26. GAPS may subsequently request that further archaeological work is undertaken in order to fully evaluate areas of significant archaeological

activity. Such work may require the provision of additional time and resources to complete the archaeological investigation. The scope of such work will be agreed with GAPS and the client prior to any extended works being undertaken.

<u>Recording</u>

- 5.27. Recording will be carried out using AW recording systems (pro-forma context sheets, etc.) using a continuous number sequence for all contexts.
- 5.28. Plans and sections will be drawn to a scale of 1:50, 1:20 or 1:10 as required and related to Ordnance Survey datum and published boundaries where appropriate.
- 5.29. All features identified will be tied into the OS survey grid and fixed to local topographical boundaries.
- 5.30. Photographs will be taken in digital format with an appropriate scale, using a 10MP+ camera with photographs stored in Tiff format.

<u>Finds</u>

- 5.31. The professional standards set in the Chartered Institute for Archaeologists' Standard and guidance for the collection, documentation, conservation, and research of archaeological (2020) will form the basis of finds collection, processing, and recording.
- 5.32. Finds will be carefully excavated by hand. The excavation of fragile or particularly significant finds will be undertaken in consultation with an appropriate archaeological conservator. Finds will be bagged by archaeological context, the location of special finds and flint working deposits will be recorded three dimensionally.
- 5.33. All manner of finds regardless of category and date will initially be retained. These will be suitably bagged, boxed and marked. Following cataloguing and initial analysis finds of little archaeological significance may be discarded .
- 5.34. Finds recovered that are regarded as Treasure under The Treasure Act 1996 will be reported to HM Coroner for the local area.
- 5.35. Any finds which are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (normally Phil Parkes at Cardiff University).

# Environmental Sampling Strategy

5.36. Deposits with a significant potential for the preservation of paleoenvironmental material will be sampled, by means of the most appropriate method (bulk, column etc). Where sampling will provide a significant contribution to the understanding of the site AW will draw up a site-specific sampling strategy alongside a specialist environmental archaeologist. All environmental sampling and recording and will follow English Heritage's *Guidelines for Environmental Archaeology* (2nd Edition 2011).

Human remains

- 5.37. In the event that human remains are encountered, their nature and extent will be established, the client, GAPS and the coroner informed. Measures will be put in place to ensure that any such remains are fenced off, covered, and protected from deterioration and damage, and that human remains, and burial goods will be treated in a respectful manner.
- 5.38. Where preservation in situ is not possible the human remains will be fully recorded and removed under conditions that comply with all current legislation and include acquisition of licenses and provision for reburial following all analytical work.
- 5.39. Human remains will be excavated in accordance with the Chartered Institute for Archaeologist's Updated Guidelines to the *Standards for Recording Human Remains* (2017). A Ministry of Justice Licence will be obtained before remains can be lifted, this applies to both inhumation and cremated remains.

Specialist advisers

5.40. In the event of certain finds, features or sites being discovered, AW will seek specialist opinion and advice. A list of specialists is given in the table below although this list is not exhaustive.

	Artefact type	Specialist		
5	Flint	Julie Birchenall (Freelance)		
	Animal bone	Richard Madgwick (Cardiff University)		
	CBM, heat affected clay, Daub	Rachael Hall (APS)		
	etc.			
	Clay pipe	Charley James-Martin (Archaeology		
		Wales)		
	Glass	Rowena Hart (Archaeology Wales)		
	Cremated and non-cremated	Richard Madgwick (Cardiff University)		
	human bone			

Metal work and metallurgical	Dr Tim Young (GeoArch)
residues	
Neo/BA pottery	Dr Alex Gibson (Bradford University)
IA/Roman pottery	Jane Timby (Freelance)
Roman Pottery	Rowena Hart (Archaeology Wales)/
-	Peter Webster (Freelance)
Post Roman pottery	Stephen Clarke (Monmouthshire
	Archaeology)
Charcoal (wood ID)	John Carrot (Freelance)
Waterlogged wood	Nigel Nayling (University of Wales -
	Lampeter)
Molluscs and pollen	Dr James Rackham
Charred and waterlogged	Wendy Carruthers (Freelance)
plant remains	

5.41. Specialist finds and paleoenvironmental reports will be written by AW specialists, or sub-contracted to external specialists when required.

<u>Monitoring</u>

- 5.42. GAPS will be contacted approximately two weeks prior to the commencement of archaeological site works, and subsequently once the work is underway.
- 5.43. Any changes to the WSI that AW may wish to make after approval will be communicated to GAPS for approval on behalf of CCC.
- 5.44. GAPS will be given access to the site so that they may monitor the progress of the mitigation work. No area will be back-filled until GAPS has had the opportunity to inspect it unless permission has been given in advance. GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

# Post-Fieldwork Programme

# <u>Site Archive</u>

- 6.1. An ordered and integrated site archive will be prepared in accordance with: *Management of Research Projects in the Historic Environment* (MoRPHE) (2015) upon completion of the project.
- 6.2. The site archive including all artefacts, soil samples, paper, and digital records will be subjected to selection in order to establish those

elements that will be retained for long term curation. The selection strategy will be agreed with all stakeholders and will be detailed in the Selection Strategy and Data Management Plan (CIfA 2020). It will be developed taking into consideration the aims and objectives of the project and will be informed through a detailed consideration of the *Research Agenda of the Archaeology of Wales* and other relevant research frameworks. The manner in which the records will be prepared for long time storage will be guided by the requirements established by the repositories. A detailed justification for the disposal of both records and materials will be written and included within the Data Management Plan.

6.3. The site archive (including artefacts and samples) will be prepared in accordance with the National Monuments Record (Wales) agreed structure and deposited with an appropriate receiving organisation, in compliance with CIfA Guidelines (*Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives,* 2014). It will also conform to the guidelines set out in *The National Standard and Guidance to Best Practice for Collecting and Depositing Archaeological Archives in Wales* (National Panel for Archaeological Archives in Wales 2017). The legal landowner's consent will be gained for deposition of finds. The project will adhere to the Welsh Archaeological Trust's joint *Guidance for the Submission of Data to the Welsh Historic Environment Records* (2018).

# <u>Analysis</u>

- 6.4. Following a rapid review of the potential of the site archive, a programme of analysis and reporting will be undertaken.
- 6.5. This will result in the following inclusions in the report:
  - A bilingual non-technical summary
    - The aims and methods adopted in the course of the archaeological works, and the background and circumstances of the report (including development proposals and planning background)
  - Location plan showing the area/s covered by the trenched evaluation, including the locations of all artefacts, structures and features found
  - Plans and section drawings (if features are encountered) with ground level, ordnance datum and vertical and horizontal scales.

- A written description and interpretation of all deposits identified, including their character, function, potential dating, and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate. An indication of the potential of archaeological deposits which have not been disturbed by the development, and proposals for further necessary analysis
- The report will contain a discussion of the local, regional, and national context of the remains by means of reviewing published reports, unpublished reports, historical maps, documents from local archives and the regional HER as appropriate.
- A detailed archive list at the rear listing all contexts recorded, all samples, finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

# Report to Client

6.6. Copies of all reports associated with the mitigation, together with inclusion of supporting evidence in appendices as appropriate, including photographs and illustrations, will be submitted upon completion to GAPS for comment and approval. Following approval, a copy will be sent to the client, and for formal submission to CCC.

# Additional Reports

6.7. After an appropriate period has elapsed, copies of all reports will be deposited with the relevant county Historic Environment Record (GAT), the National Monuments Record and, if appropriate, Cadw. The report and all relevant information will be submitted to the Historic Environment Record following the guidelines and procedures laid out in the *Guidance for the Submission of Data to the Welsh Historic Environment Records* (WAT 2018).

# Summary Reports for Publication

6.8. Short archaeological reports will be submitted for publication in relevant journals; as a minimum, a report will be submitted to the annual publication of the regional CBA group or equivalent journal.

# Notification of Important Remains

6.9. Where it is considered that remains have been revealed that may satisfy the criteria for statutory protection, AW will submit preliminary notification of the remains to Cadw.

# Archive Deposition

- 6.10. The final archive (site and research) will, whenever appropriate, be deposited with a suitable receiving institution. If artefacts are recovered, and dependent on the size of the final archive, the preferred receiving institution would be a suitable local institution. If no artefacts are recovered then the archive will be deposited with the National Monuments Record, RCAHMW, Aberystwyth. Arrangements will be made with the receiving institution before work starts.
- 6.11. Although there may be a period during which client confidentiality will need to be maintained, copies of all reports and the final archive will be deposited no later than 12 months after completion of the work.
- 6.12. Copies of all reports, the digital archive and an archive index will be deposited with the National Monuments Record, RCAHMW, Aberystwyth.
- 6.13. Wherever the archive is deposited, this information will be relayed to the HER. A summary of the contents of the archive will be supplied to GAT.

# Finds Deposition

6.14. The finds, including artefacts and ecofacts, excepting those which may be subject to the Treasure Act, will be deposited with the same institution, subject to the agreement of the legal landowners.

# 7. Staff

7.1. The project will be managed by Dr Irene Garcia Rovira MCIfA (AW Project Manager) and the assessment undertaken by suitably trained and experienced AW staff. Any alteration to staffing before or during the work will be brought to the attention of GAPS and the client.

# . Health and Safety

8.1. Prior to the commencement of the site visit AW will carry out and produce a formal Health and Safety Risk Assessment in accordance with the Management of Health and safety Regulations 1992. A copy of the risk

assessment will be kept on site and be available for inspection on request. A copy will be sent to the client (or their agent as necessary) for their information. All members of AW staff will adhere to the content of this document.

#### <u>Other Guidelines</u>

8.2. AW will adhere to best practice with regard to Health and Safety in Archaeology as set out in the FAME (Federation of Archaeological Managers and Employers) health and safety manual Health and Safety in Field Archaeology (2002).

#### <u>Insurance</u>

8.3. AW is fully insured for this type of work and holds Insurance with Aviva Insurance Ltd and Hiscox Insurance Company Limited through Towergate Insurance. Full details of these and other relevant policies can be supplied on request.

#### Covid-19 specific Considerations

- 8.4. If a Staff member believes they are at an increased risk from the virus they are to contact management
- 8.5. If anyone is showing symptoms of Covid-19 they are to go home immediately and notify the appropriate people
- 8.6. Staff will drive to site in a private vehicle alone or with someone from their household only. If sites require multiple staff members to attend, they will travel separately and will try to avoid the use of public transport (walking, cycling etc)
- 8.7. Staff will stay at least 2m away from any person, who does not live within their own household, AT ALL TIMES. This includes on site, within office space, in the canteen and all other parts of the compound

8.8. Staff will wash hands regularly and thoroughly, especially on arriving to site, leaving site and before eating.

- 8.9. The staff members should take their own food and drink to site.
- 8.10. Once returning home, appropriate care should be taken to ensure that contamination does not spread (change clothes, shower etc)
- 8.11. Staff will avoid touching surfaces if possible. If they have to touch a surface, such as a door handle or toilet seat, staff must either wear gloves

or wash their hands/ relevant body part with sterilising hand wash immediately afterwards. DO NOT touch your face after touching any surface. Staff should also disinfect surfaces before and after touching. Staff must bring their own sterilising handwash, wipes and gloves and dispose of them safely after use.

- 8.12. All staff will read, sign, and adhere to the separate Site Operating Procedures and work in accordance with them
- 8.13. If any staff, contractor, or any other persons on site are not abiding by these rules, the staff member will remove themselves from the risk and contact the Project Manager immediately.

# 9. Quality Control

#### Professional standards

9.1 AW works to the standards and guidance provided by the *Chartered Institute for Archaeologists*. AW fully recognise and endorse the Chartered Institute for Archaeologists' *Code of Conduct, Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* and the *Standard and Guidance for archaeological watching briefs* currently in force. All employees of AW, whether corporate members of the Chartered Institute for Archaeologists or not, are expected to adhere to these Codes and *Standards during their employment*.

Project tracking

9.2 The designated AW manager will monitor all projects in order to ensure that agreed targets are met without reduction in quality of service.

# 10. Arbitration

10.1 Disputes or differences arising in relation to this work shall be referred for a decision in accordance with the Rules of the Chartered Institute of Arbitrators' *Arbitration Scheme for the Institute for Archaeologists* applying at the date of the agreement.

# 11. References

- Jones C, 2018. Guidance for the submission of Data to the Welsh Historic Environment Records (HERs). Welsh Archaeological Trusts
- Kelly H. 2021. Historic Environment desk based assessment, land at Nant-y-Gamar Road, Llandudno. Heritage Archaeology Report P00097.01.01
- Kenyon R. 2021. Geophysical Survey Report Land off Nant-y-Gamar Road Llandudno. Magnitude Surveys MSSH1008.
- National Panel for Archaeological Archives in Wales, 2019. Archaeological archives: selection, retention and disposal guidelines for Wales.
- Welsh Archaeological Trust's, 2018. Guidance for the Submission of Data to the Welsh Historic Environment Records

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https://gov.wales/sites/default/files/publications/2021-02/planning-policy-walesedition-11\_0.pdf

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