

Evaluation of Scheduling Proposals 2014-2015

Hen Gastell, Llanwnda

Preliminary Excavation Report





Ymddiriedolaeth Archaeolegol Gwynedd Gwynedd Archaeological Trust

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Preliminary Excavation Report

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Written by: Jane Kenney, with a contribution by Rosalind McKenna

Illustration by: Jane Kenney

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

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> Cadeiryddes/Chair - Yr Athro/Professor Nancy Edwards, B.A., PhD, F.S.A. Prif Archaeolegydd/Chief Archaeologist - Andrew Davidson, B.A., M.I.F.A.

G2246 EVALUATION OF SCHEDULING PROPOSALS 2014-15 HEN GASTELL, LLANWNDA (PRN 584, SH 47135737) GAT report 1228

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1. SUMMARY

Hen Gastell, Llanwnda is a small defended enclosure (PRN 584), with a ditch and bank around the northern side of the site. Following on from a geophysical survey and evaluation trench in 2013 a more extensive excavation was carried out in 2014 within the interior of the site. This revealed a structure defined by large postholes. This may have either been circular with one flattened side or the rounded end of a longer structure. A group of small pits containing slag and other metal-working debris were found within the area defined by this structure. The inner bank was shown to continue around the south-western corner of the site and extensive burnt stone deposits were found overlying the inner edge of the bank. Sections through the inner bank showed it to be composed of rounded cobbles and the buried soil underneath was exposed and sampled. Radiocarbon dates from the evaluation trench suggest that the site dates to the 11th or 12th century AD, but more dating is necessary to determine whether all the activity on the site, including the structure, was of that date.

The excavation has generated some finds and a significant quantity of samples which will need processing and analysis. Proposals for further post-excavation work are included in this report, which should help to clarify the date of the site and investigate the activities carried out there.

2. INTRODUCTION

The Prehistoric Defended Enclosures Project (G1770) was a Cadw grant-aided project carried out by Gwynedd Archaeological Trust (GAT) to provide information for management and schedule enhancement of this class of site in Gwynedd and Anglesey (Smith 2003). This project highlighted the site of Hen Gastell (PRN 584), amongst others, as a site of potentially national importance that was not scheduled. This atypical defended enclosure, located at Llanwnda, Gwynedd, required further evaluation before a decision on scheduling could be made. A geophysical survey was therefore carried out on 1st October 2013, and the information from this survey was used to locate a trial trench. This was excavated between 21st and 25th October 2013. A topographic survey was also carried out to allow an improved interpretation of the site. The results of this work have been reported in GAT report 1167 (Kenney and Hopewell 2014).

More work was required to establish the nature and date of the site so a second phase of work was undertaken. Samples taken during the trial excavation were processed and material was submitted for radiocarbon dating in order to obtain a rough date for the site. The material was submitted on 22nd May 2014 and the results were received on 6th August 2014. An excavation was carried out between 3rd and 28th July 2014 to investigate the interior of the site and establish its use. The first two weeks of this was run as a community excavation. In the last week a smaller team of experience volunteers helped to complete the excavation and recording.

3. BACKGROUND

Hen Gastell is located at SH 4713 5737 on the southern edge of Llanwnda community area, on the northern bank of the Afon Carrog (Figure 1). It lies on a narrow band of sedimentary bedrock composed of Lower Cambrian sandstones and conglomerates. This bedrock is overlain by moraines of glacial till with outwash sand and gravel deposits (Geology of Britain Viewer). Ridges of moraine probably account for the gently undulating nature of the landscape.

Hen Gastell is situated on the end of a low ridge and its southern side is defined by a steep bluff (plate 1, figure 2). It is under improved pasture and currently well-grazed by sheep, keeping the grass short and making earthwork features easily visible. The site has been modified by stone revetment walls built to support the steeper slopes. Cloddiau (earth banks faced with stone) and drystone walls run across the site, enclosing most of the monument within a small field.

The site is defined on the north side by a deep and wide ditch, which encloses a small sub-rectangular interior platform. Outside the ditch is a bank. The RCAHMW considered the site to be a "small promontory fort" (RCAHMW 1960, 225), and it was include in the Prehistoric Defended Enclosures Project on the assumption that it was prehistoric and a defended site. Smith, however, considered it to be unconvincing as a defensive site. He speculated that it was an Iron Age settlement reusing an earlier feature, such as a henge, or that the ditch was a natural feature, perhaps a relict river meander (Smith 2005, 10). The interpretation of the site in defensive terms is problematic as the bank is outside the ditch and higher than the interior of the site.

A farm-house, named Hen Gastell after the earthworks, has been built against the south-eastern corner of the site. There has been an assumption that part of the site was cut away to level ground for the farm, so creating the steep bluff, but there is no convincing evidence for this (see below).

A quern of unknown type is reported to have come from the site (RCAHMW 1960, 225) and a single waste flint flake was collected from a molehill during a site visit associated with an assessment for the Penygroes/Llanllyfni Bypass (GAT 1993, 7).

The evaluation work clarified many details of the site. It showed that the ditch was massive and steep-sided. Comparisons of ground levels showed the full height of the outer bank and proved that it was a substantial feature. The outer bank at its full height before erosion and with the ditch open to its full depth would have been very impressive, but would not have been a conventionally effective defensive feature.

The inner bank was seen to run around the southern side of the interior suggesting that very little of the interior had been lost. There was no reason for the farm to cut into the monument as the main farm buildings are to the side of it and the quantity of gravel that would have to be moved to level the area if the ridge had continued would seem to have been excessive for the return. It is likely that the bluff was originally created by the river cutting through the gravel ridge and that the natural scarp has been straightened and modified but not significantly cut back.

The excavation showed that there had been activity on the interior platform and that further remains were likely to survive, but the nature of this activity could not be established in the small area excavated. The excavation also demonstrated later activity in the ditch, possibly a cut for a semi-subterranean building. A trackway cut through the outer bank and the field walls forming a small paddock may have been associated with this proposed building.

4. METHODOLOGY

4.1. 3D digital model

A 3D digital model of the site was created in order to retain an accurate, measurable record of the site prior to excavation. The whole site was photographed with a GPS enabled Canon DX3100 digital camera set to maximum resolution (RAW) mounted on a camera pole. This produced a series of overlapping frames from an elevated viewpoint. A number of control points on the ground were digitally surveyed using a Trimble TSC2 controlled GPS receiver (Trimble R6 Unit), with the results tied into the National Grid. The photographs were converted to JPEGs (2mb maximum size) with the use of the ViewNX 2 program. The resulting 1675 JPEGs were used to produce a 3D model of the site using photogrammetry software program Agisoft PhotoScan. A 3D modelling software program, Blender, was used to produce a video from the model. This was shown on the site open day and linked to the GAT website to allow the public to view it (http://www.heneb.co.uk/hengastell/info.html). See plate 1 for an orthographic elevation of the site from the 3D model.

In the post-excavation phase the GPS co-ordinates of the ground control points were integrated so as to convert the model to the proper scale and location. It should be possible to achieve an accuracy of less than 20mm. It will then be possible to interrogate the model to the height and length of specific features. The final model will be archived with the rest of the digital archive form the project so that it can be used in future research.

4.2. Excavation

A trench measuring c.14m by 13m was dug inside the western half of the interior platform of the site, with an extension running through the inner bank (plate 2, figures 2). The topsoil and ploughsoil was stripped from the trench using a mini-digger with a toothless bucket under constant archaeological supervision. Machining reached natural in the interior but care was taken stripping over the inner bank where only the turf was removed by machine. The topsoil and ploughsoil were stored by the trench side in separate heaps to allow for backfilling and at least 1m from the edge of the trench to prevent collapse into the trench. The machining was carried out on 3^{rd} and 4^{th} July 2014.

The main trench was referred to as trench 2 (trench 1 being the evaluation trench dug in 2013). Another trench (trench 3) measuring c.8m by 5m was opened on the northern side of the outer bank (figure 2). This trench was intended to investigate the nature of the bank and any buried soil below it. However the number and complexity of features within trench 2 fully occupied volunteer and staff time on the project, so it was not possible to investigate trench 3. This trench was deturfed by hand and then used for school children to experience troweling. Once the school visits had finished the topsoil was removed by hand over the trench, but as time prohibited other work being carried out the trench was backfilled at the end of the field work without further investigation or recording.

The excavation was carried out between 7th and 28th July 2014 by a team of volunteers with supervision from GAT staff. The trench was cleaned by hand and any remaining overburden removed. Cut features in the interior were half sectioned, their sections drawn and then fully excavated. A slot was hand dug through the inner bank so that it could be recorded in section down to natural deposits.

All features were recorded by hand drawn plans and sections, context sheets and photographs. Volunteers were involved in recording under the close supervision of professional field staff. The trench plan was located by a Trimble Global Positioning System (GPS), and the height of the Temporary Bench Mark used to calculate levels was also located by GPS.

All artefacts found were retained. Soil samples were taken from contexts with visible charcoal.

4.3. Public engagement

The excavation was set up as a community training dig to allow as many people as possible to experience working on an archaeological excavation. From 7th to 18th July the focus was on training and most people working on the site had little or no previous archaeological experience. This included young people on work experience from schools in the region. They were given a full health and safety induction and detailed training and supervision to allow them to excavate, plan, take photographs and make written records (plates 3 to 5).

In the last week (21st to 28th July) a smaller team of experienced volunteers assisted GAT staff to complete the excavation and recording.

During the excavation Anita Daimond, GAT Outreach officer, arranged for children from local schools to visit the site. Under her guidance they carried out a small excavation of their own on the outside of the outer bank and were able to see the archaeologists at work (plate 6).

School	Date	no of pupils	no of teachers
Ysgol Felinwnda	08/07/2014	11	1
Ysgol Bontnewydd	11/07/2014	18	1
Ysgol Llandwrog	11/07/2014	16	2
Canolfan Llwybrau Ni (Pupil Referral Unit)	14/07/2014	5	3
Ysgol Bronyfoel	14/07/2014	14	2
Ysgol Carmel	14/07/2014	19	1

Table of pre-visits to schools

School	Date	no of pupils	no of teachers
Ysgol Felinwnda	10/07/2014	11	2
Ysgol Rhostryfan	10/07/2014	20	1
Ysgol Rhosgadfan	11/07/2014	18	1
Ysgol Llandwrog	14/07/2014	16	2
Canolfan Llwybrau Ni (Pupil Referral Unit)	15/07/2014	3	3
Ysgol Bronyfoel	15/07/2014	14	2
Ysgol Bontnewydd	16/07/2014	18	2
Ysgol Carmel	16/07/2014	19	2

An open Day was held on the 19th July, allowing the public to visit the site (plates 7 and 8). Despite rain for much of the morning this a great success. About 100 people came to see the site and tours of the site ran in Welsh and English throughout the day. There were displays in a marquee and a canteen where tea and coffee were served. A projected and animated 3D image of the site was also displayed in the canteen. There were children's activities including colouring in historical pictures and a chance to examine a collection of reproduction medieval artefacts on loan from Cadw that intrigued children and adults alike. Plaid Cymru Councillor John Wynn Jones was invited to visited the site and was given a tour by Anita Diamond, the Trust's Outreach Officer. Emily La Trobe-Bateman, Head of Heritage Management at GAT, discussed the work of the Trust with him, especially the value of projects like Hen Gastell where volunteers can get involved in archaeological excavations.

A blog was maintained on the GAT website (<u>http://www.heneb.co.uk/hengastell/blog.html</u>) during the excavation so that people could follow the progress of the dig. The information and photographs were also released on Facebook and Twitter.

4.4. Copyright

Table of site visits by schools

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5. **RESULTS**

Detailed descriptions of all contexts are listed in appendix IV. See figure 2 for the location of the trench and figure 3 for the features within the trench.

5.1. Topsoil, ploughsoil and natural

The topsoil and ploughsoil became thicker towards the south-western side of the trench. Against the south-western section the topsoil (2001) was up to 0.26m deep and the ploughsoil (2002) was up to 0.54m deep. In contrast, against the north-eastern bulk, especially in the northern corner of the trench the natural deposits were little more than 0.2m below the ground surface with (2002) in places being less than 0.05m deep. The ploughsoil (2002) was a grey-brown silt with occasional stones, while the topsoil, the active organic horizon, was similar but darker grey. The differences in depth suggest that the ploughing had moved soil downslope from north-east to south-west, where it had built up against the remains of the inner bank on the edge of the platform. The very level appearance of the platform today is therefore due to the movement of soil after the site was abandoned and used as a small field. The platform must have been more sloping when the monument was in use.

The natural deposits also changed from north-east to south-west across the trench. In the north-eastern half of the trench the glacial gravels were close to the surface. This deposit (2100) was a very compact, friable orangebrown gravelly, slightly clayey, sand containing numerous stones, some up to 0.40m long. It was concreted and very hard in places, although elsewhere was loose and friable. The largest stones protruded from the deposit. In the south-western half of the trench the gravel was covered by a yellowish brown silt (2094) with abundant stones. The two natural deposits merged where they met.

5.2. Postholes

Most of the features found during the excavation were postholes. These could generally be confidently identified as such because they contained packing stones and/or a post-pipe, where the post had decayed away. Four large postholes ([2068], [2108], [2118] and [2122]) formed an arc across the trench (plate 9). These were sub-circular, between about 0.9m and 1.0m in diameter and between 0.5 and 0.77m deep (plate 10). They become shallower from north-west to south-east, probably indicating some truncation of the ground towards the south-east, with ploughing probably causing a loss of soil over the edge of the scarp that forms the south-eastern side of the monument. All the postholes in this feature had visible post-pipes, which were up to about 0.5m in diameter. This allowed the size of the posts supported in these postholes to be estimated. The post-pipes in [2068] and [2108] were filled with dark deposits containing a high proportion of burnt stone. The deposit (2070) in posthole [2068] also contained fragments of burnt bone. This suggests that the burnt stone deposit had the same origin as an extensive burnt stone deposit built-up against the inner bank (see below). It seems probable that these post-pipes were created not by the post rotting away but by the post being removed and the burnt stone deposit being deliberately used to fill the resulting hole. The post-pipes in postholes [2118] and [2122] were filled with dark brown sandy silt with occasional flecks of charcoal and small stones. In all four postholes the post had been held in place by a packing deposit that seemed to be the natural gravel that had been dug out to make the hole that was then placed back in again. In the case of [2118] and [2122] this packing fill was not initially recognised and only after rain had shown up the differences in the deposits could it be seen that the postholes had not been completely excavated. The post-pipes in this arc of postholes were up to 0.5m in diameter; suggesting substantial timbers.

As well as forming the end of the arc posthole [2068] also formed the start of a straight line of postholes running west-south-west to east-north-east close to the south-eastern edge of the trench. The other three postholes on this line ([2005], [2083] and [2087]) were also very substantial, measuring up to 1.2m long and up to 0.92m deep. However they were shallower; between 0.3m and 0.45m deep, and either oval or rather irregular in plan. The deepest was [2005] and at 0.45m it was not much different to [2068] at 0.50m deep. It may be that these two at the end of the line were deeper and the two in the middle were never very deep. However, as mentioned above, all the features along this side of the trench may have been subject to some truncation by ploughing. No post pipe was recognised in [2087] but [2005] contained a nearly rectangular postpipe measuring 0.65m by 0.22m. It also had large packing stones up to 0.34m long (plate 11). Posthole [2083] also had an area of darker fill at one end measuring 0.66m in diameter, but only 0.15m deep, so although this was not a well-preserved post-pipe, it probably still indicated the position and rough size of the post.

Roughly parallel and to the north-east of this line of large postholes was a line of three smaller postholes ([2052], [2119], and [2092]). These were still substantial but no larger than 0.80 x 0.50m, and up to 0.43m deep. Posthole [2052] also had the remains of a possibly disturbed post-pipe measuring 0.38m by 0.24m and posthole [2092] had a fairly clear post-pipe measuring 0.4m by 0.34m. This had a large cobble in the top measuring 0.4m long and blocking the post-pipe. It is probable that the post had been pulled out in this case and the stone had fallen or been placed into the top of the void. There was also a stone in the top of the post-pipe in [2052], so the same had probably happened here. Posthole [2119] was obscured by a possible gully [2061], which had probably disturbed and perhaps truncated it. At 0.26m deep this was the shallowest of these postholes and it had no surviving packing stones or post-pipe.

To the north-east of this line was another group of three postholes ([2007], [2009], and [2011]). Postholes [2007] and [2009] were very similar, both sub-rectangular, measuring up to 0.85m by 0.60m and 0.40m deep. They contained post-pipes measuring about 0.5 by 0.4m. These were rectangular and positioned in the south-east corner of [2009] and the north-east corner of [2007], so that they were mirror images of each other. Posthole [2011], which measured 0.74m by 0.68m, and 0.29m deep, had a darker deposit in the middle of its fill. Although this seemed to have been disturbed and was not a well-preserved post-pipe it appears to have been where a post was removed. This suggests a post about 0.65m in diameter. These substantial postholes seemed to form a group. Certainly [2007] and [2009] must have been a pair functioning together.

A feature, recorded as pit [026] in the evaluation trench, was reopened and the area to the north-east of it also explored. In the context of the other postholes on the site this appears likely to also have been a posthole. It was re-recorded as [2102], was rather polygonal in plan and measured 1.10 x 0.90m,

0.20m deep. There was a large stone in the side of the cut but this was not a packing stone as it was embedded in the natural. The interpretation of this feature as a posthole was supported by a straight slot running north-east from it. This slot [2104] ran south-west to north-east, and was hidden under the baulk at its north-eastern end. It had a narrower rounded south-western end, which just reached feature [2102] (plate 12). The base of the slot was shallower at this end. Its sides were near vertical and the base was flat, and it measured more than 1.26m by 0.35-0.66m, and was at most 0.30m deep. Its fill was a friable brown silty sand with some stones. A few of the larger stones, up to 25cm long, were set on edge and appeared to be *in situ* packing stones. This suggests that the slot was a beam slot to hold a horizontal timber. This would have run from the post in [2102], which would, have helped to support the superstructure based on the horizontal beam.

The arc of large postholes and the line on the south-eastern side seem to have formed the wall of a timber structure. If the arc is projected it can be seen that the feature [015] found in the evaluation trench was on the same arc and was almost certainly another posthole and part of the same structure. This feature was no more than 0.2m deep but was dug into the very hard natural and so great depth may not have been necessary. It had probably also been truncated by ploughing as it was not far below the present soil surface. This is the only posthole that seems to have been replaced, as feature [013] seemed to cut through it. This feature is slightly off the arc of postholes and may have been an additional support as the timbers rotted rather than a complete replacement.

The arc could have formed part of a circle 12m in diameter. If an entire circle is extrapolated from the arc it would suggest that there was another posthole just obscured under the north-west baulk between postholes [2108] and [015]. If this was part of a circle, it must have continued under the north-eastern baulk. The south-eastern arc of the structure was flattened off as shown by the line of postholes. The three smaller postholes behind this line seem to have been directly related to this structure. It is possible that postholes [2011] and [2102] were a pair despite their difference in size, but there was no visible trace of a beam slot related to [2011], despite close inspection of this area. The similarities between postholes [2007] and [2009] show that they must have been a pair but it is not obvious how they function with the rest of the structure.

5.3. Metal-working pits

Three small pits and a shallow hollow were excavated just north-west of the centre of the structure described above. The three pits ([2076], [2078], [2081]) were roughly circular ([2076] being more oval), up to 0.6m in diameter and a maximum of 0.2m deep (plate 13). The adjacent hollow [2067] was irregular in plan and measured 1.60m by 1.10m, but was only 0.15m deep (plate 14). The hollow was filled by a dark greyish-brown sandy silt with lenses of charcoal present throughout. Two large bags of slag were collected from this feature weighing a total of 4.4kg (SF 46). There were also fragments of furnace lining (SF 62).

Feature [2081] was little more than a hollow in the natural, with a clean silty fill lacking charcoal but it did contain a tiny fragment of copper alloy (SF64) and an iron object (SF40). The latter (plate 18) was initially taken for a piece of farming machinery but once cleaned up it appeared more intriguing. Its surface has casts of organic matter and in places a sandy texture and it may possibly have been formed by accretion of iron-rich deposits in the corner of an organic container (Tim Young pers. com.) but more work is needed to identify this object. Pit [2076] was almost precisely circular and appeared to cut feature [2081]. It had steep sides and a flat base and was the deepest of these features at 0.3m deep. It had a thin sandy deposit in the base, probably from erosion of the sides but the main fill was dark grey brown sandy silt with a high proportion of charcoal. Seven pieces of slag were recovered from this feature (SF57). A sherd of post-medieval pottery (SF41) was also found near the top of the fill. It was not clear whether this was intrusive or evidence dating the feature to a recent period.

Pit [2078] was the smallest feature in the group, measuring 0.47m by 0.40m and 0.2m deep, but it is probably the most significant. It was sub-circular with steep sides and a flat base and a stone projecting from the natural deposits in one side. A thin charcoal-rich silt lined the base of the pit on which lay a lump of heat-reddened clay (plate 15). This did not fill the whole of the base of the pit and it was unclear whether it was part of a floor or collapse from a roof or superstructure. The main fill was a dark brown sandy silt with c.30% stones, many of which were heat-fractured. There was some charcoal and several pieces of slag including a large lump (SF65)

which could be interpreted as being part of a smithing hearth base. A single fragment of burnt bone (SF49) and an iron object (SF55) were also recovered from the pit.

It seems probable that pit [2078] was the base of a metal-working hearth and that the other pits contained waste from this process. The sherd of post-medieval pottery raises the possibility that this was fairly recent activity but such small scale metal-working seems unlikely in the 18th or 19th century and the position of the group of pits near the middle of the structure implies that they were related. If this proves to be an example of medieval metal-working it will be of considerable importance and the well-preserved nature of the features should allow conclusions to be drawn about how the activity was undertaken.

5.4. Other features

Many of the features investigated appeared to be of a natural origin ([2027], [2029], [2031], [2033], [2037], [2039], [2039], [2045], [2055], [2059], [2064], and [2110]). Some of these may have been caused by tree roots, other were the result of animal burrowing in the softer soil in the western half of the trench. Others were little more than an unevenness in the surface of the natural or where a stone had been pulled out by the plough. Feature [2035] was slightly deeper at 0.2m and may have been the truncated remains of a small pit. Features [2049] and [2089] on the line of postholes on the south-eastern side of the main structure could also be genuine archaeological features, possibly related to this wall line, but apart from flecks of charcoal in the fill of [2089] there was little to prove this.

Feature [2113], partly hidden under the north-western baulk of the trench appeared to be a pit with steep sides and a flat base. It measured c.0.8m in diameter and was 0.25m deep. Its fill was a brown sandy silt with no charcoal present. Its position next to posthole [2108] could suggest that it had a structural function. It would certainly have been very close to the wall supported by these postholes.

Extending from the north-eastern baulk was an irregular area of reddened natural sub-stratum (2115). It is assumed that the reddening was caused by heat but as there was no charcoal present it is possible that the heat was from a bonfire on the present surface as the natural is only 0.25m below the surface to this point. However, no charcoal could be seen in the ploughsoil as might be expected from a fairly recent bonfire.

A straight, narrow feature [2061] ran south-west to north-east across the trench within the area of the posthole structure. This was about 4.1m long and up to 0.6m wide. It was originally thought to be longer but the north-eastern end was much more irregular than the rest and wandering rather than straight. This end [2124], on investigation, had steep sides and a narrow base not reached after digging 0.35m down into the feature. The stony fill was very clean and this is almost certainly a natural ice wedge. The remaining, straight part of the feature [2061] was no more than 0.06m deep and was filled with dark brown silt. It was considered possibly to be the trace of a beam slot, especially as it appeared to have a posthole [2119] at the north-eastern end. However if that were the case, it should have run to posthole [2092], which it avoided to the south. It therefore seems probable that [2061] was unrelated to the sub-circular structure and was either a hollow in the top of the ice wedge that held ploughsoil or a plough scar in the surface of the natural.

5.5. Inner bank

The inner bank was investigated in two places. The first was the south-western corner of the trench where the bank could be seen turning the corner around the edge of the inner platform, and the second the north-western side of the trench where an extension to the trench was dug specifically to investigate the bank.

In the south-western corner of the trench the bank (2116) was a substantial feature, 0.7m high, built mainly of rounded cobbles (2013) with a deposit of gravel (2047) against the inner face (plate 16, figure 4). The bank rested on a dark silty layer (2082) containing occasional charcoal and burnt bone along with quantities of heat-shattered stone. This only survived under the bank but it was unclear whether it was a deliberate levelling layer for the bank or remains of a more general occupation layer that had been eroded away elsewhere and was only preserved under the bank. Underlying this deposit was a buried soil composed of an organic A horizon (2054) and an inorganic sandy silt B horizon (2111).

The gravel over the bank was cut at its foot by a near vertical edge 0.12m high [2057]. This straight cut truncated the base of the gravel deposits and could be seen in both plan and section.

In the north-western corner, the bank (2018) was up to 0.6m high. This comprised a dump of orange gravel (2020) with rounded stones (2021) dumped against the south-eastern side. These deposits formed the main part of the bank (plate 17, figure 5). Under the toe of deposit (2020) on the north-western side was a darker, more soily layer with larger stones (2024). This does not seem to have been a deliberate revetment but probably the result of some turf being deposited in this area and larger stones rolling to the base of the bank. There was no continuous layer of burnt stones under this part of the bank but there was a patch of burnt stones (2095) under its northern side. Under this was a buried soil (2079, 2085).

The inner, south-eastern side of the bank was also cut by a vertical edge [2058]. This was 0.2m high and quite well defined in plan, but less easy to see in section. It is suggested that these sharp edges may have been caused by ploughing inside the platform cutting into the base of the bank. This would mean that ploughing took place long before the later ploughing that caused the build-up of soil against the bank at the western end of the platform.

After the base of the bank had been truncated, an extensive deposit of burnt stone was dumped up against its inside face. This was recorded as (2003) in the south-west corner of the trench and (2023) in the north-western part. Traces of the deposit along the base of the western baulk of the trench suggested that this was a continuous deposit and that more of it survived, beyond the excavation built up against the western part of the bank. This deposit contained about 75% angular heat-shattered stones in a very dark brown, sandy silt matrix. There were flecks of charcoal and 95g of burnt bone were recovered (SF33, 47, 48). Much of this was small fragments but some appears diagnostic. There was also an unburnt pig's tooth from (2003) (SF30). Occasional pieces of furnace lining (SF21 and 61) and slag (SF58 and 63), could industrial activity; however the quantities were not large. Two unidentified iron objects (SF28) and a nail (SF35) were recovered, as well as a flint flake (SF53). Most interesting were copper alloy finds. Three fragments of a single piece of copper alloy sheet with holes in (SF20) were found in (2003) and a decorative stud (SF32) was found in (2023). An almost identical stud was recorded as coming from the buried soil (2054) but most likely was from the very base of (2003). These studs have four leaves or petals to provide a decorative effect and appear to be medieval horse harness mounts (plate 19).

The burnt stone deposits are of considerable interest. Their position above what may be the traces of a ploughing event, suggests that these layers were deposited after the site went out of use. The presence of very similar deposits within the post-pipes of some of the larger postholes may suggest that the posts were removed and the resulting voids filled with the same material. A very similar deposit (017) was also found in the evaluation but this seemed to be filling a slot [018] in the top of the inner bank. It is possible that this supposed slot, which only really had one visible side, was also a truncation caused by ploughing.

The origin of this burnt stone is currently a mystery. A considerable amount of heat must have been used, possibly over a prolonged period, to generate so much burnt stone. However no large fire sites were found in the excavation and the geophysical survey would surely have picked up such a feature, yet nothing was seen in the unexcavated half of the platform, or elsewhere within or near the monument. It is therefore assumed that the burnt material was brought in from elsewhere but it would require more research to ascertain why this was done and what activity originally generated the material.

The presence of burnt stones under bank (2116), in small patches under bank (2018) and under the bank in the evaluation trench may be related to an earlier occupation. It could alternatively indicate that the activity producing the burnt stones had a long duration spanning the creation of the bank and use of the site.

5.6. Finds

Summary of finds

Object type	No of items	Total Weight (g)	
Bone	282	153.5	
Copper alloy	7	2.9	
Copper alloy (MD)	26	219.5	
Flint	10	24.5	
Iron	15	1057.5	
Iron (MD)	20	322	
Lead	1	4	
Lead (MD)	6	68	
PM pot	38	180	
Silver (MD)	1	1	
Slag	Not counted	5691	
Stone	1	209	

See appendix I for a more detailed list of finds.

Significant finds have been described above in relation to the contexts they were recovered from. Many of the metal objects were found during the metal-detector survey in 2013 or while metal-detecting the exposed ploughsoil in 2014. These are mostly of recent date and are unlikely to contribute much to the understanding of the site but required recording. The silver object is a ferule from a cane which was found by metal-detecting. Fifteen iron objects and 7 copper alloy objects were recovered from archaeological contexts and are of considerable importance, particularly the copper alloy studs (plate 19) from the burnt stone deposits, which should be quite precisely datable and indicate the status and wealth of the site.

The post-medieval pottery assemblage is small and unlikely to be very informative but again requires recording. The slag mostly comes from the metal working pits but some pieces, including furnace lining come from the burnt stone deposits and may be important in understanding these deposits. Most of the bone, the majority of which is burnt, comes from the burnt stone deposits and will also be valuable in determining how these were generated.

Only 5 of the pieces of flint were worked, the other 5 being unworked pebbles retained to demonstrate the type of flint naturally present in the glacial gravels. It is probable that the flint is incidental but it is possible that it could hint at earlier activity on the site.

5.7. Samples

Forty bulk soil samples were taken from the 2013 and 2014 phases of the project. The three samples taken in 2013 have been processed and the plant remains from them have been assessed (see below). The remaining 37 samples need to be floated and wet sieved to recover charred plant remains and small artefacts. There are, in addition, two samples of burnt stone and two small samples taken for pollen analysis. Details of the samples are given in appendix II.

Processing the soil samples should not only produce charred plant remains but also small artefacts, particularly metal-working debris and burnt bone that will add to those collected by hand.

5.8. Site records

Trench 1

Context sheet	46 sheets			
Context register	2 sheets			
Digital photographs	110 files			
Site drawings	14 drawings on 8 sheets			

Day records 8

Trench 2

Context sheet	124 sheets
Context register	7 sheets
Digital photographs	193 files
Site drawings	47 drawings on 14 sheets

Trenches 1 and 2 combined

Photo record sheets	12 sheets
Drawing sheet register	1 sheet
Drawing register	3 sheets
Finds register	6 sheets
Sample register	2 sheets

5.9. Assessment of the palaeoenvironmental potential of deposits from the evaluation trench Rosalind McKenna

Introduction

Bulk soil samples were recovered during the evaluation excavation in 2013 from deposits that had evidence of charred plant remains. Three deposits were considered to be worth sampling. These were the buried soil layer (021) under the inner bank, the fill (017) of the possible slot [018] in the top of the inner bank, and (014), the upper fill of cut [015]. These samples were wet sieved and floated and the flots were submitted to Rosalind McKenna for assessment.

Methods

The bulk soil samples were processed using the GAT standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.3mm and air dried. The heavy residue (the material which does not float) was not examined by Rosalind McKenna, and therefore the results presented here are based entirely on the material from the flot. The flot was examined under a low-power binocular microscope at magnifications between x12 and x40.

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

Identification was carried out using published keys (Jacomet 2006, Biejerinkc 1976, Jones – unpublished and Zohary & Hopf 2000), online resources (<u>http://www.plantatlas.eu/za.php</u>), the authors own specimens and the reference collection housed at Birmingham Archaeology's laboratory. The full species list appears in Table 2 at the end of this report. Taxonomy and nomenclature follow Stace (1997).

The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2mm fractions. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information is recorded with the results of the assessment in appendix III, table 3. Identification was made using the wood identification guides of Scweingruber (1978) and Hather (2000). Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

Results

Three samples were submitted. Of these, charred plant macrofossils were present in two of the samples and were quite poorly preserved, with few identifying morphological characteristics present. The results of this analysis can be seen in appendix III, table 2. The samples produced small assemblages of plant remains both in volume and diversity. The most common and abundant remain was hazel nut shell fragments, which were present in both of the samples in varying amounts. One of the samples (Sample 1) contained nine charred cereal grains, some of which lacked identifying morphological characteristics, and were therefore recorded as 'indeterminate cereal'. A further six of these could be identified as probable oat, but it was impossible to distinguish if these were of the cultivated variety. Several weed / wild seeds were also present in very small numbers in this sample

- grass seeds, a dock and unidentifiable members of the cabbage family. In sample 3, charred buds were present alongside several indeterminate plant macrofossils.

Charcoal remains were present in all three of the samples and scored between '2' and '4' on the abundance scale. There were identifiable remains in all of the samples. The preservation of the charcoal fragments was relatively variable even within the samples. Some of the charcoal was firm and crisp and allowed for clean breaks to the material permitting clean surfaces where identifiable characteristics were visible. However, some of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Appendix III, table 3 shows the results of the charcoal assessment. Two of the samples were dominated by ash, and one of the samples was dominated by willow/poplar charcoal. Oak was also present in all three samples, alder in a single sample and hazel in a single sample.

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

All of the samples produced varying amounts of charcoal, indicating the use of a mixture of species being utilised for firewood, although with a preference to using ash. Bark was also present on some of the charcoal fragments, and this indicates that the material is more likely to have been firewood, or the result of a natural fire.

Generally, there are various, largely unquantifiable, factors that effect the representation of species in charcoal samples including bias in contemporary collection, inclusive of social and economic factors, and various factors of taphonomy and conservation (Thery-Parisot 2002). On account of these considerations, the identified taxa are not considered to be proportionately representative of the availability of wood resources in the environment in a definitive sense, and are possibly reflective of particular choice of fire making fuel from these resources.

Root / rootlet fragments were also present within the samples. This indicates disturbance of the archaeological features, and this may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site. The presence of earthworm egg capsules in all of the samples, together with insect fragments in two of the samples further confirms this disturbance.

From sample 1 (17) oat grains and hazel nut shell fragments have been prepared for two radiocarbon dates. From sample 3 (21) two hazel nut shell fragments have been prepared for radiocarbon dates.

Conclusion

The samples produced some environmental material, with the charcoal remains from all three samples and the plant macrofossils from two of the samples.

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

Dryland wood species indicates the presence of an oak-ash woodland close to the site. This would have consisted of oak and ash which would be the dominant large tree species (Gale & Cutler 2000, 120, 205). On the marginal areas of oak-ash woodlands or in clearings hazel thrives. The evidence of carr fen woodland indicates a damp environment close to the site. This type of woodland would have consisted of alder, willow and poplar

which are all trees that thrive in waterlogged and damp soils, particularly in areas close to streams or with a high water table (Stuits 2005, 143 and Gale & Cutler 2000), perhaps indicating such an environment within close proximity to the site.

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

The archaeobotanical evidence found in the samples shows hazelnut shell, together with several indeterminate cereal grains, several oat grains, and several weed/wild species such as grass, dock and members of the cabbage family. Due to the small number of cereal grains and associated weed seeds, there is limited interpretative information other than to state their presence. The fact that oats are the only identified species of cereal may indicate that sample 1, from the palisade slot in the top of the inner bank, is of Medieval date as this species is a common crop of that period.

Hazel-nuts are valuable nutritionally, as well as being readily available. In addition, the nut shell is hard and resistant to decay ensuring its survival in some quantities. The hazelnut shells recovered may be indicative of a food source being consumed, perhaps as a snack and their husks being added to the fires as a method of waste disposal. However, the hazelnut shell fragments show no marks typically associated with processed shells. Together with the high portion of hazel charcoal, this may indicate that they are merely representative of hazel wood trees being burnt, which could be either a natural or a man-made process.

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

5.10. Radiocarbon dates

Four samples were submitted to the Scottish Universities Environmental Research Centre (SUERC) Radiocarbon Laboratory for accelerator mass spectrometry (AMS) dating from the 2013 evaluation trench. The deposits dated were from the buried soil layer (021) under the inner bank and the fill (017) of the possible slot [018] in the top of the inner bank. Slot [018] appeared to be a straight linear slot dug into the top of the bank material, or possibly created by building up the bank material around a timber structure. The slot was filled with burnt stone and earth with a high proportion of charcoal. The origin of the stone and charcoal is so far unknown but it is assumed to be chronologically fairly closely related to the bank construction because burnt stone was also present in one of the layers forming the bank (024).

Charcoal from a buried soil cannot be used to provide a precise date as its origin must remain unknown and its relationship to the bank building activity uncertain, but the aim was that this layer would provide a general *terminus post quem* date for the bank. The uncertainty about the origin of the charcoal in both deposits meant that these dates could only be an initial range-finding estimate of the date of the monument.

Two items for dating were recovered from each context, allowing for a check on the dates produced and identifying any contamination or other mixing of materials of different dates. Short-lived single items were used to avoid errors from old wood effect. The bulk soil samples were processed as described above and appropriate identifiable items were selected by Rosalind McKenna.

The items were processed and measured in the Scottish Universities Environmental Research Centre AMS Facility. The calibrated age ranges were determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal4). The results and details of the dated samples are given below.

Lab No.	Material	Context	Radiocarbon age BP	Calibrated date (95.4%
			0	probability)
SUERC-54221	Charred nut shell : hazel	Context 17: fill of	999 ± 30	calAD 984-1152
	(Corylus avellana)	slot in inner bank		
SUERC-54222	4 charred cereal grains :	Context 17: fill of	885 ± 30	calAD 1041-1220
	Oats (Avena species)	slot in inner bank		
SUERC-54223	Charred nut shell : hazel	Context 21:	1010 ± 30	calAD 973-1150
	(Corylus avellana)	buried soil under		
		inner bank		
SUERC-54227	Charcoal : Willow/poplar	Context 21:	915 ± 30	calAD 1030-1189
	(Salix/Populus)	buried soil under		
		inner bank		

Although the intention was to obtain an initial rough approximation of the date of the monument, in fact all the dates proved to be very similar. As these bracketed the construction of the bank this meant that these dates alone can give a fairly precise date for the construction of the inner bank, of probably in the 11th or 12th century AD. The dates on context (017) support the finding of the medieval harness mounts from the burnt stone deposit (2023) in showing that this deposit was probably medieval in date. This cannot prove that all the activity on site was medieval but the lack of an earlier date from the buried soil under the bank does hint at an absence of earlier activity. To be sure that the main structure in the interior of the site is medieval and to obtain a more accurate date for its use, more radiocarbon dates are necessary. Dates are also needed in the metal-working pits to determine whether they are related to the other activity or are much later. There still remains the possibility that there was medieval reuse of an Iron Age monument, so further dates might pick up some trace of earlier activity.

6. DISCUSSION

6.1. Interpretations of excavated features

The postholes revealed in the excavation suggest the presence of a large timber structure. As the full area of the inner platform was not excavated the plan of the building remains open to discussion. There are two probable alternatives for the building plan; sub-circular or sub-rectangular. A circular structure with one side flattened would fit the evidence well and would fit neatly in the space available with room for ancillary buildings in the eastern end of the platform (figure 6). In this reconstruction the structure would have been about 12m in diameter. However the flattened side suggests that this could alternatively be interpreted as the western end of a longer, rectangular structure with at least one curved end. This could have been up to between 18m and 20m long depending whether the eastern end was curved or straight.

In either case the large postholes with post pipes up to 0.5m in diameter suggest that this was a substantial structure, possibly with a second storey. Both alternative interpretations leave several internal postholes unexplained. The similarity in character of these postholes and lack of coherent evidence for another structure on the site suggests that they were all contemporary. The rectangular post-pipes, especially in some of the interior postholes, suggest squared timbers were used for some features in the structure, indicating that considerable time, effort and skill was used in the construction.

Dating will be necessary to determine whether the metal-working pits are contemporary with the sub-circular structure, but this seems likely, although this would mean that the metal-working took place inside the building, which seems to be a fire risk.

In the sub-circular reconstruction, the beam slot [2104] running from posthole [2102] could possibly be related to an entrance on the eastern side, especially if there was originally a similar slot related to posthole [2011]. The flattened south-eastern side of the structure is parallel to the edge of the scarp and the bank presumably ran along this side just beyond the line of postholes. It is difficult to see how there could be an entrance in this side of the structure, so an entrance in the eastern side, possibly facing ancillary buildings, is probable. If the sub-rectangular reconstruction is considered there is more potential for internal partitions that may explain these interior postholes.

If this was a circular structure is it could perhaps be interpreted as that it was an Iron Age roundhouse but the dates already obtained from the inner bank make that seem unlikely. Also in a roundhouse the ring of structural timbers would have supported a ring beam inside the building with the eaves extending a considerable distance beyond this. The outer wall would have been concentric and much further out than the main postholes. This would have made a very large roundhouse and more importantly, as the ring of postholes just fits inside the circuit of the inner bank, there would have been no room for an outer wall to this structure. An interpretation as a traditional Iron Age roundhouse therefore seems to be ruled out, but a sub-circular medieval structure is possible.

Unfortunately the geophysical survey gives no help in predicting what may be under the unexcavated part of the platform. While the survey clearly picked up the metal-working pits it did not detect the postholes found in the excavation, so a lack of apparent postholes in the remainder of the area cannot be taken to mean that there were no structures there (figure 7). If the building was sub-circular it is possible that the remainder of the platform was retained as a yard and that it contained no substantial structures. Only further excavation would solve the question of the shape of the structure and the presence of other structures on the platform but good practice means that such work should be left for future generations when techniques and questions may be different.

The presence of the inner bank in the south-western corner of the trench strongly suggests that it did continue around the south-eastern side of the platform but has been largely eroded away here. At about 0.7m above the original ground surface even in an eroded state this bank would have been quite substantial. In neither of the two sections of bank investigated in 2014 was there any evidence for a palisade or similar structure. The presence of the steeply eroded scarp at the foot of the bank suggest that the feature provisionally interpreted as a disturbed palisade slot in the evaluation trench (018) probably was not one but was related to this truncation or erosion scarp.

Whether there was earlier occupation on the site indicated by the deposits with burnt stone and other burnt material under the bank is something that needs to be tested by radiocarbon dating. The similarity between this material and the burnt stone over the bank does imply that perhaps there was only a short duration of activity on this site between creation and abandonment.

The origin and purpose of the burnt stone material is one of the remaining mysteries of the site. Analysis of the bulk soil samples will hopefully provide some evidence of the activity which originally generated the deposit, but only the discovery of the oven, kiln or fire site on which the stones were heated will demonstrate exactly where they came from. That seems to be beyond the area investigated by the current project and will have to wait until future work leads to a chance discovery.

6.2. Parallels and comparisons

In GAT report 1167 (Kenney and Hopewell 2014) Hen Gastell was compared to sites of supposed Iron Age or Roman period date. The medieval radiocarbon dates now obtained suggest that a different range of sites should be considered as parallels. There are, however, several undated sites of similar form to Hen Gastell, such as Erw Goch, Eglwys Bach (PRN 2891) and Castell y Gaer (PRN 4919) at Llwyngwril near Towyn (Bowen and Gresham 1967, 153-155) that are assumed to be early but could alternatively prove to be medieval if excavated. This project should lead to a reassessment of such sites and act as a warning that not all defended enclosures are Iron Age.

A timber hall with a curved or apsidal end is a possibility in the medieval period, although of all the structures excavated on medieval timber castles covered by Higham and Barker (2006) only one is shown to have a curved end. This is a late 11th century timber hall on the castle at Mirville, Seine Maritime, France (ibid, 264-267), which measured 17m by 8m, and so was of a similar scale to the proposed sub-rectangular building at Hen Gastell. The Mirville hall had a fairly straight eastern end but the western end was bowed or apsidal. Four large posts had straight sections of wall running between them; the layout of the postholes being very similar to the arc of four postholes at Hen Gastell (figure 8). Although geographically this structure is far removed from northwest Wales, chronologically it is potentially quite close and at least shows that such buildings could be associated with defended sites at a period when there were strong links between France and England if not directly with Wales.

The flattened circular alternative seems harder to justify by comparison to medieval structures elsewhere. D-shaped towers, especially in stone, are quite common, including in Wales but these are a very different shape to

the proposed flattened circle at Hen Gastell. There is one possible parallel to the sub-circular reconstruction of Hen Gastell. A structure excavated on top of the motte at Castlehill of Strachan, Aberdeenshire, has many similarities. The 13th century structure had postholes 3m apart that were up to 1m deep, which defined an arc (figure 8). Some of the postholes retained post-pipes and packing stones (Yeoman 1984, 326). The structure was partially damaged and incomplete, allowing a variety of interpretations. Yeoman (1984, 344) suggests that it was 'boat-shaped', measuring measured c.14m by 12m, and compares it to Viking buildings. Murray (1984, 346) argues for a circular plan and compares it to a 12th century circular building excavated on Castle Hill, Peebles. The Castle Hill structure, which measured c. 12.4m in external diameter, was constructed in a different fashion with a wall defined by a gully rather than a ring of postholes (Murray and Ewart 1980, 522). Higham and Barker (2006, 312-3) preferred a reconstruction as a single storey roundhouse despite its date. Whether this structure may have had a straight side like Hen Gastell is impossible to say from the surviving remains, but it supports the possibility of a sub-circular structure, although cultural links would be very difficult to explain. If the putative sub-circular structure was two stories high and in effect a small tower, it would correct the disparity between the height of the outer bank and that of the interior, making the site work more effectively for defence.

Trying to find parallels for such a small, oddly shaped defended medieval site is also difficult. Higham and Barker (2006, 49-56) list several Saxon private defended sites across England dating to the 10th and 11th centuries. These have all been adapted into later castles, so in most cases the form of their original defences is unclear. However remains of the rampart and ditch around the site at Goltho, Lincolnshire shows that some of these had substantial defences (ibid, 54-55). In all cases they are much larger that Hen Gastell, with several timber or stone buildings inside, but show that small, private defended sites did exist in southern Britain at this period.

Excavated sites within north Wales of a 11th to 12th century date that are not *llys* sites are rare. The only obvious example is Castell at Porth Trefadog, Anglesey, excavated in 1984 (Longley 1991). This site made use of natural features, in this case a cliff edge, and had a massive ditch and a much larger inner bank than Hen Gastell, surrounding a small interior. While not exactly the same in plan as Hen Gastell it did have similar features. Excavation in the interior revealed the remains of a rectangular stone building, which might have had the same function as the proposed sub-rectangular timber option for Hen Gastell. Iron-working hearths were found within the building and these were dated to the 12th or 13th centuries AD. The five hearths were dug through the floor of the building, but it is assumed that they represent a later phase of activity after domestic occupation ended but before the roof collapsed in. Seven radiocarbon dates were obtained from 4 of the hearths and these give date ranges from AD 902 to AD 1386. Statistical analysis would probably remove the outer limits of this range and the dates are probably not dissimilar to those produced from the evaluation trench at Hen Gastell. If the metal-working pits at Hen Gastell prove to be medieval then statistical analysis will be carried out on the Castell dates to allow comparisons.

Longley places the occupation of the house on this site in the 11th and 12th centuries AD followed by the ironworking hearths and then final abandonment in the 12th to 13th centuries. He considers the possibilities of Norman or Norse influence on the site and the possible context in Gruffydd ap Cynan's struggle for power with the Normans from 1075. Ultimately the character of the house leads him to favour the suggestion of a land grant to Manx or Dublin Vikings leading to the creation of the defended site (Longley 1991, 79-84).

The presence of Vikings in Llanwnda may be less likely than on the coast of Anglesey but local lords may have copied some features of sites such as Castell and perhaps followed other traditions for the buildings within.

Another potential Viking site is the 'castle' of Bon y Dom mentioned in The History of Gruffydd ap Cynan as having a mound and a ditch, and having been built by Olaf, King of Dublin and Gruffydd's maternal grandfather.

"The pedigree of Gruflydd on his mother's side. King Gruflydd, son of Ragnaillt the daughter of Olaf, king of the city of Dublin and a fifth part of Ireland and the Isle of Man which was formerly of the kingdom of Britain. Moreover he was king over many other islands, Denmark, and Galloway and the Rinns, and Anglesey, and Gwynedd where Olaf built a strong castle with its mound and ditch still visible and called "The Castle of King Olaf." In Welsh, however, it is called Bon y Dom." (Jones 1910, 105)

The Royal Commission Inventory for Anglesey cannot identify any surviving remains associated with this site (RCHAMW 1937, cxlvi), but Hogg (1962) suggests Castell Bryn Gwyn, Llanidan, with its impressive but largely undated ringwork, as the nearest defended site to the Bon y Don ferry, which may reflect the name of the Viking 'castle'. However Longley (1991, 82-3) suggests Dinas, Y Felinheli, as this is also close to the Bon y

Dom ferry but on the Gwynedd side, and The History does imply that the 'castle' was in Gwynedd not Anglesey. Olaf would have built his 'castle' around AD 1000 (Longley 1991, 82) and though the speculations above do not provide anything that can be closely compared to Hen Gastell it gives a context of what was happening in the area if the earlier end of the Hen Gastell date range turns out to be correct.

Mottes in north Wales are generally assumed to have been built by the Normans. Some of the more remote sites, far down the Llŷn peninsula such as Tŷ Newydd, Nefyn and Abersoch are may have different origins as Norman control in this area, with the exception a short foray in 1075, did not come until the Edwardian Conquest. Small mottes might therefore be part of the range of defended sites that were built by the native Welsh lords at the same period that Hen Gastell was built. There are also ringworks, such as Castell Crwn (PRN 3515), Llanrhwydrys, Anglesey (RCAHMW 1937, 108-9), which may be a 12th century native defended site. Tomen Fawr (PRN 1329), Llanystumdwy, is a ring motte without a bailey (RCAHMW 1960, 237) that was probably occupied by the Lord of Eifionydd in the 12^{th} century (Gresham 1973, 338). None of these sites closely resemble Hen Gastell, but perhaps indicate that there was a range of options for a local lord to choose from when considering building a defensive site.

On the basis of the current evidence it seems reasonable to see Hen Gastell as the well-defended home of a local medieval Welsh lord who controlled the farmland in the vicinity. Further radiocarbon dates may confirm or overturn this interpretation and should certainly allow a more precise chronology to be established which will help with identifying the historical context of the site.

7. **RECOMMENDATIONS**

7.1. Finds

Metal-working debris

There is 5.69kg of slag and related material such as furnace lining fragments from the site, mainly from features [2076] and [2078], with smaller amounts from the burnt stone deposits (2003 and 2023). It is proposed to send this material to Tim Young of GeoArch for analysis. The soil samples are also likely to produced metal-working debris and this will be included in the analysis.

The importance of the group of metal-working features is directly related to their date. If these prove to be medieval in date the slag would be worthy of laboratory analysis, as medieval metal-working is not well studied in North Wales. A contingency cost should be held in reserve in case dates on these features do prove that it is medieval so that this work can be carried out in this case.

The lump of iron (SF40) (plate 18) found in the top of pit [2081] may have relevance to the metal-working but will be considered with the other iron objects.

Flint and stone objects

There are only 10 flint items, 5 of which are unworked. These require a basic report which will be undertaken by George Smith. It is unlikely that these will require illustration but they will be scanned and an image produced for the report. The only stone object is a possible heat-fractured pebble and this will be also be studied by George Smith.

Metal objects

It is best practice to x-ray all iron objects, even those from the topsoil, to ensure that no significant artefacts are missed because they are too corroded to identify. This would be done by Phil Parkes of Cardiff Conservation Services. Significant iron objects would then require conservation to stabilise them for archiving. The exact finds to require conservation will not be known until they have been x-rayed and studied. The extent of cleaning required would also have to be determined. The conservation would also be carried out by Phil Parkes.

Conservation of the copper alloy objects has already been proposed and submitted as a contingency cost for 2014-15 as these objects require stabilisation as soon as possible.

Quita Mould of Barbican Research Associates would study all the metal objects. She will provide a report summarising all the objects with detailed descriptions of the more interesting items where necessary. She will recommend which items require illustrating and illustrations or good quality photographs will be produced as appropriate.

Post-medieval pottery

There are only 38 sherds of post-mediaeval pottery including pieces of clay pipes. Jonathan Goodwin of Stokeon-Trent City Renewal Services will carry out an assessment of the pottery but it is highly unlikely that further detailed study will be necessary on this assemblage.

Bone

There are 282 fragments of bone, weighing 153g in total. Most of these are small burnt fragments but there are occasional pieces of unburnt tooth. To this will be added pieces likely to be recovered from the wet sieving residues. Some of the burnt fragments are clearly diagnostic, so although this is a small and fragmentary assemblage it should be possible to recover useful information from it. All the fragments appear to be of non-human animals and Nora Bermingham will study them and produce a report.

7.2. Soil samples

Bulk samples

The bulk soil samples should be floated and wet sieved with a flotation mesh of 300 microns and wet sieving producing residues of >1cm and >0.5cm. It is proposed that the flots, containing the charred plant remains, will be analysed by Rosalind McKenna. This would be an initial assessment and she would produce a report and recommendations for further work if necessary. Any further work will be carried out in 2016-17 and will require additional costings, as the requirement for and extent of further work cannot be estimated until the initial assessment has been done and until radiocarbon dates have been obtained. She would also select items for radiocarbon dating in consultation with Jane Kenney to identify suitable species from appropriate contexts.

The residues, both coarse and fine, will be inspected by GAT staff and small artefacts will be recovered. A magnet will be used over all residues to recover magnetic metal-working debris. Artefacts recovered from the residues will be sent to the appropriate specialists to be included in their reports.

Pollen samples

Two small samples of soil were recovered from the buried soil under the inner bank and these have been kept in a refrigerator to ensure pollen grains within them remain well-preserved. As there are already dates from the buried soil and from the burnt stone layer over the bank and more dates are proposed then the pollen from this buried soil is worth study to determine the vegetation immediately prior to the construction of the bank. The samples will be assessed by James Rackham of The Environmental Archaeology Consultancy to test whether they contain any pollen grains preserved well enough to be identified to species. If pollen grains are present he will undertake a full analysis of these samples.

7.3. Radiocarbon dates

The radiocarbon dates obtained so far suggest that a rigorous programme of further dating should provide worthwhile results. The dates already obtained are sufficient to place the site in a general period (11th to 12th century AD), but this makes little contribution to the history of the period. Much more accurate dating is required to be able to place the site within a historically meaningful date range. There remains the possibility of earlier activity on the site that would be impossible to detect without radiocarbon dates. In particular, what appears to be an occupation layer (2082) under the bank requires dating to determine whether this is the remains of earlier occupation or related to the construction of the bank. The burnt stone deposits appear to be possibly related to the abandonment of the site and a good date on these should provide a reliable end date for the activity or are much later. Numerous dates from across the site will give a wide enough spread of dated material to detect early activity and to obtain an idea of the full duration of the main phase. The use of Bayesian statistics will enable these dates to be compared rigorously and for precise dates for the start and end of the activity to be obtained.

If an additional one or two dates are obtained then little will be added to what is already known, only a full and extensive dating programme can provide the answers to historical questions about the site. Derek Hamilton of SUERC has advised that, considering the period suggested by the dates already obtained "10-12 dates could produce a pretty precise chronology if the site was in use for a short duration (half century range), otherwise we could be in a situation where the end date for the site is not as precise as the start date". As dates on the metal-working pits may not prove to be part of the main phase of activity it is proposed to obtain an additional 10 dates and that these should be from a variety of features. Two dates will be obtained from some features to test

the level of mixing within features but single dates will be obtained for other features to ensure a wide spread of dates. Up to two of the metal-working features will be dated and the burnt stone material from the main postholes will be dated to compare with the burnt stone around the banks. The latter will require at least two more dates to test whether it is the same date across the site. Other dates will be obtained on various postholes. The origin of charred material within postholes is problematic but it can generally be assumed that this material is related to the general activity on the site and should at least contribute to the calculation of the duration of use of the site. The exact selection of features for dating will depend on the charred material available, which will not be known until this has been processed and analysed. Only short lived species will be selected so that there is no risk of confusing the results by dating timbers already several centuries old before being used on the site.

As this collection of dates would be largely meaningless without analysis Derek Hamilton will carry out Bayesian analysis on the dates and will produce a report showing the start and end dates and duration of the activity and discussing any anomalies or unexpected results.

7.4. Further excavation

It would be interesting to investigate the possible building in the ditch found in 2013 (see report ???), and excavation of the ditch down to its base could not only determine its full depth but may reveal artefacts and ecofacts that could contribute to the understanding of the use of the site. However it is suggested that once the results of the proposed post-excavation analysis are received enough should be known about the site to define its date and function and provide sufficient evidence for a decision on scheduling. It is therefore suggested that, while further excavation might be desirable, it is not necessary for the current requirement to provide evidence to inform scheduling. It is specifically recommended that no further excavation occurs inside the interior of the monument as a large proportion of this part of the site has already been excavated and it is consistent with best practice to leave the remainder for future generations to study as there is no current threat to it and scheduling will further reduce potential threats.

7.5. Report and Publication

Once the results of the analysis proposed above have been obtained a full report will be produced for Cadw and for inclusion in the HER. This would appear to be a very important site that will contribute significantly to our knowledge of a part of the medieval period which has relatively little documentary evidence and even less archaeological evidence in north-west Wales. It is therefore important to ensure that the information reaches the wider archaeological community. The final report will be converted into a paper for publication. The importance of this paper justifies submitting it to the journal Medieval Archaeology, or if it is rejected to be submitted to Archaeologia Cambrensis.

To ensure a wider audience it is proposed to also write a summary report aimed at a more popular level that can be made available on the GAT website and sent out to volunteers that worked on the site and other interested parties. This report would be translated into Welsh. There will also be talks about the site, including one in Llanwnda, where the summary report will also be distributed to local people.

8. ACKNOWLEDGEMENTS

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The Trust would like to extend to particular thanks to Tom and Barbara Ellis, the owners and farmers of the land, for their permission to carry out the work and for their toleration and support while the excavations and Open Day caused considerable disruption to their work and daily routine.

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10. APPENDIX I: List of finds

Find numbers 1 to 19 are from the 2013 evaluation excavation and metal detecting survey.

Find No	Context No	Material	Description
1	001	Iron	Buckle (metal detector find)
2	001	Copper alloy	Button (metal detector find)
3	001	Copper alloy	Half penny dated 1951 (metal detector find)
4	001	Copper alloy	Copper alloy object, very good condition and presumably recent (metal detector find)
5	001	Copper alloy	Penny dated 1935 (metal detector find)
6	001	Copper alloy	Badge (metal detector find)
7	001	Copper alloy	Penny dated 1948 (metal detector find)
8	001	Copper alloy	Modern key (metal detector find)
9	001	Copper alloy	George III penny (metal detector find)
10	001	Copper alloy	Threepenny bit dated 1944 (metal detector find)
11	001	Copper alloy	Penny dated 1910 (metal detector find)
12	001	Copper alloy	Modern penny dated 1991 (metal detector find)
13	001	Iron	Possible nail
14	001	Flint	Flint flake
15	001	Copper alloy	Half penny dated 1920 and thimble (metal detector find)
16	004	Ceramic	Sherd of Buckley ware and clay pipe stem (stamped)
17	017	Bone	Burnt bone fragments
18	017	Copper alloy	Tiny piece of copper alloy
19	004	Stone	Fractured pebble, possibly heat-fractured
20	2003	Copper alloy	3 frags of 1 piece of copper alloy sheet with holes in
21	2003	Slag	Fragment of furnace lining
22	2004	Bone	Burnt bone fragment
23	Unstratified (T2)	Copper alloy	Coin/token and button (metal detector find)
24	Unstratified (T2)	Ceramic	Clay pipe stems and pipe bowl frags
25	Unstratified (T2)	Iron	Various iron objects including hand-made nails (metal detector find)
26	Unstratified (T2)	Slag	Slag
27	Unstratified	Lead	Lead (metal detector find)
	(T2)		
28	2003	Iron	Iron objects
29	2021	Bone	Burnt bone
30	2003	Bone	Pig tooth

31	2042	Charcoal	Charcoal fragment	
32	2023	Copper	Decorative stud	
		alloy		
33	2023	Bone	Burnt bone	
34	2054	Copper alloy	Decorative stud	
35	2023	Iron	End of a nail	
36	2070	Flint	Broken retouched blade	
37	2072	Bone	Burnt bone fragments	
38	2072	Iron	Iron object	
39	2071	Iron?	Iron object or possibly slag	
40	2080	Iron	Rectangular iron block	
41	2075	Ceramic	Post-medieval pot sherd	
42	2070	Bone	Burnt bone fragments	
43	2069	Iron	Nail?	
44	2088	Flint	Flint flake	
45	2097	Bone	Burnt bone fragments	
46	2066	Slag	Two bags of slag	
47	2003	Bone	Burnt bone fragments	
48	2023	Bone	Burnt bone fragments	
49	2077	Bone	Burnt bone fragment	
50	2024	Bone	Burnt bone fragments	
51	2082	Bone	Burnt bone fragments	
52	2002	Bone	Burnt bone fragments	
53	2003	Flint	Flint flake	
54	2024	Flint	Burnt fragment of scraper edge	
55	2077	Iron	Iron object	
56	2002	Ceramic	Various sherds of post med pot including Buckley ware	
57	2075	Slag	Slag	
58	2003	Slag	Slag	
59	2002	Lead	Piece of lead rolled over (from cleaning over 2003)	
60	001	Silver	Silver ferrule with end of cane	
61	2023	Slag	Fragments of furnace lining	
62	2066	Slag	Fragments of possible furnace lining	
63	2023	Slag	Slag	
64	2080	Copper	Tiny copper alloy fragment	
65	2077			
65	2077	Slag	Possible smithing hearth base	
00	2002	Slag	Stag from cleaning over bank 2018	
6/	2002	Fiint	Small pieces of unworked limit from plougnson	
08	001	Iron	Iron objects from topson in trench 1	
69	001	alloy	various recent items recovered by metal-detecting across Hen Gastell	
70	001	Lead	Lead recovered by metal-detecting across Hen Gastell	
71	001	Copper	Pennies dated 1916 and 1883 (metal-detector find)	
70	001	Land	Musicat hall	
12	001	Leau		

11. APPENDIX II: List of samples

Sample	Context	Type of	No. of	% of deposit	Notes
No.	015	sample	tubs	sampled	T 1 2012 12011
1	017	Bulk soil	4	5	Taken 2013, processed 2014
2	014	Bulk soil	1	20	Taken 2013, processed 2014
3	021	Bulk soil	1.5	10	Taken 2013, processed 2014
4	2003	Bulk soil	1	<5	
5	2003	Bulk soil	1	<5	
6	2003	Bulk soil	1	<5	
7	2015	Bulk soil	1	100	
8	2003	Bulk soil	1	<5	
9	2012	Bulk soil	1	25	
10	2036	Bulk soil	1	40	
11	2023	Stone sample	2	5	
12	2042	Bulk soil	1	15	
13	2048	Bulk soil	0.33	25	
14	2023	Bulk soil	1	5	
15	2014	Bulk soil	1	25	
16	2023	Bulk soil	1	5	
17	2010	Bulk soil	1		
18	2008	Bulk soil	1		
19	2056	Bulk soil	1		
20	2070	Bulk soil	3	50	
21	2066	Bulk soil	2	25	
22	2072	Bulk soil	1	33	
23	2071	Bulk soil	1	33	
24	2053	Bulk soil	1	33	
25	2075	Bulk soil	2	50	
26	2079	Bulk soil	1	5	
27	2070	Stone sample	1	30	
28	2082	Bulk soil	1	<5	
29	2077	Bulk soil	1	50	
30	2006	Bulk soil	1	10	
31	2069	Bulk soil	1	20	
32	2098	Bulk soil	1 small	100	
52	2070	Duik son	bag	100	
33	2099	Bulk soil	1 small	100	
00	_0,,,	Duni son	bag	100	
34	2093	Bulk soil	1		
35	2090	Bulk soil	1	100	
36	2101	Bulk soil	1	50	
37	2084	Bulk soil	1	50	
38	2097	Bulk soil	1 small	30	
50	2077	Daix 5011	bag	50	
39	2088	Bulk soil	1	10	
40	2120	Bulk soil	1	30	
41	2082	Bulk soil	1	<5	
42	2105	Bulk soil	1	25	
43	2079	Pollen sample	1	-	
44	2054	Pollen sample	1	_	
т-1	2007	i onen sumple	1	l	

12. APPENDIX III: Tables of palaeoenvironmental data

Table 1. Components of the subsamples from deposits recovered at Hen Gastell, Llanwnda (G2246) Semi quantitative score of the components of the samples is based on a four point scale, from '1' – one or a few remains (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many per kg or a major component of the matrix).

Sample Number	1	2	3
Context Number	17	14	21
Context Type	Palisade slot in top	Shallow pit	Buried soil horizon beneath
	of inner bank		inner bank
Bone fgts.			
Charcoal fgts.	4	2	4
Earthworm egg capsules	2		2
Insect fgts.	1		2
Plant macrofossils (ch.)	1		1
Root/rootlet fgts.	4	4	3
Sand	2		3

Table 2: Plant Macrofossils. Complete list of taxa recovered from deposits recovered at Hen Gastell, Llanwnda (G2246). Taxonomy and Nomenclature follow Stace (1997).

Sample Number	1	3	
Context Number	17	21	
Context type	Palisade slot in top	Buried soil horizon	
	of inner dank	beneath inner bank	
LATIN BINOMIAL			COMMON NAME
Corylus avellana (fgts.)	5	2	Hazelnut shell fgts.
<i>Rumex</i> spp.	1		Dock
BRASSICACEAE	2		Cabbage Family
POACEAE	4		Grass family
Avena spp.	6		Oat
Indeterminate cereal	3		Indeterminate cereal
Unidentified			Unidentified
Indeterminate	14	10	Indeterminate
Indeterminate buds		4	Indeterminate buds

Table 3: Charcoal. Complete list of taxa recovered from deposits at deposits Hen Gastell, Llanwnda (G2246). Taxonomy and nomenclature follow Schweingruber (1978). Numbers are identified charcoal fragment for each sample.

Sample Number		1	2	3
Context Number		17	14	21
Context type		Palisade slot in top of inner bank	Shallow pit (interior of site)	Buried soil horizon beneath inner bank
No. of fragments		2000+	100+	700+
Max. size (mm)		31	9	16
Latin	Common Name			
Alnus glutinsa	Alder	10		
Corylus avellana	Hazel			4
Salix / Populus	Willow/ Poplar	24	23	29
Fraxinus excelsior	Ash	45	16	54
Quercus	Oak	21	5	13
	Indeterminate		56	

13. APPENDIX IV: List of contexts

Context	Туре	Description	Interpretation	Dimensions
number				
2001	Layer	Dark grey-brown silt with occasional stones	Topsoil	Up to 0.26m deep
2002	Layer	Grey-brown silt with occasional stones	Ploughsoil	Up to 0.54m deep
2003	Layer	Soft dark brown sandy silt with abundant stone. Stones are angular and heat-fractured	Burnt stone deposit	c. 5m x 3m, up to 0.3m deep
2004	Layer	Same as 2003, part of 2003		1
2005	Cut	Ovoid, almost polygonal cut with steep sides and a concave base	Posthole, with post-pipe	1.19 x 0.85m, 0.45m deep
2006	Fill	Firm orange brown sandy silt with occasional stones	Packing fill in [2005]	
2007	Cut	Sub-rectangular/polygonal cut with vertical sides and flat base	Posthole, with post-pipe	0.85m x 0.60m, 0.40m deep
2008	Fill	Firm dark brown coarse sand with frequent stones, some fairly large and suggestive of disturbed packing-stones	Packing fill in [2007]	
2009	Cut	Sub-rectangular cut with near vertical sides and fairly flat base	Posthole, with post-pipe	0.7 x 0.65m, 0.40m deep
2010	Fill	Strongly cemented greyish brown silty sand with frequent stones, some fairly large, in situ packing-stones	Packing fill in [2009]	
2011	Cut	Sub-circular cut with steep sides and uneven, rounded base	Posthole, with possible post- pipe	0.74m x 0.68m, 0.29m deep
2012	Fill	Dark grey brown loamy silt with occasional stones	Possible post-pipe fill in [2011]	
2013	Layer	Very loose brown silt with 90% rounded cobbles and gravel	Stony deposit forming part of bank 2116	
2014	Fill	Dark brown, organic sandy silt with moderate stones	Fill of post-pipe [2025] in posthole [2009]	0.72 x 0.28m, 0.38m deep
2015	Fill	Dark grey brown sandy silt with flecks of charcoal and moderate stones	Fill of post-pipe [2026] in posthole [2007]	
2016	Fill	Soft dark brown sand silt with occasional charcoal	Lower fill of post-pipe [2019] in posthole [2005]	
2017	Fill	6 large sub-angular stones up to 0.34m long, set in a rough circle around post-pipe.	Packing stones in posthole [2005]	
2018	Group	Group number for bank in NW corner of trench	Inner bank	c.5m wide
2019	Cut	Rectangular cut with steep sides and a flat base	Post-pipe in posthole [2005]	0.65 x 0.22m, 0.33m deep
2020	Layer	Firm but friable yellow-brown gravelly silt with medium sub-angular stones. The S side of the deposit slopes down at an angle of 45 degrees.	Gravelly deposit in bank 2018	0.5m deep
2021	Layer	Friable dark brown sandy silt with c.75% rounded stones.	Stony deposit in bank 2018	0.6m deep
2022	Layer	Friable dark brown sandy silt with c.25% rounded stones.	Soily deposit over bank 2018	0.2m deep
2023	Layer	Friable very dark brown sandy silt with occasional flecks of charcoal and c.75% angular heat-shattered stones.	Burnt stone deposit over bank 2018	0.25m deep
2024	Layer	Friable dark brown sandy silt with c.75% rounded stones.	Stony deposit in bank 2018	0.25m deep
2025	Cut	Rectangular steep sided cut with fairly flat base.	Post-pipe in posthole [2009]	0.5 x 0.4m, 0.38m deep
2026	Cut	Rectangular steep sided cut with fairly flat base.	Post-pipe in posthole [2007]	0.30 x 0.24m, 0.30m deep
2027	Cut	Shallow sub-oval feature with gently sloping sides	Natural hollow	0.4 x 0.3m, 0.1m deep
2028	Fill	Soft, very dark brown silt with occasional stones	Fill of natural hollow [2027]	
2029	Cut	Shallow sub-rectangular feature with both steeply and gently sloping sides, and a flat base.	Natural hollow	0.7 x 0.5m, 0.25m deep
2030	Fill	Soft, very dark brown silt with very occasional stones	Fill of natural hollow [2029]	
2031	Cut	Very shallow sub-oval feature with both steeply and gently sloping sides, and an uneven base.	Natural hollow	0.60 x 0.45m, 0.15m deep
2032	Fill	Soft, very dark brown silt with very occasional gravel	Fill of natural hollow [2031]	
2033	Cut	Very shallow sub-oval feature with gently sloping sides, and an uneven base.	Natural hollow	0.60 x 0.50m, 0.05m deep
2034	Fill	Soft, very dark brown silt with very occasional gravel	Fill of natural hollow [2033]	
2035	Cut	Sub-oval cut with steep sides and a rounded base.	Possible small pit	0.55 x 0.48m, 0.20m deep
2036	Fill	Dark red-brown, loose silty sand with occasional flecks of charcoal	Fill of pit [2035]	
2037	Cut	Very shallow sub-circular feature with gently sloping sides, and a flat base.	Natural hollow	0.2m diameter, 0.02m deep
2038	Fill	Soft, very dark brown silt with very occasional gravel. A	Fill of natural hollow [2037]	

Context	Туре	Description	Interpretation	Dimensions
number		large flat stone rested in the top of the fill.		
2039	Cut	Oval hollow with irregular sides and uneven base. Undercut on one side and burrow leads from it to N	Rabbit burrow	0.51 x 0.50m, 0.30m deep
2040	Fill	Soft, very dark brown clayey silt with 5 stones. Lenses of orange brown silt	Fill of rabbit burrow [2039]	
2041	Cut	Oval cut with steep sides and flat base.	Post-pipe in posthole [2118]	0.64 x 0.48m, 0.53m deep
2042	Fill	Soft, very dark brown sandy silt with occasional flecks of charcoal and small stones.	Fill of post-pipe [2041]	
2043	Cut	Sub-circular cut with steep sides and a flat base.	Disturbed post-pipe within large posthole [2122]	0.56 x 0.60m, 0.40m deep
2044	Fill	Loose brown silt with occasional flecks of charcoal and small rounded, sometimes burnt, stones.	Fill of post-pipe [2043]	
2045	Cut	Irregular sub-circular cut with irregular sides and an uneven base.	Rabbit burrow	0.50 x 0.50m, 0.40m deep
2046	Fill	Soft, fine grained dark brownish black silt with orange silt lenses, moderate small stones and a large stone at its base.	Fill of rabbit burrow [2045]	
2047	Layer	Loose brown sandy gravel with occasional flecks of charcoal.	Gravelly deposit forming part of bank 2116	
2048	Fill	Firm mid brownish grey silty sand, with large sub-angular stones set around the sides against cut [2011].	Packing fill in posthole [2011]	
2049	Cut	Shallow ovoid cut feature with steep sides and an irregular base.	Cut of possible pit	0.56 x 0.54m, 0.24m deep
2050	Fill	Fine grained, friable mid greyish brown gravelly silt with occasional sub angular stones up to 9cm long.	Fill of possible pit [2049]	
2051	Fill	Soft, fine grained dark brown sandy silt.	Fill of possible packing stone hole in posthole [2007]	
2052	Cut	Ovoid cut feature with steep sides and a concave base.	Cut of posthole	0.80 x 0.50m, 0.43m deep
2053	Fill	Loose, mid greyish brown silty sand with frequent small sub-rounded pebbles and a larger stone at the south east.	Packing deposit in posthole [2052]	
2054	Layer	Soft, friable, slightly sandy dark brown silt with frequent small stones.	Relict ploughsoil under bank 2116	
2055	Cut	Irregular shaped, steep sided cut feature with an irregular base.	Cut feature, unknown function	0.75 x 0.30m, 0.29m deep
2056	Fill	Firm, fine grained dark brown sandy clay with occasional small rounded cobbles, <10cm long	Fill in cut [2055]	
2057	Cut	Vertical cut that truncates bank deposits, visible in section across bank 2116	Truncation of bank 2116 (by ploughing?)	0.12m deep.
2058	Cut	Break of slope at a 45° angle through foot of bank 2018, visible in section.	Plough truncation of bank 2018	0.20m deep
2059	Cut	Shallow, irregular ovoid shaped cut with irregular sides and an uneven irregular base.	Natural scoop	0.66 x 0.42m, 0.14m deep
2060	Fill	Strongly cemented, brownish black silt with occasional small stones.	Fill of natural scoop [2059]	
2061	Cut	Shallow, NE-SW orientated linear cut feature with irregular sides and an irregular base.	Cut of apparently naturally eroded gully, possible eavesdrip channel	c.4.10m x 0.60- 0.20m, 0.03-0.06m deep
2062	Fill	Fine grained, soft dark brown sandy silt with occasional small stones up to 2cm long and occasional small fragments of charcoal and burnt stone.	Fill of [2061]	
2063	Layer	Mid yellowish grey to light brownish orange, sandy silty clay with abundant gravel and rounded cobble inclusions, up to 25cm long	Natural subsoil deposit, overcut during the excavation of [2055]	
2064	Cut	Sub circular cut, with steep irregular sides and an irregular uneven base.	Natural hollow in stony natural	0.45 x 0.47m, 0.32m deep
2065	Fill	Firm dark brown slightly sandy silt with abundant sub- angular and sub-rounded cobbles up to 18cm long	Fill of [2064]	
2066	Fill	Friable, dark greyish brown sandy silt with 25% smaller stones (up to 10cm long) and occasional larger stones up to 20cm long. Lenses of charcoal present throughout and abundant fragments of metal slag.	Charcoal and slag rich fill of shallow hollow [2067]	
2067	Cut	Irregularly shaped shallow hollow, steep sided to the N, more gently sloping elsewhere.	Base of a cut feature associated with metalworking activity	1.60 x 1.10m, 0.15m deep
2068	Cut	Ovoid, almost polygonal cut with straightish, almost vertical sides and a flattish base.	Cut of a large posthole	0.99 x 0.98m, 0.49m deep
2069	Fill	Firm, mid greyish, slightly orangey, brown gravelly silty sand. Occasional to moderate sub-rounded and rounded stones (7-10cm long). One large sub angular stone 25cm long.	Packing deposit in posthole [2068]	

Context number	Туре	Description	Interpretation	Dimensions
2070	Fill	Loose, dark greyish brown sandy silt. Occasional-moderate small fragments of burnt bone and moderate small flecks and fragments of charcoal. Frequent angular, heat affected stones (average 8cm long) concentrated towards the top of the deposit.	Fill of post void [2073] in posthole [2068]	
2071	Fill	Loose, friable dark greyish brown sandy silt with frequent small flecks of charcoal and moderate small sub rounded stones up to 5cm long.	Fill of post void [2074] in posthole [2052]	
2072	Fill	Soft dark brownish brown slightly sandy silt with frequent sub-rounded and sub angular stones up to 8cm long. Moderate angular heat affected stones up to 8cm long. Occasional small fragments of charcoal and very occasional small fragments of burnt bone.	Upper fill of post void [2019] in posthole [2005]	
2073	Cut	Sub-circular cut with steep, straight and smooth sides which break sharply to a flattish base.	Cut of post void created by removal of post in posthole [2068]	0.52 x 0.40m, 0.41m deep
2074	Cut	Ovoid cut with steep sides that break gradually to a concave base.	Cut of post void created by removal of post in posthole [2052]	0.38 x 0.24m, 0.30m deep
2075	Fill	Very friable, very dark greyish brown sandy silt with c. 25% charcoal inclusions. Moderate sub-rounded and sub angular stones up to 15cm long.	Charcoal rich fill of small pit [2076]	
2076	Cut	Circular cut, with steep sides that break fairly sharply to a flat base.	Pit associated with metalworking activity	0.60m diameter, 0.30m deep
2077	Fill	A deposit of dark brown, with very dark brown patches, firm but friable sandy silt. C.30% mainly angular stones up to 10cm long, many heat shattered. Moderate charcoal fragment inclusions and occasional fragments of metalworking slag.	Upper fill of pit [2078]	
2078	Cut	Sub-circular cut, with steep sides that break fairly gradually to a flat base.	Pit associated with metalworking activity	0.47 x 0.40m, 0.20m deep
2079	Fill	Friable dark brown sandy silt with c. 50% gravel inclusions. Occasional small and medium rounded and sub-rounded stones up to 10cm long. Occasional small flecks of charcoal.	Buried soil 'A' horizon under bank 2018	0.1m deep
2080	Fill	Friable mid brown gritty silt with 10% small sub-rounded stones up to 5cm long.	Fill of hollow [2081]	
2081	Cut	Ovoid shallow cut feature with generally gradually sloping sides.	Cut of a shallow hollow, probably natural	0.62 x 0.45m, 0.15m deep
2082	Layer	Dark greyish brown gritty sandy silt with yellowish brown patches. Moderate sub angular and angular stones and cobbles, many heat affected and fractured. Occasional fragments of charcoal and burnt bone.	Layer containing burnt bone and charcoal that underlies bank 2116	
2083	Cut	Ovoid shaped cut with steep irregular sides that break gradually to a slightly concave base, deeper at the N end.	Cut of a possible posthole	1.35 x 0.80m, 0.30m deep
2084	Fill	Friable, loose mid greyish brown sandy silt. Frequent sub- rounded stones, up to 15cm long.	Post packing deposit in posthole [2083]	
2085	Layer	Friable brown sandy silt with 20% small and medium stones and small quantities of gravel.	Lower part of buried soil under bank 2018	0.15m deep
2086	Fill	Firm but friable brown silty sand with occasional small stones.	Erosion deposit in the base of pit [2076]	
2087	Cut	Sub-circular cut with generally steep sides that break sharply to a flattish but irregular base.	Cut of posthole	1.04 x 0.92m, 0.35m deep
2088	Fill	Firm mid greyish brown silty with moderate small sub- rounded stones.	Fill in pit [2087]	
2089	Cut	Sub rectangular cut feature with rounded corners and slightly concave sides that break gradually to as concave base.	Small cut feature, unknown function	0.35 x 0.33m, 0.11m deep
2090	Fill	Firm/soft, mid greyish brown sandy silt with moderate flecks of charcoal and small sub-angular, angular and rounded stones, 2-7cm long. Very occasional small fragments of burnt bone.	Relatively charcoal rich fill of pit [2089]	
2091	Fill	Firm, mid to light yellowish greyish brown sandy gritty silt. Abundant small sub-rounded and sub-angular stones (5- 10cm long) and larger sub-angular, rounded and sub- rounded stones (15-40cm long).	Deposit of stones seemingly dumped in pit [2087]	
2092	Cut	Ovoid shaped cut feature with generally steep sides that break gradually to a flattish but uneven base.	Cut of a posthole	0.66 x 0.53m, 0.30m deep
2093	Fill	Soft dark orangey brown silty clay, occasional to moderate gravel and rounded small stone inclusions, occasionally angular, burnt and heat affected. Occasional larger examples. Stones 3-15cm long.	Packing deposit in posthole [2092]	

Context number	Туре	Description	Interpretation	Dimensions
2094	Layer	Yellowish brown slightly clayey silt. Abundant stones up to	Natural subsoil over W part	
2095	Layer	Friable dark brown sandy silt with 40% stones up to 10cm	of Trench 2 Burnt stone deposit under	
	-	long. Many of the stones are heat fractured. Occasional	bank 2018	
		fragments.		
2096	Cut	Sub-circular cut feature with steep sides that break gradually to a flattish but uneven base.	Cut of a post void created by removal of post in posthole [2092]	0.40 x 0.34m, 0.30m deep
2097	Fill	Soft, dark brown silty sand with moderate rounded stone inclusions (2-10cm long). Occasional fragments of burnt bone. Single large rounded cobble 40cm long in the top of the fill.	Fill of post void [2096] in posthole [2092]	
2098	Fill	Slightly malleable reddish brown silty, slightly gritty, clay. Flecks of more reddish coloured clay and occasional flecks of charcoal throughout. Occasional small stones.	A lump of heat reddened clay in the base of pit [2078], possibly part of a lining a collapsed superstructure	
2099	Fill	Very dark grey slightly gritty silt. Colour derived mostly from charcoal but few identifiable fragments. Occasional small stone inclusions.	Thin, dark, silty charcoal rich fill in the base of pit [2078]	
2100	Layer	Very compact, friable orangey brown gravelly, slightly clayey, sand with c. 50% rounded and sub rounded stones up to 40cm long.	Natural subsoil in E part of Trench 2	
2101	Fill	Friable loose dark greyish brown silty sand with frequent sub-rounded stones up to 30cm long.	Fill of a possible post void at NW end of posthole [2083]	
2102	Cut	Polygonal cut with steep sides that break fairly sharply to a	Cut of a possible posthole	1.10 x 0.90m, 0.20m deep
2103	Fill	Very friable brown silty sand with c.20% sub-rounded	Packing fill of possible beam	0.2011 deep
2104	Cut	Tapered, straight linear cut with rounded end at the SW.	Cut of a possible beam slot	>1.26 x 0.35-
		Runs off into the baulk at NE. Generally steep, almost vertical sides that break fairly sharply to a flattish base.		0.66m, 0.30m deep
2105	Fill	Very loose dark grey sandy silt with c.50% medium stones, mostly heat fractured and up to 10cm long. Small gravel component, occasional small flecks of charcoal and burnt bone.	Fill of post void [2106] in posthole [2108]	
2106	Cut	Sub-circular cut feature with steep, near vertical sides that break fairly sharply to a flat base	Post void in posthole [2108] created by removal of post	0.40m diameter, 0.50m deep
2107	Fill	Friable brown sandy silt with approximately 10% rounded and sub-rounded stones up to 10cm long	Packing fill in posthole [2108]	
2108	Cut	Apparently circular cut (only half excavated as the other half lies under baulk to the NW) with steep, near vertical sides that break fairly gradually to a flattish base	Cut of a large posthole	0.85m diameter, 0.77m deep
2109	Fill	Dark greyish brown sandy silt with c.50% stones up to 25cm long. Stones include both sub-rounded and angular, possibly heat shattered, examples.	Fill of hollow [2110]	
2110	Cut	Ovoid hollow with variably sloping sides with occasional steep sections, that break gradually to a concave base.	Cut of a small pit or hollow of unknown function.	0.68 x 0.33m, 0.25m deep
2111	Layer	Friable brown sandy silt with occasional small stones and some gravel.	Lower horizon of buried soil under bank 2116	
2112	Fill	Friable brown sandy silt with occasional rounded and sub-	Fill of pit [2113]	
2113	Cut	Apparently circular cut feature (only half excavated as it continues under baulk to the NW) with fairly steep sides that break gradually to a flattish base	Shallow pit of unknown function	0.80m diameter, 0.25m deep
2114	Layer	Friable brown silt with c.20% small rounded stones.	Early ploughsoil or relict soil visible in N baulk at edge of excavated area in Trench 2	
2115	Layer	Irregular area of reddened natural compacted sandy silt subsoil (2100). Colour varies from strong reddish brown to yellowish brown. Contains occasional, redder, possibly heat affected stones in contrast to (2100) generally	Area of heat affected natural subsoil	
2116	Group	Group number for the bank that cuts across the SW corner of Trench 2.		
2117	Fill	Brown friable sandy silt with abundant sub-rounded stones up to 20cm long.	Packing fill of posthole [2118]	
2118	Cut	Circular cut with near vertical sides which break gradually to a flat base.	Cut of a large posthole	0.90m diameter, 0.60m deep
2119	Cut	Sub-circular cut with sides that are steep and irregular on	Small posthole set within	0.58 x 0.57m,

Context	Туре	Description	Interpretation	Dimensions
number				
		the E side, more gently sloping on the W. Sides break to a slightly concave base, with a deeper socket in the SW corner.	gully [2061]	0.26m deep
2120	Fill	Firm mid greyish brown sandy silt with occasional small rounded, angular and sub-angular stones (1-5cm long). Three flat stones sit at the top of the fill, each 3cm thick and 15-16cm long. One heat affected stone with sharp, angular faces, 9cm long. Occasional small fragments of charcoal.	Disturbed packing fil of posthole [2119]	
2121	Fill	Very loose brown sandy silt with moderate stones up to 20cm long.	Packing deposit in posthole [2122]	
2122	Cut	Ovoid cut with near vertical sides that slope relatively gradually to a fairly flat base. Undercut on the western side.	Cut of a large posthole	1.05 x 0.86m, 0.65m deep
2123	Fill	Clean, soft reddish brown silt with patches of gravel and c.30% small stones. Some larger stones often sloping down into cut.	Fill of natural ice wedge [2124]	
2124	Cut	Narrow irregular linear shaped cut with steep sides, base not reached.	Cut of natural ice wedge	c. 4.90m by 0.18m wide, >0.35m deep
2125	Cut	Linear feature with fairly straight, steep sides and flat base.	Possible natural hollow with very stony fill	1.3 x 1.1m, 0.31m deep

14. APPENDIX V: Radiocarbon Certificates



Director: Professor R M Ellam Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

Scottish Universities Environmental Research Centre

RADIOCARBON DATING CERTIFICATE 05 August 2014

Laboratory Code	SUERC-54221 (GU34486)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference Context Reference Sample Reference	Hen Gastell, Llanwnda, Gwynedd, North Wales context 17: fill of slot in inner bank G2246.17.01
Material	Charred nut shell : Hazel (Corylus avellana)
δ ¹³ C relative to VPDB	-27.3 ‰

Radiocarbon Age BP 999 ± 30

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

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

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

Conventional age and calibration age ranges calculated by :- B Tay

Date :- 05/08/2014

Checked and signed off by :- P. Nayomb

Date :- 05/08/2014



The University of Glasgow, charity number SC004401

Calibration Plot



Calibrated date (calAD)



Director: Professor R M Ellam Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

Scottish Universities Environmental Research Centre

RADIOCARBON DATING CERTIFICATE 05 August 2014

Laboratory Code	SUERC-54222 (GU34487)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference Context Reference Sample Reference	Hen Gastell, Llanwnda, Gwynedd, North Wales context 17: fill of slot in inner bank G2246.17.02
Material	Charred cereal grains : Oats (Avena species)
δ ¹³ C relative to VPDB	-26.3 ‰

Radiocarbon Age BP 885 ± 30

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

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Conventional age and calibration age ranges calculated by :- B Tay

Date :- 05/08/2014

Checked and signed off by :- P. Nayomb

Date :- 05/08/2014



he University of Glasgow, charity number SC004401



Radiocarbon determination (BP)



Calibrated date (calAD)



Director: Professor R M Ellam Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

Scottish Universities Environmental Research Centre

RADIOCARBON DATING CERTIFICATE 05 August 2014

Laboratory Code	SUERC-54223 (GU34488)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference Context Reference Sample Reference	Hen Gastell, Llanwnda, Gwynedd, North Wales context 21: buried soil under inner bank G2246.21.01
Material	Charred nut shell fragment : Hazel (Corylus avellana)
δ ¹³ C relative to VPDB	-27.6 ‰

Radiocarbon Age BP 1010 ± 30

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

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

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

Conventional age and calibration age ranges calculated by :- B Tay

Date :- 05/08/2014

Checked and signed off by :- P. Nayomb

Date :- 05/08/2014





The University of Glasgow, charity number SC004401

Calibration Plot



Calibrated date (calAD)



Director: Professor R M Ellam Rankine Avenue, Scottish Enterprise Technology Park, East Kilbride, Glasgow G75 0QF, Scotland, UK Tel: +44 (0)1355 223332 Fax: +44 (0)1355 229898 www.glasgow.ac.uk/suerc

Scottish Universities Environmental Research Centre

RADIOCARBON DATING CERTIFICATE 05 August 2014

Laboratory Code	SUERC-54227 (GU34489)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno, Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference Context Reference Sample Reference	Hen Gastell, Llanwnda, Gwynedd, North Wales context 21: buried soil under inner bank G2246.21.02
Material	Charcoal : Willow/poplar (Salix/Populus)
δ ¹³ C relative to VPDB	-28.2 ‰

Radiocarbon Age BP 915 ± 30

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

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

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

Conventional age and calibration age ranges calculated by :- B Tay

Date :- 05/08/2014

Checked and signed off by :- P. Nayomb

Date :- 05/08/2014



he University of Glasgow, charity number SC004401



Calibrated date (calAD)

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Figure 1. Location of Hen Gastell and nearby sites

1

Figure 3. Features within trench 2

58.95m OD

Figure 8. Plan of house VII, Mirville (Figure 8.23b, from Higham, R. and Barker, P., 2006. Timber Castles, University of Exeter Press, Exeter, 264)

Figure 9. Plan of the summit of the motte at Castlehill of Strachan (Illus. 3, from Yeoman, P. A., 1984. 'Excavations at Castlehill of Strachan, 1980-81', Proc Soc Antiq Scot, 114, 315-364)

Plate 1. View of 3D model: Hen Gastell from the west

Plate 2. Site under excavation from the air (copyright Alan K Hole)

Plates 3 to 5. Volunteers cleaning, excavating and recording on site

Plate 6. School children excavating in trench 3

Plate 7. Inside the marquee at the Open Day

Plate 8. Site tours were given in Welsh and English on a wet Open Day

Plate 9. Arc of postholes marked by white arrows

Plate 11. Post-pipe and packing stones in posthole [2005]

Plate 12. Posthole [2102] and beam slot [2104]

Plate 13. Pits [2076], [2078] and [2081] fully excavated

Plate 14. Hollow [2067] half sectioned

Plate 15. Pit [2078] half sectioned, showing clay in the base of the pit

Plate 16. Section of bank (2116) with burnt stone deposit (2003) built up against inner side

Plate 17. Section of bank (2018)

Plate 18. Iron object SF40 from pit [2081]

Plate 19. Copper alloy harness mount (SF29)

Llywodraeth Cymru Welsh Government

A CISTERIO

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