Archaeology Wales

Llwydfaen, Tal-y-Cafn, Conwy

Archaeological Excavation and Geophysical Survey

By

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Report No. 1344

October 2015

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Summary

Phase 1: Excavation
Archaeology Wales was commissioned by Trisgell Ltd to oversee a five-day limited excavation and geophysical survey at Llwydfaen Farm, Talycafn, Conwy, Gwynedd, in July 2013. The work was to form the focus for a two-part Welsh language television programme for S4C entitled 'Olion: Palu am hanes' (transmitted June 2014). The excavation targeted a cropmark discovered by the RCAHMW in 2006 that had been tentatively interpreted as a possible twelfth-century church. Two trenches were excavated at both ends of the structure, which revealed the foundations of a rectangular building with an apse at its south-western end. A well or pit-type feature located outside the apse contained material that was probably derived from the demolition of the walls and roof, as well as sherds from two third and fourth-century Black Burnished Ware vessels. It appears that the structure had once possessed walls at least partly constructed of imported Cheshire sandstone ashlars and a slate roof crested with ceramic tegulae. Fragments of Roman ceramic water pipes were also present within the remains of the building and pit. Five third-century Roman coins and a possible seal box lid were also discovered during the work. A single sherd of a central Gaulish Samian vessel discovered in Trench 2 suggests a possible connection with the military fort at Canovium, a short distance to the south-west of Llwydfaen. A shallow slot containing ceramic building material divided the northern end of the building longitudinally and appears to have been the base for a timber and daub partition wall. This was not present in the apse area. Given the limitations of the excavation, it was only possible to broadly date the structure to the third century, although further future excavation of the remainder of the structure and its environs may fully elucidate its function.

Fe gomisiynwyd Archaeology Wales gan gwmni teledu Trisgell i oruchwylio gwaith cloddio cyfyngedig ac arolwg geoffisegol ar dir fferm Llwydfaen, Tal y Cafn, Conwy, Gwynedd, ym mis Gorffennaf 2013. Ffilmiwyd y gwaith ar gyfer cyfres deledu S4C, 'Olion, palu am hanes' (2014). Targedwyd olion crasu yn un o gaeau Llwydfaen a ddarganfuwyd gan CBHC yn 2006. Roedd yr olion crasu yn debyg i siâp eglwys ganoloesol gyda chromfan ar y pen deheuol. Cloddiwyd dwy ffos ar draws yr adeilad a datguddiwyd seiliau'r adeilad a phydew yn llawn rwbel dinistrio'r adeilad, yn cynnwys cerrig nadd o ogledd-orllewin Lloegr, llechu to, darnau o bibau dŵr a theilchion llestri llathredig du o'r drydydd a'r bedwaredd ganrif. Darganfuwyd pum darn arian Rhufeinig, o'r drydedd ganrif, a darn o lestr o ganolbarth Gal (diwedd yr ail ganrif). Roedd nodwedd gul a bas ar hyd llawr ffos rhif dau yn dangos fod rhan ogleddol yr adeilad wedi ei rannu ar hyd yr adeilad gan fur o glau a phren. Yn anffodus nid oedd yn bosib darganfod pwrpas yr adeilad ond mi roedd yn sicr yn adeilad Rhufeinig pwysig yn ystod y drydedd ganrif.

Phase 2: Geophysical Survey
The aim of the fluxgate gradiometer survey was to identify possible features of archaeological interest that could help provide context to the findings of the excavation, by targeting areas containing parch marks visible from the air. In addition, it was also hoped to ascertain the suitability of the techniques used, with

a view to undertaking more extensive investigation of similar features in the future.

Overall, the survey results were disappointing and failed to show features corresponding to any of the parch marks seen from the air, other than the largest parch mark which ran east / west across the site. A possible floor surface was identified on relatively level ground approximately 80m north east of the excavation and there was a slight suggestion that two terraces in the north east of the field may have seen some human intervention.

Pwrpas y gwaith cyfyngedig geoffisegol oedd edrych am nodweddion o ddiddordeb archeolegol er mwyn rhoi cefndir i'r gwaith cloddio. Amcan arall o'r gwaith oedd gweld a oedd y math yma o ymchwil geoffisegol yn addas ar gyfer gwaith pellach yn y dyfodol ar y safle yma. Yn gyffredinol roedd y canlyniadau yn siomedig gyda dim ond un o'r olion crasu amlwg yn dangos yn yr arolwg. Mae'n bosib bod yna ddau deras i'r gogledd-ddwyrain o'r ffosydd cloddio.

1. Introduction

Archaeology Wales was commissioned by Trisgell Ltd to oversee an archaeological excavation and limited geophysical survey work on land north-east of Llwydfaen Farm, Tal y Cafn, Conwy (NGR SH 7904 7266; fig. 1). The small-scale excavation was to form the main focus for a two-part Welsh language television programme for S4C entitled 'Olion: Palu am hanes' (transmitted June 2014).

The site was chosen, following discussions with the RCAHMW, which highlighted the need for an excavation to examine distinctive cropmarks that had been discovered by the Royal Commission aerial reconnaissance team in July 2006 (Driver, Hopewell and Longley 2008). The cropmarks were located 400m west of the river Conwy (SH 7904 7266; Fig. 2) and approximately 400m north-east of Llwydfaen farm (SH 78752 72318), which preserves the name of a former medieval township (NPRN 404664; PRN 7371). A magnetometer survey conducted by David Hopewell in 2008 for Gwynedd Archaeological Trust (PRN 43788) confirmed the presence of a very well defined structure with a high magnetic resonance, initially interpreted as evidence of a possible church (NPRN 404665; PRN 24746).

2. Site Description

Llwydfaen farm is located on the western banks of the Conwy river, near the village of Tal y Cafn, approximately 5.2km south-southeast of Conwy and 10km north of Llanrwst. The site of the buried structure is 400m north-west of the current farm buildings on a flat area of land along a terrace between the Conwy river floodplains on the east and Coed Llwydfaen. To the west lies the Silurian Denbigh Grits Formation sedimentary bedrock characterized by mudstone,

siltstone and sandstone underlying Devensian Till and freely draining slightly acid loamy soils. To the east the bedrock lies under loamy and clayey floodplain soils overlying sand and gravel river terrace deposits (BGS 2014).

3. Historical Background and previous archaeological work

The land, owned by the Bodnant Estate since 1889 and farmed by Mr Wyn Owen, is currently used to grow silage and graze cattle.

The 1900 OS map of the area shows a field pattern with linear east to west boundaries and a series of regular sub-rectangular flood plain fields on the lower western bank of the Conwy river (Fig. 2). This field pattern is recognisable today. The Caerhun parish tithe map of 1847, however, appears to show either that the river Conwy's course was further west or that the lower flood east to west field boundaries on the western bank of the Conwy river had not been formed at this time. The boundaries of three parishes run though the fields associated with Llwydfaen. To the north the parish of Llangelynin and to the south the parish of Llanbedr Tal-y-Cafn. The parish boundaries and the apparent change in field pattern makes exact identification of the current cropmark location problematic. Examination of the Caerhun tithe apportionment, however, shows that one of the fields (224) to the north-west of the probable cropmark site is named Bryn Bettws (sic.) (Fig. 3, A). The Betws element of the field name relates to bead-house or oratory that may reflect a folk memory of a church ruin nearby. Field numbers 226 and 227 relate to Llwydfaen Uchaf and Isaf respectively.

An RAF aerial photograph of the area taken on the 27th of August 1945 (ref 106 G UK 735) reveals what appears to be a series of parch marks to the south and uncut hay in an otherwise harvested field in the area of the cropmark (Fig. 4, highlighted). It is possible that this area was the last to be cut and the AP was taken at this precise time. It may, however, suggest that some remains of a structure were being avoided in this area. A linear east to west boundary or track is also visible as a dark mark to the north.

Llwydfaen farm bears the name of a medieval township described in the HER as a 'hamlet or nucleation of settlement within the wider township of Castell'. Bryn Castell motte (PRN 658) is located 860m south-southwest of the cropmark structure. Although the later medieval field pattern has been the subject of a notable study (Jones 1973, 446-452) the earlier medieval settlement is not as well understood. Driver et al suggest that the cropmark may represent an early church that may have been constructed by Robert of Rhuddlan and Hugh Avranches during incursions into Gwynedd between 1086 and 1094. It is possible that the church was either unfinished or burned to the ground accounting for the high magnetometer readings and the near perfect outline, with little apparent evidence for robbing or tumble (Driver et al 2008, 3). Longley notes that the north-south alignment of the Llwydfaen cropmark and the existence of Caerhun church within the township of Castell casts considerable doubt on the church interpretation. A possibility given the alignment and presence of a 1st to 2nd century Roman fort (PRN 662) and large northern vicus at Caerhun (Canovium) (approximately 2.5km to the south-west of Llwydfaen) is a Celto-Roman temple. A similar excavated

apsidal north-south orientated structure excavated at Benwell, Tyne and Wear (Condercum) was interpreted as a temple (Lewis 1965, 72-3).

4. Phase 1 Excavation

4.1 Objectives and Strategy

The objective of the excavation was to elucidate the function and dating of the Llwydfaen structure and to explain the cause of the high magnetometer readings.

Trench 1 was located over the south end of the structure in order to reveal the apsidal end of the building and one or more of the magnetic anomalies located on its south-western end. A church may be expected to reveal evidence for the presence of an altar base or *sacrarium* whilst a temple's apse may contain a base for a shrine. Top-soil was removed using a mechanical digger and surface deposits and spoil heaps were metal detected throughout the excavation.

Trench 2 was located so as to examine the northern end of the structure, one aim being to identify the presence of a northern or western entrance of a type expected in a formal liturgical church structure.

4.2 Results: Trench 1 (Figs. 3, 5-11)

The clear parch mark clearly visible in 2006 was not present during the summer of 2013, although a prolonged dry spell prior to the excavation had slightly parched an area in the supposed vicinity of the structure. Silage had recently been cut in the field and prior to that the field had been undisturbed for several months. A rectified aerial photograph was used to locate the general area of the former parching and a fluxgate gradiometer was used to locate differential readings on all sides of the structure providing parameters for the location of the first trench.

The exceptionally dry and firm brown loamy plough soil (1000) was carefully machine excavated to open a trench that was 14m long (east to west) and 4.4 m wide (north to south). The machined topsoil was on average 0.20m deep whilst the cleaning horizon (1001) established at the base of the topsoil was hand excavated. Some large rounded stones were visible within the plough soil and may be evidence of historical plough or demolition damage to the structure's walls, although it appeared from the stone lines at the base of the topsoil that it had been some time since the field has last been ploughed.

At the eastern end of Trench 1 a 0.30m deep very dark greyish brown soft sandy clay (1011) was encountered with occasional flecks of charcoal towards the base of the layer. This was interpreted as a combined old plough soil and aggraded colluvial layer resulting from hill wash from further west. At the western end of the trench the colluvium (1018) was darker brown than (1011). Further towards the centre of Trench 1 (1.1m from north-eastern end) a dark-brown sandy clay horizon (1007) with poorly sorted stones (<0.15m) and some pea grits was discovered beneath the topsoil. Much of the quartzitic stone appeared red and light

red colour and was initially interpreted as possible heat affected sandstone. It is, however, possible that these were fragments of a pinkish argentite derived from Cheshire derived masonry used in the building of the walls. This horizon resembled the remains of a destructive process in which combustion may have been a contributive element. This deposit, which was 0.15m deep and 1.55m east to west, sloped downwards at a 45° angle over 0.3m at its western limit.
This possible destruction layer was found to overlay a pale yellow slightly clayey sandy silt (1004) that appeared to be the bonding material for the foundation of the 0.8m wide apse wall [1003] made up of undressed sub-rounded and rounded stones (maximum diameter 0.4m). The rounded nature of the wall foundation stones appeared suggested that they had been derived from riverine associated deposits. In the eastern end of Trench 1 excavation revealed that the wall foundation trench had been cut almost vertically into the disturbed colluvial deposit (1011) 1.2m from the trench's eastern end.

Excavation of the north-western end of Trench 1 revealed a linear east to west spread of deposit 1004 suggesting that this was possibly the foundation of an arch forming the western edge of an entrance into the apse. Excavation of a shallow 1m wide slot from north to south through the centre of the apse revealed the make-up of wall (1003) to the north a rough stony deposit (1014) that may be indicative of the edge of a destroyed flooring division between the apse and the remainder of the structure beyond Trench 1.

On the north-eastern side of Trench 1 a linear cut [1009] was filled with dark greyish brown deposit (1008) cutting wall [1003]. This feature, at first resembling a pit, was on the very edge of the excavation and difficult to interpret. Its proximity to the topsoil suggests it is a modern feature although its exact nature was difficult to interpret.

Hand excavation of horizon 1018 at the south-western end of the trench revealed a concentration of stone (1005) 1.9m to the west of the main Apse foundation wall measuring 1.8m (east to west) by 1.2 (north to south). Although much of this surface stone appeared to be rounded and sub-rounded, as within the foundation of the Apse wall, some fragments of square edges of dressed sandstone were visible. The angle at which some of these stones were set suggests post-deposition subsidence following disposal. One particular partially buried rectangular ashlar (Stone 1) was found to be a medium-grained pinkish-cream argentite (sandstone) freestone, possibly from the west coast of the Wirral, with mason's marks on all faces (Horak 2014, Personal Communication[1]).

[1] The sandstone ashlar (Stone 1) was examined by Dr Jana Horak of the Welsh Stone Forum who described the stone as medium grained (250-500µm grain size) arentite sandstone dominated by rounded to sub-rounded monocrystalline quartz with variable quartz cement overgrowth. Minor feldspar grains and more deeply iron stained orange quartz grains are present as components. The stone has a homogeneous appearance with a slight 'twinkle' effect from rounded polished quartz grains. This has the properties of a freestone with no indication of a preferred fabric influencing the spitting of the rock. The fresh surface of the argentite is a pale pinkish-cream colour which weathers a pinkish-brown [Munsell: 7.5YR 7/2 pinkish-grey].

Surrounding the stones a circular deposit of a pale light yellow or white clay similar to the bonding (1004) for the Apse wall was observed. Following planning the stones were gradually removed, leaving a section that showed a well like feature that was 1.5m wide (east to west) at its surface and 1.2m from the southern edge to the northern baulk and section edge. The feature was excavated to a depth of 1.5m (1.7m below current ground level) at which point it was approximately 0.8m wide. The stone was packed throughout most of this feature, although it was not practical within the excavation time to safely confirm a final depth for this feature. The south facing section of the north-western corner of Trench 1 and the current base of feature 1005 remain *in situ*.

In between the dumped stones was a mid brown sandy loam (1027) that contained a small Mesolithic flint blade. Together with the dumped stone the pit type feature contained a fragment of a small *tegula*, laminated fragments of oxidized brick, a ceramic pipe fragment (see below) and fragments of slate. At a depth of 0.70m below the top of the feature 15-16 sherds of a single early fourth-century Black burnished ware jar together and a single sherd of a late third or early fourth-century flanged and ridged Black burnished ware bowl were discovered. It is likely that these vessels were deposited within feature 1005 during or prior to the demolition of the apsidal structure.

4.3 Results: Trench 2 (Figs. 4, 5, 12-15)

A second trench was located to examine the northern end of the structure. This trench measured 11.4m (east to west) by 4.7m (north to south). The depth of plough-soil (1000) was again on average 0.20m. During removal of this upper deposit sherds of late eighteenth to twentieth-century pottery sherds were discovered together with a fragment of possible nineteenth or twentieth-century sewer pipe. Context 1002, being the deposit at the base of topsoil (1000), was hand cleaned and this deposit yielded 14 lumps of burnt daub, six ceramic pipe fragments (see below), 2 unidentifiable iron fragments and 3 of lead, a sherd of medieval pottery and a single sherd derived from a third to fourth-century Nene Valley beaker was discovered within Trench 2. A single damaged roofing slate broken into three main fragments and 1 surface fragment was also found lying on the surface of deposit 1002 on the eastern end of the structure's western interior wall in Trench 2. The identification of a partial nail hole on the edge of one of the broken sides suggests that it was originally hexagonal like others excavated at Roman sites in Wales (Gwyn 2015, 31-32). The slate measured 290mm from its apex to its remaining base and was 276mm at its widest central span. A central circular (10mm diameter) iron deposit presumably its underside suggests prolonged contact with an underlying nail as it overlapped another slate on the roof.

On the eastern end of the trench a horizon (1023) of dark-brown slightly sandy clayey silt with flecks of charcoal and poorly sorted stones was encountered. This deposit varied in extent east to west but was 0.4m wide (east to west) in the north-eastern corner and 1.20m wide in the south-east corner. This was interpreted as the equivalent to the disturbed natural colluvial layer encountered on the western end of Trench 1. Most of the trench west of colluvial deposit (1023) within the trench

can be described as a destruction deposit (1024) similar to 1007 in Trench 1. This deposit was deeper (0.15m deep) at the west western end of the trench but considerably shallower (0.05m deep) 4.7m further east and contained pinkish stone fragments that appeared burnt. Lying on the surface of this possible destruction deposit throughout the trench west of the colluvium were several spreads of sandy-silt containing small pebbles (1022). A 1.2m long (north to south) and 0.7m wide (east to west) thin spread of red-brown loam (1020) with occasional fragments of possible daub or burnt ceramic building material was located 3m from the east end of Trench 2. These contexts were interpreted as localized concentrations of the destruction deposit apparent throughout most of the surface of the building's interior.

A 0.2-0.26m wide, 0.08m deep and 2.07m long linear cut [1018] filled with reddish ceramic building material and charcoal (1019) was discovered running north to south 4.4m west of the eastern end of Trench 2. Charcoal located within the fill of the cut was dated by C14 and found to be of Roman date: 1818+/-33 BP (UBA-24080), AD 90-323 (at 2 sigma).

The wall (1015) was examined in further detail in slots excavated in the south-eastern and south western end of Trench 2. The stones were found to be comparable with the foundations stones (1003) within the Apse wall in Trench 1 and the bonding material (1026) appeared identical to the pale yellow slightly clayey sandy silt (1004) in Trench 1. It was possible to establish that the eastern wall was cut through (1023) to a depth of 0.6m in the south-eastern slot. When the surface of south-eastern wall 1015 was cleaned of its upper bonding deposit (1026), to reveal the foundation stones, a broken Early Neolithic polished stone axe was found lying between two foundation stones 3.8m south of the north-eastern corner of the structure's eastern wall. The polished stone was a distinctive colour (greenish-grey) and size (84.6mm x 60.2mm x 32.7mm) and whilst it may have been accidentally incorporated into the wall it may also have been a deliberate deposit. The possible significance of such a deposit is discussed more fully below.

N.B. - From the above information and that available from the published literature, there are several possibilities of sources including-

1. Gwespyr Sandstone: This is exposed along the west side of the Dee estuary (Gwespyr to Holywell). It is a brown-buff colour but it is typically feldspathic (Lott, 2009). I would suggest that it is too feldspathic and has grains that are less rounded than the sample from the excavation (Stone 1)

2. Chester Pebble Bed: This is source of many of the buildings in Chester and was worked in Roman times. This is often pebbly and generally is red so is not a good match on the basis of colour. This is exposed from Chester northwards to the Wirral

3. Thurstaton Hard Bed: (part of the Thurstaton Sandstone Member/Wilmslow Sandstone Formation). Greyish-brown, fine to medium grained, well cemented freestone. As exposed at Thurastaton on the west coast of

the Wirral.

Thurstaton (No. 3) seems like the best match on the basis of colour and cement (Horak, 2014 personal communication).

Three freestones were recovered from deposit 1006 on the west side of Trench 1.

Stone 1 (described above) is a well-worked and complete pinkish grey sandstone ashlar measuring 330mm x 180mm x 150mm (Fig.). It has clear, well defined masons tooling marks on all six faces and slight damage to 1 corner. A thin section was removed from 1 edge for analysis (Figs. 24 & 27 see above).

Stone 2 (Fig. 25) is a sandstone ashlar measuring 260mm x110mm x 170mm. Whilst one face is of a similar colour to Stone 1, the other face has clear tool marks, a smooth straight cut through its upper fabric and is redder in appearance. It is damaged and may have been used as one external face of the building.

Stone 3 (Figs. 26, 28) measures 210mm x 150mm x 200m, of a similar colour to Stone 1 and less clear evidence of tool marks. It is damaged on two sides.

The quartz grains within the stones sparkle in direct sunlight and would have given any wall constructed of this material an unusual appearance.

5. Finds

One hundred and thirteen sherds of ceramic building material (1 *tegula* fragment, with the remainder fragments of probable water pipe), 76 sherds of pottery (48 Roman, 4 medieval & 21 post-Medieval, 9 metal artefacts and 9 Small Finds were recovered. Four of the Small Finds were coins, while a fifth was recovered from spoil.

Pending landowner agreement, the finds and archive will be deposited with Conwy Museums Service.

Small Finds Catalogue

No.	Context	Artefact/Material	Report (below)	Description
SF1	Spoil	Copper alloy	Small Finds – 5.4	Metal detected: Possible seal box cover?
SF2	Spoil	Copper alloy Roman coin	Coins – 5.6	Metal detected: Radiate of Claudius (AD268-270)
SF3	1001 (T1)	Copper alloy sheet fragment	Small Finds – 5.4	Metal detected -Damaged fragment, sub-circular
SF4	1001 (T1)	Silver Roman coin	Coins – 5.6	Metal detected- Denarius of Septimus Severus (AD 193-211)
SF5	1002	Samian sherd	Pottery – 5.1	Sherd of CG samian ware – late Antonine

SF6	Spoil – T2	Copper alloy Roman coin	Coins – 5.6	Radiate of Gallienus Sole Reign (AD 260-268)
SF7	Spoil- T2	Silver Roman coin	Coins – 5.6	Denarius of Elgabulus (AD 218-222)
SF8	1027 (T1)	Flint blade	Lithics – 5.5	Mesolithic flint blade 20mm x 10mm
SF9	1015 (T2)	Damaged Polished Stone Axe	Lithics – 5.5	Early Neolithic 84.6mm x 60.2 x 32.7mm -limestone? Damaged

5.1 The pottery – *Dr Peter Webster*

The excavations yielded 189 ceramic sherds (weighing just over 2.26 Kg) together with small amounts of burnt daub. Setting aside, for the moment, the 113 sherds (1.2Kg) of what may broadly be termed 'ceramic building material), we are left with 76 sherds of pottery. This divides by period thus:

Period	**No.of sherds**	**Weight in grams**
Roman	48	810
Medieval	4	44
Post-Medieval	21	321

All the post-Roman sherds come from upper levels (contexts 1000-1002). The Roman assemblage is dominated by perhaps a quarter of a large Black-burnished ware jar (17 sherds, 516g from context 1006/1027) of probable early 4th century date, which, along with a flanged and ridge Black-burnished ware bowl fragment (also context 1006/1027) presumably provides a date for the demolition of the structure. Other diagnostic pieces consist of a burnt samian bowl sherd, probably late Antonine (context 1002) and two small and abraded sherds of fineware probably from the Nene Valley and thus later 2nd to 4th century (also from 1002). Taken together, this rather meagre evidence suggests occupation across the third century with demolition either in the very late 3rd or, more probably, the early 4th century. The nature of that occupation is difficult to assess. Black-burnished ware would normally be associated with domestic, kitchen related, activity, but the collection as a whole is not large enough to suggest such occupation.

Equally enigmatic is the material referred to above as 'ceramic building material'. This includes a small fragment of a *tegula* (context 1006) and 111 sherds in a similar fabric which appears to be from a number of severely shattered small pipes, (mainly from trench 2, context 1002 but with a laminate from a pipe from trench 1, context 1006 and a fragment from context 1021; Fig. 17)). All the fragments are small, so that the number of pipes represented is probably not large. The pipes have been thrown using a potters' wheel as finger rilling survives in the inside. There are two fragments derived from the constricted nozzle-end which enabled pipes to be fitted together, one from the beginning of the constriction and one from the nozzle itself which had a 9cms diameter. Pipe walls are about 1cm thick. The pipes are approximately circular in cross section, though some distortion has taken place. Diameters away from the constricted end vary but are mainly between 12 and 15cms and it may be that the body of the pipe was slightly conical to make joining sections easier. Such pipes could be used as water pipes

or as a means of lightening a vaulted roof (cf. Casey et al. 1993, 255 & Fig.17.21, 621 for comparable but more robust pipes from Segontium). We can probably reject the latter use as there is no sign of the tubes ever having been set in mortar or concrete. Some use in water management seems more likely, therefore.

Post-Roman pottery is probably indicative of agricultural activity on the site. Medieval ceramics are represented by 4 sherds of cooking pot (broadly 13th-15th century) and a single tile fragment, all from trench 2, context 1002. Post-medieval ceramics consisted largely of small fragments of domestic pottery of the 18th and 19th century with a couple of pieces of ceramic sewer pipe of late 19th-20th century date.

All pottery has been listed by fabric and context, quantified by sherd count, weight and, where relevant, rim diameters and percentage of rim present recorded. This information is given in an archival list along with a summary chart by period and context. Here, it is sufficient to draw attention to the small number of diagnostic pieces.

Trench 1

Context 1027 within (1005]

- 16 fragments of a jar in Black-burnished ware with a band of obtuse angled lattice below a faint horizontal line. Cf. Gillam 1976, no.12 (early 4th century) (Fig. 16)

Context 1027 within [1005]

- A wall sherd of a jar in black-burnished ware with obtuse angled lattice – probably part of the 1006 jar above. Early 4th century (Fig. 16)

- Flanged and ridged bowl in Black-burnished ware with intersecting loop decoration; cf. Gillam 1976, no.46 (late 3rd-early 4th century) (Fig. 16)

Trench 2

Context 1002

- SF5. Samian bowl fragment, form 37. The sherd has been burnt light brown but a Central Gaulish origin seems likely. The ovolo is small with a tongue and ?rosette to the left. There is faint evidence of a row of small beads below, while only a portion of a beaded medallion (similar to Rogers 1974, E8, but lacking the inner solid line) remains of the main decorative scheme. The very open style suggests a late Antonine date (Fig. 18)

Trench 1								
Tr.	**Cont.**	**Sherds**	**Vessels**	**Wt.**	**Description**	**Diam**	**Rim %**	**Comment**
1	1001. Cleaning	1		1	white porcelain			19th-20th century
		5		14	oxidised scraps			Roman
				24	1 fragment of slate			

1	1006	15	1	475	Black-burnished ware jar with obtuse angled lattice below faint horizontal line. Cf. Gillam 1976, 12	19	22	Early 4th century
1	1006	1		12	Fragment of small *tegula*			Similar fabric to pipes
		13		57	Laminated fragments of oxidised brick			Roman
		1		8	Black-burnished ware jar fragment			Possibly as above - early 4th century
1	1006 depth 0.7m	1	1	35	Wall sherd of jar in Black-burnished ware- probably part of 1006 jar above			Early 4th cent.
		1	1	78	Flanged and ridged bowl in Black-burnished ware; Gillam 1976, no.46	18	9	Late 3rd - early 4th cent.
		10	1	98	Pipe fragment in orange.			see comments
Trench 2								
Tr.	**Cont.**	**Sherds**	**Vessels**	**Wt.**	**Description**	**Diam**	**Rim %**	**Comment**
2	1000	1		35	Sewer pipe fragment			Late 19th-20th century
		2		73	Light buff pan glazed black internally	36	6	19th century
				21	1 fragment of iron			
		1		6	Creamware			Probably 19th century
		1		2	Willow pattern plate/dish			Probably 19th century
		1		1	Flow blue on white			?mid 19th century
		1		0.4	white porcelain			19th-20th century
		2		4	cream/white earthenware			19th-20th century
		1		0.1	banded creamware			Late 18th-early 19th century
				3	stone			
		4		12	Misc Roman oxidised, possibly pipe			Roman
		2		13	Abraded oxidised			Roman
2	1000 Unstrat topsoil	1		45	?sewer pipe			late 19th-20th century
		1		3	Green transfer print on white			Probably mid-late 19th century

		1		3	Transfer print porcelain bowl			19th-20th century
		1		2	Faint blue transfer print on earthenware			?mid 19th century
2	1002	1	1	9	Form 37, CG. Probably Late Antonine			See Catalogue
2	1002			253	14 lumps of burnt daub			
				150	7 pieces of stone			
		1		6	Pipe fragment			see comments
		32		72	Scraps of oxidised pottery, probably small fragments of pipe			see comments
2	1002							
		3	?1	40	Medieval cooking pot			13th-15th century
				37	1 piece of slate			
		3	1	13	Black-burnished ware jar			Poss as 1006
		9		32	Misc oxidised pottery			Roman
		1	1	16	Jar with ?calcite grits largely leached out. Possible 4th century Roman			?4th century
		1	1	3	White ware, possibly abraded Nene Valley ware			?3rd-4th century
		7		22	Fired clay			
2	1002	12		119	Oxidised 'pipe'			see comments
2	1002	1		66	Drainage pipe			Modern - Late 19th-20th century
		1	1	28	Lead glazed stoneware bottle			19th-early 20th century
		1		36	Press-moulded plate with slipware decoration ?Buckley			18th century
		2	2	6	Transfer printed whiteware			19th century
		1		4	Medieval cooking pot			13th-15th century
		1		5	Buff ware with dark grey-brown slip - probably Nene Valley colour coated ware beaker			3rd-4th century
		9		101	Miscellaneous oxidised sherds			Roman
		38		661	Fragments of 'pipe' includes a possible restricted neck at 7cms diam. Internally			see comments
		1		25	nozzle-like pipe end	9	18	see comments
		1		12	flat tile frag			?Medieval
2	1009 (Daub & burnt stone)			219	11 lumps of daub some with stone adhering.			

2	1021	1		25	Pipe fragment	11	26	see comments
		195		2995.5				

5.2 Slate

Trench	Context	Description	Amount	Weight in g
1	1002	Small* Slate fragments: 4 with full or partial nail holes	18	1340
1	1006	4 Small and 1 large slate	5	353
2	1000	Small slate fragments:1 with partial nail hole	4	302
2	1002	Small Slate fragments: 1 with partial nail	3	112
2	1002	Large** roof slate fragments: refit to represent 1 slate (230mm x max 250mm)	4	812
2	1019	Small slate fragments: 1 with partial nail hole	2	54
2	1021	Small slate fragments	4	104
		Total	40	3.077kg

*Small = <150mm x 100mm
**Large= >200mm x <100mm

5.3 Metal Artefacts

Tr	Cont	Description	No.	Weight
1	1000	Fragment of large (250mm x 80mm max) cast Iron paddle/blade -	1	1.53kg
		agricultural		
1	1008	1 nail fragment	1	<1g
1	1000	4 fragments of nails, 1 bent nail? and 2 partial nail heads	7	37g
2	1002	1 bent blade or tool, 58 nails and fragments of nails	63	554
		1 large nail? (160mm); 1 long strip of wire type iron (170mm);		

		fragment of tool? Socket (copper alloy?)- modern? 2 fragments of Iron; 3 lumps of lead	5	23
2	1019	13 fragments of nails	13	43
2	1021	3 nail fragments	3	28g
		Total	**78**	**2.216 kg**

5.4 Small Finds - *Dr Lynne Bevan*

Two small finds were examined from a site at Llwydfaen, Conwy, both of copper alloy, comprising a circular enamelled object (SF 1, Unstratified: Fig. 20), and a small fragment of copper alloy sheet (SF 3, 1001: Fig. 23). Both of the objects were in very poor condition, and the sheet fragment was very damaged and broken on all of its edges.

The circular object has traces of enamel inlay on one side in the form of six small triangles radiating from the centre of a circular motif. Although the enamel has all but worn away, two of the six triangles contain a dark, rusty coloured residue while the other three are paler in colour. This may be due to different coloured enamels being employed in the decoration of the artefact. That the two darker triangles are opposed to each other and surrounded by the lighter panels suggests that this may be a design choice rather than due to differential survival of the enamel. Though small and flat on the reverse the most logical identification for this object is that it was the lid of a seal box or, less likely, a plate brooch or mount.

While no exact parallels were found for the style of decoration, a circular enamelled seal box from Colchester with a lid of exactly the same size as the object from Llwydfaen is of a type generally dated to the second or third century (Crummy 1983, Fig. 106: 2521, 103). The decoration on the seal box from Colchester - circular round dots - was similar to the decoration of flat second century disc brooches, two examples of which, also from Colchester, have been dated to the second century (Crummy 1983, 17, Fig. 14: 80,81, 17). While some smaller disc brooches were of similar size to the Llwydfaen object, this identification remains less likely due to the reverse of the object being totally flat and devoid of any remaining brooch features.

The finds are of local interest only and given nature no further work is recommended for the material.

5.5 Lithics - *Dr Amelia Pannett*

The struck lithic (Context 1027 within [1005]; SF8) comprises a small regular blade, 20mm in length, 10mm wide and 2mm thick manufactured from orange/red flint. The proximal end of the blade is broken, with the striking platform missing, while the distal end is stepped. The blade was struck from a opposed platform blade core and has some rough use wear along both lateral edges, although this

could be post-depositional damage. The blade is diagnostically late Mesolithic (Fig. 21 E & F).

A fragment of a polished stone axe (SF9) was recovered from within the core of the eastern wall of the structure (1015), identified within trench 2. It is a proximal fragment, measuring 84.6mm in length, 60.2mm broad and 32.7mm thick (Fig. 21. A-D) The axe has been broken, with the butt end and much of the blade removed, together with most of one face. It is not possible to determine whether the breakage was deliberate, and, given its context within a later building, it is possible that the breakages result from post-depositional processes. The axe retains part of one lateral edge and a short section of curved blade, which has been shaped to form a sharp point. The surviving sections of axe face retain striations resulting from the polishing of the axe, which show both curving and straight polishing action. The tip of the axe has been polished to a higher standard than the axe body, which is uneven and with scars from the reduction sequence not completely polished out. The axe is diagnostically early Neolithic and has been incorporated into the later building, either accidentally or deliberately. There are a number of recorded Neolithic sites within the wider local area, including several chambered cairns, demonstrating that this was an area occupied during the Neolithic period.

The axe was manufactured on limestone, which is locally available on the Great Orme and around Llandudno. The limestone is fine grained, greenish-grey in colour and contains microscopic fossils.

5.6 Coins - *Nicholas A Wells*

A total of five coins were found during the excavations of an apsidal structure at Conwy in 2013. All date to the Roman period, three were silver *denarii* and two copper alloy radiates.

Interestingly the date range of the coins was fairly tight, with the three silver denarii (Spoil find, SF 4 & 7) dating from the reign of Septimius Severus (197-211) to Severus Alexander (222-235). The copper alloy radiates (SF 2 & 6) were of Gallienus sole reign (260-8) and Claudius II (268-70). Therefore the whole assemblage ranges from the beginning to the end of the 3rd century.
The coins themselves are what one would expect from any assemblage containing 3rd century coins, *denarii* (albeit of c. 50% silver) becoming the common coin find of the early 3rd century, making way to the abundant radiate issues in the late 3rd century.

Deposit 1102 contained a denarius of Elagabalus (SF 7) and a radiate of Gallienus sole reign (SF 6) and so probably dates to the late 3rd century. Based on their wear, it is possible that the three *denarii* may have formed part of a single deposit – a hoard – which had later been disturbed – perhaps in the late 3rd century, though this may be reading too much into what is a very small assemblage*
Below is the full catalogue of the coins found during the excavations followed by a brief explanation of the abbreviations used and a bibliography.

Catalogue:

Abbreviations Used in the Catalogue

IV Roman Imperial Coinage Volume 4 – Parts 1 to 3 (Mattingly, Sydenham & Sutherland 1936-49 all in one volume)
V(i) Roman Imperial Coinage Volume 5 – Part 1 (Webb 1927)
Cun Cunetio 1978 Hoard (Besly & Bland 1983)
Nor Normanby 1985 Hoard (Bland & Burnett 1988)

The abbreviations are followed by the reference number within the specified volume thus providing a unique identifier for the coin. However, for the Roman Imperial Coinage volumes this is further subdivided by issuer, so **III Ant P 938** means RIC Volume 3 coin reference number 938 in the Antoninus Pius list.
The issuer entry in the catalogue will make it clear to what the abbreviation refers.

* Following consolation with Dr Mark Lodwick of NMW PAS it was considered that there was insufficient evidence to demonstrate that the denarii coins were associated and therefore they could not be considered as Treasure.

Spoil Find. During Backfill (Fig. 19A)
Denarius of Severus Alexander (222-235)
Obv; IMP SEV ALEXAND AVG
Laureate bust right
Rev; ANNONA AVG
Annona standing left holding cornears and anchor, at feet a modius
2.7g, 19mm diam., 45° die axis, unworn.
Struck at Rome, 228-231.
Ref; IV Sev Alex 188a

Trench 1 SF 2, (Spoil) (Fig. 19B)
Radiate of Claudius II (268-270)
Obv; IMP C CLAVDIVS AVG
Radiate bust right, uncertain drapery
Rev; VICTORIA AVG
Victory standing left holding a wreath and palm
No reverse field mark

1.7g (incomplete), 20mm diam., 180° die axis, slightly worn.
Struck at Rome, 268-9.
Ref; V(i) Claud II 104 (-), Nor 615-8, Cun 1943-6

Trench 1, SF 4 (1001- Apse) (Fig. 20A)
Denarius of Septimius Severus (193-211)
Obv; SEVERVS AVG PART MAX
Laureate bust right, uncertain drapery
Rev; RESTITVTOR VRBIS
Severus standing left , sacrificing with a patera over an altar and holding a spear

2.2g, 18mm diam., 180° die axis, slightly worn.
Struck at Rome, 200-201.
Ref; IV Sept Sev 167 (Den)

Trench 2 SF 6 (Spoil- W end) (Fig. 19C)
Radiate of Gallienus Sole Reign (260-268)
Obv; GALLIENVS AVG
Radiate bust right
Rev; Uncertain - corroded

2.4g, 21mm diam., unworn, oval flan.
Uncertain mint, 260-268.
Ref; Uncertain

Trench 2, SF 7, (Spoil – W end) (Fig. 20B)
Denarius of Elagabalus (218-222)
Obv; IMP ANTONINVS PIVSAVG
Laureate bust right, draped
Rev; P M TR P II[I] COS III P P
Uncertain figure standing left
2.2g, 18mm diam., 180° die axis, unworn.
Struck at Rome, 220-221.
Ref; Uncertain

6. Excavation Discussion and Conclusions

The two trenches excavated across the cropmark revealed the remains of an apsidal building that had been robbed of the main above-ground structure, leaving only foundations of rounded stones set within a silty, cream coloured, clayey bonding material. The dimensions of the building are 18.47m (externally NNE to SSW) and 8.60m (externally WNW to ESE), whilst the internal dimensions are 16.60m and 6.2m.

A sunken pit or well feature (1005), located 1.0m west of the west wall of the apse, appeared to contain material derived from the demolition of the main building, including roofing slates and sandstone ashlars together with broken ceramic water pipes. The subsidence of deposits around the upper part of the sunken feature show that the rubble had settled over a long period of time, presumably as a result of water running through the loose rubble, with resultant contamination from top-soil above. Fragments of cows teeth recovered from the upper levels of the stones within this deposit are though to derive from the top soil. The remains of two black burnished ware vessels recovered from within building material deposit appear to date between the late third and early fourth-century AD and it is likely that the later date (early fourth-century) provides a date for the deposition of the demolition debris. Three silver *denarii* and two copper alloy radiates dated to the third century were discovered in association with the building. A possible seal box cover discovered also has second and third century Roman parallels. There is a major bias within the pottery assemblage to suggest a Roman date; approximately 65% of the pottery assemblage discovered during the

excavation was of Roman date as opposed to 3% that was medieval.

The pinkish sandstone ashlars recovered from the pit feature were not local and appear to have been acquired from north-west England although the roofing slate appears to be from North Wales. It is not known whether the full span of the walls were built in stone or whether there was a timber element to the structure. The apse wall foundations were approximately 1.0m wide, whilst the side walls of the structure appear to have been 1.5m wide and 0.6m deep, so capable of supporting major stone walls and timber roof beams. The apse architectural element within Trench 1 was 4.9m wide (internally east to west) and 3.8 m north to south, with the possibility that the southernmost 2.0m were located within an arch as suggested by deposit (1016) and underlying clayey silt (1004). This evidence supports Hopewell's geophysical survey which shows a short east to west aligned wall in this area. A rough stone deposit (1014) discovered in a line across the centre of the northern end of the apse may suggests a differing floor surface or change of level in the entrance to the apse.

A damaged Neolithic polished axe discovered within the fabric of the foundation of the eastern wall in Trench 2 may, if deliberately deposited, may be suggestive of an offering in a significant part of the building. There has, in the past, been much debate about the significance of such material in association with Roman buildings (e.g. Adkins and Adkins 1985; Bradley 1986). Given the limitations of this excavation no firm interpretation can be offered other than to state that one Neolithic polished axe fragment was 'probably' inserted deliberately into the fabric of the eastern wall foundation.

The shape of the almost complete roofing slate discovered on the western end of Trench 2 suggests that, in common with Roman practice, the slates were hexagonal with a pointed base giving the familiar lozenge effect (Gwyn 2015, 31). The find of a small fragment of a baked clay *tegula* within the pit together with slate fragments from the excavation suggests that two different forms of roofing material may have been used in different parts of the building.

One architectural division was discovered within the centre of the northern section of the building as observed within Trench 2. The slot, discovered full of ceramic building material (CBM) and charcoal flecks appears to divide the space into two halves longitudinally, with the western side (2.2m wide) being narrower than the 4.0m wide eastern area. The dimensions and nature of the deposit suggest that this was possibly a timber frame partition that was filled with clay daub. The charcoal, presumably derived from the remains of a burned timber frame, was dated by C14 to the Roman period (Cal AD 90-320). The slot continues under the southern edge of Trench 2 and further excavation may provide clarification of spatial division and possible function for the building. No evidence of flooring materials survived within the trenches although material may, of course, be present in the unexcavated space between trenches 1 and 2.

The discovery of a small number of ceramic Roman pipe fragments within the building and dumped demolition debris is enigmatic. The materials used in the building of such a structure such as imported Cheshire freestone together with Welsh slate suggests a significant building, although the apparent lack of any sunken internal features, hypocaust, mosaic flooring or plaster suggests altogether

more humble surroundings. Many different Roman buildings have apsidal architectural features and postulating a function based on form alone is clearly unwise. Apsidal temples such as at Caerwent and (Mithraeum) at Caernarfon are closely associated with either Roman civic or military settlements and whilst Canovium Roman fort is 2.6km south-west of Llwydfaen one would expect closer proximity to the fort. Bath houses also often have apsidal spaces and water pipes such as the apsidal heated room (laconium) at Ebchester and Littlecote (Rook 1992, 42 & 50). Houses with multiple small rooms can also have apsidal architectural elements such as examples at Lullingstone and Hales (Fulford 2007). If a domestic setting is envisaged the inclusion of an apse is both meaningful and spatially impressive in a relatively small building. In Hungarian Roman villas apses are interpreted as the seat and symbol of power (Smith 1997, 200). The Black Burnished ware vessels discovered suggest a domestic function and the paucity of other domestic finds may be explained by the limited excavation. Excavation of the geophysical anomalies to the west of the structure in Hopewell's survey may yield further domestic material that would complement a domestic interpretation.

In terms of dating, the ceramic and numismatic evidence suggests a third-century date for the structure and it is possible that this was contemporary with re-occupation of the fort at Caerhun during the late-third century (Hopewell 2005, 242). The central Gaulish type 37 Samian fragment discovered at Llwydfaen is similar to others discovered in the Canovium excavation but, being late Antonine, predates the later reoccupation of the fort. The very end of the Antonine period (AD 193), however does broadly compliment the earliest coin at Llwydfaen (AD 193-211) and this currently provides the earliest dating evidence for the building. The latest coins (AD 268-270) may provide a current *terminus post quem* for the structure's end.

It is possible that the building at Llwydfaen lay close to a Roman road and crossing point located at Tal y Cafn, although Hopewell (2013, 34-5) suggests that the location of such a crossing point and road at Tal y Cafn is currently 'hypothetical'. The apparent isolation of the Llwydfaen structure is puzzling since one would expect a domestic structure or temple to be enclosed. Hopewell's survey at Llwydfaen shows a feint linear anomaly to the west of the structure and excavation in this area would resolve its interpretation as a possible enclosure. Williams's survey (see below) was limited and only suggests that Area 3 had a possible anomaly worthy of further investigation. It is worth noting, however, that anomaly D in Area 2, is on roughly the same alignment as the partly excavated structure and further exploration in this area may be fruitful in providing a context for the location of this enigmatic Roman building.

7. Phase 2: Geophysical Survey

Daryl Williams
Sam Williams

7.1 Objectives and Strategy

It was the intention of the project to carry out limited geophysical work in the area of other, less well defined, cropmarks within the field. The primary intention was to contextualise the location of the excavated building and locate any remnants of associated buildings and a possible trackway leading, east to west, towards the Conwy river. The intended targets were either side of the east to west linear 2006 parch mark visible with in the field at SH 78841 72877. The survey work was conducted over the first two days of the excavation using a Geoscan FM36 Fluxgate Gradiometer.

The survey was conducted in three distinct areas. The first on sloping ground to the north east, across rectilinear crop marks seen from the air, the second on two large terraces to the western extremity of the site and the latter on the relatively level terrace to the south east.

7.2 Methodology

The survey was conducted in dry, warm conditions on the 29th and 30th July 2013. The field was pasture with short grass.

Responses to geoarchaeological surveys over mudstones and drift sand and gravel deposits are known to be variable between sites and dependant on many local factors but English Heritage (2008, 15&16) recommend magnetometer survey as the method of choice. In this instance a Geoscan FM36 Fluxgate Gradiometer was chosen to carry out the survey with the aim of identifying any anomalies of potential archaeological significance. This method was particularly suitable in this case due to the limited time scale in which to conduct the survey and the fact that the grids could be walked at rapid pace. A Topcon GTS 212 EDM (Electronic Data Measurer) was used to divide three areas into 20m square grids, within a tolerance of +/- 5cms, along a common alignment. Selected points along the field boundary were also recorded to allow the position of the grids to be tied into the Ordnance Survey map of the area (fig. 29). Each grid in turn was then sub-divided to give a traverse interval of 1m and sample interval of 0.5m giving 800 readings per grid. Where survey lines could not be completed due to the field boundary cutting across the grid the 'dummy log' key was used to complete the line.

The data obtained was downloaded to a laptop computer in the field and a composite of the survey area created and processed using the Geoplot 3 software package using the following processing parameters (figs. 30-32):

Despike x=1, y=3, Threshold=3, Repl=Mean
Zero Mean Traverse Grid=All, LMS=on
Low Pass Filter x=1, y=1 weighting Gaussian
Interpolate Y, Expand – Sin X/X x2 (x3)

Normal protocol would be to mark identifiable anomalies, on the plot of the geophysical results. To aid clarity the geophysical background would then be removed from any illustrative figures before inclusion in the final report. In this instance, however, it was deemed that there was little advantage gained in removing the geophysical background and that it was more informative to allow it to remain than to show the anomalies stand alone. The red markings used to illuminate particular anomalies are indicative only and not drawn to scale. The approximate dimensions of features are given, where appropriate, however in the accompanying text.

7.3 Results

Area 1, situated on sloping ground to the north of the site (fig. 29), was selected so as to encompass a rectilinear cropmark identified from aerial photography (Driver 2008, Driver 2008a) taken during the prolonged drought across much of Wales in 2006. The results of the survey however show nothing of archaeological significance.

The survey of area 2 (fig. 29, 33) was undertaken across two terraces parallel to the western field boundary where the ground slopes less steeply to the east than the surrounding area. These are situated one below the other and separated by a relatively narrow north north east / south south west steeper slope.

Anomaly A (fig. 33) which runs north west / south east across the northern portion of the survey area was visible as a cropmark that could be seen by eye as well as on aerial photographs. This runs from the western field boundary for the entire width of the field and is possibly a trackway.

Anomaly B (fig. 33) is a semi-circular anomaly on the eastern edge of the survey area. This possible ditch appears to be cut by (or possibly cut) anomaly A. Unfortunately being on the very edge of the survey area it is not possible to ascertain if this anomaly continued on its trajectory to form a circular feature.

Anomaly C (fig. 33) is a linear anomaly orientated south west / north east found to the north west of the survey area. Frustratingly this anomaly is also across the extremity of the survey area but is a possible ditch which is either cut by anomaly A or terminates as this is reached.

Anomaly D (fig. 33) is a linear anomaly orientated north north east / south south west. This anomaly originates outside of the survey area to the south and curves to the north for approximately 6-8m before terminating as anomaly A is reached. This may represent possible revetment to stabilise the bank between the two terraces although natural geology cannot be ruled out. Unfortunately time did not

permit an accurate topographical survey so it is not possible to know if this anomaly definitely coincides with the small bank forming the interface between the two terraces or is slightly above or below this.

Anomaly E (fig.33) is a very strong response possibly indicating the presence of a large pit or conceivably the presence of sub-surface metal.

The survey of area 3 was undertaken on the relatively level area of ground to the south east of the site, approximately 80m north east of the excavation (fig. 29, 34). The grids were placed on the northern edge of a small promontory overlooking the river with steeply sloping sides to the north and east. This area was chosen as it formed the northern end of a strip of land, approximately 70m long and 30m wide and orientated north / south, which appeared slightly lower in height than the surrounding area with very lush grass compared to the remainder of the site.

A rectilinear anomaly approximately 10m x 5m and aligned north / south (fig. 34) may possibly indicate the presence of a former structure. The relatively constant response from within the enclosed area, compared to the exterior, may be indicative of a floor adding credence to this hypothesis. The area to the west shows numerous other anomalies which may be the result of human agency. Slight support for this comes from the fact that the remainder of this survey and also the area surrounding the excavated structure from the results of magnetometry by Hopewell (Driver & Hopewell 2008, 80) produced so few. Unfortunately however none are clear enough to state they are archaeological in nature with any degree of certainty.

7.4 Conclusion

Area 1 on the east - west sloping ground to the north of the site produced no convincing indication of possible archaeological features. The survey of area 2, across the terraces to the west of the site, found no suggestion of structures, but possible human intercession is suggested. However, the lack of an accurate topographical survey and the fact that, a number of anomalies were found at the extremities of the survey area, and possibly exist largely outside of it, means that this cannot be stated unequivocally.

Area 3 is the only area containing a convincing anomaly that strongly suggests the existence of a possible former structure. This is found on relatively level ground on the northern edge of a small promontory and overlooking the lower lying ground to the east. The area to the west of this is extremely ‘noisy’, in comparison to the remainder of the site, which may suggest further human activity, but no discernible distinct features could be interpreted from the anomalies.

A detailed topographical survey and scale plan to compliment the geophysical survey would greatly aid interpretation of the site, especially with regard to area 2. A trial resistivity survey in order to test the suitability of this alternative geophysical method may also prove beneficial.

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9. Bibliography

Adkins, A. and Adkins, R.A. 1985. Neolithic axes from Roman sites in Britain in *Oxford Journal of Archaeology* **4** (1) 1985. Pp. 69-75

Besly, E. & Bland R. F. 1983 *The Cunetio Treasure* London: British Museum Press.

Bradley, R. Neolithic axes in Roman Britain: an exercise in archaeological source criticism in *Oxford Journal of Archaeology* **5** (1) 1986. Pp. 119-1120

Bland, R.F. & Burnett, A 1988 'Normanby, Lincolnshire' in Bland, R. F. & Burnett, A. (eds) *Coin Hoards from Roman Britain Volume VIII: The Normanby Hoard and other Roman coin hoards* London: British Museum Press, 114-215.

Casey, P.J., Davies, J.L., Evans, J. 1993 *Excavations at Segontium (Caernarfon) Roman fort, 1975-1979,* Council for British Archaeology Research Report 90, London.

Clark, A. 1996. *Seeing Beneath the Soil: prospecting methods in archaeology*. London: Routledge.

Crummy, N. 1983 The Roman Small Finds from Excavations in Colchester 1971-9. Colchester Archaeological Report 2. Colchester Archaeological Trust.

Driver, T. 2008. Llwydfaen, Church. Royal Commission on the Ancient and Historical Monuments of Wales. (WWW). http://www.coflein.gov.uk/en/site/404665/details/LLWYDFAEN%2C+CHURCH/ [Accessed 10-08-13]

Driver, T. & Hopewell, D. Longley, D. 2008. A Medieval Church and Township Re-discovered at Llwydfaen, Caerhun, Conwy. *Archaeology in Wales,* **48**, pp. 77-81.

English Heritage. 2008. *Geophysical Survey in Archaeological Field Evaluation.* London: English Heritage.

Fulford, M. 2007. *Lullingstone Roman Villa*. English Heritage

Gillam, J.P. 1976. Coarse fumed ware in north Britain and beyond, *Glasgow Archaeological Journal*, 4, 57-80.

Gwyn, D. 2015. *Welsh Slate, Archaeology and History of an Industry*. Aberystwyth: RCAHMW

Hopewell, D. 2005. Roman Fort Environs in North-West Wales. *Britannia* **36**. pp 225-269.

Hopewell, D. 2013. *Roman Roads in North-West Wales.* Bangor: Gwynedd Archaeological Trust.

Lott, G. 2009. The Petrography of some Carboniferous sandstones from north-east Wales in Newsletter of the Welsh Stone Forum (Number 6), March 2009, pp. 10-12.

Mattingly, H. & Sydenham, E.A. 1936 *The Roman Imperial Coinage Volume IV: Part 1: Pertinax to Geta* London: Spink (**RIC IV, I**)

Mattingly, H., Sydenham, E.A. & Sutherland 1938 *The Roman Imperial Coinage Volume IV: Part 2: Macrinus to Pupienus* London: Spink. (**RIC IV, II**)

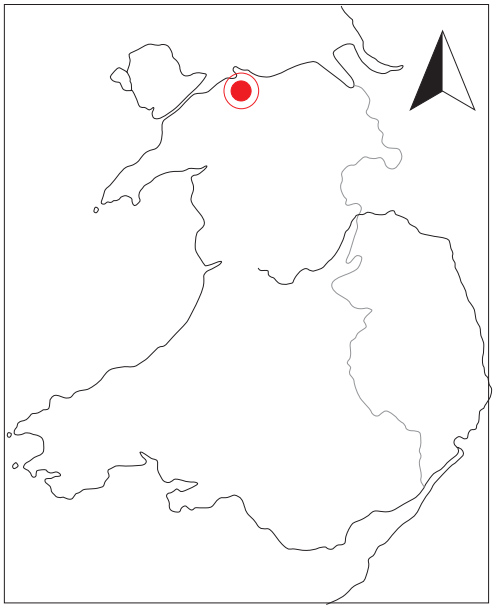
Richards, J. & Robinson, D., 2000, *Digital Archives From Excavation and Fieldwork: a guide to good practice*, Archaeology Data Service

Rogers, G. B. 1974. Poteries Sigillées de la Gaule Centrale, 1- Les Motifs Non Figurés, in *Galia*, supplement **19**

Rook, T. *Roman Baths in Britain*. Shire Archaeology, Shire Publications: Princes Risborough.

Smith, J.T. 1997 *Roman Villas. A study in Social Structure*. Routledge: London/NewYork

Webb, P H. 1927 *The Roman Imperial Coinage Volume V Part I: Valerian to Florian* London: Spink.



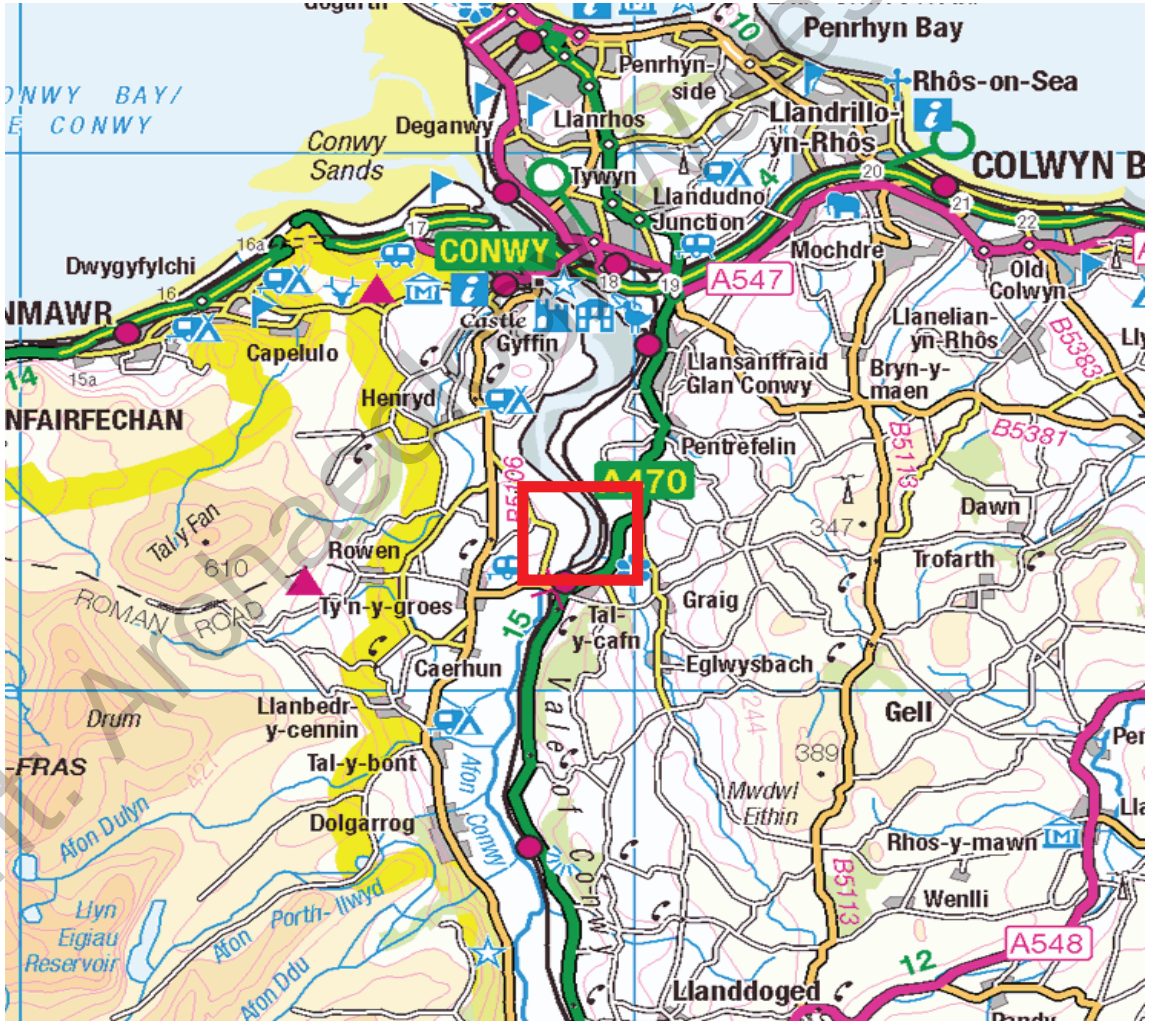
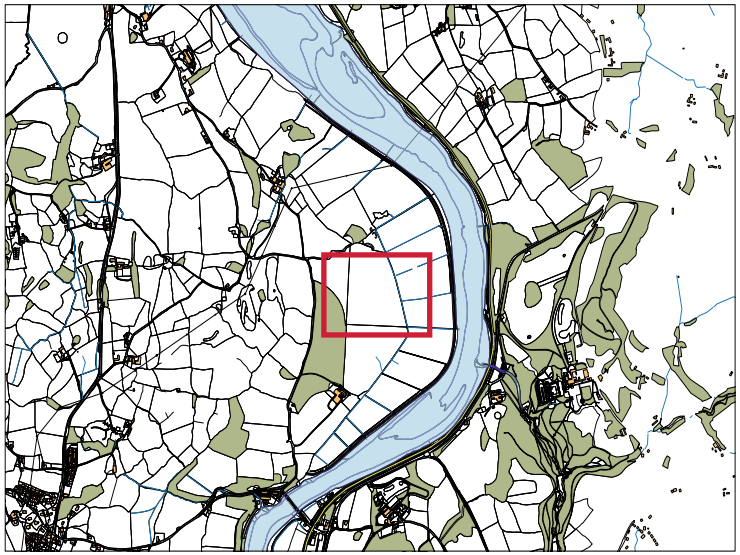


Fig. 1

Area Location



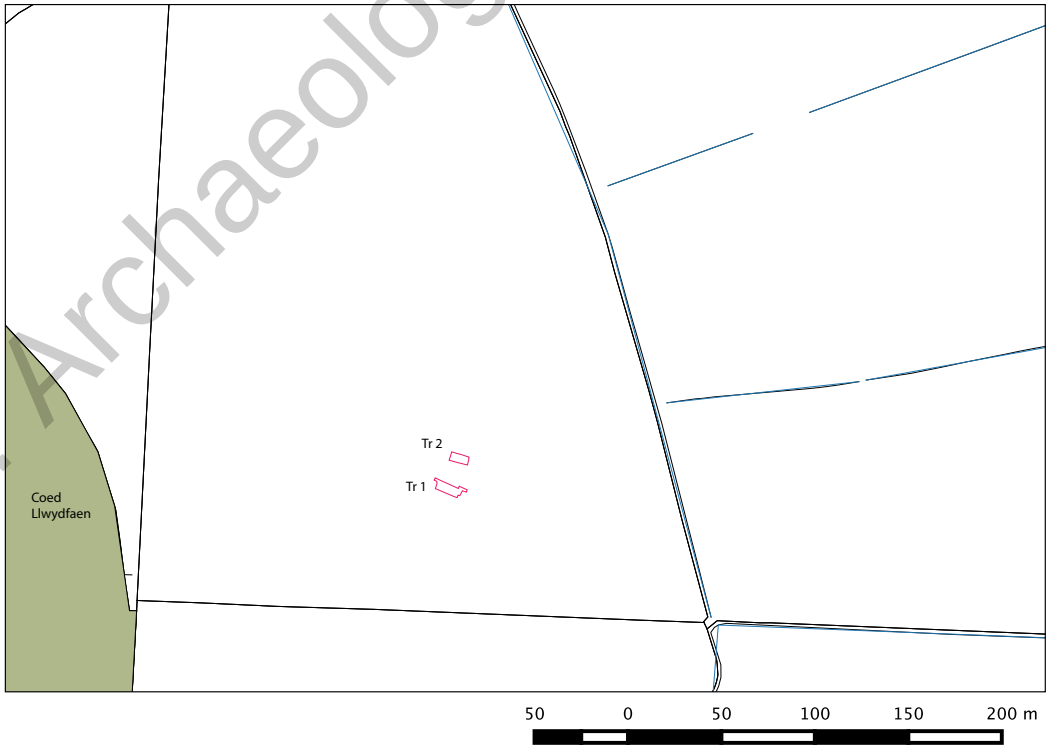
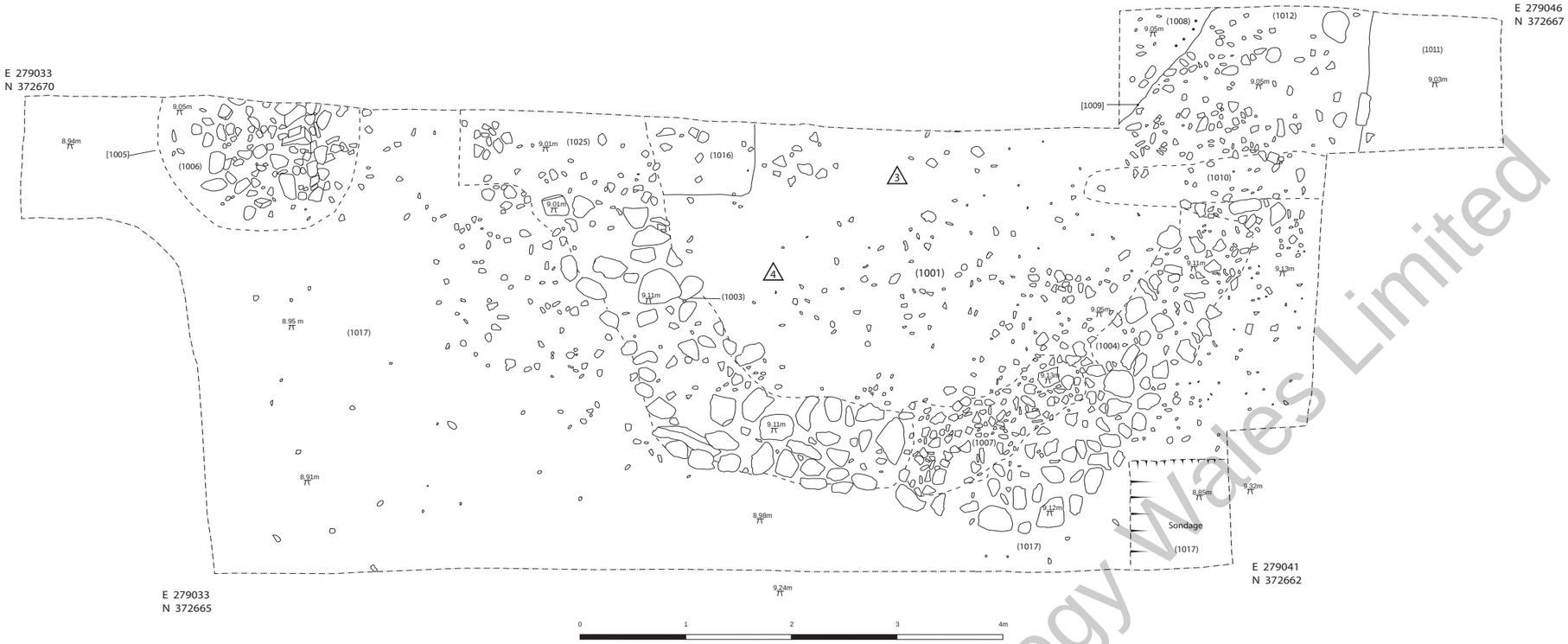
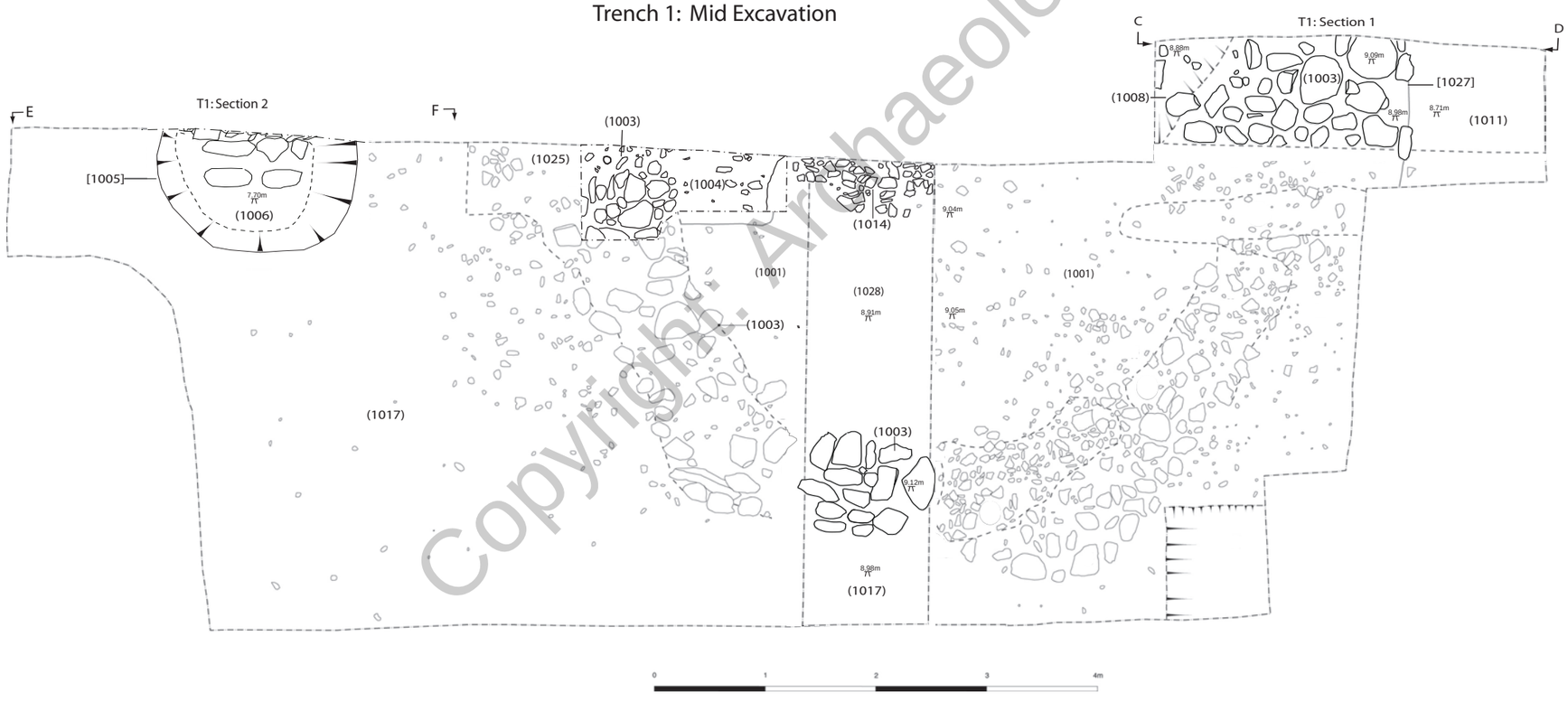


Fig. 2

Site and Trench location



Trench 1: Mid Excavation



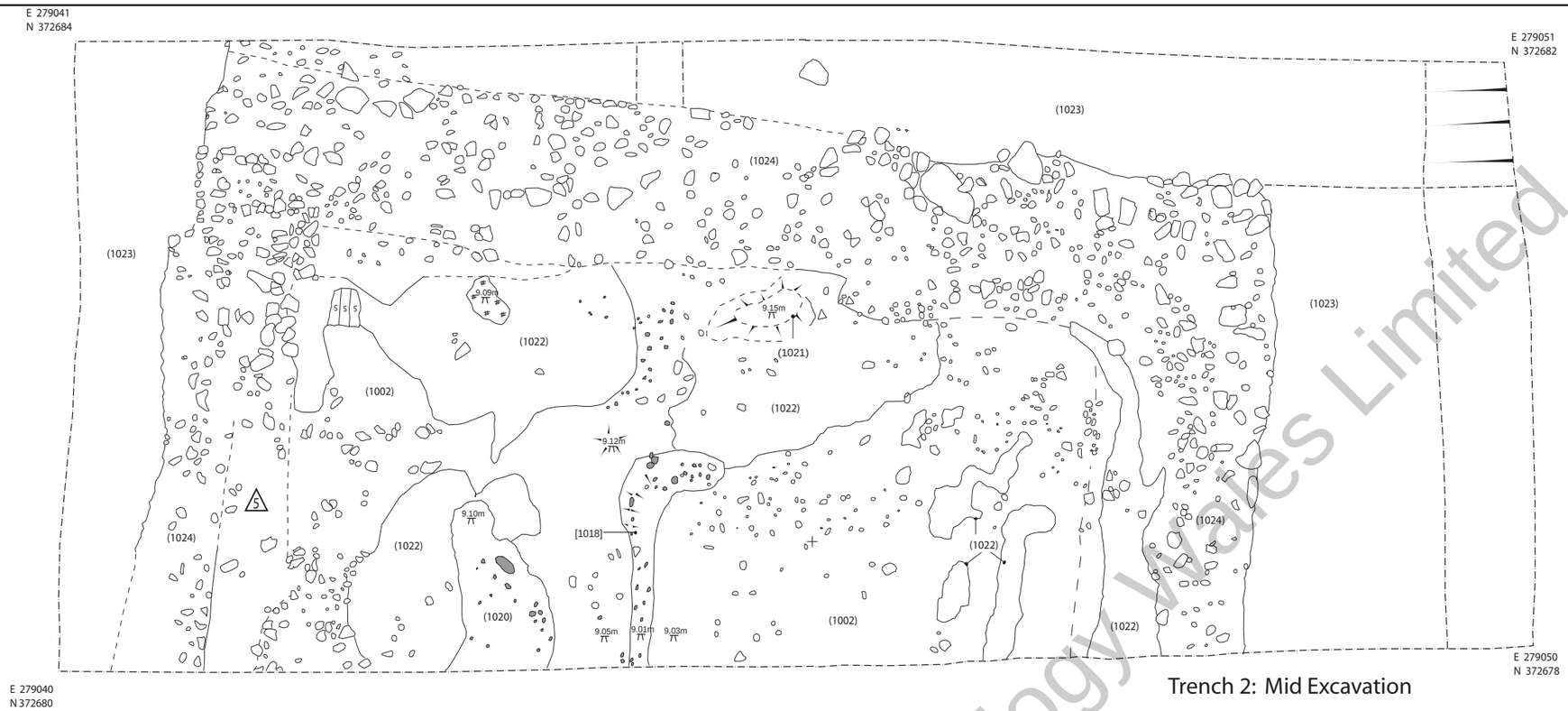
Trench 1: Post Excavation

3 Copper alloy sheet fragment

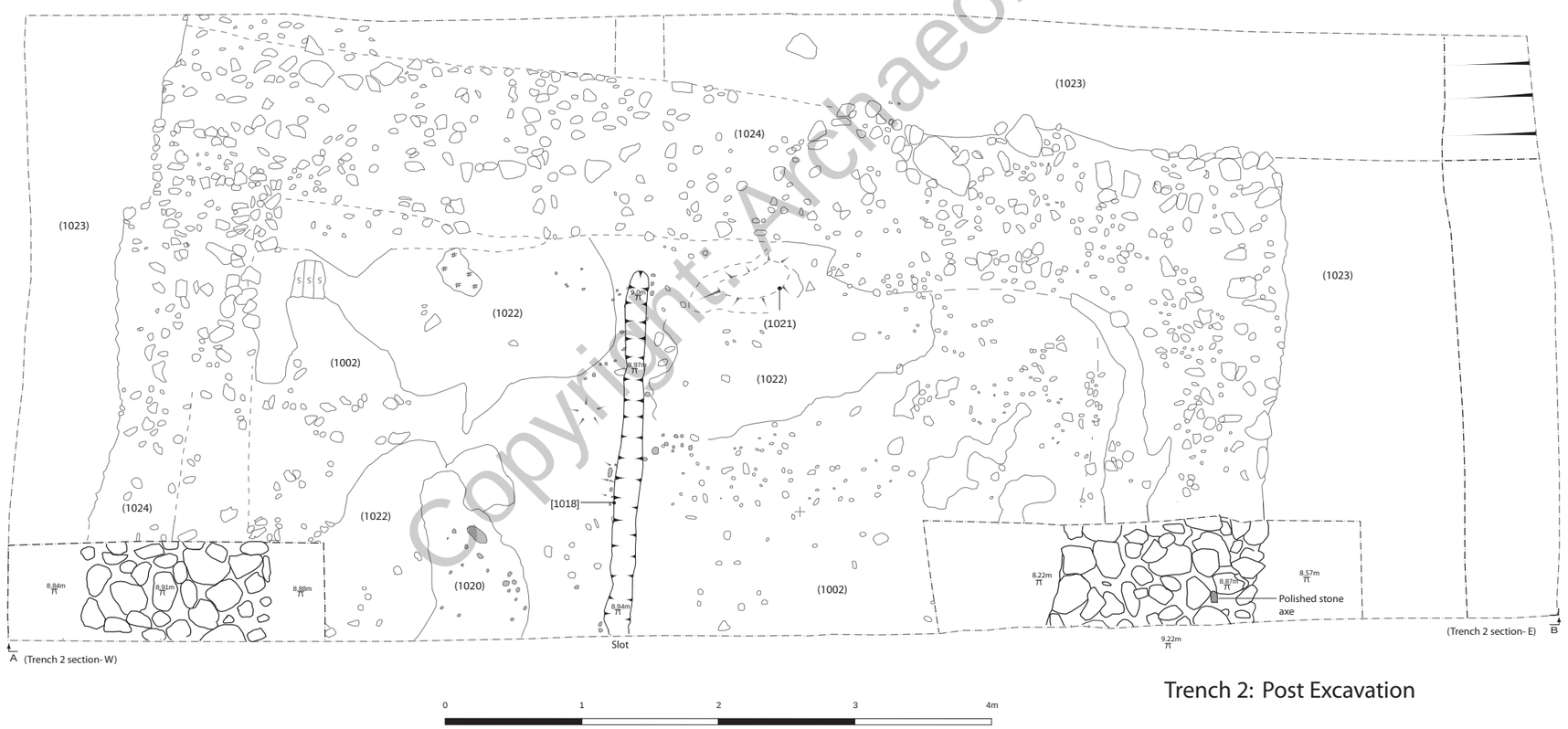
4 Silver Denarius (AD 193-211)

Job Title:	Llwydfaen, Conwy
Drawing Title:	Trench 1 plans
Date:	02/08/13
Drawn By:	EGB & IJ
Scale:	1:20
Figure 01:	

ARCHAEOLOGY WALES
Revealing the past, informing the future



Trench 2: Mid Excavation



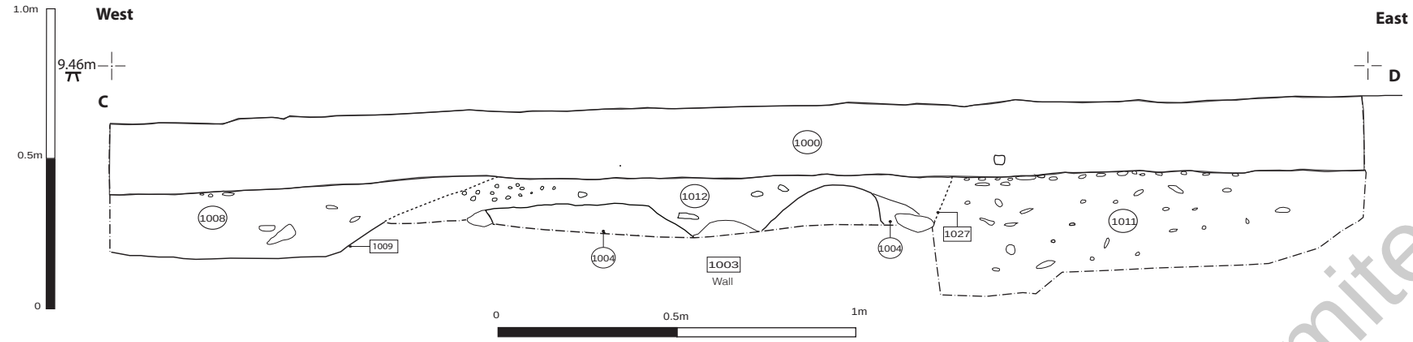
Trench 2: Post Excavation

Key

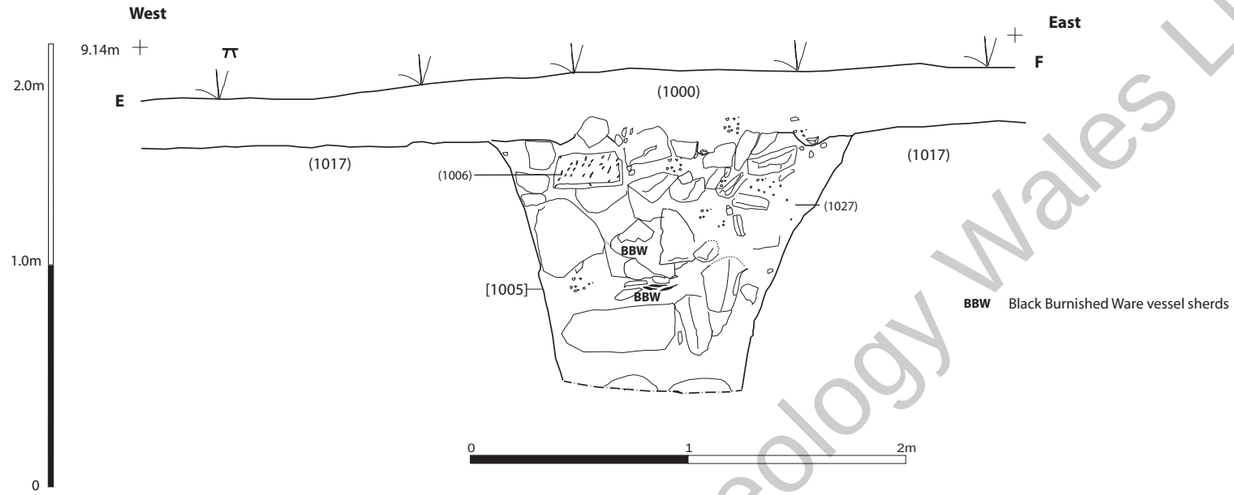
#	Charcoal
⬟	CBM
S	Damaged Roof Slate
▮	Polished Stone Axe- Neolithic (post excavation plan only)
5	Sherd of Central Gaulish Samian Bowl -Late Antonine

Job Title:	Llwydfaen, Conwy
Drawing Title:	Trench 2 plans
Date:	02/08/13
Drawn By:	JB & IJ
Scale:	1:20
Figure 01:	

ARCHAEOLOGY WALES
Revealing the past, informing the future

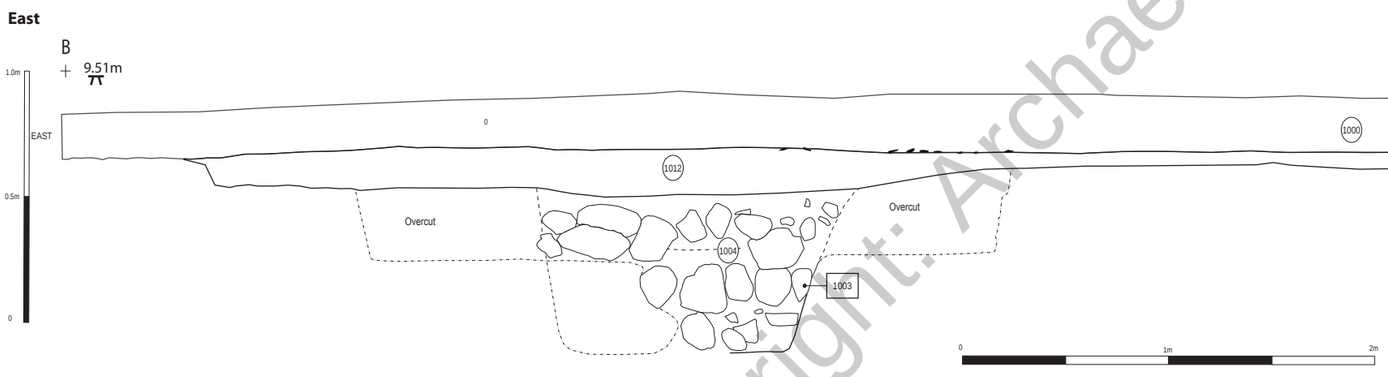


T1 Section 1: SSE Facing section of north-eastern corner of Trench 1



T1 Section 2: SSE Facing section of Feature 1005 north-western corner of Trench 1

BBW Black Burnished Ware vessel sherds



T2 Section 1: NNW Facing section across north facing southern baulk of Trench 2

Stone

Slate fragments

Red stone fragment

Job Title:	Llwydfaen, Conwy
Drawing Title:	Trench 1 and 2 Section drawings
Date:	02/08/13
Drawn By:	EGB, JB, GHS & IJ
Scale:	1:10
Fig. 5	

ARCHAEOLOGY WALES
Revealing the past, informing the future

Eastern end of Trench 1 mid excavation. Apse foundation (1003) in foreground, stone-filled pit (1005) in background (looking west)

Western end of Trench 1 mid excavation. Stone-filled pit (1005) in foreground. Apse foundation in background (looking east)

Fig. 6

Trench 1 Mid-excavation

Post-excavation view of shallow 1m wide slot through interior central floor area of Apse showing stone deposit 1014 in background (looking north-west)

Post-excavation view of the southern end of slot though Apse with upper stones (1003) removed to expose deposit (1004) (looking south)

Fig. 7

Trench 1: post-excavation

Western end of feature 1005 (looking east)

Northern end of feature 1005 (looking south)

Fig. 8

Trench 1 Mid-excavation

Post-excavation view of slot across apse south-western end showing context 1004 running east of western wall for approx 1m towards centre of apse (looking north)

Same as left (looking west)

Fig. 9

Trench 1: post-excavation

Dark deposit 1008 at the north-eastern edge of Trench 1 (looking west)

Post-excavation view of section through north-eastern corner of Trench 1 (Tr 1 Section 1) (looking north)

Fig. 10

Trench 1: mid and post-excavation

Mid-excavation view of 1005 showing dumped reddish masonry (damp conditions, looking north)

Post-excavation view of south facing section of 1005 showing dumped masonry (dry and sunny conditions, looking north-west)

Fig. 11

Trench 1. Feature 1005 mid and post-excavation

Mid-excavation view of the the western end of Trench 2 (looking east)

Mid-excavation view of the north-western end of Trench 2 showing in situ fragmented slate in foreground (looking west)

Fig. 12

Trench 2: mid excavation

Post-excavation view of the north-eastern corner of foundation showing depth of deposit 1015 (looking south)

View of Wall 1015 in Trench 2 prior to removal of upper bonding 104 (looking south-east)

Fig. 13

Trench 2: Post-excavation

Early-excavation view of the north-western end of Trench 2 showing clay red slot feature prior to excavation (looking north in damp conditions)

Working excavation view of the north-western end of Trench 2 showing excavated slot (looking north in very dry conditions)

Fig. 14

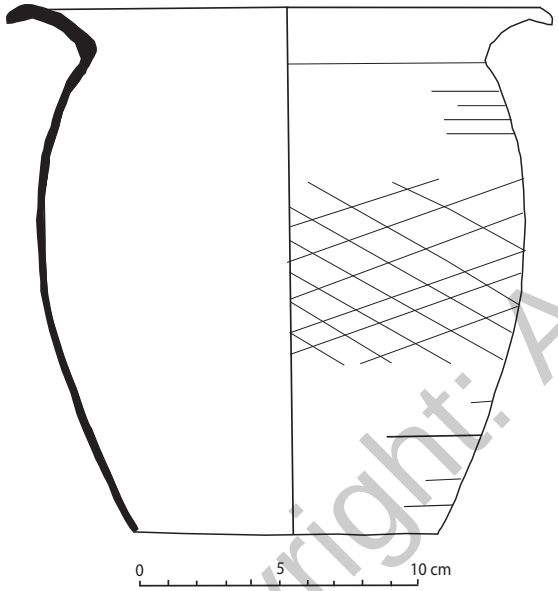
Trench 2: mid excavation

Post-excavation view of eastern wall in south-east corner of Trench 2 with 1004 removed showing polished stone axe in situ (right of ruler) (looking north)

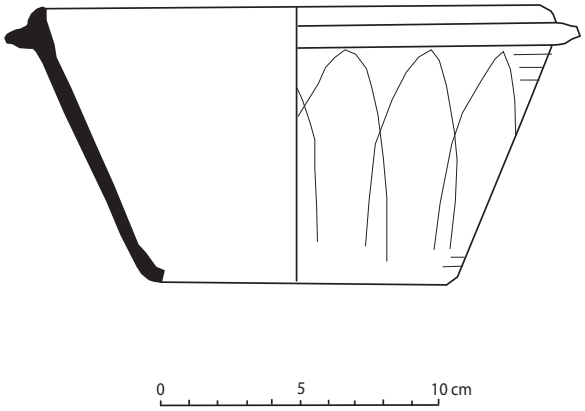
Post-excavation view of western wall in south-western corner of Trench 2 with 1004 removed (looking west)

Fig. 15

Trench 2: post-excavation



Black Burnished Ware Jar with obtuse angled lattice decoration (Early 4th century AD)



Black Burnished Ware flanged and ridged bowl with loop decoration (Late 3rd- early 4th century AD)

Fig. 16

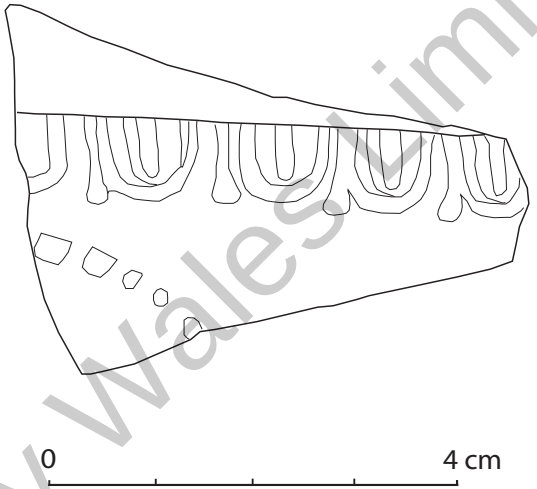
Black Burnished Ware vessels from 'well' outside apse

(above left and right)
Oxidised pipe fragments

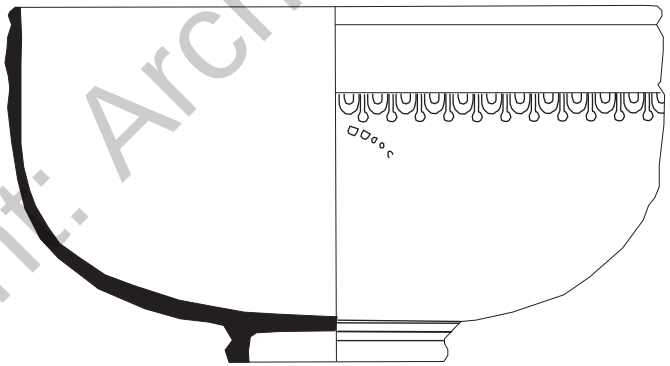
(below)
Finger mark
on left side of
inner pipe

Fig. 17

Selection of pipe fragments



Central Gaulish Samian Bowl Fragment
(Mid 2nd century AD)



Type 37 Samian Bowl

Fig. 18

Samian sherd

Obv

Rev

A

Denarius of Severus Alexander (222-235)

Obv

Rev

B

Radiate of Claudius II (268-270)

C

Radiate of Gallienus Sole Reign (260-268)

Fig. 19

Roman coins from Llwydfaen

Obv

Rev

A

Denarius of Septimius Severus (193-211)

Obv

Rev

B

Denarius of Elagabalus (218-222)

Upper

Back

Possible seal box cover

Fig. 20

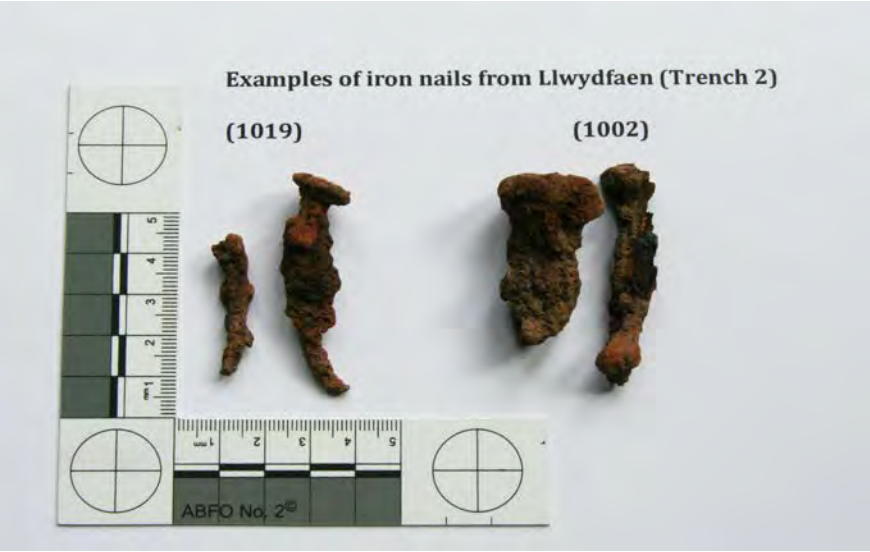
Roman coins (2) and possible seal box cover from Llwydfaen

Fig. 21

Polished Stone Axe (A-D) and Flint blade (E-F)

Fig. 22

Damaged slate from the north-western corner of the building



Selection of Iron Nails

Copper Alloy sheet (SF3)

Fig. 23

Metal objects

Fig. 24

Stone 1
(Context 1006:
Trench 1)

Fig. 25

Stone 2 - (Context 1006; Trench 1)

Fig. 26

Stone 3
(Context 1006;
Trench 1)

Fig. 27

Stone 1-
Detail of mason's marks

Fig. 28

Stone 3-
Detail of mason's
tool marks

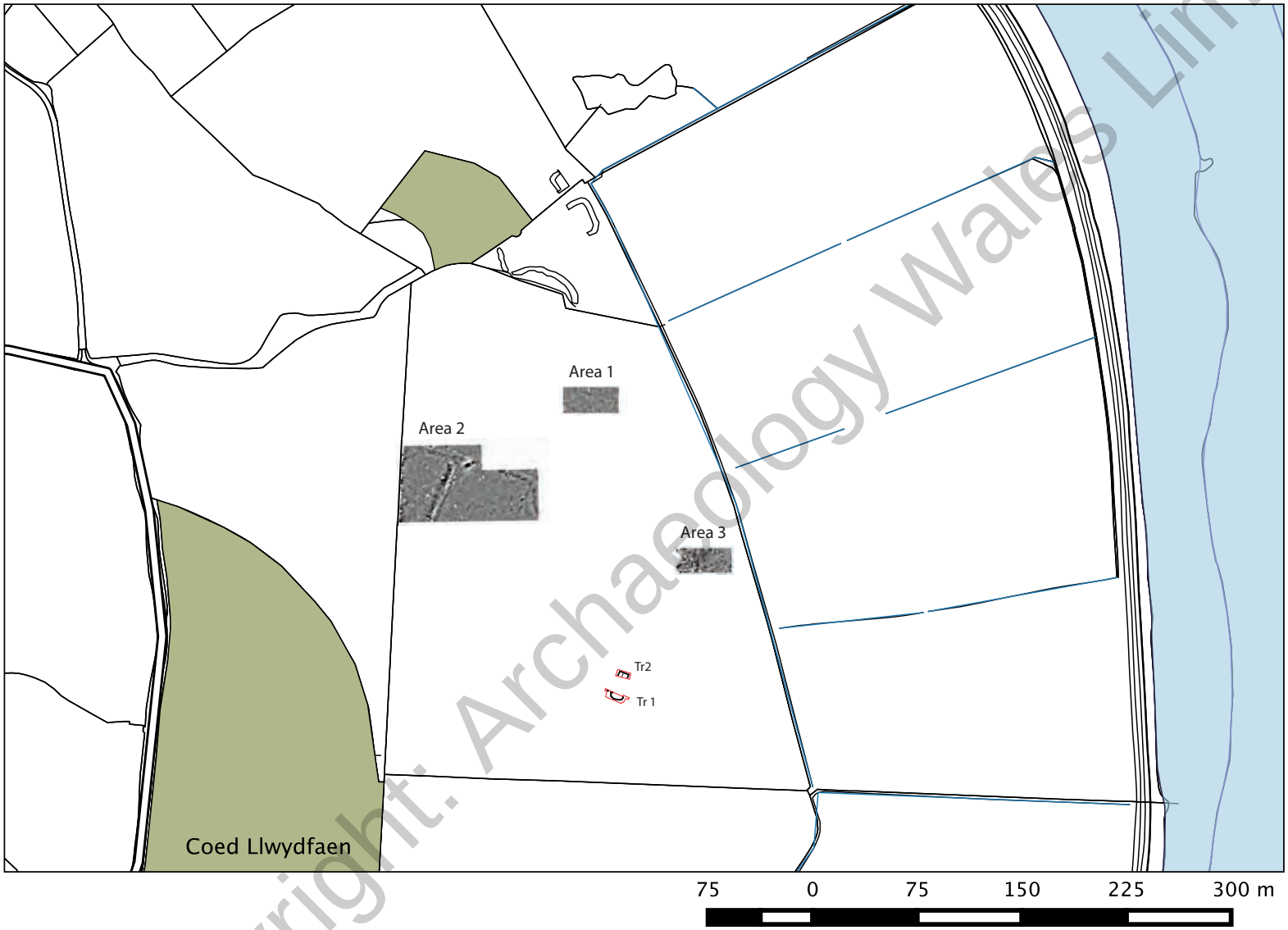


Fig. 29

Location of survey and excavation areas

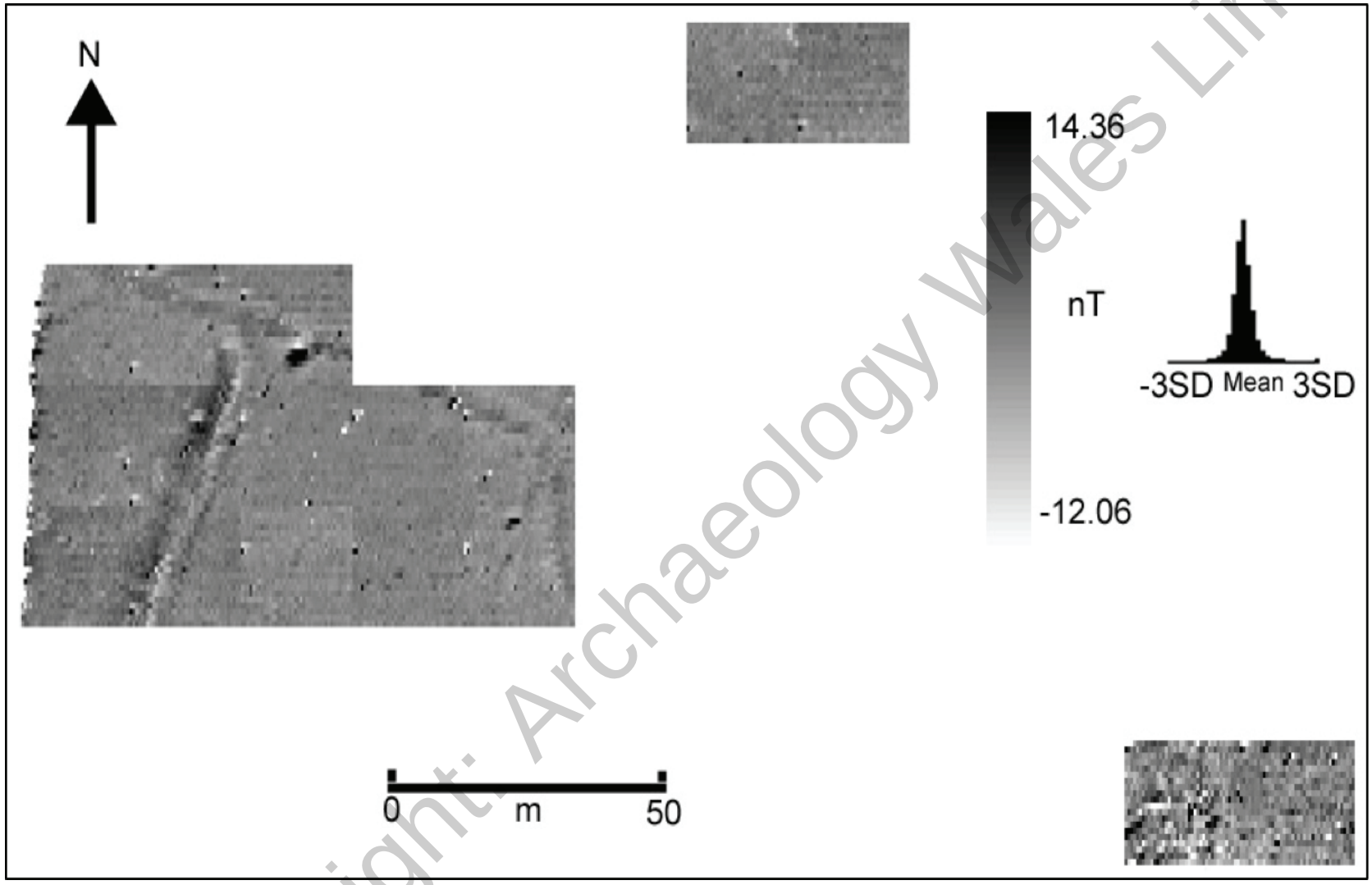


Fig. 30

Un-processed fluxgate gradiometer survey results

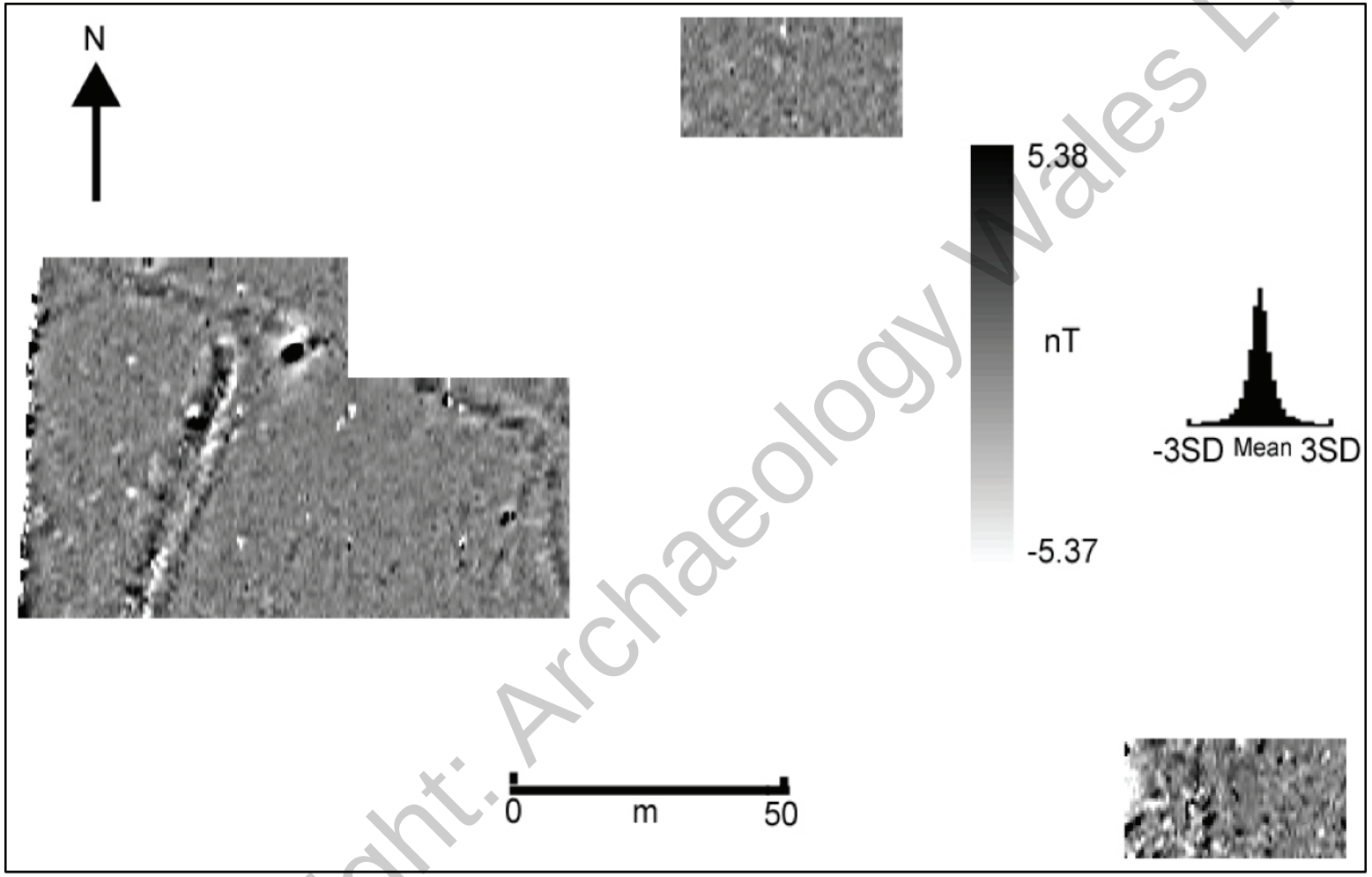


Fig. 31

Processed fluxgate gradiometer survey results- shade plot

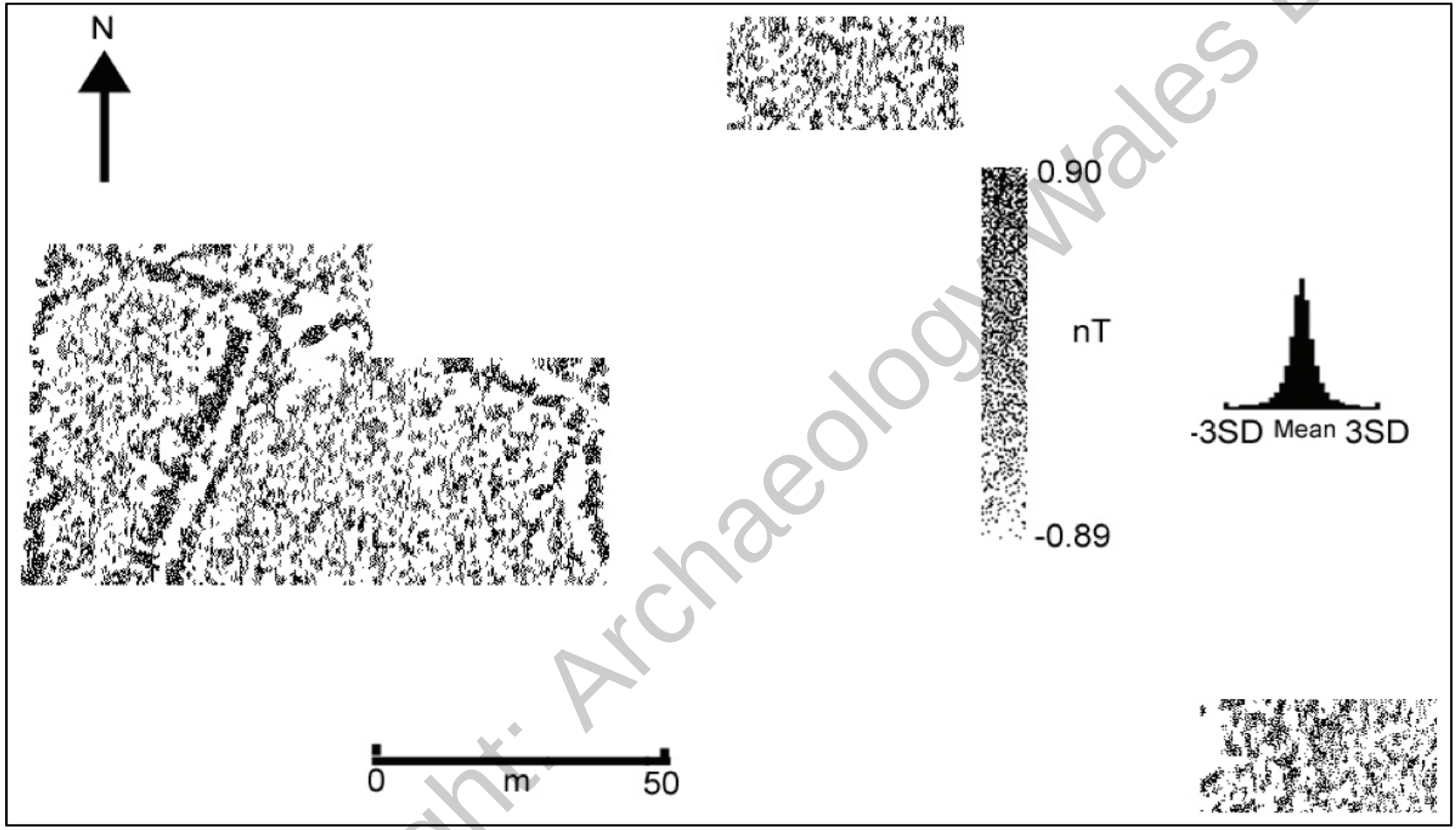


Fig. 32

Fluxgate gradiometer survey results – dot density plot (clip min = -0.5, max = 0.5)

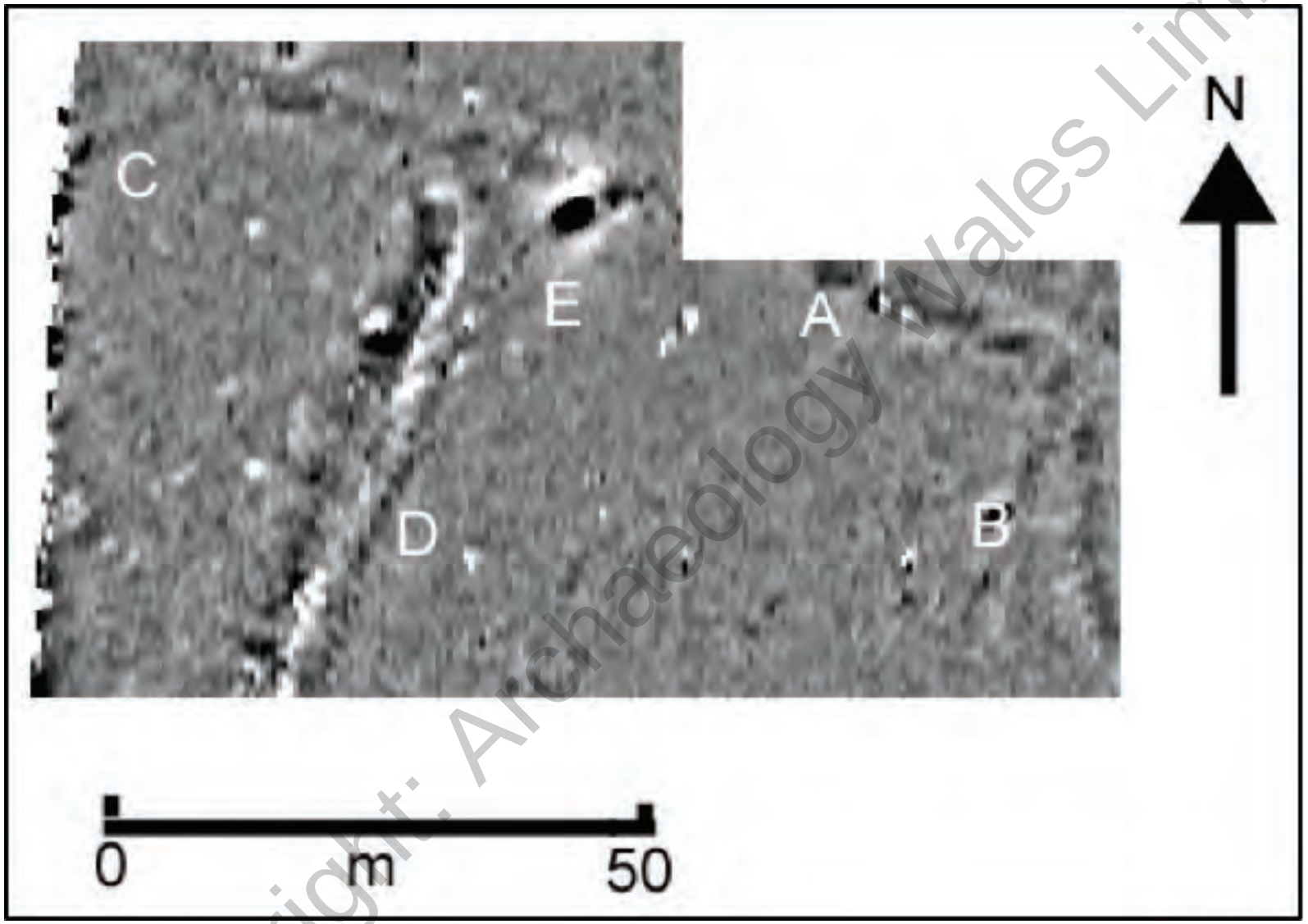
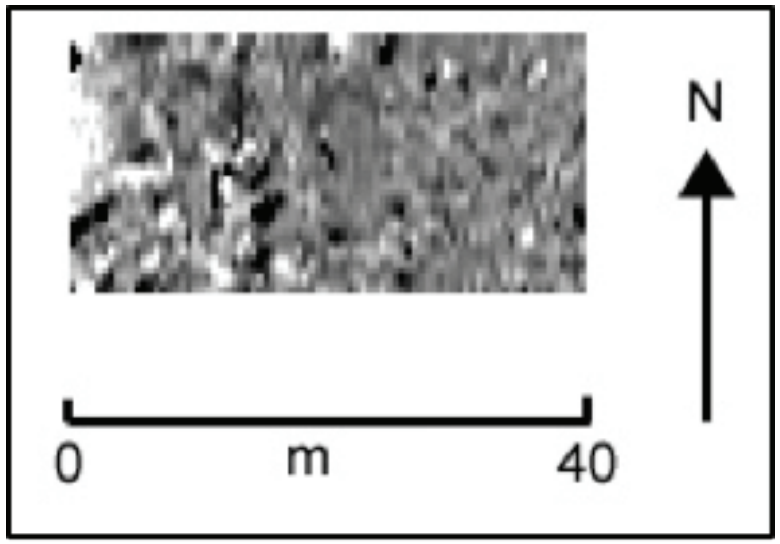
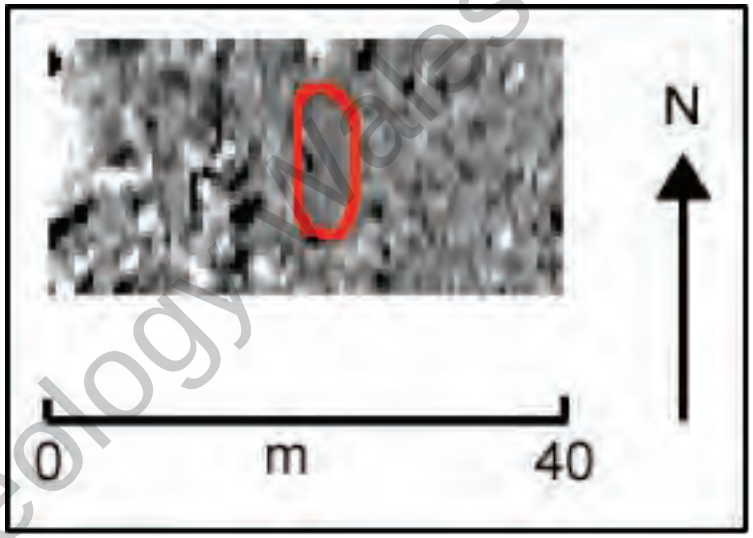


Fig. 33

Area 2 processed survey results with anomalies annotated





Anomaly indicated (red)

Fig. 34

Area 3 processed survey results

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APPENDIX I:

Context List

Context List

Context	Trench	Description	Dimensions
1000	01 & 02	Deposit : Brown Loamy plough soil (Machine excavated)	Average depth 0.20m (d)
1001	01	Deposit: Base of Plough Soil/hand cleaning layer	-
1002	02	Deposit: Base of Plough Soil/cleaning layer. Fragments of Roman ceramic pipe, nails	-
1003	01	Structural Stones of Apse wall foundation – rounded stones (0.25-0.3m diam) bedded in bonding material (1004); Cuts (1011) = (1012)	1.5m (w) x 0.6m (d)
1004	01	Deposit: Pale yellow sandy silt, slightly clayey (Munsell White 2.5Y 8/2). Mixed and mottled with gritty brown sandy clay silt (7.5YR 4/4) compact and friable when crushed. Bonding for (1003)	1.5m (w) x 0.6m (d)
1005	01	Cut: Steep cut of oval well (?). Filled by (1006). Lined by whitish clay, similar to 1004.	1.7m (E-W) by 0.8m (N-S) and min depth 1.5m
1006	01	Deposit: Frequent large stones including 1 complete dressed ashlar and fragments of ashlars and rounded stones, slate fragments, BBW, flint, pipe fragment, oxidised brick fragment, tegula.	1.7m x 0.8m x 1.5m (min depth)
1007	01	Deposit: Dark brown sandy clay (10YR 3/3) with poorly sorted (burnt?) stone (5R 5/6 and 6/6) and pea grits. SW edge of apse. Destruction/robbing deposit = (1024) & (1025)	Seen in Plan only (irregular spread 2.2m x 1.0m max)
1008	01	Deposit: Moderately loose very dark greyish brown sandy silt (10YR 3/2) with pea grits and stones. In NE corner of T1 and under baulk. Fill of [1009]	1.5m x 1.2m x 1.0; 0.20m deep

1009	01	Linear Cut: 45° sloping E-W on W side of E wall. Filled on W side with 1008 cuts (1012). Disappears under baulk	1.5m long SW - NE
1010	01	Deposit: Compact brown sandy clay slit (10YR 4/3) with mottled 7.5 YR 5/6 and occasional charcoal flecks. In unconvincing shallow gully	0.5m (d)
1011	01	Deposit: Very dark greyish brown (10 YR 3/2) soft sandy clay with small poorly sorted stones and occasional charcoal flecks. Cut by wall foundation [1027]	0.30m deep
1012	01	Deposit: Rubble with ?burnt stone overlying wall 1003. = (1007)	1.4m (w) x 0.2m (d)
1013	01	Deposit: Brown ((7.5 YR 4/6) silty clay. Underlying (1011) and under (1004) in Apse	
1014	01	Deposit: Stone layer in north of slot through middle of Tr 1. Plan.	1m (E-W) x 0.25m (N-S) in N slot through Apse Tr 1
1015	02	Stones of wall in Tr 2 = 1003. Bonded in 1004 as in T 1	Stones (0.25-0.3m diam). 0.6m deep. 3.2m N-S on E side; 8.4m E-W; 4.7m N-S on W side.
1016	01	Deposit: Friable Light yellowish brown clayey silt (10YR 6/4- dry). With poorly sorted stones. Overlying 1004	Plan only 1.0m x 0.75m spread
1017	01	Deposit: Dark brown slightly sandy clay silt (10YR 3/3) with occasional flecks of charcoal and poorly sorted stones (<0.15m). Cut by 1005 (?Well) Plough soil aggraded by colluvium ?	Exterior of Apse within Tr 1.
1018	02	Cut: narrow gully in centre and aligned on long axis of structure (NNE-SSW) with steep but irregular sides. Continues under S baulk of T2. Moderate break of slope. Beam slot/partition?	0.2-0.26m wide; min 2.07m long within T2; 0.08m deep.
1019	02	Deposit: Fill of [1018] Dark brown (10YR 3/3) sandy clayey silt with very frequent orange, sandy daub. Small	0.2-0.26m wide; min 2.07m long within T2; 0.08m deep.

		stones (<0.04m) Frequent charcoal. Burned in situ? Dated C14.	
1020	02	Deposit: Located in mid ex on the south west of T2 a spread of Red brown loam with occasional fragments of daub.	Plan only 1.5m x 0.80m spread
1021	02	Deposit: sub-circular/oval spread of dark brown loam with charcoal flecks. Slate, Iron nail fragments, and a fragment of Roman ceramic pipe. Located in the centre and N section of T2	Plan only 0.85m x 0.45m
1022	02	Deposit: Amorphous spread sandy silt with small pebbles located south of (1021) in centre of T2	Plan only Max 2.9m x 0.90m
1023	01	Deposit: Deposit: Dark brown slightly sandy clay silt (10YR 3/3) with occasional flecks of charcoal and poorly sorted stones (<0.15m). = (1017) Plough soil aggraded by colluvium ?	Plan only E (2.2m x 5m) and W (5m x 1.2m max) of structure in T2
1024	02	Deposit: Dark brown sandy clay (10YR 3/3) with poorly sorted (burnt?) stone (5R 5/6 and 6/6) and pea grits. Destruction/robbing deposit? = (1007) & (1025)	Plan only 3.2m N-S on E side; 8.4m E-W; 4.7m N-S on W side.
1025	01	Deposit: Dark brown sandy clay (10YR 3/3) with poorly sorted (burnt?) stone (5R 5/6 and 6/6) and pea grits. Destruction/robbing deposit? = (1007) & (1024)	Plan only- on W side: 1.5m wide; 4m N-S
1026	02	Deposit: Deposit: Pale yellow sandy silt, slightly clayey (Munsell White 2.5Y 8/2). Mixed and mottled with gritty brown sandy clay silt (7.5YR 4/4) compact and friable when crushed. Bonding for wall (1003 & 1015)	0.6m deep 1.4-1.5m wide; seen clearly in SE and SW sondages
1027	01	Deposit: Mid brown sandy loam with building debris found inbetween and around building stones (1006) in pit type feature [1005] Disturbed deposit with demolition debris, BBW ware and Mesolithic flint blade	Min 1.5m deep within [1005] and around (1006)

1028	01	Dark brown (dry : mid brown) sandy clayey silt. Partly hand excavated deposit below 1001 within slot in internal centre of apse in Tr 1 .	2m x 1m (not fully excavated) within slot

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APPENDIX II:

Written Scheme of Investigations

ARCHAEOLOGY WALES
Revealing the past, informing the future

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Written Scheme of Investigation

for an Archaeological Excavation at

Llwydfaen, Caerhun, Conwy.

Prepared for:
Trisgell Ltd
Unit 15
Douglas Buildings
Royal Stuart Lane
Cardiff, CF10 5EL

Project No: 2156

10th July 2013

Archaeology Wales Limited
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NON TECHNICAL SUMMARY

This Written Scheme of Investigation (WSI) details the proposal for an archaeological excavation of the site of a crop mark at Llwydfaen farm, Caerhun, Conwy, Gwynedd. It has been prepared by Archaeology Wales Ltd. for Trisgell Ltd.

The excavation will form the central focus of one programme of a forthcoming Welsh language archaeology series (title TBC) to be shown on S4C in 2014. The project involves the excavation of a possible medieval church cropmark.

Dr Iestyn Jones of Trisgell will supervise the excavation and undertake the bulk of the post-excavation analysis and publication. Mr Mark Houliston, Managing Director of Archaeology Wales, will monitor the project and ensure that all works associated with it are undertaken in accordance with the standards and guidelines of the Institute for Archaeologists.

1. Introduction

In July 2006 cropmarks associated with a possible medieval church were discovered by the Royal Commission aerial reconnaissance team at Llwydfaen farm, Caerhun, Conwy (Driver, Hopewell and Longley 2008). The cropmarks are located 400m west of the river Conwy (SH 7904 7266; Fig. 1)) and approximately 400m north-east of Llwydfaen farm (SH 78752 72318), which preserves the name of a former medieval township (NPRN 404664; PRN 7371). A magnetometer survey conducted by David Hopewell in 2008 for Gwynedd Archaeological Trust (PRN 43788) confirmed the presence of a very well defined structure with a high magnetic resonance, initially interpreted as evidence of a possible church (NPRN 404665; PRN 24746).

Trisgell Ltd have been commissioned by S4C to produce a six part Welsh language television series with an archaeological excavation as the main focus for the each episode. Each excavation will take between three and five days and each episode will seek to place each site within their landscape and historical context. Following discussions with the Royal Commission on the Ancient and Historic Monuments of Wales (RCAHMW) and Gwynedd Archaeological Trust (GAT) it was felt that filming a small-scale excavation of the Llwydfaen cropmark could elucidate the archaeological interpretation of the site as well as providing a suitable topic for an informative television programme.

This specification has been prepared by Mark Houliston (MIfA), Managing Director, Archaeology Wales, from information provided by Dr Iestyn Jones (AIFA in application) of Trisgell. Iestyn is also a Site Supervisor with Archaeology Wales. The excavation will be directed by Iestyn and assisted by Jerry Bond (AIfA) and local volunteers. Archaeology Wales, a Registered Organisation with the Institute for Archaeologists (IfA), will monitor the project and ensure that all works associated with it are undertaken in accordance with the standards and guidelines of the IfA (revised 2011).

2 Site Description and Historic Background

The cropmark and magnetometry survey appears to show a 19.5 x 8m rectangular structure with a 4.1 x 4.3m apse on its southern end (Fig. 3). It is aligned NNE/SSW and may have a partially surviving floor area in its southern end (Driver et al 2008, 2).

The cropmark site lies towards the southern end of a large sub-rectangular arable field (max 350m x max 305m) located 400m to the west of the Conwy river. The field slopes downwards west (29m OD) to east (6m OD) and the geology comprises Devensian till overlying Mudstone, Siltstone and Sandstone.

The land, owned by the Bodnant Estate since 1889 and farmed by Mr Wyn Owen, is currently used to grow silage and graze cattle and was part of the Tir Gofal agri-environment scheme. It is currently part of the Glastir Advanced scheme.

The 1900 OS map of the area shows a field pattern with linear east to west boundaries and a series of regular sub-rectangular flood plain fields on the lower western bank of the Conwy river (Fig. 2). It is field pattern that is recognisable today. The Caerhun parish tithe map of 1847, however, appears to show either that the river Conwy's course was further west or that the lower flood east to west field boundaries on the western bank of the Conwy river had not been formed at this time. The boundaries of three parishes run though the fields associated with Llwydfaen. To the north the parish of Llangelynin and to the south the parish of Llanbedr Tal-y-Cafn. The parish boundaries and the apparent change in field pattern makes exact identification of the current cropmark location problematic. Examination of the Caerhun tithe apportionment, however, shows that one of the fields (224) to the north-west of the probable cropmark site is named Bryn Bettws (sic.) (Fig. 3, A). The Betws element of the field name relates to bead-house or oratory that may reflect a folk memory of a church ruin nearby. Field numbers 226 and 227 relate to Llwydfaen Uchaf and Isaf respectively.

An RAF aerial photograph of the area taken on the 27th of August 1945 (ref 106 G UK 735) reveals what appears to be a series of parch marks to the south and uncut hay in an otherwise harvested field in the area of the cropmark (Fig. 4, highlighted). It is possible that this area was the last to be cut and the AP was taken at this precise time. It may, however, suggest that some remains of a structure were being avoided in this area. A linear east to west boundary or track is also visible as a dark mark to the north.

Llwydfaen farm bears the name of a medieval township described in the HER as a 'hamlet or nucleation of settlement within the wider township of Castell'. Bryn Castell motte (PRN 658) is located 860m south-southwest of the cropmark structure. Although the later medieval field pattern has been the subject of a notable study (Jones 1973, 446-452) the earlier medieval settlement is not as well understood. Driver et al suggest that the cropmark may represent an early church that may have been constructed by Robert of Rhuddlan and Hugh Avranches during incursions into Gwynedd between 1086 and 1094. It is possible that the church was either unfinished or burned to the ground accounting for the high magnetometer readings and the near perfect outline, with little apparent evidence for robbing or tumble (Driver et al 2008, 3). Other anomalies to the south-west of the cropmark may be burial slabs suggesting that church was an established one and a possible north-south fence-line. Only excavation can resolve these questions. Longley notes that the north-south alignment of the Llwydfaen cropmark and the existence of Caerhun church within the township of Castell casts considerable doubt on the church interpretation, but adds that resolution can only

be achieved through academic interrogation of the area.

The question of church orientation has been discussed in recent years by Hinton (2006) and Hoare and Sweet (2000). Some of the suggestions for churches that are not orientated east-west, *sensu stricto,* include alignments based on sunrise and patronal festivals, solstice sunrise alignment and topographic considerations or limitations (Hinton 2006; Hoare and Sweet 2000, 162). Most churches deviate only slightly from true east (Hoare and Sweet 2000, 165). In urban contexts eccentric church orientation may reflect the presence of street grid, such as in central York, where churches are aligned north-east (Morris, R. Pers. Comm. 2013). This does not seem to the case in this example and if the structure is a church the degree of misalignment cannot be explained prior to excavation.

If it is an early Norman church and there is survival of the floor area excavation of the apse area would establish whether there is an altar or a *sacrarium* in front of the apse (the liturgical east end). Entrances to early churches of this date are usually located on the (liturgical) southern side of the church towards the west. Excavation that includes the northern and southern area of the structure may establish the presence or absence of these features. If the structure is a church dating from a period corresponding to the interface of the early medieval and medieval period, any dating evidence from the structure would be a valuable addition to the small dataset currently available for Wales. There is potential for this project, albeit limited in time and scale, to contribute to the discussion regarding the location of church sites and the pattern of secular settlement and how this may have changed during the transition to Norman administration in north-Wales (Edwards 2005, 40 cited in Edwards, Lane and Redknap 2011, 14).

Another possibility given the alignment and presence of a 1st to 2nd century Roman fort (PRN 662) and large northern *vicus* at Caerhun (Canovium) (approximately 2.5km to the south-west of Llwydfaen) is a Celto-Roman temple. A similar excavated apsidal north-south orientated structure excavated at Benwell, Tyne and Wear (Condercum) was interpreted as a temple (Lewis 1965, 72-3). If this is the case at Llwydfaen, excavation of the southern apse may reveal evidence of the presence of a shrine to a deity. Any data related to such a structure would be a valuable addition to the knowledge concerning cult practices during the Roman period in Wales and would be of national significance (Davies 2011, 7).

The post-medieval industrial history of the area around Tal y Cafn may also provide a context for the Llwydfaen structure. The Conwy was navigable for paddle steamers as far as Trefriw up until 1939 and was used to transport lead, iron pyrites and sulphur from local mines to Beaumaris. There is also a tradition of iron smelting and associated processes in the area around Tal y Cafn, Furnace Farm, on the opposite (eastern) bank of the Conwy, being the nearest known example to the Llwydfaen site. The identification of the Llwydfaen structure as an example of a post-medieval industrial or agricultural feature would be a valuable contribution to the local history of the Conwy valley.

3 Site Specific Objectives

The key objective of the excavation is:

- To elucidate the function and dating of the Llwydfaen structure

This will be accomplished by the excavation of two trenches located at the southern apsidal apsidal end (Trench 1) and the northern end (Trench 2).

Secondary objectives of the excavation include:

- Elucidating the cause of the high magnetometer readings
- Establishing the presence of an internal floor or features.
- Establishing the presence of a western parallel wall or fence.

Two anomalies on the magnetometer survey are located to the south-west of the structure's southern end (Fig. 5: 1 & 2). Trench 1 (20m x 7m) will examine if there is an internal floor area surviving in the southern apsidal end. If it is a church it is possible that an altar base or sacrarium are located in front (north) of the apse. A temple structure may also have evidence for a shrine within the apse. Trench 1 will extend to the west of the structure's southern end to examine and identify the high magnetic anomalies and the possible western wall or fence line postulated by Driver et al (2008, 2). If burials are located here this would not only have possible implications for dating the structure but also be indicative of the structure's being established as opposed to newly built.
Trench 2 (15m x 7) will examine the northern end of the structure and will attempt to identify the presence of absence of a northern or western entrance if the structure is a church and follows a formal liturgical layout. The trench is extended to the west to account for the possibility that burials maybe located outside a possible entrance.

The Geophysical Survey
It is the intention of the project to carry out limited, geophysical, work in the area of other, less well defined, cropmarks within the field. The primary intention of the survey will be to attempt to contextualise the location of the excavated building and locate any remants of the medieval township and a trackway leading, east to west, towards the Conwy river.

The area available for geophysical work is limited because of the inconvenience caused to the farmer if further fields are examined over the two days. It is intended that the targets will be either side of the east to west linear 2006 parch mark visible with in the field at SH 78841 72877 (Coflein image 8/10: Llwydfaen medieval township). The survey work will be conducted over the first two days of the excavation and will be done using a Geoscan FM36 Fluxgate Gradiometer. This method was chosen as it will detect enhanced magnetic susceptibility as the result of human activity. It is particularly useful in detecting ditches and masonry and is sensitive to the presence of hearths and areas that have been in contact with heat.

The on-site survey will be undertaken in a single phase lasting approximately 2 days. The survey area will be divided into 20m square grids along a common alignment. Within each grid, parallel traverses 1m apart will be walked at rapid pace along the same orientation. Incomplete survey lines resulting from irregular area boundaries or obstacles will be completed using the "dummy log" key.

All data will be downloaded in the field into a laptop computer. The location of the grid corners will be recorded using a total station so that results can be accurately placed onto an OS map.

A composite of each detailed survey area will be created and processed using the software package *Geoplot V.3*. The final results will be presented at an appropriate scale tied to the Ordnance Survey National Grid.

4 Excavation Methodology

Preliminary

The archaeological project manager in charge of the work will satisfy him/herself that all constraints to ground works have been identified, including the siting of live services, Tree Preservation Orders and public footpaths.

The project manager will ensure that adequate fencing and signage is in place, and that suitable welfare facilities have been provided for site staff. A Risk Assessment will be prepared by a CIEH qualified risk assessor before work starts and its contents agreed with the client and any other contractors or sub-contractors that may be present on the site at the same time.

All areas of trenching left open overnight will be fenced off.

Topsoil Strip/Mechanical Excavation

Two trenches measuring 20m x 7m (T1) and 15m x 7m (T2), located over the southern and northern area of the structure, will be stripped of topsoil by mechanical excavator under close archaeological supervision.

Mechanical excavation will cease at the first significant archaeological horizon, at which point all excavation will be carried out by hand, unless otherwise agreed with GAPS in advance. The entire area will be hand-cleaned using hoes and/or pointing trowels to prove the presence, or absence, of archaeological features and to determine their location and significance.

Topsoil will be kept separately from subsoil and will be stored a minimum of 3m from the trench edge.

Manual Excavation

All archaeological features revealed will be hand excavated and accurately mapped onto appropriately scaled plans. Thereafter all identified archaeological contexts will be excavated and recorded. As a minimum this will include:

- 50% excavation, through half sectioning, of pit/posthole features less than 1m in diameter
- 50% excavation, by opposing quadrants, of pit features greater than 1m in diameter
- 35% of linear features (in multiple sections if length greater than 3m)

Excavation will not be undertaken below a depth of 1.2m without adequate shoring.

If possible, natural deposits will be located in at least one location within the excavation

area.

Recording
Written, drawn and photographic records of an appropriate level of detail will be maintained throughout the course of the project. Recording will be carried out using AW recording systems (pro-forma context sheets etc), using a continuous number sequence for all contexts. All archaeological features and deposits will be recorded on context sheets and a stratigraphic site matrix will be compiled.

Drawing and recording of all features and finds will be completed in plan and section. Plans and sections will be drawn to a scale of 1:50, 1:20 and 1:10 as required, and these will be related to Ordnance Survey datum and published boundaries.

Digital photographs will be taken using cameras with resolutions of 14 mega pixels or above.

Monitoring
GAPS will be contacted at least one week before to the commencement of ground works, and subsequently once the work is underway.

Representatives of GAPS will be given access to the site so that they may monitor the progress of the excavation.

GAPS will be given the opportunity to inspect all excavated areas.

The AW Project Manager in charge will also monitor proceedings on site.

GAPS will be kept regularly informed about developments, both during the site works and subsequently during post-excavation.

Any changes to the specification that the contractor/client may wish to make after approval will be communicated to GAPS for prior approval.

Artefacts
Archaeological artefacts recovered during the course of the excavation will be cleaned, and labelled using an accession number obtained from a local museum. A single number sequence will be allocated to all finds. The artefacts will be handled and stored appropriately, in accordance with IfA Standard and Guidance (2011) until they are deposited with the museum.

All artefacts recovered during the project will be retained and be related to the contexts from which they were derived.

If finds are made of gold or silver these will be excavated and removed to a safe and secure location. These finds will also be reported immediately to the local Coroner (within 14 days, in accordance with the 1997 Treasure Act).

All finds that are considered to be in need of immediate conservation will be referred to a UKIC qualified conservator (Phil Parkes of Cardiff Conservation Services).

Environmental, technological and radiocarbon samples
Sampling of significant features for palaeoenvironmental data will take place where appropriate. Bulk sampling of ditch and pit fills (not less than a 10 litre sample from

each context) and any buried soil horizon is expected. All samples will be appropriately stored at the AW main office.

All environmental work will be undertaken in accordance with English Heritage guidelines (EH 2002).

Any organic material identified within sealed contexts and associated with the structure's construction, use or destruction, will be collected, its precise location recorded, and submitted for radiocarbon dating.

Human remains

Human remains will be left in situ, covered and protected when discovered. No further investigation will be permitted until GAPS and the local Coroner have been informed. After discussion, it may be appropriate to take samples for chemical or C14 dating. Removal will only take place under the appropriate Ministry of Justice and Environmental Health regulations.

Specialists

In the event of certain finds/features etc. being discovered, the site archaeologist may have to seek specialist opinion for assistance. Such specialists will be accessed either internally within AW itself or from an external source. A list of external specialists is given in the table below.

Type	Name	Tel No.
Flint	Dr Amelia Pannett	02920 899509
Animal bone	Jen Kitch	07739 093712
CBM, heat affected clay, Daub etc.	Rachael Hall	01305 259751
Clay pipe	Chris Smith	01547 528047
Glass	Andy Richmond	01234 888800
Cremated and non-cremated human bone	Malin Holst	01759 368483
Metalwork	Kevin Leahy	01652 658261
Neo/BA pottery	Dr Alex Gibson	Bradford University
IA/Roman pottery	Jane Timby	01453 882851
Post Roman pottery	Mr Stephen Clarke	
Charcoal (wood ID)	John Carrot	01388 772167
Waterlogged wood	Nigel Nayling	University of Wales (Lampeter)
Molluscs and pollen	Dr James Rackham	01992 552256
Charred and waterlogged plant remains	Wendy Carruthers	01443 233466

5 Post-Fieldwork Program

Conservation
After agreement with the landowner, arrangements will be made for the long term conservation and storage of all artefacts in an appropriate local or county museum.

Archive
The site archive will be prepared in accordance with MORPHE (English Heritage 2006). It will comprise all the data recovered during the fieldwork and shall be quantified, ordered and indexed and will be internally consistent. The archive will be deposited with the finds in a suitable local museum.

Reporting
The results of the excavation will be submitted to the client, GAPS and the regional HER (Bangor) in an illustrated and bound report, which will include the following material:

- Non-technical summary
- Location plan showing the area/s covered by the excavation, all artefacts, structures and features found
- Plan and section drawings with ground level, ordnance datum and vertical and horizontal scales.
- Written description and interpretation of all deposits identified, including their character, function, potential dating and relationship to adjacent features. Specialist descriptions and illustrations of all artefacts and soil samples will be included as appropriate.
- An indication of the potential of archaeological deposits which have not been disturbed by the development
- Statement of local, regional and national context of the remains
- A detailed archive list at the rear listing all contexts recorded, all samples finds and find types, drawings and photographs taken. This will include a statement of the intent to deposit, and location of deposition, of the archive.

Archive Format & Deposition
The full site archive will be deposited within six months of the completion of the client report.

The archive will include all site notes, finds, documents, drawings, photographs, project correspondence, digital data and a copy of the final report and any prior draft versions. All of these items will be clearly quantified in tabular from in an 'archive deposition statement' located at the rear of the client report, and their ultimate location and proposed date of deposition stated.

5 Resources and timetable

Standards
The excavation will be undertaken by AW staff and volunteers using current best practice.

All work will be undertaken to the standards and guidelines of the IFA.

Staff
The project will be managed by Mark Houliston (MIfA) and directed by Dr Iestyn Jones.

Equipment
The project will use existing AW equipment.

Timetable of archaeological works
Work will commence on site on 29th July and end on 2nd August 2013

Insurance
Trisgell Ltd has Public Liability insurance and all excavation staff and volunteers are covered under this policy.

Health and safety
All members of staff and volunteers will adhere to the requirements of the *Health & Safety at Work Act*, 1974, and the Health and Safety Policy Statement of AW. A qualified First Aider will always be on site during the excavation period. A copy of the Archaeology Wales RA will be sent to GAPS prior to commencing work.

Bibliography

Darling, M. J (Ed). 1994. Guidelines for the Archiving of Roman Pottery. Study Group for Roman Pottery.

Davies, J.L. 2011. Romano- British. A Research Framework for the Archaeology of Wales, Version 02 (http://www.archaeoleg.org.uk/pdf/roman2011.pdf), (Accessed July 2013).

Driver, T., Hopewell, D., Longley, D. 2008. A Medieval church and township rediscovered at Llwydfaen, Caerhun, Conwy, in *Archaeology in Wales* 48 (2008), pp. 77-81.

Edwards, N., Lane, A., Redknap, M. 2011. Early Medieval Wales: An updated Framework for Archaeological Research. A Research Framework for the Archaeology of Wales, Version 02 (http://www.archaeoleg.org.uk/pdf/earlymed2011.pdf), (Accessed July 2013).

English Heritage. 2006. Management of Research Projects in the Heritage Environment

English Heritage. 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post-excavation.

Hinton, I. 2006. Church alignments and patronal Saint's days. *The Antiquaries Journal* 86 (2006), pp. 206-226.

Hoare, P.G., Sweet, C.S. The orientation of early medieval churches in England. The *Journal of Historical Geography*, 26 (2000), pp. 162-173.

Houliston, M. 2011. Archaeology Wales Recording Systems and Methodology Handbook

Institute for Archaeologists. 2011. Standard and guidance for an archaeological

excavation

Institute for Archaeologists. 2008. Standard and guidance for the collection, documentation, conservation and research of archaeological materials.

Jones, G.R.J. 1973. 'Field Systems of North Wales', in Baker and Butlin, (1973) *Studies of Field Systems in the British Isles*, Cambridge: Cambridge University Press, pp. 430-79.

Lewis, M.J.T. 1965 *Temples in Roman Britain* Cambridge: Cambridge University Press.

Morris, Richard 2013, Personal Communication.

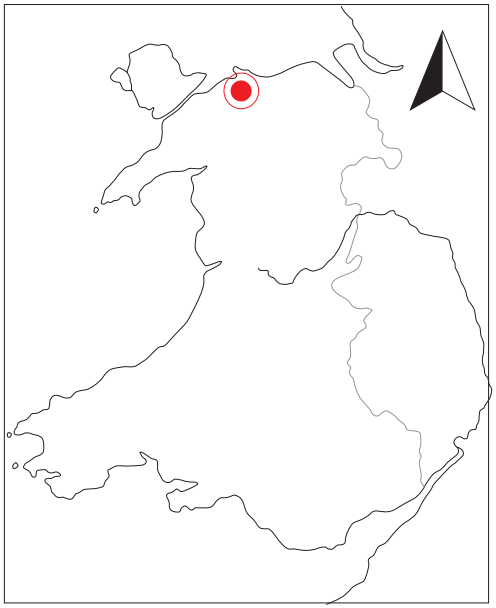
Cartographic sources (National Library, Aberystwyth)

Caerhun Parish Tithe map and apportionment 1847 (detail included)
OS 2nd Edition 1900 (included)

Aerial Photographs (Welsh Assembly Government Aerial Photographs Unit)

RAF Black and white image: 106 G Uk 735 Date: 27/08/1945 (Included)

Iestyn Jones BA (Hons) PhD (AIFA in application)
Chris E Smith BA (Hons) MA MIfA



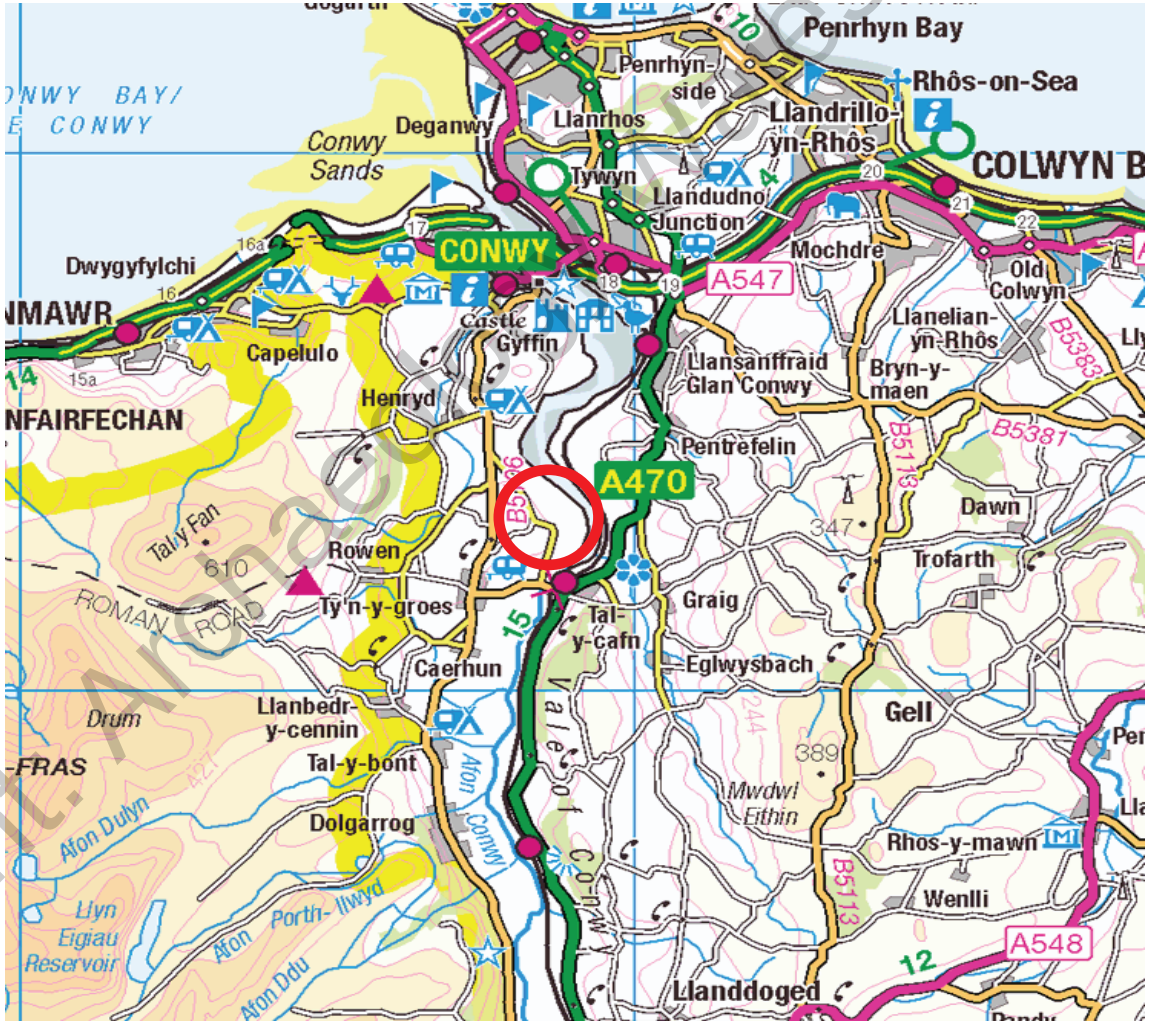


Fig. 1

Location of site

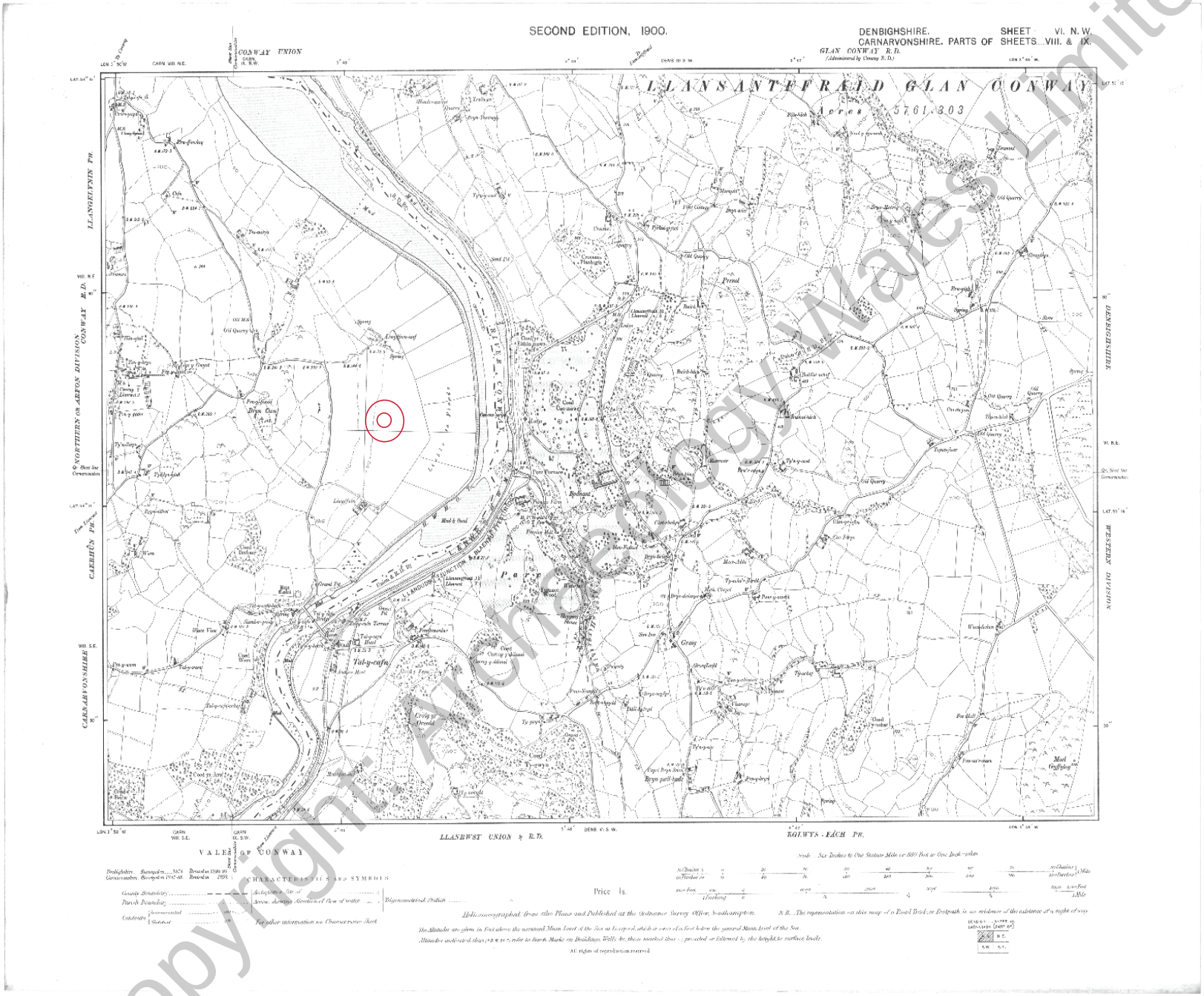


Fig.2
2nd Edition O.S. Map (1900).
Site location: red circle

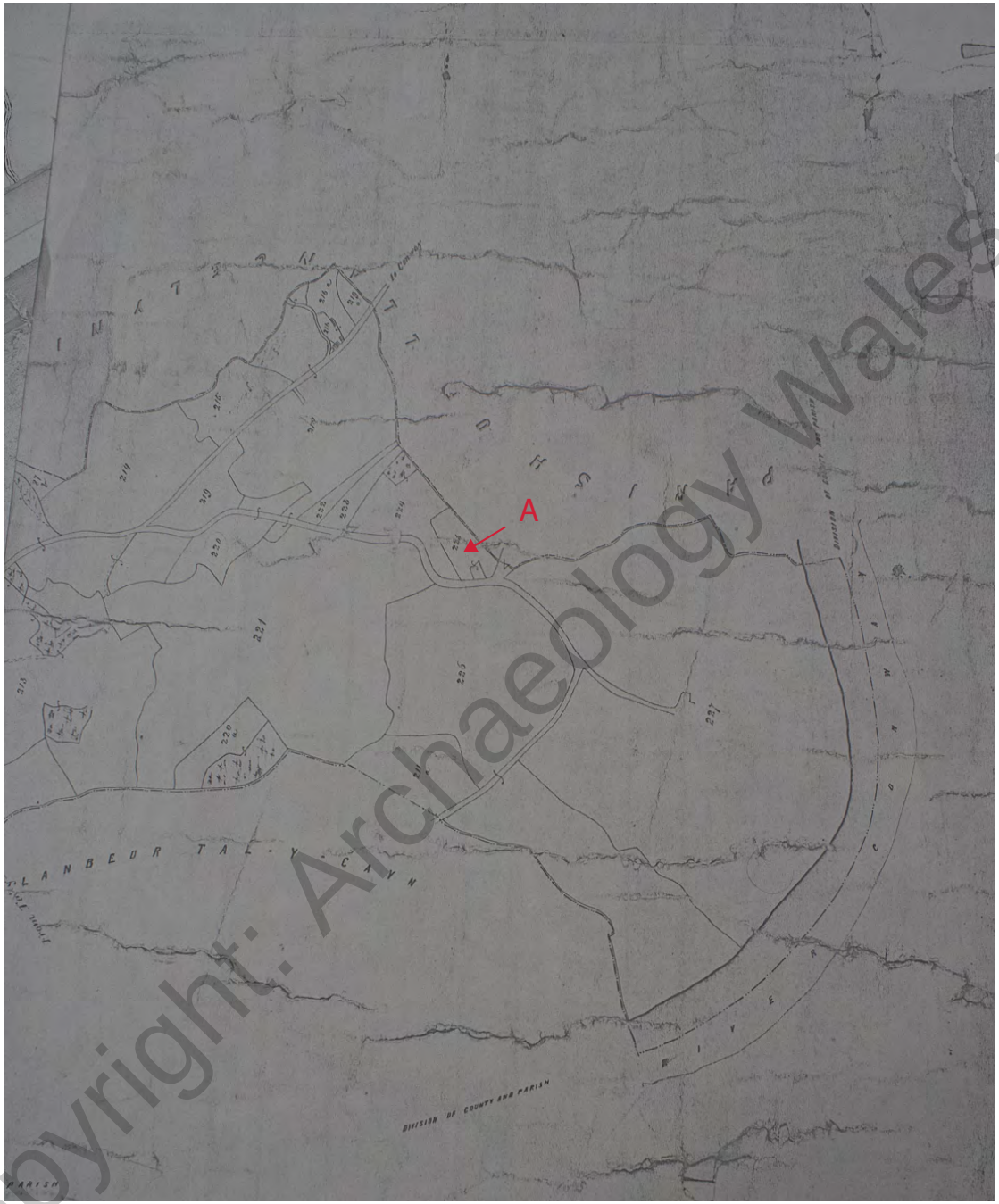
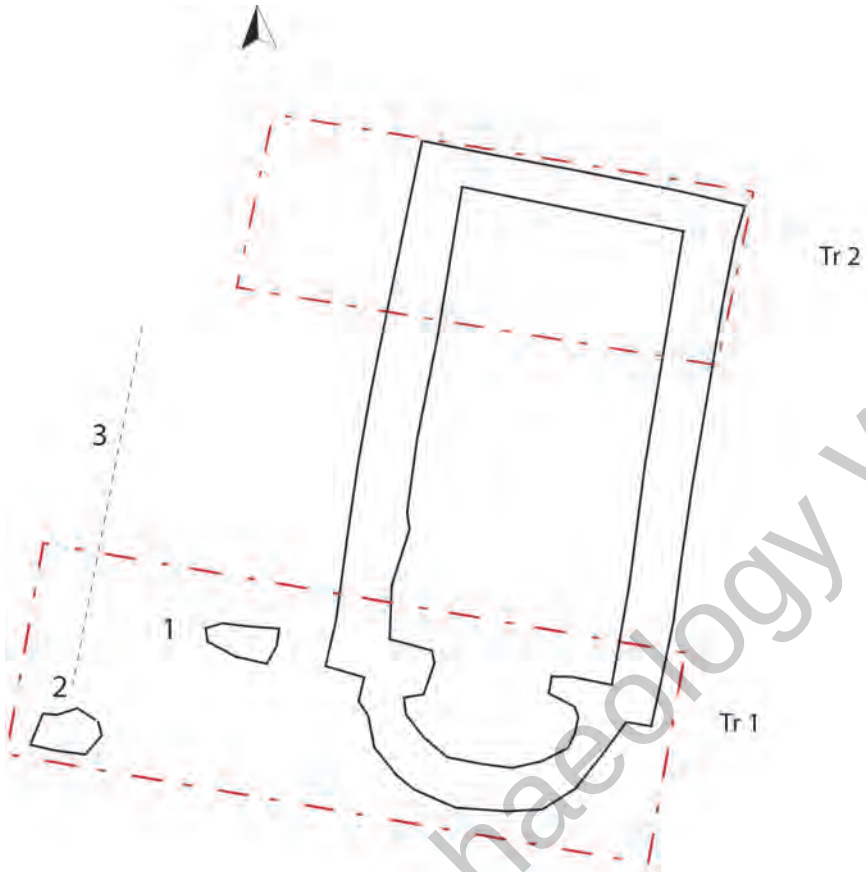


Fig. 3
Caerhun parish tithe map (1847)

A: Bryn Betws

Fig. 4

Detail of RAF aerial photograph of site, August 1945 (106G UK 735)



Tr 1, Tr2: Machine stripped and hand excavated

1 & 2: Associated anomalies

3 : Possible wall or fence-line in 2008 magnetometer survey

Outline of structure at Llwydfaen, Conwy, based on cropmark.

Fig. 5

Proposed trench layout

Archaeology Wales

APPENDIX III:

C14 dating: Report

UBANo	Sample ID	Material Type	^{14}C Age	±	F14C	±
UBA-29179	Context 1019	Burnt wood	1818	33	0.7974	0.0033

Iestyn ab Owen Jones
Trisgell Ltd
32 Boverton St
Roath
Cardiff CF23 5ES
Wales/UK
VAT No. 165 3776 80

^{14}CHRONO Centre
Queens University Belfast
42 Fitzwilliam Street
Belfast BT9 6AX
Northern Ireland

Radiocarbon Date Certificate

Laboratory Identification:	UBA-29179
Date of Measurement:	2015-05-25
Site:	Llwydfaen
Sample ID:	Context 1019
Material Dated:	charcoal
Pretreatment:	AAA
Submitted by:	Iestyn ab Owen Jones

Conventional ^{14}C Age:	1818±33 BP
Fraction corrected	using AMS δ^{13}C

Information about radiocarbon calibration

RADIOCARBON CALIBRATION PROGRAM*
CALIB REV7.0.0

*To be used in conjunction with:
Stuiver, M., and Reimer, P.J., 1993, Radiocarbon, 35, 215-230.
Annotated results (text) - -
Export file - c14res.csv

Context 10
UBA-29179
Radiocarbon Age BP 1818 +/- 33
Calibration data set: intcal13.14c # Reimer et al. 2013

% area enclosed	cal AD age ranges	relative area under probability distribution
68.3 (1 sigma)	cal AD 139- 198	0.655
	206- 236	0.345
95.4 (2 sigma)	cal AD 90- 100	0.012
	124- 258	0.916
	283- 323	0.072

References for calibration datasets:
Reimer PJ, Bard E, Bayliss A, Beck JW, Blackwell PG, Bronk Ramsey C, Buck CE Cheng H, Edwards RL, Friedrich M, Grootes PM, Guilderson TP, Haflidason H, Hajdas I, HattÃ© C, Heaton TJ, Hogg AG, Hughen KA, Kaiser KF, Kromer B, Manning SW, Niu M, Reimer RW, Richards DA, Scott EM, Southon JR, Turney CSM, van der Plicht J.
IntCal13 and MARINE13 radiocarbon age calibration curves 0-50000 years calBP
Radiocarbon 55(4). DOI: 10.2458/azu_js_rc.55.16947

Comments:
* This standard deviation (error) includes a lab error multiplier.
** 1 sigma = square root of (sample std. dev.^2 + curve std. dev.^2)
** 2 sigma = 2 x square root of (sample std. dev.^2 + curve std. dev.^2)
where ^2 = quantity squared.
[ ] = calibrated range impinges on end of calibration data set
0* represents a "negative" age BP
1955* or 1960* denote influence of nuclear testing C-14

NOTE: Cal ages and ranges are rounded to the nearest year which may be too precise in many instances. Users are advised to round results to the nearest 10 yr for samples with standard deviation in the radiocarbon age greater than 50 yr.

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Archaeology Wales

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