1673

Tir agos i Gorwrel, Llanfairfechan
Land near Gorwel, Llanfairfechan

Gwerthusiad Archeolegol (Cloddiad Prawf) / Archaeological Evaluation (Trial Trenching))

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

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Yr Amgylchedd Hanesyddol yn Cofnodi Prif Gyfeirnod /
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Golwg o'r safle gyda Gorwel a Garreg Fawr yn y cefndir (G2748_077)
/ View of the site with Gorwel and Garreg Fawr in the background (G2748_077)

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Revision History			
Rev No.	**Summary of Changes**	**Ref Section**	**Purpose of Issue**
01	Enhanced discussion and recommendations in relation to the scheduled area.	5	Requested by client
02	Inclusion of palaeoenvironmental report, description of slag and radiocarbon dates resulting from processing and analysis of soil sample from Trench 6.	4.14, 4.15, 4.16	Requested by GAPS
03	Alteration of Discussion and Recommendations in light of revision 02	5	

CONTENTS

CRYNODEB ANNHECHNEGOL

Gofynnodd JAT Construction Ltd i Ymddiried Archeolegol Gwynedd (YAG) i ymgymryd asesiad archeolegol (prawf ffosydd) fel rhan o'r gwaith ymchwiliad cyn-cunllunio ymlaen llaw i ddatblygiad tai bwriaded ar dir agos i Gorwel, Llanfairfechan, Conwy (canoli ar NGR SH 6880 7470). Cafodd deuddeg ffoes ei chloddio gan ddefnyddio peiriant cloddiwr peiriannol rhwng yr 17eg a 26ain Hydref 2022. Darganfod dwy geuffos fawr gyda chapan cerrig, gan gynnwys cwteri gwsg. Ymchwiliodd hefyd i weddillion o derfyn cae blaenorol a chwympiad boncen posib. Ddarganfod malc bach o ddefnydd llosg gyda sindir, o ddyddiad anhysbys. Dynodwyd cramennau caglifol yn ffurfio linised. Un lynsid yn dal mewn defnydd fel terfyn cae a'r llall yn allan o ddefnydd ond dal yn amlwg yn y cae fel llethr. Mae lynsid hon gyda haearn cerrig lawr y wyneb, sydd bosib gweddillion o derasiadau. Roedd nodweddion arall o darddiad naturiol, ond roedd rhai yn cynnwys ambell o ffolcen gwyrddfaen sydd falle yn cyfeirio at manfa Gwaith bwyell cerrig Neolithig.

NON-TECHNICAL SUMMARY

Gwynedd Archaeological Trust (GAT) was asked by *JAT Construction Ltd* to undertake an archaeological evaluation (trial trenching) as part of pre-planning investigation work in advance of a proposed housing development on land near Gorwel, Llanfairfechan, Conwy (centred on NGR SH 6880 7470). Twelve trenches were excavated between 17th and 26th October 2022 using a mechanical excavator. Two large, stone-capped culverts were found, as well as stone filled land drains. The remains of a former field boundary and a possible collapsed bank were investigated. A small patch of burnt material with slag of unknown date was found. Colluvial deposits forming lynchets were identified. One lynchet is still in use as a field boundary and the other is out of use but visible as a scarp in the field surface. This lynchet had stone deposited down the face, possibly including remains of terracing. Other features were of natural origin, but some contained very occasional flakes of microdiorite that may indicate Neolithic stone axehead working in the area.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) was asked by *JAT Construction Ltd* to undertake an archaeological evaluation (trial trenching) as part of part of pre-planning investigation work in advance of a housing development on land near Gorwel, Llanfairfechan, Conwy (centred on NGR SH 6880 7470) (Figure 1). The proposed development area measures approximately 2.17 hectares and covers several small pasture fields on the eastern side of Llanfairfechan, adjacent to the Gorwel housing estate. An archaeological desk-based assessment was produced by L-P: Archaeology in April 2021 (Matthews and Ellis 2021) and a geophysical survey was produced by Archaeological Survey West in May 2022 (Matthews 2022). The current evaluation aimed to excavate 13 trenches to investigate the results of the geophysical survey, and 12 trenches were dug. The trenching was undertaken between 17th and 26th October 2022 in accordance with an approved Written Scheme of Investigation (WSI) (Appendix V). In line with the Gwynedd Historic Environment Record (HER) requirements, the HER was contacted at the onset of the project and HER Enquiry Number **GATHER1720** and the Event PRN is **46320** were assigned to this project.

1.1. Aims & Objectives

The aims and objectives were to:

- establish the date and nature of any archaeological remains identified within the evaluation area and assess their implications for understanding local historical development, in conjunction with the known archaeological record.
- if no additional archaeological activity was identified, establish why this may be the case; and
- to place the results in context, with reference to the *Research Framework for the Archaeology of Wales*.

1.2. Acknowledgements

GAT would like to thank the following for their contribution and support:

GAT Project team: Michael Lynes, Bethan Jones and Jane Kenney.

Client (*JAT Construction Ltd*): Llion Thomas and his team.

The landowner and his family.

Gwynedd Archaeological Planning Services: Tom Fildes and Jenny Emmett

Also, Christopher Matthews of Archaeological Survey West LLP for permission to use his geophysical survey plots.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1. Archaeological and historical sites in the area

The proposed development is located to the east of the village of Llanfairfechan, adjacent to the Gorwel housing estate (Figure 1). It is within the North Arllechwedd Registered Landscape of Outstanding Historic Interest (HLW (Gw) 12) (Cadw 1998, 113-116) in a landscape rich in prehistoric and later archaeological sites

The site lies across a west facing slope ranging from about 110m OD in the east down to about 90m OD in the west. There are no previously identified archaeological sites recorded on the Historic Environment Record (HER) within the development area, but the field walk-over survey identified a

raised linear feature running through the centre of the northern field, identified as probably a field boundary shown on the 1848 tithe map. Also noted was a slight depression on the western side of the site. Most of the fields are bounded by stone walls and the irregular and curving lines of some of these field boundaries suggest they may of ancient origin. A public footpath crosses the northern end of the site, and this is shown as a footpath on the 1889 first edition OS County Series map, leading from the village to Tyddyn Drain.

The development area the site is situated within a landscape rich in archaeological remains (Figure 1). Of particular significance are the Neolithic sites and finds made in the area. Rock outcrops and screes around Llanfairfechan were used as a source of stone for polished stone axeheads in the Neolithic period. Axeheads from this source were distributed across England and Wales and this is one of the most important sources for axeheads in Britain. Work being undertaken by GAT has shown that evidence for axe-working is much more widely distributed across the landscape than was previously thought and working areas away from the stone sources have been discovered (Kenney 2017, 2019; Ryan Young *et al* 2020; Kenney and Smith 2022). The stone used for making the axes is a microdiorite from igneous intrusions forming Penmaenmawr Mountain, Dinas and Garreg Fawr. This stone type is termed Group VII stone according to the classifications of stone types resulting from the Implement Petrology Group's study of types of stone used to make stone axes. The scree was mainly used as the source of the stone, but it was also occasionally quarried. The nearest stone source to the present site is on Ffridd Tan y Graig (PRN 67330) about 220m to the north-west, but the screes used to make the axeheads almost certainly extended further down the hillslope under the present fields. Local residents have found axe roughouts built into field walls in many places around Llanfairfechan and one (PRN 67641) was recorded from a wall near Ty'n Drain Farm, just outside the development area. It is possible that roughouts remain in other walls within the development area and axe-working may have taken place within the development area.

A number of Bronze Age cists and burial mounds are found in the surrounding area, with the nearest being on Ty'n Llwyfan Farm (PRN 67334). This was opened in 1885 and contained two cists with calcined bones and pottery fragments. A Bronze Age stone axe hammer (PRN 67782) and possibly late Neolithic perforated stone axe hammer (PRN4078) have been found in the wider vicinity of the development site.

The area around Llanfairfechan is rich in Iron Age and Roman period sites, including the hill fort on Dinas (PRN 392, SAM CN049) and the large hillfort of Braich y Dinas formerly on Penmaenmawr Mountain (PRN 712), but quarried away in the early 20th century. There are numerous remains of agricultural field systems and enclosed hut groups around Llanfairfechan included within Historic Landscape Characterisation Area 2012, Fieldscape around Gerlan (PRN 15815) (Gwyn and Thompson 1999, 25). This includes the fields that form the proposed development site. Many of these irregular fields are probably Iron Age in origin and round house settlements lie within the field system. An extensive area of fields and roundhouse settlements on the northern and eastern slopes of Garreg Fawr is scheduled (Scheduled monument CN185) and the Pont y Teiryd hut group and ancient fields (Scheduled monument CN184, PRN 252) are scheduled on the eastern side of Garreg Fawr. A roundhouse settlement with contemporary paddocks is also scheduled to the west of Llanfairfechan near Wern Newydd (Scheduled monument CN250, PRN 257). Immediately adjacent to the development site is the scheduled roundhouse settlement of Gwern y Plas (Scheduled monument CN072, PRN 255), with a further possible hut circle at Tyddyn Drain (PRN 31690). The Gwern y Plas settlement is described as unenclosed with 9 roundhouses visible, and a possible 10th suspected (RCAHMW 1956, 121-122) (Plates 1 and 2, Figure 4). The walls of the roundhouses have orthostatic faces and a core of earth and small stones. Between the roundhouses are the remains of walls forming small sub-rectangular enclosures, some with lynchetting on the lower side. Burnt stones (pot-boilers) were seen within the settlement, though it is now so over-grown that such details are difficult to find.

Some of the roundhouse settlements were probably used into the Roman period and the Roman road from Canovium (Caerhun) to Segontium (Caernarfon) ran across the hills crossing the south-eastern shoulder of Garreg Fawr (Hopewell 2007, 7-8, 42-51). A Roman coin hoard (PRN 4096) has also been recorded to the northeast of the site at the foot of Penmaenmawr mountain.

The desk-based assessment (Matthews and Ellis 2021) found little medieval archaeology recorded in the search area, but about 330m to the southwest of the site are the remains of three Early Medieval long huts (PRN 373), with partially surviving field walls. There are other long huts within Scheduled Monument CN185 and to the east of Dinas, and it is possible that there were some amongst the fields with ancient irregular boundaries around the development site, but their above ground remains have been removed.

The majority of Llanfairfechan parish of was owned by the Bulkeley family of Baron Hill from the 16th century, and the Plas estate was bought by Solicitor Richard Luck in 1856. Richard Luck and textile merchant John Platt, who bought the Bryn y Neuadd estate, transformed the topography of Llanfairfechan into an estate townscape, with a new road layout, church and railway station (Gwyn and Thompson 1999, 24). There are numerous grade II listed buildings in the village, many of which are houses designed by Herbert Luck North, grandson of Richard Luck. Remains relating to the Penmaenmawr Quarry can be found to the north-east of the development site, but most post-medieval features close to the site are related to the neighbouring farms. The desk-based assessment (Matthews and Ellis 2021) looked at the historic mapping for the development area and found that the field boundaries within that area have changed very little since the first edition County Series map of 1889.

2.2. Geophysical Survey

A geophysical magnetometer survey of the proposed development site was carried out by Archaeological Survey West in May 2022 (Matthews 2022) (Figures 2 and 3). The presence of igneous rock across the site caused significant magnetic noise and made the results of the survey less clear than would otherwise be expected. The survey identified a 15m diameter weak circular disturbance situated on a slight platform overlooking the scheduled area to the west. This is potentially related to the scheduled roundhouse settlement. Other anomalies were interpreted as cultivation features, such as drains, and the remains of former field boundaries.

3 METHODOLOGY

3.1. Trial Trenching

The work was undertaken between 17th and 26th October 2022, and was to comprise 13 trial trenches, but 12 trenches were excavated. These were positioned to characterise the archaeological potential of the development area and to investigate geophysical anomalies, but also to avoid live services (Figure 4). Some of the trenches varied slightly in start and end points compared to the WSI and the standard trench width was 1.9m, rather than 2m due to the width of the available machine bucket. Trench 03 was rotated by 90 degrees to investigate the remains of a field boundary running across the field. This required the trench to be made smaller to avoid the overhead cable. Trench 05 was not excavated as an underground high voltage electricity cable ran along the side of this small field and it was considered not worth the risk of excavating in the vicinity of the cable. Changes to the WSI was agreed with GAPS.

The trenches as dug were as follows:

Trench	Start (OSGB m E/N)	End (OSGB m E/N)	Orientation	Length (m)	Rationale
TR01	268755.74 / 374800.79	268755.04 / 374770.99	N-S	30m by 1.9m	Targets geophysical survey anomalies
TR02	268766.64 / 374801.50	268766.43 / 374771.43	N-S	30m by 1.9m	Targets semi-circular geophysical survey anomaly
TR03	268798.41 / 374795.78	268776.75 / 374797.16	E-W	29m by 1.9m	Targets geophysical survey anomalies
TR04	268821.96 / 374802.24	268821.50 / 374772.80	N-S	29.5m by 1.9m	Targets geophysical survey anomaly
TR05					Not excavated
TR06	268815.30 / 374746.00	268813.40 / 374715.50	N-S	30m by 1.9m	Targets geophysical survey anomalies
TR07	268772.80 / 374729.60	268772.90 / 374699.77	N-S	29m by 1.9m	Targets geophysical survey anomalies
TR08	268782.60 / 374696.78	268782.38 / 374666.20	N-S	30m by 1.9m	Targets geophysical survey anomalies
TR09	268811.50 / 374685.56	268816.94 / 374636.28	NNW-SSE	49.5m by 1.9m	Targets geophysical survey anomalies
TR10	268850.30 / 374677.30	268872.17 / 374656.90	NW-SE	30m by 1.9m	Targets geophysical survey anomalies
TR11	268857.46 / 374703.72	268839.16 / 374679.16	NE-SW	30m by 1.9m	Targets geophysical survey anomaly and blank area
TR12	268840.30 / 374739.67	268827.65 / 374714.40	NE-SW	28m by 1.9m	Targets geophysical survey anomalies
TR13	268843.74 / 374748.60	268824.35 / 374743.30	WSW-ENE	20m by 1.9m	Targets geophysical survey anomalies

The trench locations were demarcated in advance using a Trimble R8 GNSS/R6/5800 GPS receiver (>3cm accuracy) and scanned with a cable avoidance tool. The trenches were opened by an 8-tonne tracked mechanical excavator with a toothless ditching bucket.

Excavation by machine was carried out in thin, controlled spits, under constant supervision and control by an archaeologist, until the first significant archaeological horizon was reached, or the glacial horizon was encountered, whichever was first.

Due to the likelihood of finding Neolithic axe-working debris the surface of each spit was inspected for axe-debris. An inspection was also be made of the spoil dug out. No axe-debris was found by this process but when excavating deposit 0403 a possible flake was seen and all soil from a sondage through this deposit was dry sieved through 1cm sieves to ensure full recovery of flakes.

A record was made on GAT pro-formas of the topsoil and ploughsoil depths, as well as the composition of the glacial horizon. All encountered features were recorded on GAT pro-formas and photographically with an appropriate scale. Photographic images were taken using a digital SLR camera set to maximum resolution in RAW format. Photographic images will be archived in TIFF format, converted using Adobe Photoshop.

Any archaeological features/deposits/structures encountered were manually cleaned and examined to determine extent, function, date (if possible) and relationship to adjacent activity.

The location of the trenches, and any identified features, were surveyed using a Trimble R8 GPS unit. Hand drawn sections at scales of 1:10 and 1:20 were completed for parts of some trenches to record significant levels, relationships between layers, or other important information. Plans were created for more significant archaeological features using photogrammetry located and scaled by surveying in targets. The images and data were processed in Agisoft Metashape to create georeferenced orthomosaics from which the plans were drawn up.

Few dateable artefacts were recovered and a description of those are included in this report. One bulk soil sample comprising two 10 litre buckets was taken from one feature (0604) and recommendations will be made for processing this.

3.2. Archive, Report and Dissemination

A working project archive has been created including.

1. Pro-forma record sheets and registers
2. Photographic Metadata in *Microsoft Excel*
3. Survey data processed in Bricscad
4. Hand drawn sections on permatrace
5. Photogrammetry orthomosaics produced in Agisoft Metashape
6. Artefacts
7. One bulk soil sample
8. A digital project register specific to this project in *Microsoft Excel*.

This project archive has been used to create the text and illustrations in this report, which details and synthesises the results.

The physical archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below. For Selection Strategy see Appendix III

On final approval, the following dissemination and archiving of the report and digital dataset will apply:

- A digital report will be provided to the client and GAPS
- A digital report will be provided to the regional Historic Environment Record
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales
- The paper archive and finds will be retained by GAT in case of further work on the site.

4 RESULTS

4.1. General

Twelve trenches were dug across the development site (Figure 4). See Appendix I for detailed descriptions of all deposits and features. Most of the trenches contained no features other than occasional land drains, but those running down slope clearly demonstrated that ploughsoil had moved downslope and built-up behind the field boundaries. Very few of the anomalies highlighted by the geophysical survey could be identified as features in the ground and the substantial culverts cannot be identified on the geophysics plot, even once their location is known. It is concluded that the presence of highly magnetic rocks scattered across the site has made magnetometry a poor technique for identifying archaeological features on this site and the geophysical survey cannot be used to identify where archaeological features are present or absent.

The natural sub-soil in all the trenches was a pale grey or yellowish grey gritty clay with an abundance of sub-angular and sub-rounded stones including boulders up to 1.0m long (Plate 3). In places, especially under a significant depth of ploughsoil the surface of the natural was more red-brown and silty. The surface of the natural could oxidise quickly becoming darker and browner soon after stripping. There were often manganese oxide patches visible. This deposit is the altered surface of the glacial till deposited over this landscape at the end of the last Ice Age. The very stony nature of the natural made stripping difficult and in future would make a controlled archaeological strip of the area difficult if that was required.

4.2. Trench 01

Trench 01, aligned north-south, measured 29.9m by 1.9m and was up to 1.05m deep (see Figures 5, 6, 7 and 8).

A feature partially filled with large stones, ran across the southern end of the trench. The cut [0109] for the feature was difficult to see except by the presence of stones, but it cut through a thick deposit of ploughsoil (0102) and almost certainly cut a stonier deposit (0103) to the south. The cut [0109] was filled with large stones (0104), up to 0.75m long, dumped along its southern side (Plate 4). These were exposed as the deposits were dug out to the south to establish the depth of the natural glacial deposits. The northern part of cut [0109] was filled with smaller stones in a brown loamy silt matrix. This feature was not sectioned as it is probably a culvert and may still be functioning. The farmer has previously exposed deep stone-capped culverts on his land, which can have large stones in the backfill. A culvert was exposed in trench 09. It is probable that [0109] is the cut for a culvert and 0104 is the backfill over the capping stones, which were not exposed. This culvert has been allocated PRN 100386.

The main deposits in the trench were initially confusing. The trench crosses a scarp, also indicated by an anomaly in the geophysics, and it was considered possible that this was the remains of a bank around the roundhouse settlement. Stripping exposed what appeared to be a stone surface (0107) (Plate 5). Part of this was composed of densely packed small stones, mostly lying flat to form what appeared to be a metalled surface. The remainder was less densely packed, and stones lay at a variety of angles. This layer was cleaned and recorded in plan (Figure 8) then was dug away by the mechanical excavator to expose the section. In section it could be seen that layer 0107 was very thin (about 0.05m thick) and overlay the thick ploughsoil deposit (0102), as well as merging with the top of a deposit of stone (0108). Layer 0107, rather than being a cobbled surface on top of an Iron Age bank appeared to be the result of ploughing sorting stones from the stone dump 0108 and dragging them over the earlier ploughsoil. Ploughing in stony soils does cause stone to collect in a layer at the lower limit that the

plough can reach, but the density and compactness of parts of 0107 seemed unusual. However, the conclusion is that layer 0107 was just an artefact of ploughing.

Most of the northern part of the trench was covered by a dump of stone in a ploughsoil-like matrix (0108) (Plate 6). The stones, which formed about 75% of the deposit, were haphazardly distributed and up to 0.3m long. The stones overlaid a thick deposit of what appeared to be ploughsoil (0102). Layer 0102 was a homogenous deposit of mid brown loamy silt with c.30% small and medium stones, and it was up to 0.8m thick (Plate 7). Below 0102, but merging gradually into it, was a deposit that was layer 0110, which was slightly paler and more clay-rich than 0102, but it is likely that 0102 and 0110 are essentially part of the same deposit. This appears to be an accumulation of ploughsoil or colluvium which has built up here, having been displaced from higher up the slope by ploughing. Deposit 0102/0110 fades out to the north and has created the scarp seen in the surface of the field. Deposit 0108 has built up along the face of this scarp. Figure 6 shows the section through these deposits, though the form of the scarp is not as well defined as it could be as the trench runs across the scarp at a shallow angle rather than crossing it at right angles.

It is possible that some of the larger stones within layer 0108 are the collapsed remains of a field boundary or revetment, but most is probably stone dumped along the face of the scarp formed by 0102. The structure formed by this build-up of soil as the result of ploughing is termed a lynchet and lynchets form along downslope field boundaries. This would be a suitable place to dump stone cleared from the field. The trial trenching results therefore suggest that the deposits in this trench represent a lynchet formed at the boundary of a field and that this explains both the scarp visible on the ground surface. This lynchet has been allocated PRN 100387

Summary: Probable 18th or 19th century culvert cut across south end of trench. Most deposits represent the build-up of soil and stones to form a lynchet at the edge of an ancient field.

4.3. Trench 02

Trench 02, aligned north-south, measured 30m by 1.9m and was up to 0.86m deep (Figure 5). This trench ran along the slope of the hill (Plate 8).

A densely packed deposit of stone (0204) was visible in the southern end of the trench (Plate 9). This probably represents the backfill of the continuation of the culvert seen in trench 01 and is part of PRN 100386. The cut [0205] for the culvert here was not extensively investigated and was generally difficult to see in plan but a small investigation suggested a straight, very steep edge. This feature cut through a thick deposit of ploughsoil or colluvium (0202) (Plate 10). This layer covered the entire trench and was about 0.4m deep. It was a mid-brown friable loamy silt with relatively few small stones. Below it was another 0.2m of a slightly malleable greyish brown gritty clayey silt (0203), forming a lower colluvial layer. Both these layers must have built-up gradually from soil moving downslope as a result of ploughing and are part of the same lynchet formation as seen in trench 01. No other features were seen in the trench despite hoeing the base of the trench clean to ensure that subtle features were not missed.

Summary: Probable 18th or 19th century culvert cut across south end of trench. Deep colluvial deposit forming part of lynchet. No other features.

4.4. Trench 03

Trench 03, aligned east-west, measured 21.8m by 1.9m and was up to 0. 41m deep (Figures 5, 9 and 10). This trench ran down the hillslope from east to west, but deposits were no deeper at the western end than the eastern end (Plate 11).

The ploughsoil, a mid-brown sandy silt with sub-angular stones and occasional charcoal, was between about 0.3m and 0.15m deep; the depth varying largely depending on the height of stones projecting from the natural clay. At the eastern end of the trench was a roughly linear deposit of stones (0304) (Plate 12), but on full cleaning this appeared to be just a natural collection of stone.

The trench was positioned to investigate a former field boundary that could be seen as slight scarps running across the field. The scarps, no more than 0.25m high, formed more of a narrow terrace than a well-defined bank, and at the northern end was an old ash tree that was presumably originally part of the boundary. In the trench the boundary was barely visible. One large stone and a collection of small stones (0305) may be the remains of the base of a wall (Plate 13), though it was on the line of the down-slope scarp. The narrow terrace was defined by a roughly level area of the natural clay and bedrock. In the trench this was confused by a boulder that projected from the natural through the turf. Very little of this boundary therefore remains as buried archaeology and the scarps on the field surface are the best evidence of its existence. The boundary has been allocated PRN 100388.

Summary: Contains very denuded traces of a field boundary running across the trench, but other stones appear to be natural collections. No other features.

4.5. Trench 04

Trench 04, aligned north-south, measured 30m by 1.9m and was up to 0. 40m deep (Figure 5). This trench ran along the slope and the deposits were of a similar depth all the way along (Plate 14).

The ploughsoil, a stony mid grey brown silty clay was about 0.2m deep and was cut towards the northern end by a narrow stone-filled land drain (Plate 15). At the southern end of the trench was a rough semi-circular arrangement of stones in dark brown loamy silt (0403) (Plate 14). A sondage was dug through this where a piece of Group VII stone was found during cleaning. The soil excavated from the sondage was sieved and two more pieces of possibly worked stone were recovered, but the feature was seen to be shallow and the edges very poorly defined. A sondage was also dug in the south-west corner of the deposit where the matrix was darker, and it was suspected that this may have been the fill of a culvert cut. However, the feature was also shown to be fairly shallow (up to 0.4m deep) and irregular here (Plate 16). The darker fill was probably due to root activity. This deposit is concluded to be of natural origin.

Summary: Land drain cuts north end and natural stone deposit in south end of trench. No other features.

4.6. Trench 06

Trench 06, aligned north-south, measured 30m by 1.9m and was up to 0. 80m deep (Figures 11, 12, 13 and 14). This trench ran across a fairly flat area, but this was flat due to a build-up of soil against the adjacent field boundary and the natural subsoil sloped down from north to south (Plate 17). The sub-soil was about 0.18m below the surface at the northern end and 0.8m below at the southern end.

The ploughsoil (0602), a mid-brown loamy silt with c.40% sub-rounded and sub-angular stones up to 0.2m long was about 0.5m deep in the deeper part of the trench. This was ploughsoil that had moved down slope and collected against the field boundary forming a lynchet still in use today. This lynchetted boundary has been allocated PRN 100389.

Below the topsoil (0601) but above the ploughsoil (0602) was a burnt patch (0604), measuring 1.0m by 0.7m, and 0.2m deep (Plate 18, Figures 12 and 13). This was composed of loose very dark brown silt, with patches of red-brown and black. It contained slaggy material, with vitrified surfaces initially suggestive of furnace lining, though closer inspection once the material had been processed showed

it to be high temperature burning on the surface of the soil. There were also quantities of charcoal, and a 20-litre bulk sample was taken of this deposit. This feature has been allocated PRN 100390.

Summary: Build-up of ploughsoil against field boundary. Small burnt patch overlying the older ploughsoil.

4.7. Trench 07

Trench 07, aligned north-south, measured 29m by 1.9m and was up to 0. 55m deep (natural clay was reached at 0.4m) (Figure 11). This trench ran along the slope and the deposits were of a similar depth all the way along (Plate 19).

The ploughsoil, a fairly stony mid brown loamy silt was only about 0.15m deep (the topsoil was about 0.25m deep) and was cut towards the southern end by a stone-filled land drain. This drain had a broad area filled with small stones, possibly a sump and the narrower land drain continued downhill to the west (Plate 20). There were no other features in this trench.

Summary: Land drain in southern end. No other features.

4.8. Trench 08

Trench 08, aligned north-south, measured 30m by 1.9m and was up to 0. 40m deep (natural clay was reached at 0.3m) (Figure 11). This trench ran along the slope and the deposits were of a similar depth all the way along (Plate 21).

The ploughsoil, a stony mid grey brown loamy silt was only about 0.15m deep (the topsoil was about 0.15m deep) and was cut towards the northern end by a narrow stone-filled land drain (Plate 22). There were no other features in this trench. Two large boulders were cleaned up to determine if they formed part of a wall, but they were just boulders embedded in the natural clay.

Summary: Land drain in northern end. No other features.

4.9. Trench 09

Trench 09 was the longest trench at 49.5m. It was aligned north-south and was up to 0. 70m deep, though the natural clay was reached at 0.5m (Figure 11). This trench ran gradually down the slope. Deposits were about 0.25m deep at the northern end and up to 0.50m deep at the southern end, where groundwater seeped into the trench (Plate 23).

The ploughsoil (0902), a stony mid grey brown clayey sandy silt was only about 0.20m deep with the topsoil being up to 0.30m deep. A narrow stone-filled land drain cut the northern end of the trench and there were occasional boulders projecting into the ploughsoil. Towards the middle of the trench was a stone culvert (0904) (Plate 24). This was composed of large stones (up to 0.7m long) forming capstones with smaller stones for the side stones. Other stones were within the fill over the capstones. The culvert was not active and was silted up. The cut [0905] of the culvert was straight and 0.6m wide. It was probably vertical sided but not investigated in detail. The upper part of cut unclear but it probably cut 0902. This culvert has been allocated PRN 100391.

Summary: Land drain in northern end. Stone capped culvert. No other features.

4.10. Trench 10

Trench 10, aligned north-west to south-east, measured 30m by 1.9m and was up to 0. 50m deep (natural clay was reached at 0.35m) (Figure 14). This trench ran diagonally down the slope from south-east to north-west, but the deposits were of a similar depth all the way along.

The ploughsoil, a stony yellowish brown sandy clayey silt was only about 0.15m deep (the topsoil was about 0.20m deep) (Plate 25). There was a large natural boulder towards the lower end of the trench but there were no features.

Summary: No features.

4.11. Trench 11

Trench 11, aligned north-west to south-east, measured 30m by 1.9m and was up to 0. 80m deep. This trench ran diagonally down the slope from north-east to south-west (Plates 26 and 27) (Figures 14, 15 and 16).

The ploughsoil, a stony soft, mid brown loamy silt was no more than 0.3m deep at the north-eastern end of the trench but about 0.6m deep at the south-western end. The topsoil was generally about 0.20m deep across the trench. The deeper ploughsoil represents the build-up of soil to form the lynchet on which the nearby field boundary is located. This field boundary is part of that allocated PRN 100389.

At the north-eastern end of the trench was a dump of stones (1103) or possibly a collapsed bank (Plates 27 and 28). The stones were up to 0.7m long, but with many smaller stones, in a matrix of dark grey-brown loamy silt similar to topsoil. The stones were haphazardly dumped and form a low mound. It was not possible in the trench to be certain of the significance of this deposit, but it could represent the remains of an earlier field boundary. This feature has been allocated PRN 100392.

In the north-eastern end of the trench was also a deposit of soft dark brown silt with numerous stones (1104) within a very irregular shallow hollow (Plate 29). The irregularity of the base of the hollow and the way in which stones embedded in the natural deposits projected into the fill of the hollow suggested that this was a natural feature, possibly caused by tree roots or similar activity. A piece of microdiorite that may have been deliberately struck was found in the surface of this deposit (SF03).

A stone-filled land drain ran across the trench halfway down its length (Plate 30).

Summary: Possibly collapsed bank at north-east end. Natural dark, stony deposit. Land drain. No other features.

4.12. Trench 12

Trench 12, aligned north-east to south-west, measured 28m by 1.9m and was up to 0. 50m deep (Figure 14). This trench ran down the slope from north-east to south-west. The deposits varied in depth to some extent but where not significantly deeper at the south-western, downhill end of the trench.

The ploughsoil, a stony grey brown sandy clayey silt was about 0.15m deep (the topsoil was about 0.25m deep) (Plate 31). There were no features.

Summary: No features.

4.13. Trench 13

Trench 13, aligned east-north-east to west-south-west, measured 20m by 1.9m and was up to 0. 50m deep (Figure 14). This trench ran down the slope from east-north-east to west-south-west. The deposits varied in depth to some extent but where not significantly deeper at the south-western, downhill end of the trench.

The ploughsoil, a stony grey brown sandy clayey silt was about 0.10m deep (the topsoil was about 0.20m deep). There were several large natural boulders within the trench, the largest being 0.6m long, but there were no features (Plate 32).

Summary: No features.

4.14. Finds

A small number of post-medieval and modern pot sherds were seen while stripping the trenches within the topsoil, but these were not retained. The finds retained included four pieces of possibly worked microdiorite and a sample of slag from deposit 0604.

Lithics

Four pieces of microdiorite were found (SF01, 02 (two pieces), and 03) (Figure 17). The stone is the type that was used for making stone axeheads in the Neolithic period and is classed as Group VII stone according to the Implement Petrology Groups study of stone sources of Neolithic axes (Clough and Cummins 1979 and 1988). SF01 and 02 were recovered from stony deposit 0403 in trench 4. They were recovered while digging a sondage to investigate the deposit and all the soil from the sondage was sieved through a 1cm sieve, but no small pieces were recovered. SF03 was found in trench 11 on the surface of another stony patch (1104), interpreted as a natural deposit.

None of these were perfect examples of axe-debris. SF02.1 would be accepted as such if other material was present but could be a chance flake. SF02.2 was probably broken naturally. There is also some doubt about SF01, which might also be due to a chance natural break.

SF03 could be a primary flake from initially breaking open a piece of scree. The patination is slightly less than on the other pieces, but this could still be an ancient break.

SF01

Length: 100mm. Width: 72mm. Thickness (max): 24.5mm. Weight: 179g.

Thick, rather rough flake, probably Group VII microdiorite but rather coarser than usually used for axe production. All surfaces are heavily patinated. Fairly neat flake scar on dorsal face, ventral face pronouncedly curved. The flake seems to have been detached at the same time as the flake was removed from the dorsal side, as both have the same point of percussion. These seems unlikely to happen in controlled knapping and may indicate that the flaking is the product of natural rock movement in the screes.

SF02

SF02.1

Length: 32mm. Width: 28mm. Thickness (max): 8mm. Weight: 8g.

A small but fairly thick flake on Group VII stone, fully patinated, with fairly clear striking platform. There is some fine chipping on the dorsal side of the striking platform that is less patinated than the rest of the piece.

SF02.2

Length: 50mm. Width: 38mm. Thickness (max): 12.5mm. Weight: 26g.

Very rough flake of Group VII stone. Heavily patinated. Dorsal side is mainly natural outer surface of a stone. Probably just a naturally broken small angular pebble.

SF03

Length: 123mm. Width: 57mm. Thickness (max): 34mm. Weight: 166g.

Thick flake that has removed the edge of a piece of natural scree. The dorsal side is largely the original natural outer surface with some fairly uncontrolled scattering along one side. The piece has broken across the proximal end. The flaked and broken surfaces are less patinated than the other pieces but not as dark as recent flakes from walling.

Slag

987g of slag was recovered from a 20 litres soil sample from the burnt spread (0604) in trench 6. Some of this material is vitrified on the surface, and so had been heated to a high temperature, but it was irregular with no evidence of a prepared inner face as occurs in furnace lining. Some pieces have impressions of pieces of wood within them. Two pieces of iron were incorporated into the slag. Some of the slag has been fired to a lower temperature and has a crumb structure, voids and mineral inclusions closely resembling soil. Most of the fine residue was attracted to a magnet, indicating a high iron content, but no obvious hammerscale or spheroids from smithing were visible. It is assumed that the high iron content is due to the iron in the burnt clay. The slag appears to have been formed by a high temperature fire on a clay-rich soil, possibly with some iron attached to the fuelwood. This was probably an open fire rather than the site of a furnace or smithy.

The fuelwood used was all oak, as described below.

4.15. Assessment of the palaeoenvironmental potential of deposit 0604

By Rosalind McKenna

Introduction

A single sample from a deposit encountered at excavations at Gorwell, Llanfairfechan, Conwy (centred on NGR SH 6880 7470) was submitted for an evaluation of its environmental potential. The sample originated from a burnt patch of unknown significance, with a high portion of charcoal and burnt clay, which could possibly be a furnace lining.

Methods

The initial material was submitted to the author in an unprocessed state. It was processed by the author using their standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.5mm and air dried. The heavy residue (the material which does not float) was not examined, and therefore the results presented here are based entirely on the material from the flot. The flot was examined under a low-power binocular microscope at magnifications between x12 and x40.

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

The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2mm fractions. The number of charcoal fragments to be identified is dependent on the diversity of the flora. A study by Keepax (1988, 120-124) has indicated that depending on the location of the archaeology site, 100-400 fragments of charcoal would need to be identified in order to obtain a full range of species. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information is recorded with the results of the assessment in Table 2 below. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000).

Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

Results

Table One below shows the components recorded from the sample. Charred plant macrofossils were not present within the sample.

Charcoal remains were present in the sample and scored between '2' on the abundance scale. The preservation of the charcoal fragments was relatively poor, most of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Table 2 below shows the results of the charcoal assessment.

The only identifiable remains within the sample were oak (Quercus). This taxa belongs to the groups of species represented in the native British flora. A local environment with a range of trees and shrub is indicated from the charcoal of the site. It is possible that this was the preferred fuel wood obtained from a local environment containing a broader choice of species. Oak is probably the first choice structural timber, and with a local abundance it may have been used instead of ash, thereby providing more by-product fire fuel.

Root / rootlet fragments were also present within the sample in abundance – dominating the flot and scoring a '4' on the semi quantitative scale. This indicates disturbance of the archaeological features, and this may be due to the nature of some features being relatively close to the surface, as well as deep root action from vegetation that covered the site. The presence of earthworm egg capsules in further confirms this disturbance.

Discussion

The charcoal remains showed the exploitation of a single species native to Britain, with oak being selected and used as fire wood. Oak has good burning properties and would have made a fire suitable for most purposes (Edlin 1949). Oak is a particularly useful fire fuel as well as being a commonly used structural/artefactual wood that may have had subsequent use as a fire fuel (Rossen and Olsen 1985). The charcoal assemblage is possibly the by product of some kind of industrial activity related to burning such as a furnace.

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

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

Conclusion

The samples produced some environmental material, with the charcoal from the sample. The deposit from which the samples derive, probably represent the waste associated with fires from a furnace.

Two pieces of charcoal were selected from the flot and submitted for radiocarbon dating.

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

Recommendations

The samples have been assessed, and any interpretable data has been retrieved. No further work is required on the sample. Any material recovered by further excavations should be processed to 0.3mm in accordance with standardised processing methods such as Kenward *et al.* 1980, and the English Heritage guidelines for Environmental Archaeology.

Table 1. Components of the samples recovered from Gorwell, Llanfairfechan, Conwy (G2748).

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

Sample	**601**
Deposit	**0604**
Feature type	**Burnt spread**
?CBM / burnt clay	2
Charcoal fgts.	2
Earthworm egg capsules	1
Root/rootlet fgts.	4
Sand	2
?Slag fgts.	2

Table 2. Complete list of taxa recovered from Gorwell, Llanfairfechan (G2748).

Sample		**601**
Deposit		**0604**
Feature type		**Burnt spread**
No fragments		**18**
Max size (mm)		**24**
Name	**Vernacular**	
Quercus	Oak	7
	Indeterminate	11

4.16. Radiocarbon dates

A 20-litre soil sample was taken from feature (0604), a burnt spread or hearth in trench 6. This was processed by flotation and the recovered charcoal is described above. All the charcoal in the sample was oak and no other charred plant remains were identified, so two pieces of oak charcoal were selected for radiocarbon dating. These pieces were not heartwood, so avoiding old wood effect on the dates. These two samples were submitted to the Scottish Universities Environmental Research Centre radiocarbon dating laboratory and they were dated by standard AMS dating. The results are given in the table below and the dating certificates are included in Appendix IV.

Lab number	**Sample reference**	**Context number**	**Radiocarbon Age BP**	**$\delta^{13}C$**	**Calibrated date (95% probability)**
SUERC-109264	G2748-01A	0604	145 ± 26	-25.4 ‰	1669-1904 cal AD
SUERC-109265	G2748-01B	0604	125 ± 26	-25.5 ‰	1680-1940 cal AD

The dates are very close indicating that they both directly date the activity and there is no mixing with earlier or later material. The dates show that this activity dates from the post-medieval period, probably the 18th or 19th centuries. The nature of the slag from this feature, along with this late date, suggests this was the site of a high temperature fire using oak as fuel wood, but with no firm evidence of this as part of an industrial activity. This feature is therefore of low archaeological significance.

5 DISCUSSION AND RECOMMENDATIONS

The aim of the trail trenching was to test the geophysical survey, to determine the nature of features identified in the survey and to test some areas where anomalies had not been identified. The trenches demonstrated that the geophysical survey did not clearly identify actual archaeological features due to the magnetic nature of the stones across the site. None of the land drains identified in the trenches were highlighted as potential features on the interpretative plot. By comparing the detailed grey scale plot with the features in the trenches (Figure 18) suggestions can be seen that might be the drains seen in trenches 7 and 8, but the other drains and culverts cannot be seen in the plot. The large culvert seen in trenches 1 and 2 was just beyond the edge of the surveyed area in the northern field so that could not have been detected, but the culvert (0904) in trench 9 cannot be confidently identified in the grey scale plot even once its location is known. This shows that even alignments of large stones could not be distinguished from the general noise.

The large culverts in trenches 1, 2 and 9 are substantial constructions, especially that in trench 1 where very large stones were included just in the backfill over the culvert, representing a considerable amount of effort. The likelihood is that such effort was expended during the time that the land was part of the Baronhill Estate, which would have had the man-power. The effort taken in drainage is demonstrated by the stream that runs through the adjacent woodland. Within the development area this stream runs in a culvert under the stone wall forming the northern side of the development area, so time and skill have been put into solving the drainage problem. It is probable that the other land drains were also created at this time. If the date of the straight field walls could be established, it would date the culverts as these were probably created at the same time. As the tithe map does not show individual fields further investigation into estate records would be necessary to establish this.

The geophysical plot did detect narrow generally east-west aligned anomalies, especially in the southern field. Some of these were visible in the field surface as slight parallel furrows, but where one was cut by trench 8 this was seen to have no depth beyond the topsoil. It is likely that these furrows are artifacts of recent ploughing.

The dump of stones or possible bank in trench 11 might be indicated by a darker area of the plot, in which case it could be quite extensive over the northern corner of that field, but the difficulties in interpreting the plot make this far from certain.

The burnt patch (0604) in trench 6 coincides with a dark feature on the grey scale plot. This could indicate that the burnt patch is about 2.5m long. This feature was below the topsoil but resting on the ploughsoil/colluvium. A soil sample was taken from this deposit, and processed to recover the charred plant remains and the slag in the sample was cleaned and inspected. The only charred plant remains were charcoal and only oak charcoal was identified. The slag appears to have been formed by a high temperature fire on a clay-rich soil, possibly with some iron attached to the fuelwood. This was probably an open fire rather than the site of a furnace or smithy. Two radiocarbon dates on fuelwood from this feature show that it is a post-medieval feature, probably created in the 18th or 19th centuries (1669-1904 cal AD (SUERC-109264) and 1680-1940 cal AD (SUERC-109265). There is no firm evidence that this fire was used as part of an industrial activity. This feature is therefore of low archaeological significance.

Slight scarps, no more than 0.25m high, run across the northern field, defining the location of a former field boundary. Trench 3 showed that little of this survives underground, and it cannot be seen on the geophysical plot. A dipole on the line of the field boundary may have been caused by a large natural boulder in trench 3 that projected through the surface of the ground. This boundary is very straight, suggesting a fairly late date. It is not shown on the 1889 First edition OS County Series map and the tithe map of 1848 only shows farm boundaries so the earlier layout of the field cannot be seen. The scarps continue the line of a wall lying to the north and it is likely that this was a wall built as part of

the same field system, possibly in the late 18th century and demolished in the mid-19th century before the first edition map was surveyed.

Trenches 6 and 11 showed the build-up of a deep ploughsoil/colluvial deposit behind the sinuous field boundary that runs diagonally through the site (this field boundary has been allocated PRN 100389). Trenches 12 and 13 did not show a similar build-up of soil behind the straight field boundary forming the western side of that field. The sinuous field boundary can be seen as a lynchet up to 2m high, clearly formed by the build-up of soil over a long period of time, probably aided by terracing (Plate 33). The eastern boundary to the development site is also a high lynchet and curves. These sinuous or curving lynchets are highly likely to be ancient, possibly Iron Age in origin. Many of the fields around Llanfairfechan have similar characteristics of lynchets and/or sinuous boundaries and it has been suggested that these are the remains of the Iron Age field system that have been in continuous use.

Trench 1 showed that parts of this ancient field system have gone out of use and been largely lost. The remains in trench 1 suggested the build-up of colluvium from ploughing with stone dumped along the outer face of the lynchet, some of which may be the remains of a terrace revetment. The remains of this lynchet are visible on the ground as a broad scarp in the present field corner. The geophysical plot shows a negative anomaly running along roughly the same alignment as the scarp (anomaly 'C' on Figure 3), but this curves more the north-east, so it is unclear what the anomaly is detecting. There is a dark anomaly in the location where the thin stone layer 0107 was found, which might indicate that 0107 was not just an artefact of ploughing, but again interpretation is uncertain.

The trial trenching suggests that the most important features on the site are the curving, rather than straight, field boundaries and the relict boundary visible as a plough-out scarp in the corner of the northern field. These are probably the remains of the Iron Age field system and could potentially preserve dating and environmental information. The trail trenches did not reveal any well-preserved buried soils, though 0110 in the base of trench 1 might be a very old ploughsoil. The heavily mixed soils seem unlikely to preserve pollen well, especially as they are not waterlogged but localised deposits might have more potential. It is also unlikely that undisturbed layers of charcoal will be found within or under the lynchet soil, but Optically Stimulated Luminescence (OSL) dating can be used to date sediments, and this may be worth considering. These field boundaries will need further investigation if the development goes ahead. They should be recorded as they exist at present, including recording the type and possible age of trees along the boundaries and several sections across the boundaries should be excavated and recorded in detail with care taken to look for potential sequences of revetment and traces of the first boundaries, as well as appropriate sampling for palaeoenvironmental and dating.

Although axe-working debris was actively searched for very little was recovered. The stone within the soils was generally not the microdiorite that was used for making the axes, but as the site is 370m from the nearest scree source of this stone that was to be expected. Three pieces of microdiorite were found in trench 4. These came from the stony deposit (0403), which is interpreted as being a natural deposit. None of these pieces have classic signs of deliberate working, though they are angular pieces that could be axe-working debris. Their presence shows that some of this stone may be present on the site, but the pieces found so far do not conclusively show that axe-working was taking place on the site. The single piece from trench 11 (SF03) is fairly convincing as axe-debris but more typical material from the area is necessary to confirm this.

Relatively little of significance was found in the evaluation trenches, although the nature of the geophysical survey makes it uncertain how representative the finds within the trenches are.

No features relating to the adjacent scheduled roundhouse settlement were found in the trenches and the evidence from the evaluation trenches strongly suggests that the settlement did not extend as far east as trench 1.

It is possible that significant archaeological features survive on the site, but an archaeological watching brief might be considered proportionate considering the findings of this evaluation. If possible, it would be advisable to leave a buffer zone between the location of trench 1 and the boundary of the scheduled area. This would be an area in which no groundworks would take place. The wall forming the north-west boundary of the development site is within the scheduled area and any work on this wall will require scheduled monument consent. It is strongly advised that there are discussions with Cadw in relation to any works close to the scheduled area.

Summary of recommendations

A buffer zone with no groundworks adjacent to the scheduled area.

An archaeological watching brief on areas to be disturbed.

Detailed record of the ancient boundaries and excavation of sections through them, including the scarp cut by trench 1.

Continued searching for Neolithic axe-working debris during any interventions.

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FIGURES AND PLATES

Figures

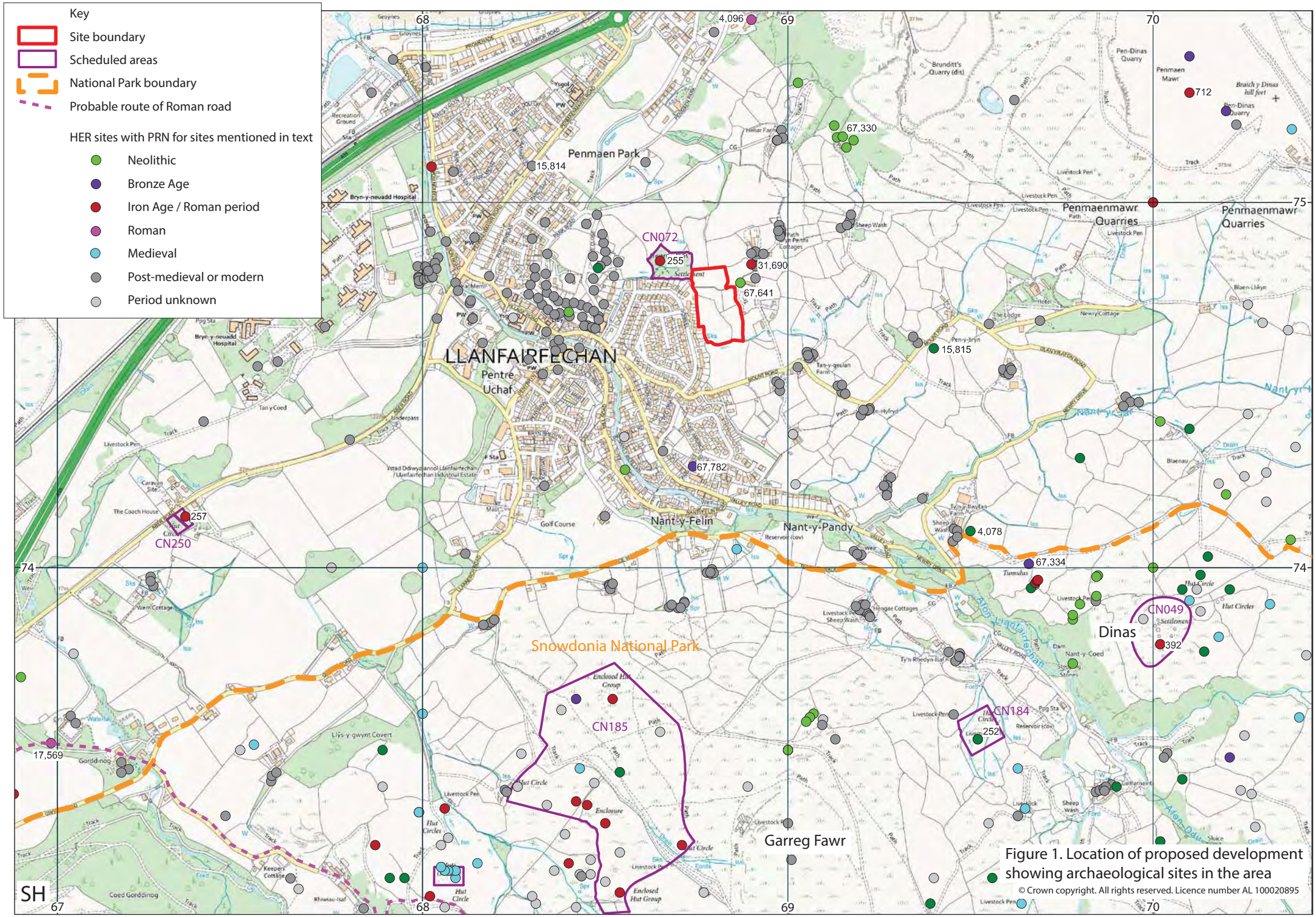


Figure 1. Location of proposed development showing archaeological sites in the area

Figure 2. Grey scale geophysical survey plot by Archaeological Survey West LLP (reproduced from Matthews 2022 with kind permission of CM Matthews)

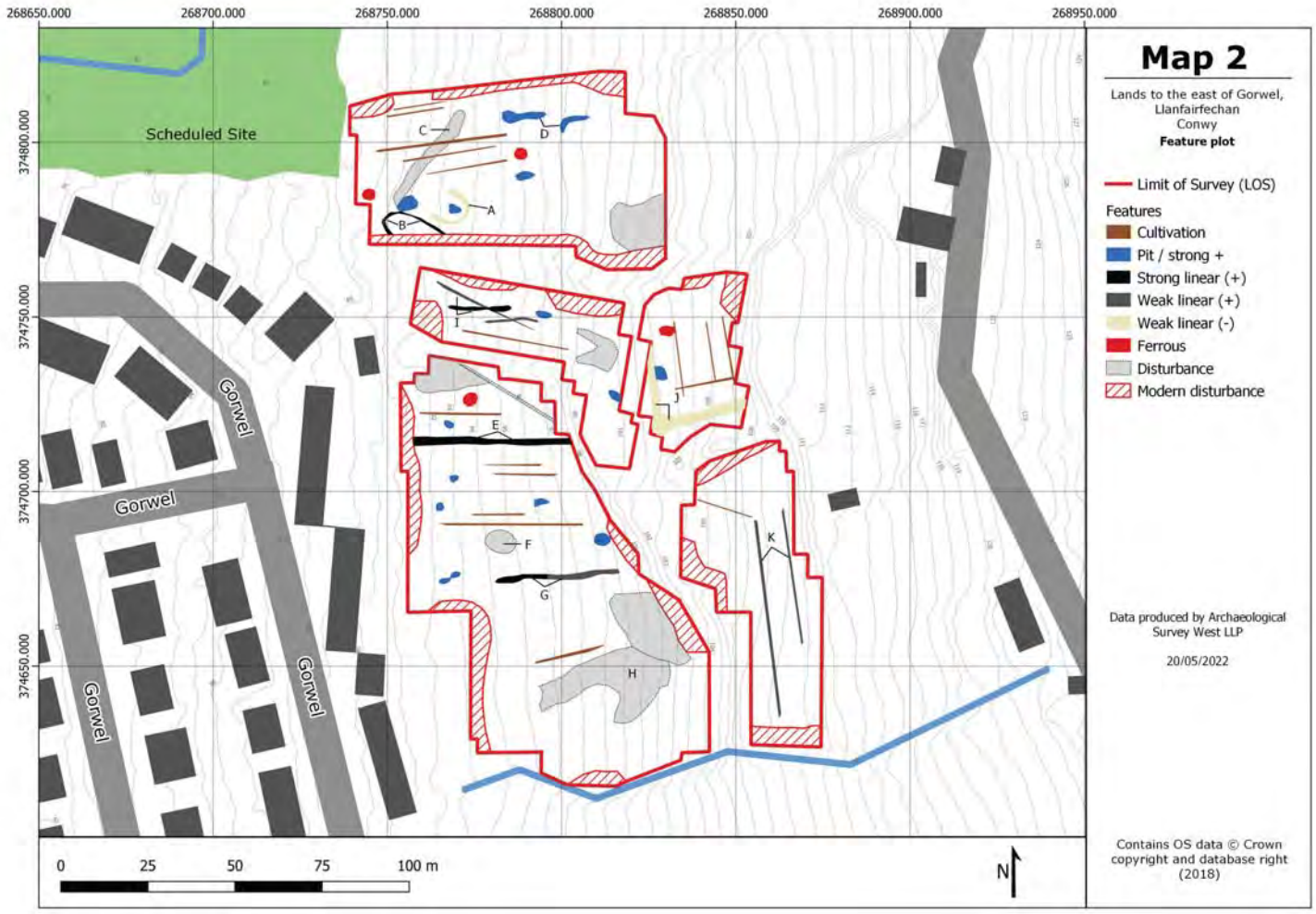


Figure 3. Interpretation of geophysical survey plot by Archaeological Survey West LLP (reproduced from Matthews 2022 with kind permission of CM Matthews)

Figure 4. Location of evaluation trenches, also showing the plan of Gwern y Plas roundhouse settlement from RCAHMW 1956, p122

6875

6880

7480

7480

CN072
Gwern y Plas

old ash tree

lynchet

Tr01

Tr02

0206

0106

0107

0106

0102

0104

0106

0206

0204

0202

remains of field boundary

0303

0305

0304

Tr03

0404

0403

0404

sondage
into 0403

Tr04

Key

Site boundary

Scheduled areas

Evaluation trench

Overhead high voltage cables

Underground high voltage cable

Top of scarp (with hachures showing slope)

Base of scarp

Land drain

Archaeological feature

Large stone

Sondage

Figure 5. Features in and around trenches 01, 02, 03 and 04

N

0 10m

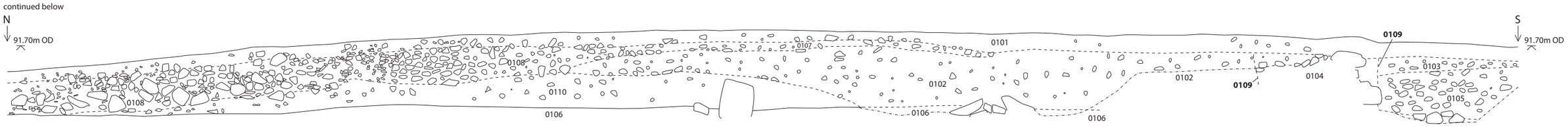
scale 1:250 @ A3

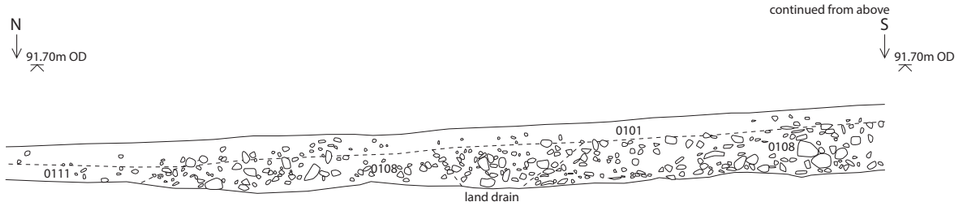
SH

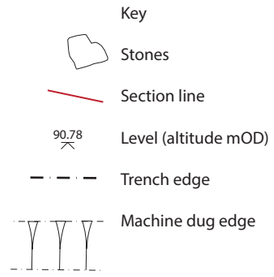
6875

6880

Figure 6. West facing section of trench 01







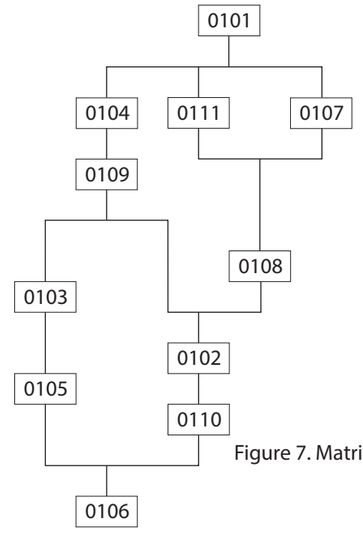
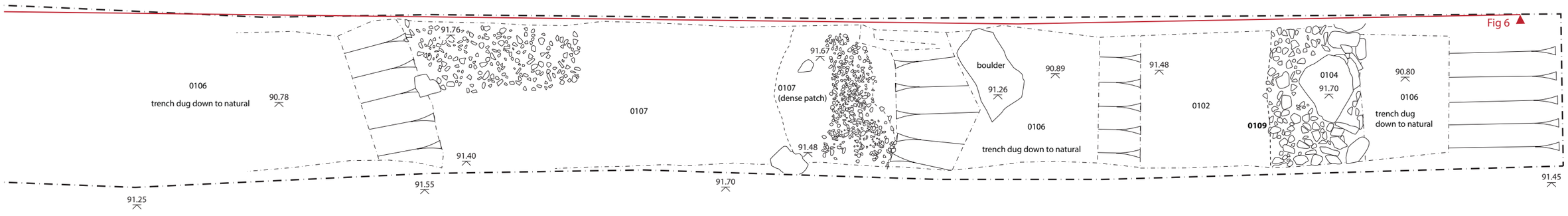


Figure 7. Matrix for trench 01



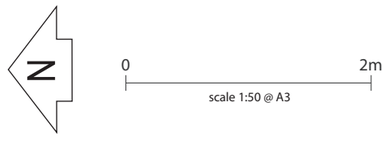
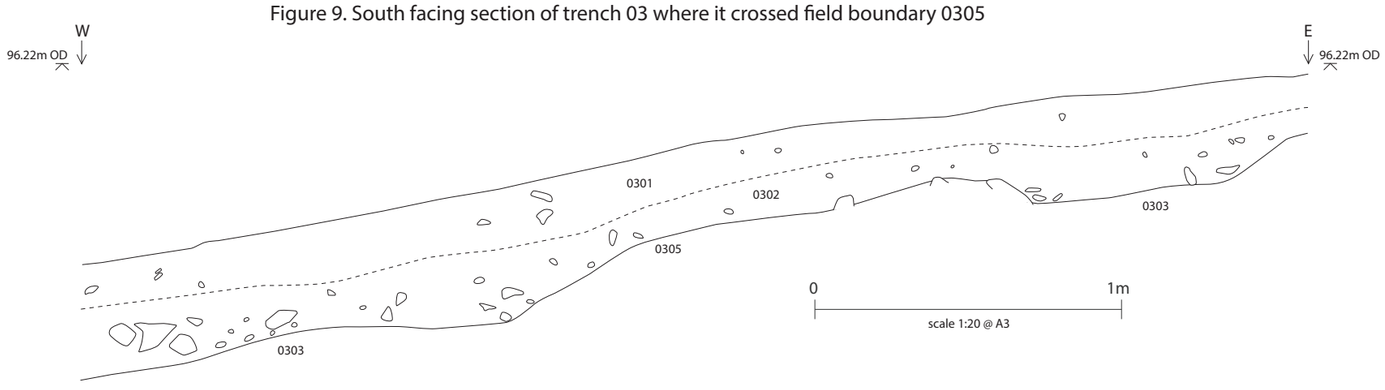
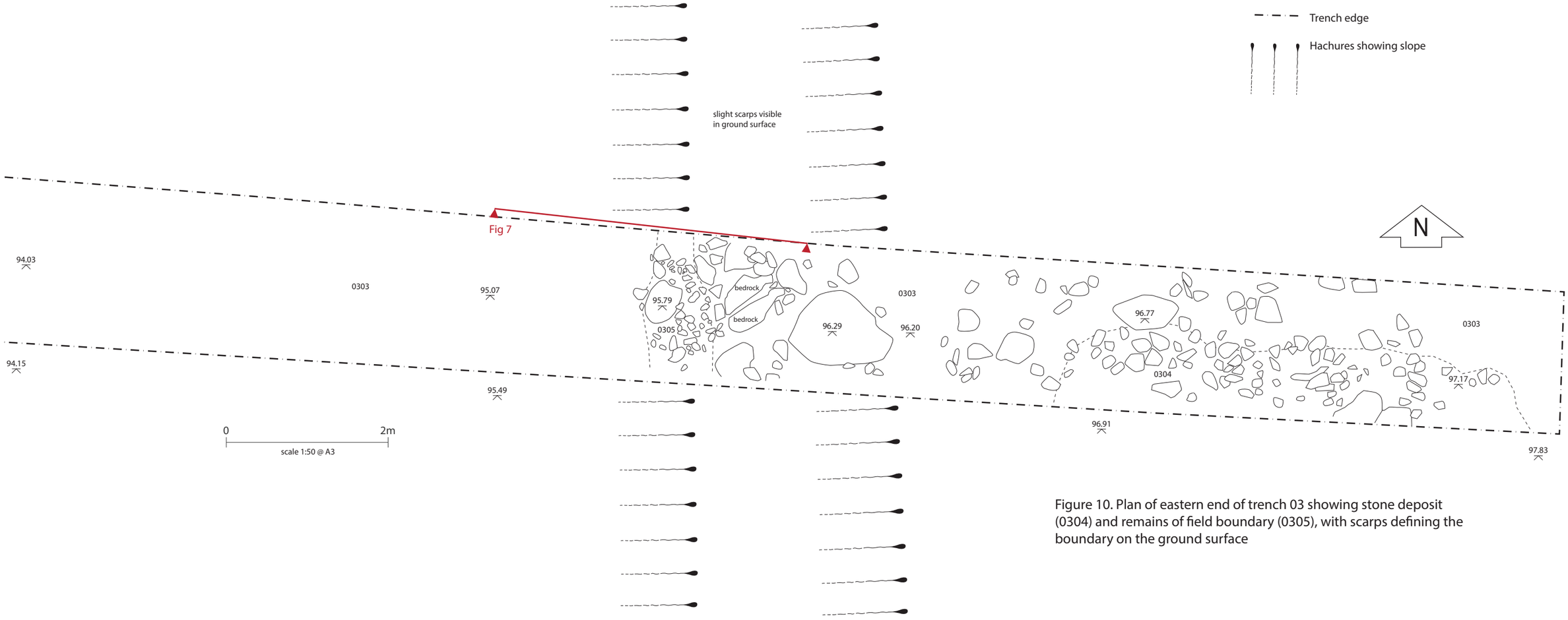


Figure 8. Plan of southern end of trench 01 showing culvert [0109] and stone deposit (0107) with representative areas of stones drawn

Figure 9. South facing section of trench 03 where it crossed field boundary 0305





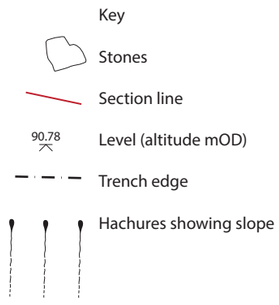


Figure 10. Plan of eastern end of trench 03 showing stone deposit (0304) and remains of field boundary (0305), with scarps defining the boundary on the ground surface

Key
Site boundary
Evaluation trench
Overhead high voltage cables
Land drain
Archaeological feature
Large stone
Furrows

Tr07
0703
Tr06
0603
0604
Tr08
0803
Tr09
0903
0904
6880
7470
7465
N
0
10m
scale 1:250 @ A3
SH

Figure 11. Features in and around trenches 06, 07, 08 and 09

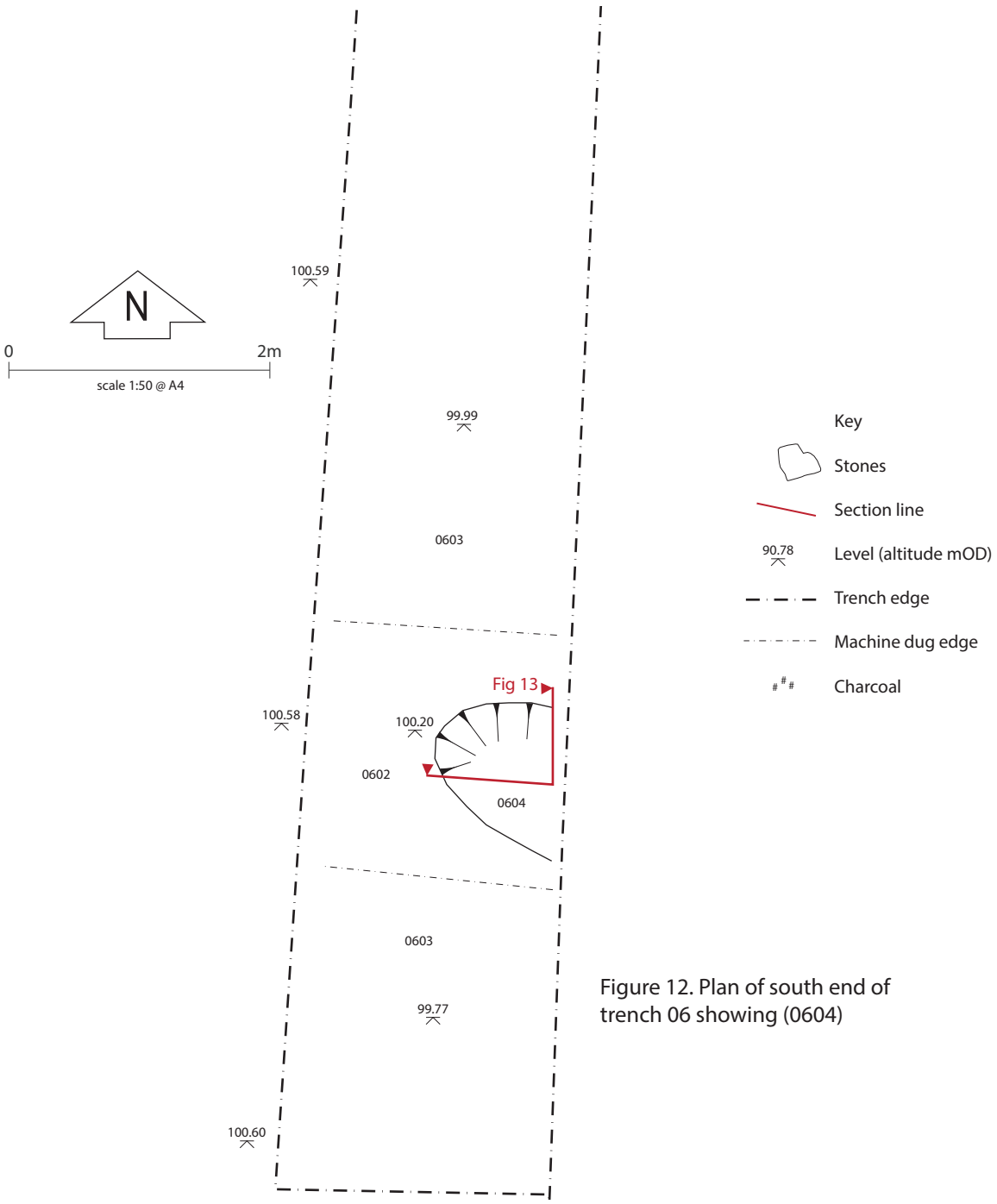


Figure 12. Plan of south end of trench 06 showing (0604)

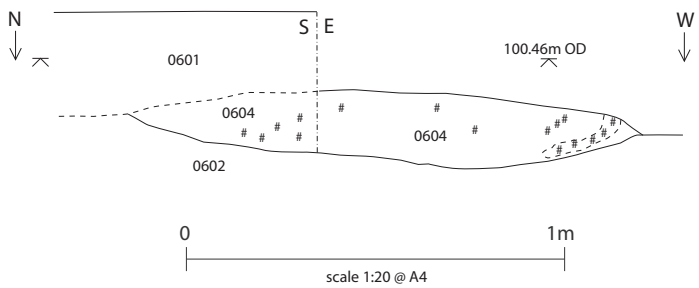


Figure 13. West and north facing sections of deposit (0604)

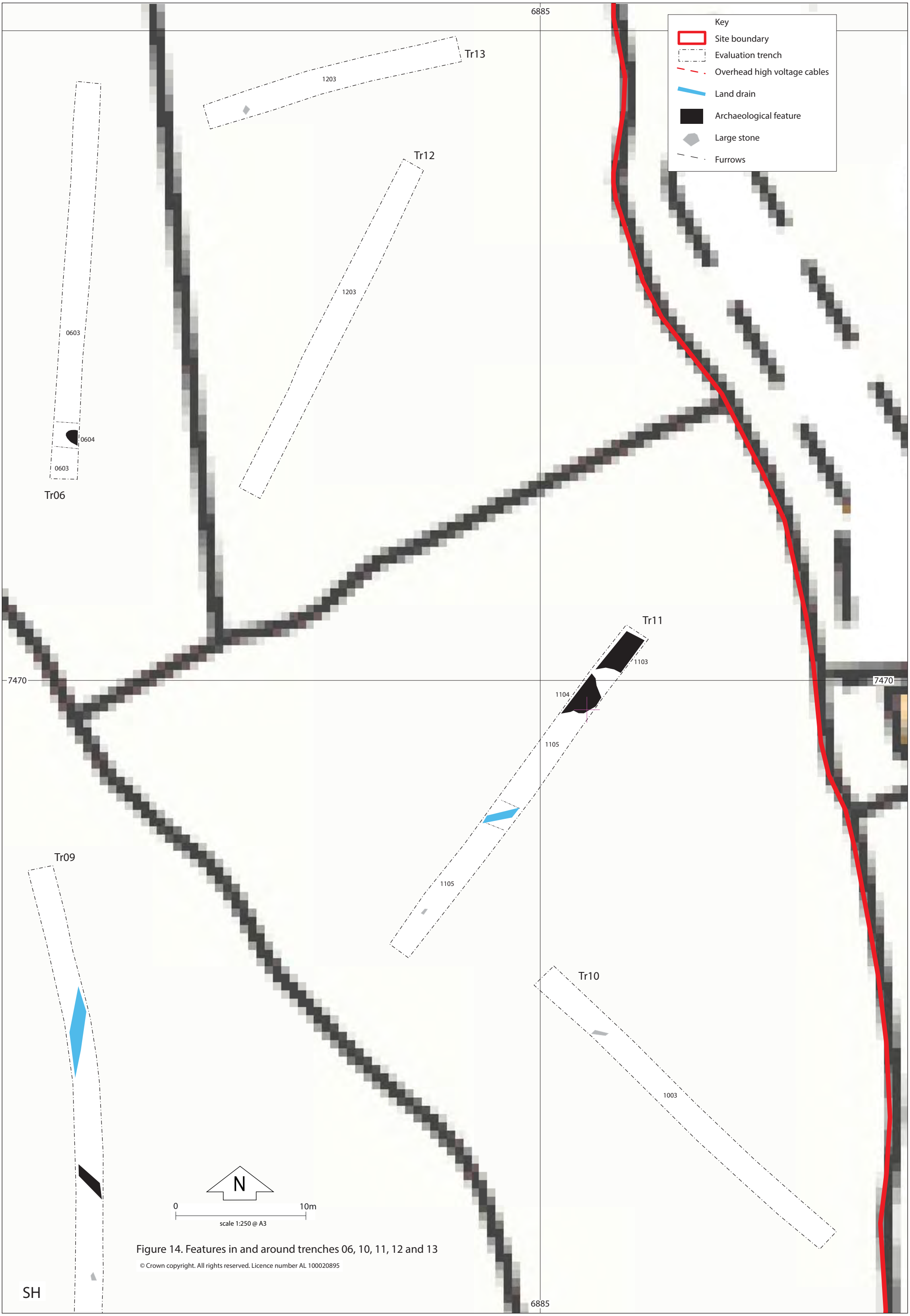


Figure 14. Features in and around trenches 06, 10, 11, 12 and 13

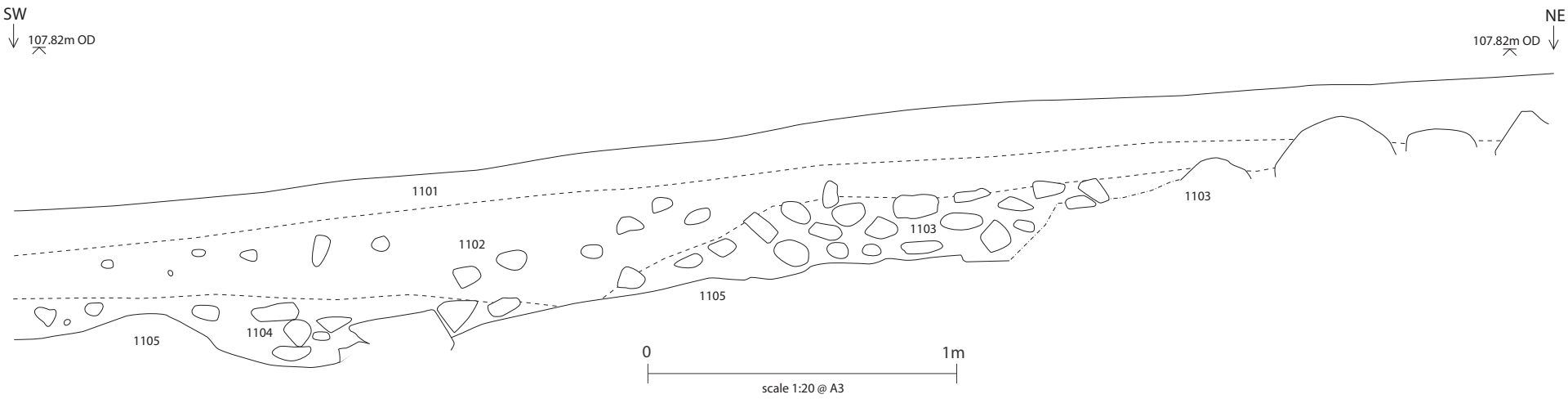


Figure 15. South-east facing section of trench 11 where it crossed deposits (1103) and (1104)

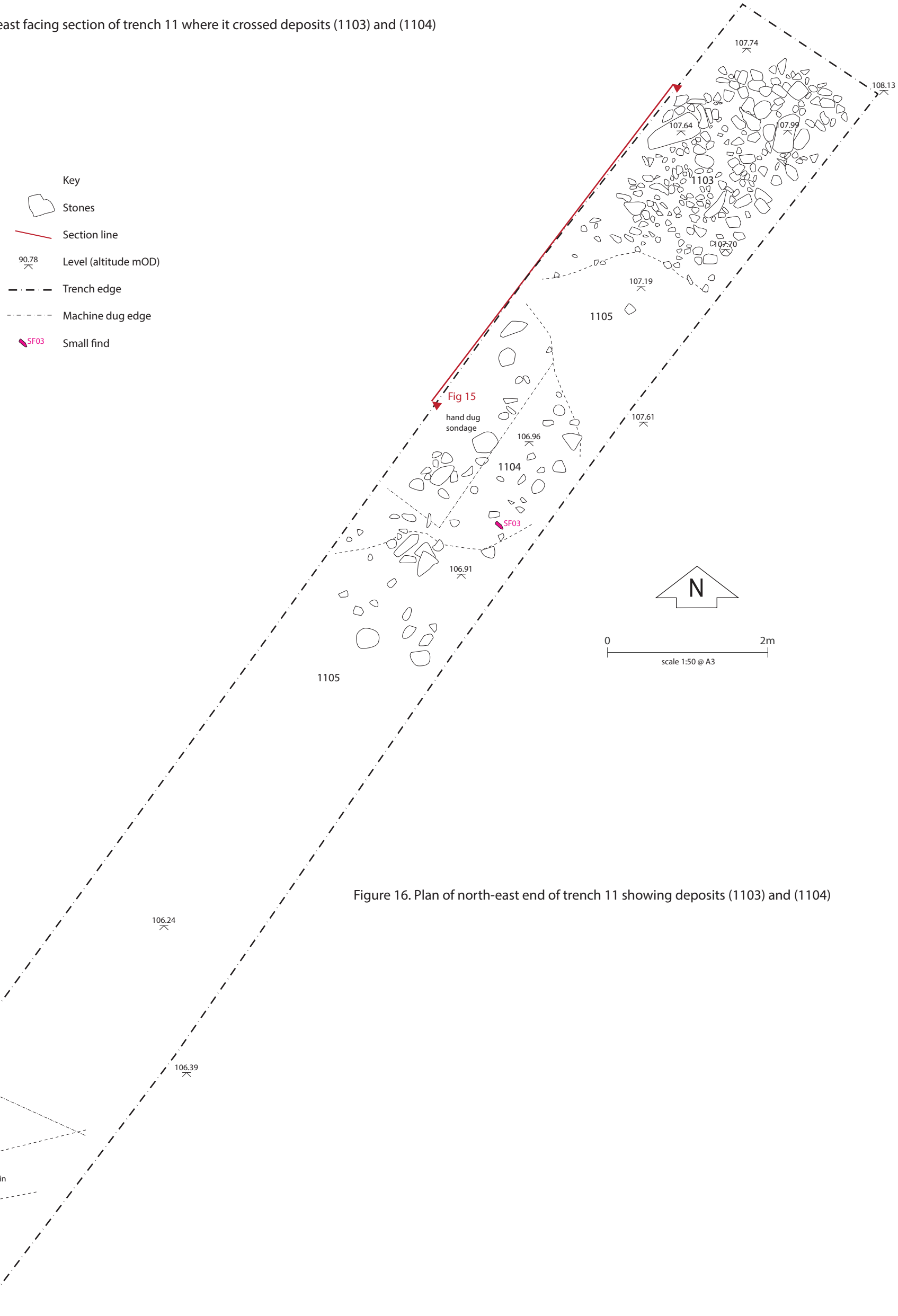


Figure 16. Plan of north-east end of trench 11 showing deposits (1103) and (1104)

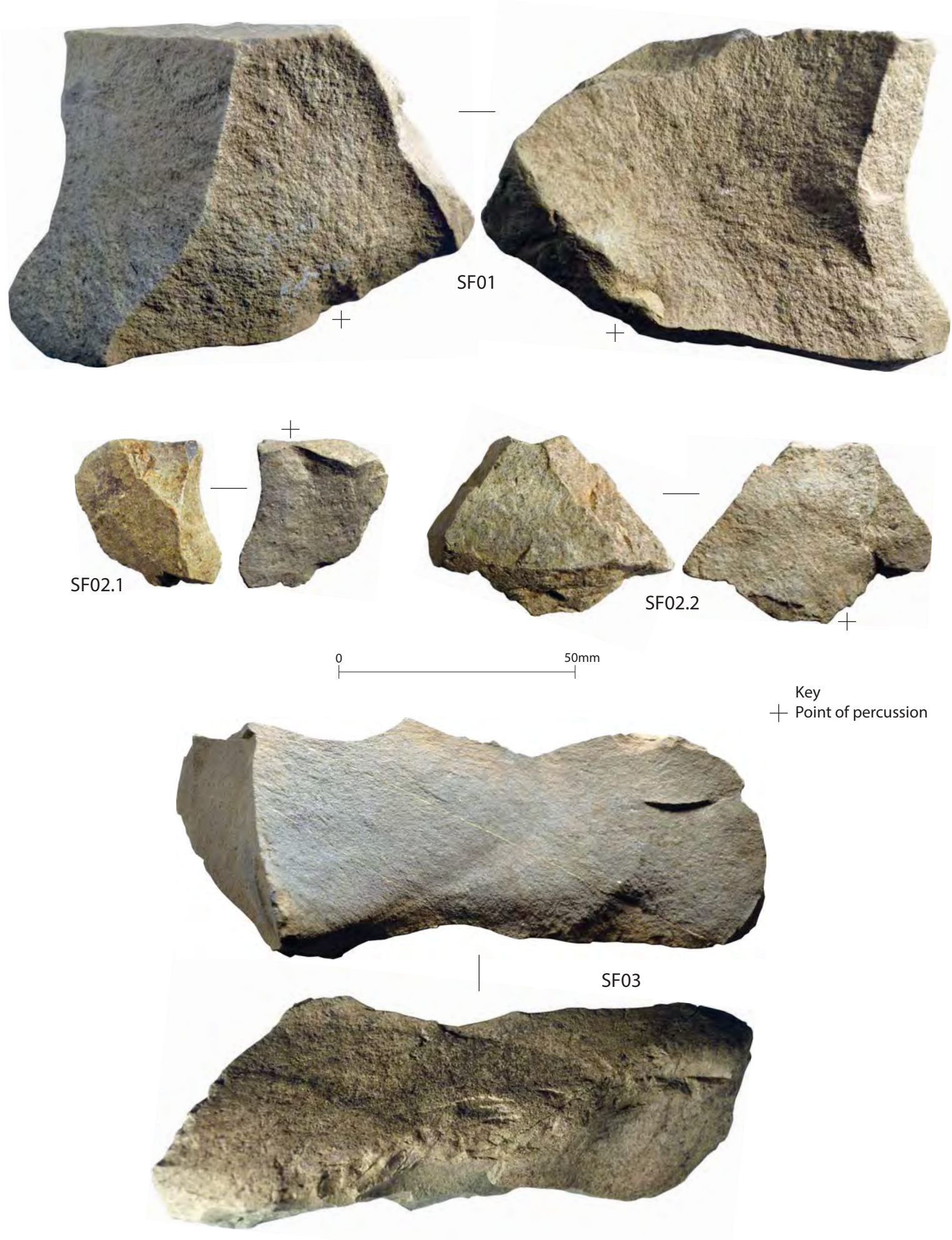


Figure 17. Possible artefacts on Group VII stone (scale 1:1 at A4)

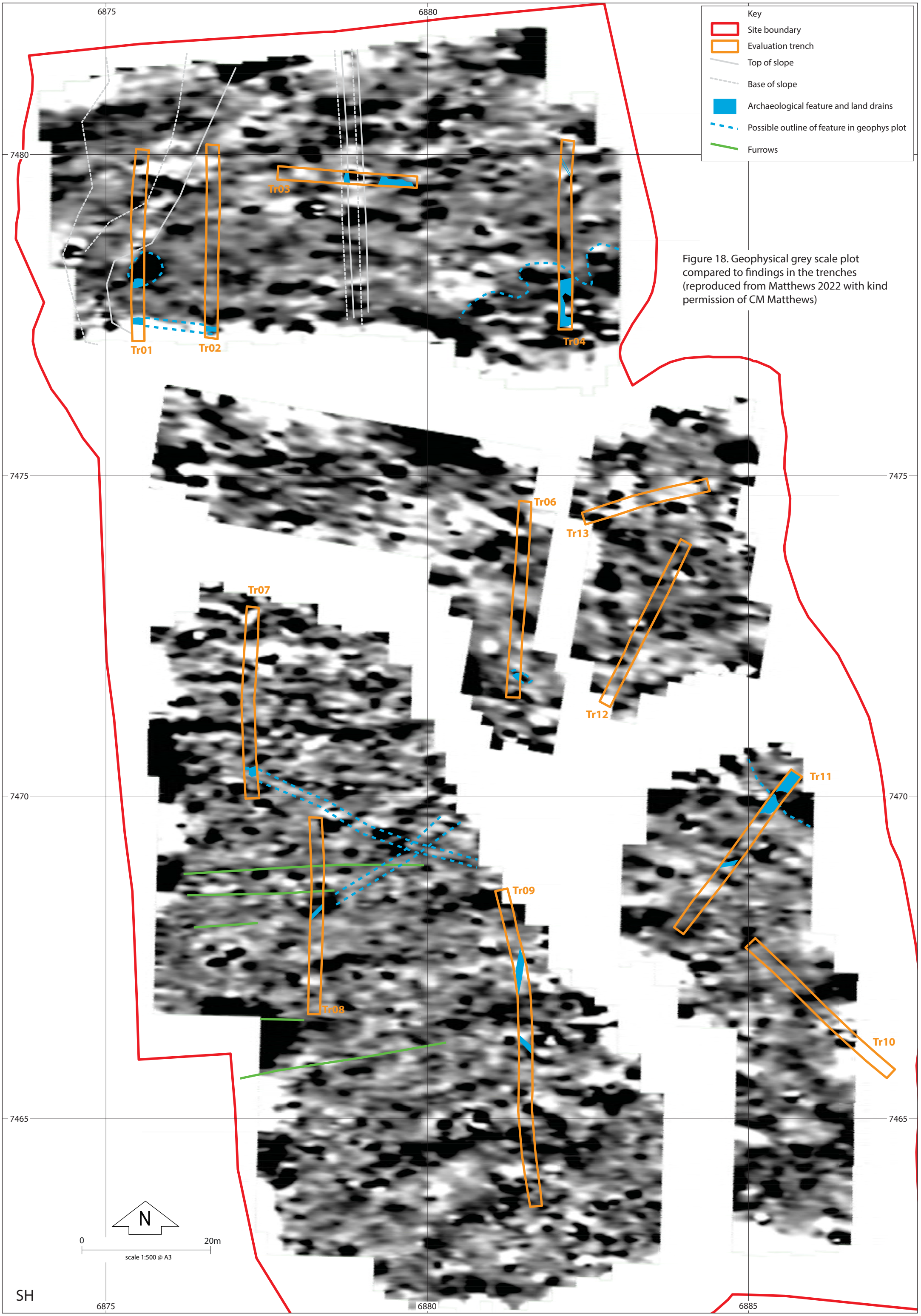


Figure 18. Geophysical grey scale plot compared to findings in the trenches (reproduced from Matthews 2022 with kind permission of CM Matthews)

Plates

Plate 1. Roundhouse in Gwern y Plas (PRN 255)
(archive reference: G2748_142)

Plate 2. Paddock boundary in Gwern y Plas (PRN 255)
(archive reference: G2748_143)

Plate 3. Example of the natural clay seen in trench 4 from the south (archive reference: G2748_023)

Plate 4. Stone backfill (0104) in culvert cut [0109] from the west (archive reference: G2748_004)

Plate 5. Layer of dense stones (0107) from the east (archive reference: G2748_053)

Plate 6. West facing baulk section in trench 1 showing 0108 and 0110 (archive reference: G2748_042)

Plate 7. West facing baulk section of trench 1 showing 0102 (archive reference: G2748_066)

Plate 8. Trench 2 from the north (archive reference: G2748_026)

Plate 9. Stone backfill (0204) of culvert in trench 2 from the west (archive reference: G2748_030)

Plate 10. West facing baulk section in trench 2 showing depth of colluvium (0202 and 0203) (archive reference: G2748_034)

Plate 11. Trench 3 from the west (archive reference: G2748_068)

Plate 12. Stone deposit 0304 from west (archive reference: G2748_070)

Plate 13. Remains of field boundary 0305 from south (archive reference: G2748_073)

Plate 14. Trench 4 from the south showing stone deposit (0403) (archive reference: G2748_014)

Plate 15. Land drain in trench 4 from the east (archive reference: G2748_036)

Plate 16. Sondage dug through 0403 in trench 4 from the west (archive reference: G2748_039)

Plate 17. Trench 6 from the south, with 0604 on raised area (archive reference: G2748_091)

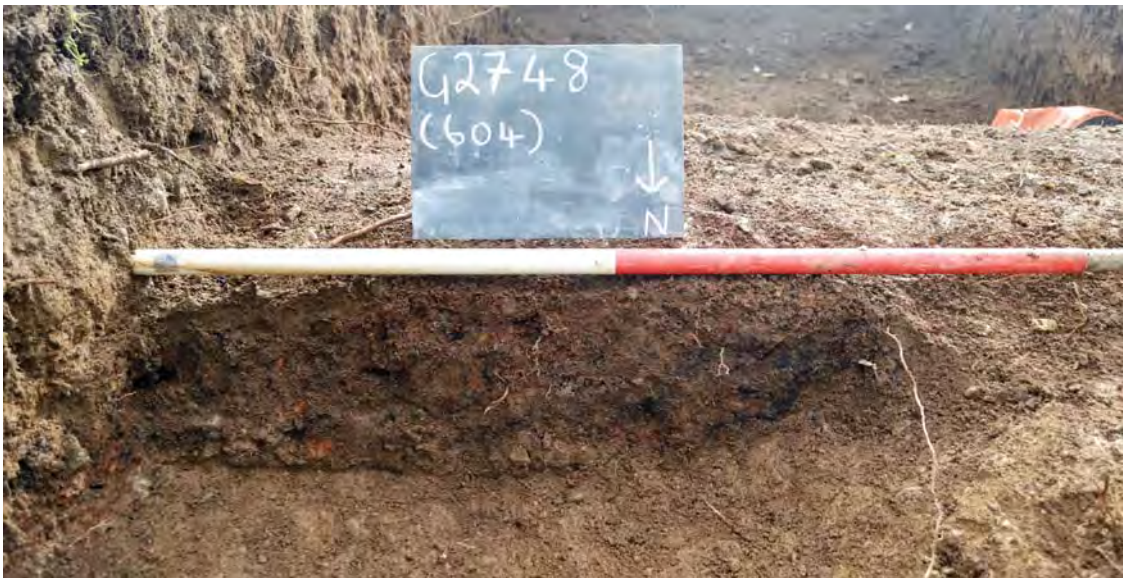


Plate 18. North facing section of burnt patch 0604 (archive reference: G2748_097)

Plate 19. Trench 7 from the south (archive reference: G2748_105)

Plate 20. Land drain and 'sump' in Trench 7 from the east (archive reference: G2748_135)

Plate 21. Trench 8 from the south
(archive reference: G2748_127)

Plate 22. Land drain in trench 8 from the west
(archive reference: G2748_131)

Plate 23. Trench 9 from the north
(archive reference: G2748_125)

Plate 27. Trench 11 from north-east with 1103 in the foreground (archive reference: G2748_114)

Plate 28. Possible collapsed bank (1103) from the south-west (archive reference: G2748_117)

Plate 29. Stony deposit 1104 from the north-east (archive reference: G2748_119)

Plate 30. Land drain running across trench 11 from south-east (archive reference: G2748_112)

Plate 31. Trench 12 from the north-east
(archive reference: G2748_086)

Plate 32. Trench 13 from the west-south-west
(archive reference: G2748_088)

Plate 33. Field boundary south of trench 10, showing height of the lynchet
(archive reference: G2748_106)

APPENDIX I

Trench Summaries

Trench 01

Grid references N end: 268755.74 / 374800.79 S end: 268755.04 / 374770.99

Size: 29.9m by 1.9m; *max depth*: 1.05m; *orientation*: N-S

Context number	Depth below surface	Description
0101	0-0.2m	Topsoil. Dark grey brown gritty loam with c.25% small stones.
0102	0.2-1.05m	Early ploughsoil/colluvium. Mid brown loamy silt with c.30% small and medium stones.
0103		Early ploughsoil/colluvium. Mid brown loamy silt with numerous sub-rounded small and medium stones.
0104		Stone fill of probable culvert [0109]. Fairly haphazardly dumped large stones up to 0.75m long with smaller stones filling to the north. Matrix of mid brown loamy silt.
0105		Gravelly deposit. Dark brown silty gravel with c.75% sub-rounded and sub-angular stones up to 0.15m long.
0106	1.05m +	Natural, glacial deposits. Pale yellowish grey gritty clay with c.75% small and medium stones and some very large stones. More orange-brown in colour towards northern end of trench. Some manganese oxide patches visible.
0107		Ploughing artefact. Thin layer of densely packed small stones. In one patch the stones were small, lay flat and very densely packed forming what appeared to be a metalled surface, but elsewhere the stones were slightly larger, lay randomly and were less densely packed. This layer merged into the top of 0108 but directly overlay 0102.
0108		Dump of stones. Dark brown silty loam, fairly loose and friable, with c.75% sub-rounded and sub-angular stones up to 0.3m long. The stones were haphazardly distributed though some of the larger stones did seem to be grouped together.
0109		Cut for probable culvert.
0110		Relict soil, possible early ploughsoil. Dark grey brown silty loam similar to the matrix of 0108 but with much fewer stones. Becomes greyer with depth. Slightly clayier and greyer than 0102.
0111		Ploughsoil. Mid brown loamy silt with occasional stones. Overlay 0108 at northern end of trench.

Trench 02

Grid references N end: 268766.64 / 374801.50 S end: 268766.43 / 374771.43

Size: 30m by 1.9m; *max depth*: 0.86m; *orientation*: N-S

Context number	Depth below surface	Description
0201	0-0.2m	Topsoil. Dark grey brown gritty loam with c.10% small stones.
0202	0.2-0.6m	Ploughsoil/colluvium. Mid brown friable loamy silt with c.25% sub-rounded stones up to 0.1m long.

0203	0.6-0.86m	Lower colluvium. Slightly malleable greyish brown gritty clayey silt with occasional stones up to 0.1m long.
0204	0.3m	Stone fill of probable culvert [0205]. Densely packed stones up to 0.4m long in a dark brown silt matrix with patches of loose sandy gravel.
0205		Cut of probable culvert. Poorly defined in plan but excavation showed a straight, near vertical edge. Filled by 0204.
0206	0.86m +	Natural, glacial deposits. Firm pale grey gritty clay with numerous small rounded stones and one boulder at north end. Patches of manganese oxide.

Trench 03

Grid references N end: 268798.41 / 374795.78 S end: 268776.75 / 374797.16

Size: 21.8m by 1.9m; *max depth*: 0.41m; *orientation*: W-E

Context number	Depth below surface	Description
0301	0-0.14m	Topsoil. Mid grey brown sandy silt with some stone and gravel.
0302	0.14-0.41m	Ploughsoil. Mid brown sandy silt with sub-angular stones and occasional charcoal.
0303	0.14m +	Natural glacial deposit. Mid greyish yellow clay with sub-angular stones and manganese oxide patches. Contains one large boulder that projected through the surface of the ground.
0304	0.22m	Stony layer at E end of trench consisting of medium to large sub-angular stones, forming a rough linear distribution.
0305	0.26m	Remains of a relict field boundary consisting of medium and large sub-rounded stones.

Trench 04

Grid references N end: 268821.96 / 374802.24 S end: 268821.50 / 374772.80

Size: 30m by 1.9m; *max depth*: 0.40m; *orientation*: N-S

Context number	Depth below surface	Description
0401	0-0.2m	Topsoil. Mid grey brown sandy silt with c.30% small stones.
0402	0.2-0.4m	Ploughsoil. Mid grey brown silty clay with c.35% sub-rounded stones.
0403	0.2m	Rough semi-circular arrangement of stones in dark brown loamy silt. Probably of natural origin, but contained a small number of possibly worked pieces of Group VII stone.
0404	0.4m +	Natural glacial deposit. Mid grey gritty clay with c.50% small and medium stones and manganese oxide patches.

Trench 06

Grid references N end: 268815.30 / 374746.00 S end: 268813.40 / 374715.50

Size: 30m by 1.9m; *max depth*: 0.80m; *orientation*: N-S

Context number	Depth below surface	Description
0601	0-0.3m	Topsoil. Mid brown sandy silt with c.35% small and medium stones.

0602	0.3-0.8m	Ploughsoil. Mid brown loamy silt with c.40% sub-rounded and sub-angular stones up to 0.2m long.
0603	0.8m +	Natural glacial deposit. Pale grey gritty clay with c.60% sub-rounded and sub-angular stones up to 0.3m long
0604	0.4m	Burnt patch. Measures 1.0m by 0.7m, 0.2m deep. Composed of loose very dark brown silt, with patches of red-brown and black. Contains slag, lining or hearth base material and charcoal.

Trench 07

Grid references N end: 268772.80 / 374729.60 S end: 268772.90 / 374699.77

Size: 29m by 1.9m; *max depth*: 0.55m; *orientation*: N-S

Context number	Depth below surface	Description
0701	0-0.25m	Topsoil. Mid brown sandy silt with c.25% small and medium stones.
0702	0.25-0.40m	Ploughsoil. Mid brown loamy silt with c.30% sub-rounded and sub-angular stones up to 0.1m long.
0703	0.40m +	Natural glacial deposit. Pale grey sandy clay with numerous stones including boulders up to 0.6m long.

Trench 08

Grid references N end: 268782.60 / 374696.78 S end: 268782.38 / 374666.20

Size: 30m by 1.9m; *max depth*: 0.40m; *orientation*: N-S

Context number	Depth below surface	Description
0801	0-0.15m	Topsoil. Dark brown grey loamy silt with a moderate amount of sub-rounded stones.
0802	0.15-0.30m	Ploughsoil. Mid grey brown loamy silt with numerous stones up to 0.3m long.
0803	0.30m +	Natural glacial deposit. Pale yellowish brown gritty clay with numerous stones from gravel to boulders up to 1.1m long.

Trench 09

Grid references NNW end: 268811.50 / 374685.56 SSE end: 268816.94 / 374636.28

Size: 49.5m by 1.9m; *max depth*: 0.70m; *orientation*: NNW-SSE

Context number	Depth below surface	Description
0901	0-0.30m	Topsoil. Mid and dark greyish brown sandy silt with roots throughout and 30-40% small angular and sub-angular stones.
0902	0.30-0.50m	Ploughsoil. Slightly lighter grey brown clayey sandy silt with 50% stones up to 0.5m long, with a large boulder 0.7m long.
0903	0.50m +	Natural glacial deposit. Pale grey gritty sandy clay with 50% stones up to 0.3m long.
0904		Stone culvert. Composed of large stone forming capstones with smaller stones for the side stones. Other stones within the fill over the capstones. The stones are sub-rounded and sub-angular field stones up to 0.7m long. The culvert was not active and was silted up.

0905		Cut for stone culvert (0904). Straight cut 0.6m wide. Probably vertical sided but not investigated in detail. Upper part of cut unclear but probably cut 0902.

Trench 10

Grid references NW end: 268850.30 / 374677.30 SE end: 268872.17 / 374656.90

Size: 30m by 1.9m; *max depth*: 0.50m; *orientation*: NW-SE

Context number	Depth below surface	Description
1001	0-0.20m	Topsoil. Mid brown sandy silt with 40% small to medium sized stones.
1002	0.20-0.35m	Ploughsoil. Yellowish brown sandy clayey silt with 40% small to medium sized stones.
1003	0.35m +	Natural glacial deposit. Pale light grey gritty sandy clay with 60% mid to large angular and sub-angular stones and one large boulder.

Trench 11

Grid references NE end: 268857.46 / 374703.72 SW end: 268839.16 / 374679.16

Size: 30m by 1.9m; *max depth*: 0.80m; *orientation*: NE-SW

Context number	Depth below surface	Description
1101	0-0.20m	Topsoil. Dark grey brown loamy silt with numerous stones.
1102	0.20-0.80m	Ploughsoil. Soft, loose mid brown loamy silt with numerous small and medium stones and occasional larger stones up to 0.6m long.
1103	0.10m	Dump of stone or collapsed bank. Deposit of stones up to 0.7m long, but with many smaller stones. Matrix of dark grey-brown loamy silt similar to topsoil. The stones are haphazardly dumped and form a low mound in the NE end of the trench.
1104	0.40m	Natural deposit. Soft dark brown silt with numerous stones up to 0.3m long. This rests in a very irregular shallow hollow.
1105	0.80m +	Natural glacial deposit. Pale yellowish brown clayey gravel with numerous stones up to at least 0.5m long. Becomes more red-brown and silty at the surface, especially in the lower SW end of the trench.

Trench 12

Grid references NE end: 268840.30 / 374739.67 SW end: 268827.65 / 374714.40

Size: 28m by 1.9m; *max depth*: 0.50m; *orientation*: NE-SW

Context number	Depth below surface	Description
1201	0-0.25m	Topsoil. Mid brown sandy silt with 30% small to medium sized stones.
1202	0.25-0.40m	Ploughsoil. Mid grey brown sandy clayey silt with 40% small to medium sized stones.
1203	0.40m +	Natural glacial deposit. Yellowish grey gritty clay with fairly large angular and sub-angular stones up to 0.4m long.

Trench 13

Grid references ENE end: 268843.74 / 374748.60 WSW end: 268824.35 / 374743.30

Size: 20m by 1.9m; *max depth*: 0.50m; *orientation*: ENE-WSW

Context number	Depth below surface	Description
1301	0-0.20m	Topsoil. Mid brown sandy silt with 40% small to large sized stones.
1302	0.20-0.30m	Ploughsoil. Mid grey brown sandy clayey silt with small to medium sized stones.
1303	0.30m +	Natural glacial deposit. Pale grey gritty clay with an abundance of sub-angular and rounded boulders throughout.

APPENDIX II

Photographic Register

PHOTO RECORD NUMBER	Site sub-division	DESCRIPTION	Contexts	VIEW FROM	SCALE(S)	CREATOR OF DIGITAL PHOTO	DATE OF CREATION OF DIGITAL PHOTO
G2748_001	Trench 01	Tr01 from S end showing structure 0104	0104	S	1m	Jane Kenney	17/10/2022
G2748_002	Trench 01	Structure 0104 (culvert backfill)	0104	S	1m	Jane Kenney	17/10/2022
G2748_003	Trench 01	Structure 0104 (culvert backfill)	0104	S	1m	Jane Kenney	17/10/2022
G2748_004	Trench 01	Structure 0104 (culvert backfill)	0104	W	1m	Jane Kenney	17/10/2022
G2748_005	Trench 01	Structure 0104 (culvert backfill)	0104	E	1m	Jane Kenney	17/10/2022
G2748_006	Trench 01	W facing section S of structure 0104	0101, 0102, 0103, 0104, 0105	W	1m	Jane Kenney	17/10/2022
G2748_007	Trench 01	W facing section S of structure 0104	0101, 0102, 0103, 0104, 0105	W	1m	Jane Kenney	17/10/2022
G2748_008	Trench 01	W facing section N of structure 0104	0101, 0102, 0106	W	1m	Jane Kenney	17/10/2022
G2748_009	Trench 04	Representative section of Tr04	0401, 0402, 0404	E	1m	Michael Lynes	17/10/2022
G2748_010	Trench 04	View of natural stone accumulation (0403) in Tr04 from the N	0403, 0404	N	2x1m	Michael Lynes	17/10/2022
G2748_011	Trench 04	View of natural stone accumulation (0403) in Tr04 from the N	0403, 0404	N	1m	Michael Lynes	17/10/2022
G2748_012	Trench 04	View of natural stone accumulation (0403) in Tr04 from the N	0403, 0404	N	1m	Michael Lynes	17/10/2022
G2748_013	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	S	2x1m	Michael Lynes	17/10/2022
G2748_014	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	S	1m	Jane Kenney	18/10/2022
G2748_015	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	S	1m	Jane Kenney	18/10/2022
G2748_016	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	S	1m	Jane Kenney	18/10/2022
G2748_017	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	N	1m	Jane Kenney	18/10/2022
G2748_018	Trench 04	View of natural stone accumulation (0403) in Tr04 from the S	0403, 0404	N	1m	Jane Kenney	18/10/2022
G2748_019	Trench 02	Part of the base of Tr02 cleaned showing natural (0206)	0206	N	1m	Jane Kenney	18/10/2022
G2748_020	Trench 04	Part of the base of Tr02 cleaned showing natural (0206)	0206	N	1m	Jane Kenney	18/10/2022
G2748_021	Trench 04	Tr04 fully excavated from N with a land drain	0404	N	1m	Jane Kenney	18/10/2022
G2748_022	Trench 04	Tr04 fully excavated from N with a land drain	0404	N	1m	Jane Kenney	18/10/2022
G2748_023	Trench 04	Tr04 fully excavated from S (view from N of 0403)	0404	S	1m	Jane Kenney	18/10/2022

G2748_024	Trench 02	Tr02 fully excavated and cleaned with large boulder	0206	N	1m	Jane Kenney	18/10/2022
G2748_025	Trench 02	Tr02 fully excavated and cleaned with large boulder	0206	N	1m	Jane Kenney	18/10/2022
G2748_026	Trench 02	Tr02 fully excavated and cleaned with large boulder	0206	N	1m	Jane Kenney	18/10/2022
G2748_027	Trench 02	Tr02 fully excavated from the S	0202, 0204, 0206	S	1m	Jane Kenney	18/10/2022
G2748_028	Trench 02	Tr02 fully excavated from the S	0202, 0204, 0206	S	1m	Jane Kenney	18/10/2022
G2748_029	Trench 02	Part of Tr02 fully excavated showing close-up of natural 0206	0206	S	1m	Jane Kenney	18/10/2022
G2748_030	Trench 02	Stone deposit 0204 (board incorrect)	0202, 0204	W	1m	Jane Kenney	18/10/2022
G2748_031	Trench 02	Stone deposit 0204 (board incorrect)	0202, 0204	E	1m	Jane Kenney	18/10/2022
G2748_032	Trench 02	Stone deposit 0204 (board incorrect)	0202, 0204	N	1m	Jane Kenney	18/10/2022
G2748_033	Trench 02	Stone deposit 0204 (board incorrect)	0202, 0204	N	1m	Jane Kenney	18/10/2022
G2748_034	Trench 02	Representative section of Tr02, W facing	0201, 0202, 0203, 0206	W	1m	Jane Kenney	18/10/2022
G2748_035	Trench 04	Land drain in N end of Tr04	0404, land drain	S	1m	Jane Kenney	18/10/2022
G2748_036	Trench 04	Land drain in N end of Tr04	0404, land drain	E	1m	Jane Kenney	18/10/2022
G2748_037	Trench 04	Close-up of natural 0404 in Tr04	0404	S	1m	Jane Kenney	18/10/2022
G2748_038	Trench 04	Sondage cut into 0403 at south end of the trench	0403	W	1m	Bethan Jones	19/10/2022
G2748_039	Trench 04	Sondage cut into 0403 at south end of the trench	0403	W	1m	Bethan Jones	19/10/2022
G2748_040	Trench 04	Sondage cut into 0403 at south end of the trench	0403	E	1m	Bethan Jones	19/10/2022
G2748_041	Trench 04	Sondage cut into 0403 at south end of the trench	0403	N	2x1m	Bethan Jones	19/10/2022
G2748_042	Trench 01	W facing section of N end of Tr01, showing 0108	0101, 0102, 0108, 0110	SW	2x1m	Jane Kenney	19/10/2022
G2748_043	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_044	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_045	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_046	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_047	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_048	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022

G2748_049	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_050	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_051	Trench 01	W facing section of N end of Tr01 in 1m segments, showing 0108	0101, 0102, 0108, 0110	W	2x1m	Jane Kenney	19/10/2022
G2748_052	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	E	2x1m	Jane Kenney	20/10/2022
G2748_053	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	E	2x1m	Jane Kenney	20/10/2022
G2748_054	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	NE	2x1m	Jane Kenney	20/10/2022
G2748_055	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	SE	2x1m	Jane Kenney	20/10/2022
G2748_056	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	W	2x1m	Jane Kenney	20/10/2022
G2748_057	Trench 01	"Metalled surface" (0107) and stone deposit in Tr01 in plan	0107, 0108	SW	2x1m	Jane Kenney	20/10/2022
G2748_058	Trench 01	W facing section in Tr01. Deepest section of the ploughsoil (0102)	0101, 0102, 0106	W	2x1m	Jane Kenney	20/10/2022
G2748_059	Trench 01	Natural (0106) at N end of Tr01	0106	S	1m	Jane Kenney	20/10/2022
G2748_060	Trench 01	Natural (0106) at N end of Tr01	0106	S	1m	Jane Kenney	20/10/2022
G2748_061	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_062	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_063	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_064	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_065	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_066	Trench 01	W facing section of the middle part of Tr01 in 1m segments from N to S	0101, 0102, 0106, 0108, 0110	W	2x1m	Jane Kenney	21/10/2022
G2748_067	Trench 01	Working shot of Tr01 showing the depth of the trench		S		Jane Kenney	21/10/2022
G2748_068	Trench 03	View of Tr03 after stripping ploughsoil	0303, 0304, 0305	W	1m	Bethan Jones	21/10/2022
G2748_069	Trench 03	View of Tr03 after stripping ploughsoil	0303, 0304, 0305	E	1m	Bethan Jones	21/10/2022
G2748_070	Trench 03	Stony layer (0304) at E end of Tr03	0304	W	1m	Bethan Jones	21/10/2022
G2748_071	Trench 03	Stony layer (0304) at E end of Tr03	0304	N	1m	Bethan Jones	21/10/2022
G2748_072	Trench 03	Remnants of field boundary 0305 in Tr03	0305	W	1m	Bethan Jones	21/10/2022

G2748_073	Trench 03	Remnants of field boundary 0305 in Tr03	0305	S	1m	Bethan Jones	21/10/2022
G2748_074	Trench 03	Remnants of field boundary 0305 in Tr03	0305	E	1m	Bethan Jones	21/10/2022
G2748_075	Trench 03	Stony layer (0304) at E end of Tr03	0304	N	1m	Bethan Jones	21/10/2022
G2748_076	Trench 03	S facing section of Tr03 where it crosses boundary 0305 (dwg 02)	0301, 0302, 0303, 0305	S	1m	Bethan Jones	21/10/2022
G2748_077	Trenches 12 and 13	Field containing trenches 12 and 13 before excavation		NE		Jane Kenney	24/10/2022
G2748_078	Trench 06	Field containing trench 06 before excavation		N		Jane Kenney	24/10/2022
G2748_079	Trench 04	Tr04 after backfilling		S		Jane Kenney	24/10/2022
G2748_080	Trench 03	Tr03 after backfilling		E		Jane Kenney	24/10/2022
G2748_081	Trench 03	Tr03 after backfilling		WNW		Jane Kenney	24/10/2022
G2748_082	Trench 02	Tr02 after backfilling		ESE		Jane Kenney	24/10/2022
G2748_083	Trench 01	Tr01 after backfilling		NNE		Jane Kenney	24/10/2022
G2748_084	Trench 12	Representative section of Tr12	1201, 1202, 1203	SE	1m	Michael Lynes	24/10/2022
G2748_085	Trench 12	Tr12 fully excavated from SW	1203	SW	2x1m	Michael Lynes	24/10/2022
G2748_086	Trench 12	Tr12 fully excavated from NE	1203	NE	2x1m	Michael Lynes	24/10/2022
G2748_087	Trench 13	Tr13 fully excavated from ENE	1303	ENE	2x1m	Michael Lynes	24/10/2022
G2748_088	Trench 13	Tr13 fully excavated from WSW	1303	WSW	2x1m	Michael Lynes	24/10/2022
G2748_089	Trench 13	NNE facing representative section of Tr13	1301, 1302, 1303	NNE	1m	Michael Lynes	24/10/2022
G2748_090	Trench 13	NNE facing representative section of Tr13	1301, 1302, 1303	NNE	1m	Michael Lynes	24/10/2022
G2748_091	Trench 06	Tr06 fully excavated from S	0603	S	2x1m	Michael Lynes	24/10/2022
G2748_092	Trench 06	Tr06 fully excavated from N	0603	N	2x1m	Michael Lynes	24/10/2022
G2748_093	Trench 06	W facing representative section of Tr06	0601, 0602, 0603	W	1m	Michael Lynes	24/10/2022
G2748_094	Trench 06	Pre-ex view of burnt patch (0604)	0604	E	1m	Michael Lynes	24/10/2022
G2748_095	Trenches 10 and 11	Area of Trenches 10 and 11 before excavation		N		Jane Kenney	24/10/2022
G2748_096	Trench 06	General overview of feature 0604, half sectioned	0604	W	1m	Michael Lynes	24/10/2022
G2748_097	Trench 06	N facing section of burnt patch 0604	0604	N	1m	Michael Lynes	24/10/2022
G2748_098	Trench 06	W facing section of burnt patch 0604 in baulk section	0604	W	1m	Michael Lynes	24/10/2022
G2748_099	Trench 10	Post-ex view of Tr10 from NW	1003	NW	2x1m	Michael Lynes	24/10/2022
G2748_100	Trench 10	Post-ex view of Tr10 from SE	1003	SE	2x1m	Michael Lynes	24/10/2022

G2748_101	Trench 10	SW facing representative section of Tr10	1001, 1002, 1003	SW	1m	Michael Lynes	24/10/2022
G2748_102	Trenches 7, 8 and 9	View of field before excavation showing locations of trenches 07, 08 and 09		SE		Michael Lynes	25/10/2022
G2748_103	Trenches 7, 8 and 9	View of field before excavation showing locations of trenches 07, 08 and 09		NW		Michael Lynes	25/10/2022
G2748_104	Trench 07	Post-ex view of Tr07 from N	0703	N	2x1m	Michael Lynes	25/10/2022
G2748_105	Trench 07	Post-ex view of Tr07 from S	0703	S	2x1m	Michael Lynes	25/10/2022
G2748_106		Field boundary between trenches 06 and 09, showing height of lynchet			1m	Jane Kenney	25/10/2022
G2748_107		Pretty sloes in field boundary				Jane Kenney	25/10/2022
G2748_108		Field boundary with ash trees, showing height of lynchet			1m	Jane Kenney	25/10/2022
G2748_109		Field boundary with ash trees, showing height of lynchet			1m	Jane Kenney	25/10/2022
G2748_110	Trench 11	Post-ex view of Tr11 from SW	1105	SW	1m	Jane Kenney	25/10/2022
G2748_111	Trench 11	Post-ex view of Tr11 from SW	1105	SW	1m	Jane Kenney	25/10/2022
G2748_112	Trench 11	Land drain running across Tr11	1105, land drain	SE	1m	Jane Kenney	25/10/2022
G2748_113	Trench 11	Post-ex view of Tr11 from NE	1103, 1104, 1105	NE	1m	Jane Kenney	25/10/2022
G2748_114	Trench 11	Stone "bank" (1103) in NE end of Tr11	1103	NE	1m	Jane Kenney	25/10/2022
G2748_115	Trench 11	Stone "bank" (1103) in NE end of Tr11	1103	NE	1m	Jane Kenney	25/10/2022
G2748_116	Trench 11	Stone "bank" (1103) in NE end of Tr11	1103	NW	1m	Jane Kenney	25/10/2022
G2748_117	Trench 11	Stone "bank" (1103) in NE end of Tr11	1103	SW	1m	Jane Kenney	25/10/2022
G2748_118	Trench 11	Stone "bank" (1103) in NE end of Tr11	1103	S	1m	Jane Kenney	25/10/2022
G2748_119	Trench 11	Natural stony patch 1104	1104	NE	1m	Jane Kenney	25/10/2022
G2748_120	Trench 11	Natural stony patch 1104	1104	SE	1m	Jane Kenney	25/10/2022
G2748_121	Trench 11	SE facing section across 1103 and 1104	1103, 1104, 1105	SE	1m	Jane Kenney	25/10/2022
G2748_122	Trench 11	SE facing section across 1103 and 1104	1103, 1104, 1105	SE	1m	Jane Kenney	25/10/2022
G2748_123	Trench 07	W facing representative section of Tr07	0701, 0702, 0703	W	1m	Michael Lynes	25/10/2022
G2748_124	Trench 09	Post-ex view of Tr09 from S		S	2x1m	Michael Lynes	25/10/2022
G2748_125	Trench 09	Post-ex view of Tr09 from N		N	2x1m	Michael Lynes	25/10/2022
G2748_126	Trench 11	SE facing representative section at SW end of Tr11	1101, 1102, 1105	SE	2x1m	Jane Kenney	25/10/2022
G2748_127	Trench 08	Post-ex view of Tr08 from S	0803	S	1m	Jane Kenney	26/10/2022
G2748_128	Trench 08	Post-ex view of Tr08 from N	0803	N	1m	Jane Kenney	26/10/2022

G2748_129	Trench 08	Post-ex view of Tr08 from N	0803	N	1m	Jane Kenney	26/10/2022
G2748_130	Trench 08	Two large boulders in Tr8	0803	W	1m	Jane Kenney	26/10/2022
G2748_131	Trench 08	Land drain in Tr08	0803, land drain	W	1m	Jane Kenney	26/10/2022
G2748_132	Trench 09	Stone culvert 0904 in Tr09	0904	S	1m	Michael Lynes	26/10/2022
G2748_133	Trench 09	Stone culvert 0904 in Tr09	0904	W	1m	Michael Lynes	26/10/2022
G2748_134	Trench 08	W facing representative section of Tr08, showing where trench cuts "furrow"	0801, 0802, 0803	W	1m	Jane Kenney	26/10/2022
G2748_135	Trench 07	Land drain/sump with small stones in Tr07	0702, land drain	E	1m	Jane Kenney	26/10/2022
G2748_136	Trench 07	Land drain/sump with small stones in Tr07	0702, land drain	W	1m	Jane Kenney	26/10/2022
G2748_137	Trench 09	E facing representative section of Tr09	0901, 0902, 0903	E	1m	Michael Lynes	26/10/2022
G2748_138	Trenches 12 and 13	Trenches 12 and 13 backfilled		NE		Jane Kenney	26/10/2022
G2748_139	Trench 06	Trench 06 backfilled		N		Jane Kenney	26/10/2022
G2748_140	Trench 05	Field where trench 05 would have been located showing where electricity cable goes underground		E		Jane Kenney	26/10/2022
G2748_141		Roundhouse in Gwern y Plas settlement		NW	1m	Jane Kenney	26/10/2022
G2748_142		Roundhouse in Gwern y Plas settlement		NW	1m	Jane Kenney	26/10/2022
G2748_143		Paddock/enclosure bank in Gwern y Plas settlement		NNW	1m	Jane Kenney	26/10/2022
G2748_144		Old oak tree growing in Gwern y Plas settlement		W		Jane Kenney	26/10/2022

APPENDIX III

Updated Selection Strategy

Project Information

Project Management

Project Manager	John Roberts john.roberts @heneb.co.uk	
Archaeological Archive Manager	John Roberts john.roberts @heneb.co.uk	
Organisation	Gwynedd Archaeological Trust	
Stakeholders		**Date Contacted**
Collecting Institution(s)	GAT Historic Environment Record	10/10/2022
	RCAHMW	On completion of Project Archive
	Storiel, Ffordd Gwynedd, Bangor, Gwynedd, LL57 1DT	If applicable, post-fieldwork based on artefact recovery
Project Lead / Project Assurance	Gwynedd Archaeological Planning Services	13/10/2022
Landowner / Developer	JAT Construction Ltd	Contact via client

Resources

Resources required Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.	No unusual resources required outside of GAT normal operating equipment and personnel.

Context

Describe below the context of this Selection Strategy. You should refer to:

- The aims and objectives of the project;
- Local Authority guidance (including the brief);

- Research Frameworks;
- The repository collection development policy and/or deposition policy;
- Material-specific guidance documents.

Note: This section may be copied from your Project Design/WSI to ensure all Stakeholders receive this context information.

The full aims and objectives of this project are detailed in the project specific WSI.

Gwynedd Archaeological Trust (GAT) has been asked by *JAT Construction Ltd* to undertake an archaeological evaluation (trial trenching) in advance of a small-scale housing development on land near Gorwel, Llanfairfechan, Conwy (centred on NGR SH 6880 7470; nearest post code LL33 ODP) (Figure 1). The proposed development area measures approximately 2.17 hectares and covers several small pasture fields on the eastern side of Llanfairfechan, adjacent to the Gorwel housing estate. The evaluation is part of pre-planning investigation work. An archaeological desk-based assessment was produced by L-P: Archaeology in April 2021 (Matthews and Ellis 2021) and a geophysical survey was produced by L-P: Archaeology in May 2022 (Matthews 2022), both covering the development area. The current evaluation will comprise 13 trenches that will investigate the results of the geophysical survey. The trenching will start on 17th October 2022 and is predicted to take 10 days, but this will depend on the complexity of the archaeology found.

Source: Gwynedd Archaeological Trust. 2022. Gorwel, Llanfairfechan: Written Scheme of Investigation for Archaeological Evaluation (Trial Trenching). Prepared For JAT Construction Ltd. October 2022. Project G2748.

1 – Digital Data

Stakeholders

Name the individual(s) responsible for the Digital Data Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Collections Curator).

John Roberts (GAT Principal Archaeologist)

Selection

Location of Data Management Plan (DMP)

Selection of digital data elements should be considered in your project's DMP. For the purpose of the Selection Strategy, you can either copy the selection section of your DMP below, or attach it as an appendix to this document. Please indicate here if the DMP is attached.

All digital data has been collected, stored and selected in lines with the Gwynedd Archaeological Trust (GAT) Data Management Plan located on GAT's servers (available on request).

Following the completion of the fieldwork, a working project archive has been created based on following task list;

9. Pro-formas: all cross referenced and complete;
10. Photographic Metadata: completed in *Microsoft Excel* and cross-referenced with all pro-formas;
11. Survey data: downloaded using a Computer Aided Design package, with explanatory technical document;

12. Sections: all cross referenced and complete;
13. Plans: produced from orthomosaics (photographs and target coordinates included in archive, as well as drawing files used to create plans from orthmosaics;
14. Context register: quantified and register completed.

All relevant site archive data has been added to a digital project register specific to this project, which has been prepared in *Microsoft Excel.* This data has been used as the basis for the physical and digital dataset archives. Information from these has been used to compile the project report. The physical archive has been stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset has been stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below.

De-Selected Digital Data

Agisoft Metashape files as these are not currently a supported archive format.
Files forming earlier versions of finished illustrations except for those including orthomosaics.
Client data.
Email communications.

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Sean Derby – Historic Environment Record, Gwynedd Archaeological Trust;
Gareth Edwards, *Head of Knowledge and Understanding, RCAHMW*

Selection

The paper archive includes:

- Day record sheets;
- Photo record sheets;
- Trench sheets;
- Context sheets;
- Drawing record sheet;
- Sample record sheet;
- 4 Permatrace sheets of hand drawings.

These will be retained by GAT and if further work is carried out on the site they are to be included with the final archive.

De-Selected Documents

Describe the procedure for dealing with De-selected material and what specialist advice has informed this procedure.

There is no de-selected data

3 – Materials

Note: This step should be completed for each material component of the archaeological archive. Copy this table for the various materials as required, providing the 'Material Type' and a section identifier (eg. '3.1') for each.

Material type	Finds	**Section 3.**	1

Stakeholders

Name the individual(s) responsible for the Materials Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Tom Fildes –Planning Archaeologist, Gwynedd Archaeological Planning Service;
Landowner

Selection

Describe your Selection Strategy for each material type and or object type. To do this you must:

1.1 State the Selection Strategy you are applying to each category of material, how this will be done, and why.
1.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
1.3 Reference all relevant standards, policies or guidelines (e.g. thematic, period, and regional, Research Frameworks, repository deposition policies) and specialist advice sought.
1.4 Identify any selection decisions that differ from standard guidelines and explain why.

The Materials Selection Template may be useful in structuring this section.

Group VII stone objects to be retained by GAT with site paper archive. If further work is carried out on the site, they are to be included with the final archive.

Post-medieval and modern pottery not collected.

Uncollected Material

If you are practicing selection in the field, describe the process that will be applied. To do this you must:

- Detail how you will characterise, quantify and record all uncollected material on site.
- Explain how you will dispose of, or re-distribute, uncollected material.

Selection in the field of post-medieval and modern pottery. Occasional sherds from the topsoil not collected or recorded in detail.
Any uncollected material will be left on-site to be incorporated into backfill.

De-Selected Material

Describe what you will do with the de-selected material. All processed material should have been adequately recorded before de-selection.

Post-medieval and modern pottery de-selected and not collected unless of archaeological significance.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

Material type	Bulk soil sample	Section 3.	2

Stakeholders

Name the individual(s) responsible for the Materials Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Tom Fildes –Planning Archaeologist, Gwynedd Archaeological Planning Service;
Landowner

Selection

Describe your Selection Strategy for each material type and or object type. To do this you must:

2.1 State the Selection Strategy you are applying to each category of material, how this will be done, and why.
2.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
2.3 Reference all relevant standards, policies or guidelines (e.g. thematic, period, and regional, Research Frameworks, repository deposition policies) and specialist advice sought.
2.4 Identify any selection decisions that differ from standard guidelines and explain why.

The Materials Selection Template may be useful in structuring this section.

The bulk soil sample is to be retained by GAT until a decision is made on whether to process and analyse the sample. If it is not to be processed it will be discarded.

Uncollected Material

If you are practicing selection in the field, describe the process that will be applied. To do this you must:

- Detail how you will characterise, quantify and record all uncollected material on site.
- Explain how you will dispose of, or re-distribute, uncollected material.

De-Selected Material

Describe what you will do with the de-selected material. All processed material should have been adequately recorded before de-selection.

If the sample is to be discarded it will be disposed of in the GAT garden or in a skip.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

Materials Selection Template

This table may be inserted into Section 3 of the main Selection Strategy Template to help present differing selection strategies for different material types

Find Type	Selection Strategy	Stakeholders	Review Points

APPENDIX IV

Radiocarbon certificates

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

RADIOCARBON DATING CERTIFICATE

24 April 2023

Laboratory Code	SUERC-109264 (GU63726)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference	G2748 Gorwel, Llanfairfechan
Context Reference	0604 - Hearth/area of burning
Sample Reference	G2748-01A
Material	Charcoal (not heartwood) : Oak
$\delta^{13}C$ relative to VPDB	-25.4 ‰
Radiocarbon Age BP	145 ± 26

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

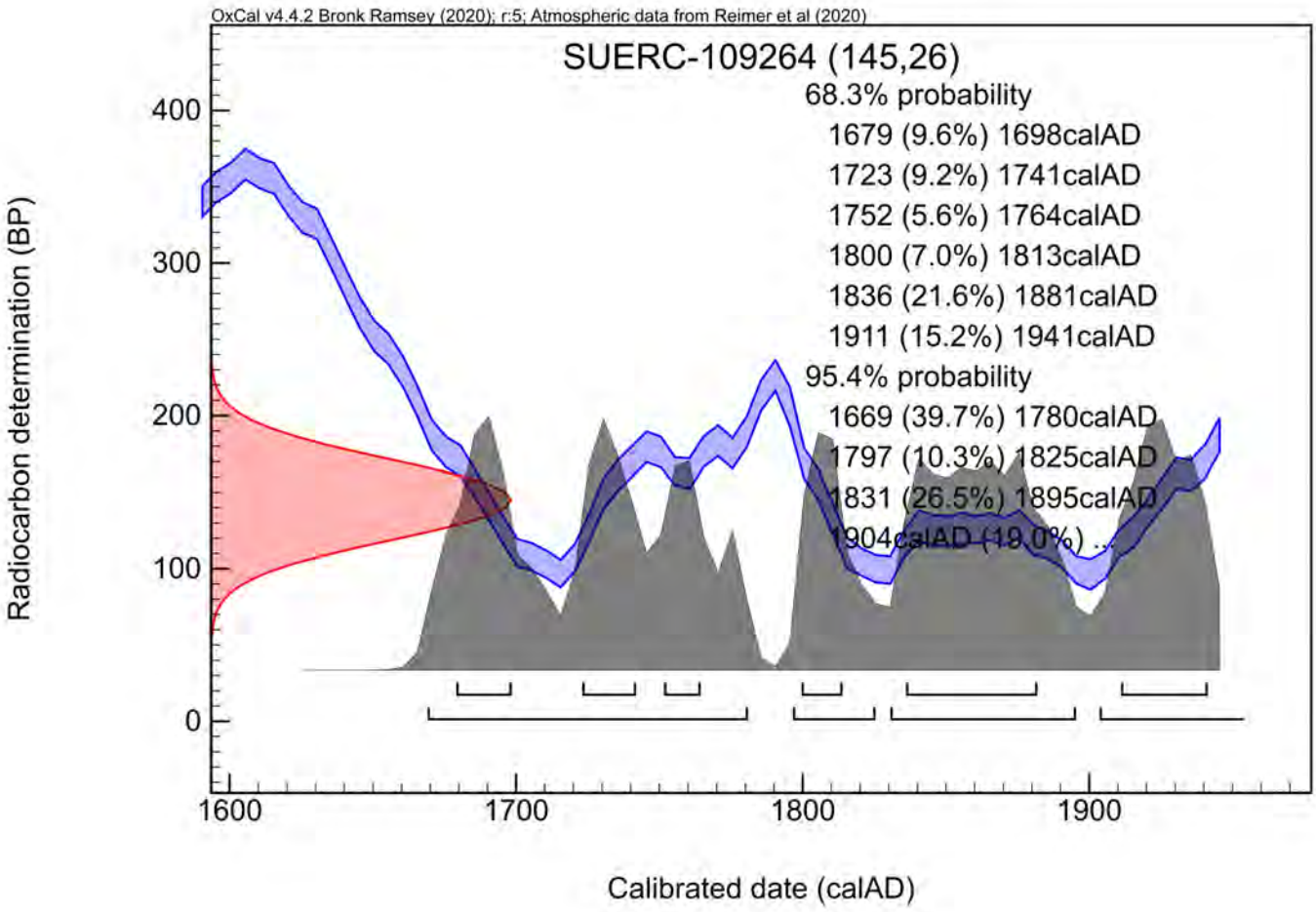
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

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

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

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

RADIOCARBON DATING CERTIFICATE

24 April 2023

Laboratory Code	SUERC-109265 (GU63727)
Submitter	Jane Kenney Gwynedd Archaeological Trust Craig Beuno Ffordd y Garth Bangor Gwynedd LL57 2RT
Site Reference	G2748 Gorwel, Llanfairfechan
Context Reference	0604 - Hearth/area of burning
Sample Reference	G2748-01B
Material	Charcoal (not heartwood) : Oak
$\delta^{13}C$ relative to VPDB	-25.5 ‰
Radiocarbon Age BP	125 ± 26

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

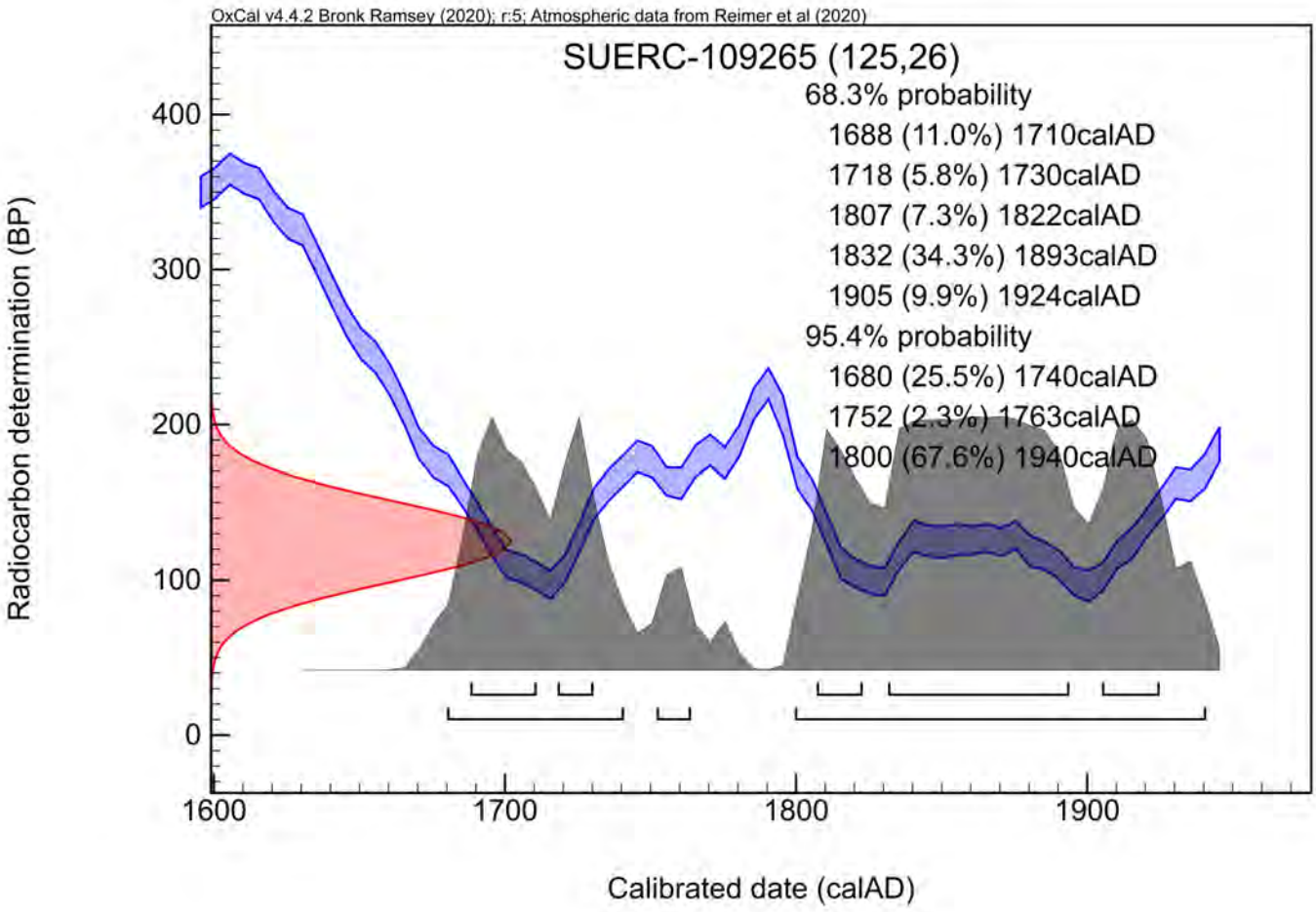
Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Laboratory and should be quoted as such in any reports within the scientific literature. The laboratory GU coding should also be given in parentheses after the SUERC code.

Detailed descriptions of the methods employed by the SUERC Radiocarbon Laboratory can be found in Dunbar et al. (2016) *Radiocarbon 58(1) pp.9-23.*

For any queries relating to this certificate, the laboratory can be contacted at suerc-c14lab@glasgow.ac.uk.

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

Checked and signed off by :



The radiocarbon age given overleaf is calibrated to the calendar timescale using the Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.*

The above date ranges have been calibrated using the IntCal20 atmospheric calibration curve†

Please contact the laboratory if you wish to discuss this further.

* Bronk Ramsey (2009) *Radiocarbon 51(1) pp.337-60*
† Reimer et al. (2020) *Radiocarbon 62(4) pp.725-57*

APPENDIX V

Written Scheme of Investigation

LAND NEAR GORWEL, LLANFAIRFECHAN, CONWY (G2748)

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION (TRIAL TRENCHING)

Prepared for *JAT Construction Ltd*, October 2022

CONTENTS

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been asked by *JAT Construction Ltd* to undertake an archaeological evaluation (trial trenching) in advance of a small-scale housing development on land near Gorwel, Llanfairfechan, Conwy (centred on NGR SH 6880 7470; nearest post code LL33 ODP) (Figure 1). The proposed development area measures approximately 2.17 hectares and covers several small pasture fields on the eastern side of Llanfairfechan, adjacent to the Gorwel housing estate. The evaluation is part of pre-planning investigation work. An archaeological desk-based assessment was produced by L-P: Archaeology in April 2021 (Matthews and Ellis 2021) and a geophysical survey was produced by L-P: Archaeology in May 2022 (Matthews 2022), both covering the development area. The current evaluation will comprise 13 trenches that will investigate the results of the geophysical survey. The trenching will start on 17th October 2022 and is predicted to take 10 days, but this will depend on the complexity of the archaeology found. The trenching is to be undertaken in accordance with the following guidelines:

- Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1 (The Welsh Archaeological Trusts, 2018);
- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard and Guidance for Archaeological Field Evaluation (Chartered Institute for Archaeologists, 2020);
- Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2020); and
- Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives (Chartered Institute for Archaeologists, 2020).

GAT is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/B/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists.

1.1. Aims & Objectives

The aims and objectives are to:

- establish the date and nature of any archaeological remains identified within the evaluation area and assess their implications for understanding local historical development, in conjunction with the known archaeological record. The proposed development is located within the North Arllechwedd Registered Landscape of Outstanding Historic Interest (HLW (Gw) 12) and is located east of the village of Llanfairfechan in a landscape rich in prehistoric and later archaeological sites;
- if no additional archaeological activity is identified, establish why this may be the case; and
- to place the results in context, reference shall be made to *A Research Framework for the Archaeology of Wales*.

1.2. Monitoring Arrangements

The archaeological evaluation will be monitored by the Gwynedd archaeological Planning Service (GAPS); the content of this WSI and all subsequent reporting by GAT must be approved by GAPS prior to final issue.

1.3. Historic Environment Record

In line with the Gwynedd Historic Environment Record (HER) requirements, the HER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2018). The HER will be informed of the project start date, location including grid reference, estimated timescale for the work, and further relevant information associated with the project.

The GAT HER Enquiry Number for this project is **GATHER1720** and the Event PRN is **46320**. The GAT HER will also be responsible for supplying Primary Reference Numbers (PRN) for any new assets identified and recorded.

Prior to submission of data to the HER, a bilingual event summary document will be prepared in *Microsoft Word* based on the format defined in section 4.2 of *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1. Archaeological and historical sites in the area

The proposed development is located to the east of the village of Llanfairfechan, adjacent to the Gorwel housing estate (Figure 1). It lies across a west facing slope ranging from about 110m OD in the east down to about 90m OD in the west. Most of the fields are bounded by stone walls and the irregular and curving lines of some of these field boundaries suggest they may of ancient origin. A public footpath crosses the northern end of the site, and this is shown as a footpath on the 1889 first edition OS County Series map, leading from the village to Tyddyn Drain.

The field walk-over survey identified a raised linear feature running through the centre of the northern field, identified as probably a field boundary shown on the 1848 Tithe map. Also noted was a slight depression on the western side of the site.

While there are no archaeological sites recorded within the development area the site is situated within a landscape rich in archaeological remains (Figure 1). Of particular significance are the Neolithic sites and finds made in the area. Rock outcrops and screes around Llanfairfechan were used as a source of stone for polished stone axeheads in the Neolithic period. Axeheads from this source were distributed across England and Wales and this is one of the most important sources for axeheads in Britain. Work being undertaken by GAT has shown that evidence for axe-working is much more widely distributed across the landscape than was previously thought and working areas away from the stone sources have been discovered. The nearest stone source to the present site is on Ffridd Tan y Graig (PRN 67330) about 220m to the north-west, but the screes used to make the axeheads almost certainly extended further down the hillslope under the present fields. Local residents have found axe roughouts built into field walls in many places around Llanfairfechan and one (PRN 67641) was recorded from a wall near Ty'n Drain Farm, just outside the development area. It is possible that roughouts remain in other walls within the development area and it is very likely that evidence of axe-working will be found within the ground in the development area.

A number of Bronze Age cists and burial mounds are found in the surrounding area, with the nearest being on Ty'n Llwyfan Farm (PRN 67334). This was opened in 1885 and contained two cists with calcined bones and pottery fragments. A Bronze Age stone axe hammer (PRN 67782) and possibly late Neolithic perforated stone axe hammer (PRN4078) have been found within the area.

The area around Llanfairfechan is rich in Iron Age and Roman period sites, including the hill fort on Dinas (PRN 392, SAM CN049) and the large hillfort of Braich y Dinas formerly on Penmaenmawr Mountain (PRN 712), but quarried away in the early 20th century. There are numerous remains of agricultural field systems and enclosed hut groups including, to the east of the site, irregular fields around Gerlan (PRN 15815), probably originally prehistoric in origin. Many of the irregular fields around and above the village, including some adjacent to and within the development area are probably Iron Age in origin. An extensive area of fields and roundhouse settlements on the northern and eastern slopes of Garreg Fawr is scheduled (Scheduled monument CN185) and the Pont y Teiryd hut group and ancient fields (Scheduled monument CN184, PRN 252) are scheduled on the eastern side of Garreg Fawr. A roundhouse settlement with contemporary paddocks is also scheduled to the west of Llanfairfechan near Wern Newydd (Scheduled monument CN250, PRN 257). Immediately adjacent to the development site is the scheduled roundhouse settlement of Gwern y Plas (Scheduled monument CN072, PRN 255) containing an unenclosed group of 19 huts, with a further possible hut circle at Tyddyn Drain (PRN 31690).

Some of the roundhouse settlements were probably used into the Roman period and the Roman road to Segontium (Caernarfon) ran across the hills crossing the south-eastern shoulder of Garreg Fawr (PRN 17569). A Roman coin hoard (PRN 4096) has also been recorded to the northeast of the site at the foot of Penmaenmawr mountain.

The desk-based assessment (Matthews and Ellis 2021) found little medieval archaeology recorded in the search area, but about 330m to the southwest of the site are the remains of three Early Medieval long huts (PRN 373), with partially surviving field walls. There are other long huts within CN185 and to the east of Dinas, and it is possible that there were some amongst the fields with ancient irregular boundaries around the development site, but their above ground remains have been removed.

The desk-based assessment (Matthews and Ellis 2021) found that the majority of Llanfairfechan parish of was owned by the Bulkeley family of Baron Hill in the 16th century, and the estate was bought by Solicitor Richard Luck in 1856. Richard Luck and partner John Platt transformed the topography of Llanfairfechan into an estate townscape, with a new road layout, church and railway station (PRN 15814). There are numerous grade II listed buildings in the village, many of which are houses designed by Herbert Luck North, grandson of Richard Luck. Remains relating to the Penmaenmawr Quarry can be found to the north-east of the development site, but most post-medieval features close to the site are related to the neighbouring farms. The desk-based assessment (Matthews and Ellis 2021) looked at the

historic mapping for the development area and found that the field boundaries within that area have changed very little since the Llanfairfechan parish tithe map of 1848.

2.2. Geophysical Survey

A geophysical magnetometer survey of the proposed development site was carried out by L-P: Archaeology in May 2022 (Matthews 2022). The presence of igneous rock across the site caused significant magnetic noise and made the results of the survey less clear than would otherwise be expected. The survey identified a 15m diameter weak circular disturbance situated on a slight platform overlooking the scheduled area to the west. This is potentially related to the scheduled roundhouse settlement. Other features include cultivation features, such as drains, but also remains of probable former field boundaries.

3 METHODOLOGY

3.1. Trial Trenching

The trial trenching programme aims to identify and characterise the archaeological potential of the development area.

The evaluation will comprise 13 trial trenches, varying in size from 20m by 2m to 50m by 2m. These have been positioned to characterise the archaeological potential of the development area and to investigate geophysical anomalies, but also to avoid live services (Figure 02). Locations for trenches were recommended by L-P: Archaeology. The precise positions of these have been altered to avoid overhead and underground high voltage cables.

Trench	Start (OSGB m E/N)	End (OSGB m E/N)	Orientation	Length (m)	Rationale
TR01	268754.86 / 374801.15	268755.06 / 374770.87	N-S	30m by 2m	Targets geophysical survey anomalies
TR02	268766.19 / 374801.30	268766.39 / 374771.02	N-S	30m by 2m	Targets semi-circular geophysical survey anomaly
TR03	268786.14 / 374812.79	268786.34 / 374782.46	N-S	30m by 2m	Targets geophysical survey anomalies
TR04	268821.74 / 374802.80	268820.84 / 374772.82	N-S	30m by 2m	Targets geophysical survey anomaly
TR05	268770.40 / 374755.23	268796.38 / 374740.09	NW-SE	30m by 2m	Targets geophysical survey anomalies
TR06	268814.17 / 374746.30	268812.77 / 374716.23	N-S	30m by 2m	Targets geophysical survey anomalies
TR07	268772.51 / 374730.11	268772.86 / 374699.68	N-S	30m by 2m	Targets geophysical survey anomalies
TR08	268781.88 / 374696.57	268782.28 / 374666.19	N-S	30m by 2m	Targets geophysical survey anomalies
TR09	268811.06 / 374686.00	268816.97 / 374636.21	NNW-SSE	50m by 2m	Targets geophysical survey anomalies
TR10	268849.91 / 374677.17	268872.17 / 374656.77	NW-SE	30m by 2m	Targets geophysical survey anomalies
TR11	268858.74 / 374702.64	268838.99 / 374679.03	NE-SW	30m by 2m	Targets geophysical survey anomaly and blank area
TR12	268842.05 / 374739.74	268826.40 / 374713.37	NE-SW	30m by 2m	Targets geophysical survey anomalies

TR13	268843.65 / 374747.81	268824.05 / 374743.25	WSW-ENE	20m by 2m	Targets geophysical survey anomalies, length reduced to avoid overhead cable, field boundary and tree

Note: the precise locations for the trenches may be amended on site due to ground conditions and safety measures; these locations will be confirmed in the final report.

The trenches will be located with a Trimble GPS unit. The trenches will be opened and closed by a tracked mechanical excavator supplied by *JAT Construction Ltd*. All fieldwork will be completed in accordance with industry standards and the GAT Fieldwork Manual.

The trial trenching works are currently scheduled to be undertaken week commencing 17th October 2022, with the following methodology applied:

- The trench locations will be demarcated in advance by GAT staff using a Trimble R8 GNSS/R6/5800 GPS receiver (>10cm accuracy) and scanned with a cable avoidance tool; prior to opening to determine the presence or absence of any services. In support of this, existing service drawings will also be consulted;
- The trenches will be opened by the mechanical excavator using a toothless bucket;
- Excavation by machine will continue until the first significant archaeological horizon, or the glacial horizon, whichever is encountered first;
- Due to the likelihood of finding Neolithic axe-working debris the following methodology will be used when machining down through topsoil and ploughsoil to archaeological horizons. The stripping will be by thin spits and the surface of each spit will be inspected for axe-debris. Any material found will be bagged and located in three dimensions using the Trimble GPS. An inspection will also be made of the spoil dug out. If numerous items of axe-debris are located a sampling methodology will be devised to dry sieve a sample of the soil through 1cm sieves to ensure full recovery of flakes.
- A record will be made on GAT pro-formas of the topsoil and subsoil depths, as well as the composition of the glacial horizon (cf. Appendix I, II and III). All encountered subsurface features will be recorded on GAT pro-formas with detailed notations and will be recorded photographically with an appropriate scale. Photographic images will be taken using a digital SLR camera set to maximum resolution in RAW format; the photographic record will be digitised in Microsoft Access as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format using

Adobe Photoshop; the archive numbering system will start from G2748_001. A photographic ID board will be used during the evaluation to record site code, image orientation and any relevant trench and context numbers.

- Any archaeological features/deposits/structures encountered will be manually cleaned and examined to determine extent, function, date and relationship to adjacent activity. The following excavation strategy will generally apply: 50% sample of each sub-circular feature, 10% sample of each linear feature (terminal ends and intersection points with other features will be prioritised). Any layers or spreads of material will be investigated by sondages or, if small and discrete, by excavating a 50% sample. Any structural features encountered will be cleaned and recorded but will not be removed;
- A sample of soil from excavated features will be dry sieved through 1cm sieves to recover any axe-debris. Where axe-debris is concentrated in any features or layers at least 25% of the soil excavated will be dry sieved;
- The location of the trenches, and any identified features, will be recorded using a Trimble R8 GPS unit. Hand drawn plans will also be completed for any trenches containing archaeological activity; this will include a plan of the trench and features therein as well as individual plans/sections of features encountered. Any required plans or sections will normally be drawn at 1:10 or 1:20 scale using GAT A4, A3 or A2 pro-forma permatrace;
- Should dateable artefacts and/or ecofacts be recovered, an interim report will be submitted summarising the fieldwork results, along with recommendations for any subsequent post-excavation assessment in line with the MAP2 process. Post-excavation assessment may include the in-house processing (wet sieving) of ecofact samples, followed by external specialist assessment and radiocarbon dating, as well as the external assessment of diagnostic artefacts. Based on these results a final report will be prepared. Additional time, resourcing and costs will be required to undertake any post-excavation programme of works.

3.2. Human Remains

Whilst human remains are not expected, if any human remains are identified that cannot be preserved in situ, any excavation will take place under appropriate regulations and with due regard for health and safety issues. In order to excavate human remains, a Ministry of Justice licence is required under Section *25* of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. In accordance with the Ministry of Justice licence, recovered remains will be reburied once the investigation and/or assessment/analysis are complete.

Non-fragmented skeletal remains will be excavated using wooden tools and collected and stored in polyethylene bags (with appropriate references for context, grave number, et al) and placed in a lidded cardboard archive box (note: separate boxes for each grave) and stored in a suitable manner within GAT premises. If significant quantities of human remains are encountered, a human osteologist should be contacted and appointed to advise the team during the fieldwork. The osteologist will be an external appointment: Dr. Genevieve Tellier | Tel: 01286 238827 | email: northwalesosteology@outlook.com who will assist in devising the excavation, recording and sampling strategy for features containing human remains. The osteologist should also help to ensure that adequate post-excavation processing of human remains is carried out so that the material is in a fit state for assessment during the post-excavation stage. For inhumations, this will involve washing, drying, marking and packing.

If human remains are recovered that are deemed suitable for further assessment/analysis, this will be completed in accordance with the osteologist's requirements and with *Human Bones from Archaeological Sites Guidelines for producing assessment documents and analytical reports* (Chartered Institute for Archaeologists, 2017).

3.3. Ecofacts

Should any archaeological features and/or sealed deposits be identified that are deemed suitable for assessment and analysis, ecofact samples will be taken of not less than 40 litres for bulk samples, or 100% if the feature is smaller; samples will by GAT staff using 10 litre sampling buckets. All suitable deposits will be sampled at this stage.

The samples will be subsequently assessed and analysed for plant species and charcoal, with the results used to inform agrarian practices and wood fuel use, as well as possibly dating. Initial assessment would be completed by the GAT Project Archaeologist team using wet sieving, with the subsequent species identification assessment completed by an ecofact specialist (Jackeline Robertson | AOC Archaeology | telephone: 0208 843 7380). Any deposits deemed suitable for dating will be submitted to a laboratory specialising in radiocarbon dating (e.g., SUERC).

Any ecofact assessment/analysis proposals will require additional resourcing and cost and will only be undertaken further to agreement with GAPS and the client.

3.4. Artefacts

Diagnostic artefacts will be retained for further examination and identification; pottery sherds of 19th and 20th century date will be examined on site and the context from which they were retrieved noted but the sherds will not be retained. Any artefacts recovered will be treated according to guidelines issued by the UK Institute of Conservation (Watkinson and Neal 2001) in particular the advice provided within *First Aid for Finds* (Rescue 1999) and Historic England.

Any waterlogged artefacts (e.g. wood or leather) that are to be recovered for post-excavation assessment and analysis will be processed in accordance with *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage, 2011) and specifically in accordance with Brunning and Watson (2010) for waterlogged wood and Historic England (2012) for waterlogged leather. In such cases an external specialist will be contacted to agree an appropriate sampling and recovery strategy via Lucy Whittingham | Project Manager (post-excavation) | AOC Archaeology | telephone: 0208 843 7380 | email: lucy.whittingham@aocarchaeology.com).

Any specialist assessment/analysis proposals will require additional resourcing and cost and will only be undertaken further to agreement with GAPS and the client.

All finds are the property of the landowner; however, it is Trust policy to recommend that all finds are donated to an appropriate museum (in this case *Storiel, Ffordd Gwynedd, Bangor, Gwynedd, LL57 1DT*), where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust, including National Museums and Galleries of Wales at Cardiff.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the Portable Antiquities Scheme acts as advisor on technical matters and may be the recipient body for the objects.

The Treasure Valuation Committee, based at the British Museum, and informed by the Portable Antiquities Scheme, will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled.

GAT will contact the landowner for agreement regarding the transfer of artefacts, initially to GAT and subsequently to the relevant museum. A GAT produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts will be transferred to the relevant museum in accordance with their guidelines.

3.5. Working Project Archive

Following the completion of the fieldwork, a working project archive will be created based on following task list;

1. Pro-formas: all cross referenced and complete;
2. Photographic Metadata: completed in *Microsoft Access* and cross-referenced with all pro-formas;
3. Survey data: downloaded using a Computer Aided Design package;
4. Sections (if relevant): all cross referenced and complete;
5. Plans (if relevant): all cross referenced and complete;
6. Artefacts (if relevant): quantified and identified; register completed;
7. Ecofacts (if relevant): quantified and register completed;
8. Context register (if relevant): quantified and register completed.

All relevant site archive data will be added to a digital project register specific to this project, which will be prepared in *Microsoft Excel.*

The site archive data will then be processed, final illustrations will be compiled and a report will be produced which will detail and synthesise the results.

3.6. Data Management Plan

The physical archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below. De-selected digital data will be confirmed in an updated Selection Strategy document appended to the final report.

3.7. Reporting

A draft report will be submitted within one month of fieldwork completion and a final report will be submitted to the regional Historic Environment Record within six months of project completion. The report will include the following:

1. Non-technical summary (Welsh and English)
2. Introduction
3. Background
4. Methodology
5. Results
6. Conclusion
7. List of sources consulted.
8. Appendix I – approved GAT project specification
9. Appendix II – photographic metadata
10. Appendix III – drawing register

Illustrations will be included for any trenches containing archaeological activity; this will include a scaled plan of the trench and features therein as well as individual scaled plans/sections of features encountered. The reports will also include any received specialist input (ecofacts and/or artefacts).

3.8. Dissemination

On final approval, the following dissemination and archiving of the report and digital dataset will apply:

- A digital report(s) will be provided to the client and GAPS (draft report then final report);
- A digital report will be provided to the regional Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and will include:
    - Photographic metadata (Microsoft Access);
    - Photographic archive (TIFF format);
    - Project Information form (Excel);
    - File Information form (Excel) – Microsoft Word report text final;
    - File Information form (Excel) – Photographic metadata (general);
    - File Information form (Excel) – Adobe PDF report final; and
    - File Information form (Excel) - Photographic metadata (detail).

3.9. Selection Strategy

As defined in *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020) section 3.3.1, a project specific selection strategy and data management plan should be prepared. In support of this, the Chartered Institute for Archaeologist (CIfA), have stated that it is "widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation". The aim of selection is to ensure that all the elements retained from the Working Project Archive for inclusion in the Archaeological Archive are appropriate to establish the significance of the project and support "future research, outreach, engagement, display and learning activities". Selection should be "focused on selecting what is to be retained to support these future needs, rather than deciding what can be dispersed" and can be qualified by a selection strategy, which details the project-specific selection process, agreed by all parties (including GAPS, client and/or landowner), which will be applied to a Working Project Archive prior to its transfer into curatorial care as the Archaeological Archive.

The selection strategy will be is summarised in Appendix IV and will be confirmed in the mitigation report; the strategy will take into account:

- The aims and objectives of the project.
- The brief and/or Written Scheme of Investigation (WSI)).
- The Collecting Institution's collection policy and/or deposition guidelines.
- Local and regional research frameworks.
- Relevant thematic or period specific research frameworks.
- The project's Data Management Plan (DMP).
- Internal recording and reporting policies.
- Material-specific guidance documents.

4 PERSONNEL

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section with attendances on-site undertaken by a GAT Project Archaeologist(s). The Project Archaeologist will be responsible for following:

- All archaeological evaluation duties on site;
- Client liaison;
- Plant operator liaison;
- GAPS liaison, with regular updates;
- specialist liaison (if relevant);
- completing all on site pro-formas and the fieldwork archive itemised above, including the digital project register;
- sourcing Primary Reference Numbers (PRN) from the GAT HER for any new features identified;
- completing an event summary and creating or updating PRN data, dependent on results; and
- for submitting a draft final report (or interim report) for project manager review and approval, to then be submitted as per the arrangements defined above.

5 HEALTH AND SAFETY

The GAT Project Archaeologist(s) will be CSCS certified. Copies of the site specific risk assessment will be supplied to the client and sub-contractor prior to the start of fieldwork. Any risks and hazards will be indicated prior to the start of work via a submitted risk assessment. All GAT staff will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and hard hat. All GAT fieldwork is undertaken in accordance with the Trust's Health and Safety Manual, Policy and Handbook which were prepared by Ellis Whittam. All work will be undertaken in accordance with the client and site contractors Health and Safety requirements.

All fieldwork will be undertaken in accordance with the latest Welsh Government Covid-19 guidelines, as well the GAT Covid-19 Operating Strategy and Sanitising Strategy.

There are known utility services on site. The trenches have been positioned to avoid the known services, but there is scope for unknown services to be present; the trench locations and environs will be scanned with a cable avoidance tool prior to opening. The location of known services will be included in the site-specific risk assessment.

6 SOCIAL MEDIA

One of the key aims in the GAT mission statement is to improve the understanding, conservation and promotion of the historic environment in our area and inform and educate the wider public. To help achieve this, GAT maintains an active social media presence and seeks all opportunities to promote our projects and results. With permission, GAT would like the opportunity to promote our work on this scheme through our social media platforms. This could include social media postings during our attendance on site as well as any postings to highlight results. In all instances, approval will be sought from client prior to any postings.

7 INSURANCE

7.1. Public/Products Liability

Limit of Indemnity- £5,000,000 any one occurrence and in the aggregate in respect of Product Liability

INSURER Ecclesiastical Insurance Office Plc.

POLICY TYPE Public/Products Liability

POLICY NUMBER UN/000375

EXPIRY DATE 21st June 2023

7.2. Employers Liability

Limit of Indemnity- £10,000,000 any one occurrence.

INSURER Ecclesiastical Insurance Office Plc.

POLICY TYPE Employers Liability

POLICY NUMBER 24765101 CHC / UN/000375

EXPIRY DATE 21st June 2023

7.3. Professional Indemnity

Limit of Indemnity- £5,000,000 in respect of each and every claim

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER PL-PSC10002389775/01

EXPIRY DATE 22nd August 2022

8 SOURCES CONSULTED

English Heritage, 1991, Management of Archaeological Projects.

English Heritage, 2015, Management of Research Projects in the Historic Environment (MoRPHE). Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) (Version 1.1).

Matthews, CM, 2022. Geophysical Investigations of land to the east of Gorwel Road, Llanfairfechan, Archaeological Survey West LLP report for L-P: Archaeology.

Matthews, CM and Ellis, E, 2021. Archaeological Desk Based Assessment; Land near Gorwel, Llanfairfechan, L-P: Archaeology report

Standard and Guidance for Archaeological Field Evaluation (Chartered Institute for Archaeologists, 2020).

Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (Chartered Institute for Archaeologists, 2020).

FIGURE 01

Figure 1. Location of the development site and archaeological and historical sites in the area

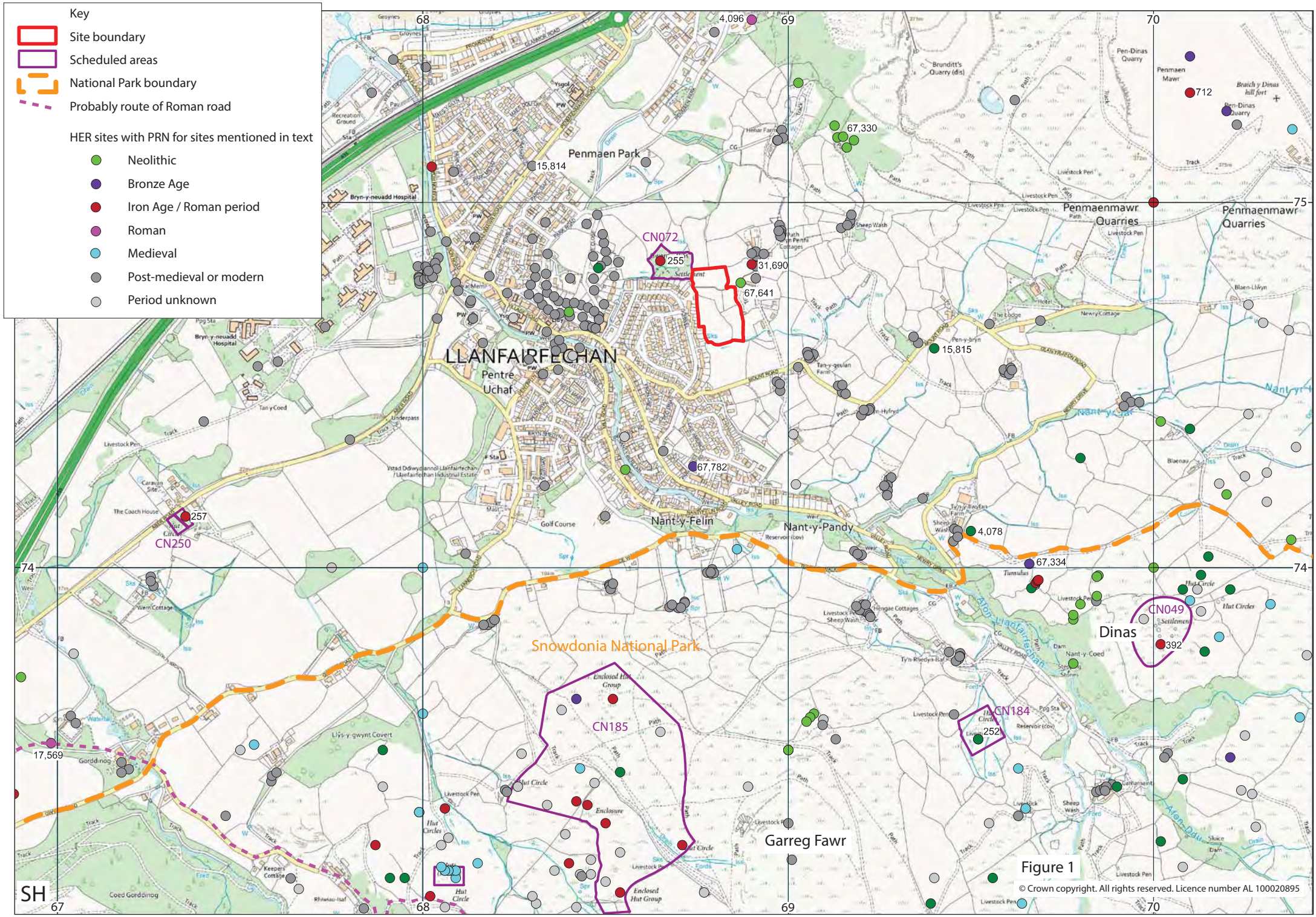


FIGURE 02

Figure 2. Proposed location of trenches over geophysical results (based on L-P: Archaeology plan Doc Ref: LP3859C)

Figure 2. Proposed location of trenches over geophysical results (based on L-P: Archaeology plan Doc Ref: LP3859C)

APPENDIX I

Gwynedd Archaeological Trust Trench Sheet pro-forma

TRENCH SHEET

Project Name and Number			**Trench number**	
Trench size		Plans		
Max. trench depth		Sections		
Orientation		Photos		
Date/Initials		Area/chainage		

List of layers and/or features in trench (continue on back of sheet if necessary)

Context No.	Depth below surface	Brief description

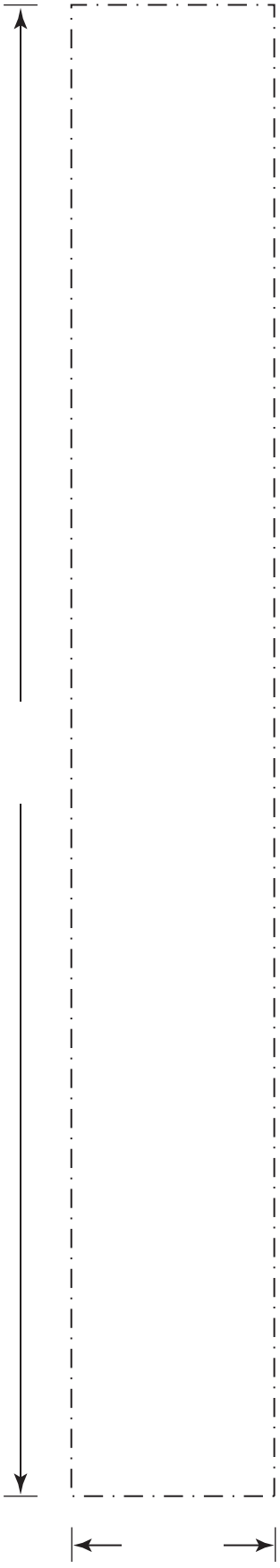
General summary

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Test Pit/Trial Trench Record

Sketch plan:

Add north arrow:



Sketch section:

Notes:

☐ Continuation sheet

APPENDIX II

Gwynedd Archaeological Trust Photographic Record pro-forma

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Digital Photographic Record

Include main context numbers for each shot, drawing numbers for sections and any other relevant numbers for cross referencing.
Delete any unwanted photos **immediately** from the camera. Regularly upload photographs to computer.

Project Name:			Project Number:				
Photo No.	**Sub - Division**	**Description**	**Contexts**	**Scales**	**View From**	**Initials**	**Date**

APPENDIX III

Gwynedd Archaeological Trust Context Sheet pro-forma

GWYNEDD ARCHAEOLOGICAL TRUST **CONTEXT RECORD FORM**

SITE CODE	**GRID SQUARE**	**SITE SUB-DIV**	**CONTEXT NUMBER**
CATEGORY/TYPE	**PROVISIONAL DATE/PERIOD/PHASE**		
LENGTH	**BREADTH**	**DIAMETER**	**DEPTH/HEIGHT**
DEPOSIT			**CUT**
1. Compaction			1. Shape in plan
2. Colour			2. Corners
3. Matrix Composition			3. Break of slope top
4. Inclusions			4. Sides
5. Clarity of Interface			5. Break of slope base
6. Other comments			6. Base
7. Methods & conditions			7. Orientation
			8. Truncated (if known)
			9. Other comments
			Draw sketches overleaf

FILLED BY	☐ ☐ ☐ ☐ ☐ ☐ This ☐ context ☐ ☐ ☐ ☐ ☐ ☐
FILL OF	**Stratigraphic matrix**

PLANS	**SECTIONS**
Sheet No.	Sheet No.
Drawing No.	Drawing No.
PHOTOGRAPHS - Film No./ Frame No.	
SAMPLE Nos.	**FIND Nos.**

FEATURE No		**GROUP No**	**CONSISTS OF**
INTERPRETATION/DISCUSSION		**SAME AS**	

	CHECKED BY (initials/date)	**INITIALS/DATE**

SKETCH

DESCRIPTION/INTERPRETATION CONTINUED

Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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