

Landscape of Neolithic Axes

Report on fieldwork in 2021 at Llanfairfechan



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Prepared for: Cadw

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Cover photograph: Dinas in its landscape with Llanfairfechan beyond
(photograph by David Longley)

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Landscape of Neolithic Axes: fieldwork in 2021 at Llanfairfechan (G2495)

Report 1623

Event PRN 46206

SUMMARY

Cadw grant aided Gwynedd Archaeological Trust to run the volunteer fieldwork element of the Landscape of Neolithic Axes Project for 2021-22, under the Carneddau Landscape Partnership Scheme. The work focused on sites to the east and west of Dinas, Llanfairfechan (PRN 4720, PRN 81634, and PRN 96144). The fieldwork took place between 22nd and 28th September and between 6th and 18th October 2021, and the work was undertaken by volunteers under the supervision of Gwynedd Archaeological Trust and Snowdonia National Park Authority staff.

Test pitting was carried out to re-locate and characterise PRN 4720, known as the Maes y Bryn site, in a high ffridd to the east of Dinas. Fourteen test pits were dug, and axe debris was found, with a slight concentration in three test pits. Several flints were also found, including a thumbnail scraper, all suggestive of settlement in the area, rather than just axe-making. A flake of a finished polished axe was also found.

A field on Ty'n y Llwyfan Farm, at the foot of Dinas, previously investigated in 2019, was further explored by test pitting (PRN 81634). Twenty-three test pits were dug, all of which contained axe debris, showing that the limits of the working area could not be reached within this field. The test pits also demonstrated that the terraces across the field were lynchets and that the axe debris was almost all in disturbed contexts. The exception was TP37, where undisturbed deposits were found, possibly representing repeated dumps of stone and axe debris. Several roughouts were found including one that was aiming at a pick or chisel-shaped tool.

An evaluation trench was dug in an area of known axe-working on the screes at the foot of Dinas (PRN 96144). This revealed dense axe debris with some patterning suggestive of undisturbed working floors. This trench was not fully excavated and is to be completed in a later season of fieldwork.

CRYNODEB

Derbyniodd Ymddiriedolaeth Archaeolegol Gwynedd gymorth grant gan Cadw i gynnal elfen gwaith maes gwirfoddol Prosiect Tirwedd Bwyell Neolithig ar gyfer 2021-22, dan Gynllun Partneriaeth Tirwedd y Carneddau. Ffocysodd y gwaith ar safleoedd i'r dwyrain a'r gorllewin o Dinas, Llanfairfechan (PRN 4720, PRN 81634, a PRN 96144). Cynhaliwyd y gwaith maes rhwng Medi 22ain a 28ain, a rhwng Hydref 6ed a 18fed 2021, ac ymgwymerwyd â'r gwaith gan wirfoddolwyr dan oruchwyliaeth staff Ymddiriedolaeth Archaeolegol Gwynedd ac Awdurdod Parc Cenedlaethol Eryri.

Cynhaliwyd cloddio prawf er mwyn ail-leoli a nodweddu PRN 4720, a adnabyddir fel safle Maes y Bryn, sydd ar ffridd uchel i'r dwyrain o Dinas. Cloddiwyd pedair-ar-ddeg o ffosydd prawf, a daethpwyd o hyd i deilchion bwyell, gyda mân grynhoad mwy dwys mewn tair ffos brawf. Cafwyd hyd i sawl darn o fflint hefyd, gan gynnwys ysgrafell ewin bawd, gyda'r cyfan yn awgrymu aneddu yn yr ardal yn hytrach na ffurfio bwyell yn unig. Cafwyd hyd i naddyn o fwyell gaboledig orffenedig hefyd.

Ymchwilyd ymhellach gyda chloddio prawf y cae ar Fferm Ty'n y Llwyfan wrth droed Dinas yr ymchwilyd eisoes yn 2019 (PRN 81634). Cloddiwyd tair-ar-hugain o ffosydd prawf, gyda phob un yn cynnwys teilchion bwyell, sydd yn dangos nad oedd modd cyrraedd ffiniau'r ardal waith o fewn y cae hwn. Dangosodd y ffosydd prawf hefyd mai linsiedi oedd y terasau ar draws y cae, a bod y teilchion bwyell bron i gyd yn gorwedd o fewn cyd-destunau oedd wedi eu haflonyddu arnynt. Yr unig eithriad oedd TP37, ymhle cafwyd hyd i ddyddodion nas aflonyddwyd arnynt, sydd efallai'n cynrychioli dadlwytho mynych o gerrig a theilchion bwyell. Daethpwyd o hyd i sawl brasffurf gan gynnwys un oedd yn anelu at gaib neu gelficyn siâp cŷn.

Cloddiwyd ffos werthuso mewn ardal a adwaenir fel ardal o weithio bwyell ar y sgriau wrth droed Dinas (PRN 96144). Dangosodd hon deilchion bwyell dwys gyda pheth patrymu sydd yn awgrymu lloriau gwaith nas aflonyddwyd arnynt. Ni chloddiwyd y ffos hon yn llawn, a'r bwriad yw darfod y gwaith yn ystod tymor pellach o waith maes.

1. INTRODUCTION

1.1. Neolithic stone axeheads

The axe, with a polished stone axehead, was a tool of considerable significance, both practically and socially, in the Neolithic period. Not only did axes enable forest clearance and the construction of large timber buildings, but they were probably also symbols of status. Axeheads were selected as appropriate objects to be offered within ceremonial monuments indicating their cultural and possibly religious significance. Flint was often used for polished axeheads in south-eastern England but elsewhere axeheads were made from fine igneous rocks that could be knapped like flint. Petrological analysis has identified several sources of the stone for these axes in Britain. The stone types identified have been classed as belonging to several Groups. Some sources were preferred and material from these was dispersed widely. The preference for certain sources implies that there were qualities in the stone, or possibly in the location of the source, that made axeheads from these materials particularly desirable. The source that produced the most axeheads, which were most widely distributed, was in the central Lake District, focussed around Great Langdale (Group VI) (Claris and Quartermaine 1989). Axes from this source have been found across Britain and considerable work has been done to study the area and identify quarry and axe-working sites. The second most widely distributed axes come from the Group VII stone source. Group VII axes are found over most of England and Wales, with occasional ones elsewhere (Clough 1988, Houlder 1988). This source can therefore be considered of second in importance in Britain to the Great Langdale source.

Group VII axes were demonstrated to come from a stone source near Penmaenmawr, Conwy, known as Graig Lwyd (Warren 1919, 1922). There has been some recognition that axe-working debris could be found over a much wider area, not just around the hill of Graig Lwyd. Axe debris was recorded as being found around the hills of Garreg Fawr and Dinas above Llanfairfechan (RCAHMW 1956, xliii, Houlder 1976, 58), but little professional archaeological work has been done to investigate the wider landscape and to study the stone sources beyond Graig Lwyd. However, since the 1990s Mr David T. Jones of Llanfairfechan has been collecting axe roughouts and exploring axe-working sites around Llanfairfechan. David Jones' work indicated that there was an extensive landscape between Penmaenmawr and Llanfairfechan across which evidence for Neolithic axe-working could be found. This is a landscape of national importance for British Neolithic studies, which has long deserved detailed study.

1.2. The project

In the uplands above Penmaenmawr and Llanfairfechan there is not a single stone source, but an extensive landscape related to Neolithic axe production. This is a landscape of national importance with axes produced from this area being distributed across much of southern Britain, but it has received remarkably little archaeological study. The current project aims to correct that.

The landscape of the stone sources forms part of the northern end of the Carneddau mountain range. The Carneddau are the focus of the Carneddau Landscape Partnership Scheme (CLPS), a large-scale Heritage Lottery Fund funded project involving a group of 23 agencies and organisations under the leadership of the Snowdonia National Park Authority (SNPA). The project aims to help conserve the threatened heritage of the Carneddau by increasing understanding and enjoyment of the cultural and natural heritage of the area across a wide range of communities, individuals, and organisations. The current project, known as the Landscape of Neolithic Axes Project, has been developed with the CLPS, and has been delivered in partnership with the CLPS and SNPA. The aim of the project is to include the local community and other volunteers in all aspects of the study and to raise awareness and understanding of this important archaeological resource, as well as answering academic research questions.

A major challenge to identifying axe-working locations in this landscape is to recognise sites and deposits obscured under turf and vegetation either in the pasture fields or on the moorlands. To solve this problem the project is concentrating on test pitting to allow deposits to be sampled and artefacts to be recovered. However, small excavations and other work is being used to identify and characterise sites associated with the axe-working.

In 2021 the project was focused two areas; the location of a suspected Neolithic settlement site on the ffridd at the edge of the moorlands above Llanfairfechan and a field at a lower level on Ty'n y Llwyfan Farm, Llanfairfechan, adjacent to an axe-working site previously identified.

1.3. Previous Archaeological Work

Stone axes were made by knapping a piece of natural scree or quarried stone into shape before finishing it by polishing. The roughly knapped pre-form for an axe is known as a "roughout". During the manufacturing process faults in the stone often caused roughouts to break and they were then discarded on the working site. These broken roughouts and the flakes knapped from them are the indicative signs of an axe-working site and they can

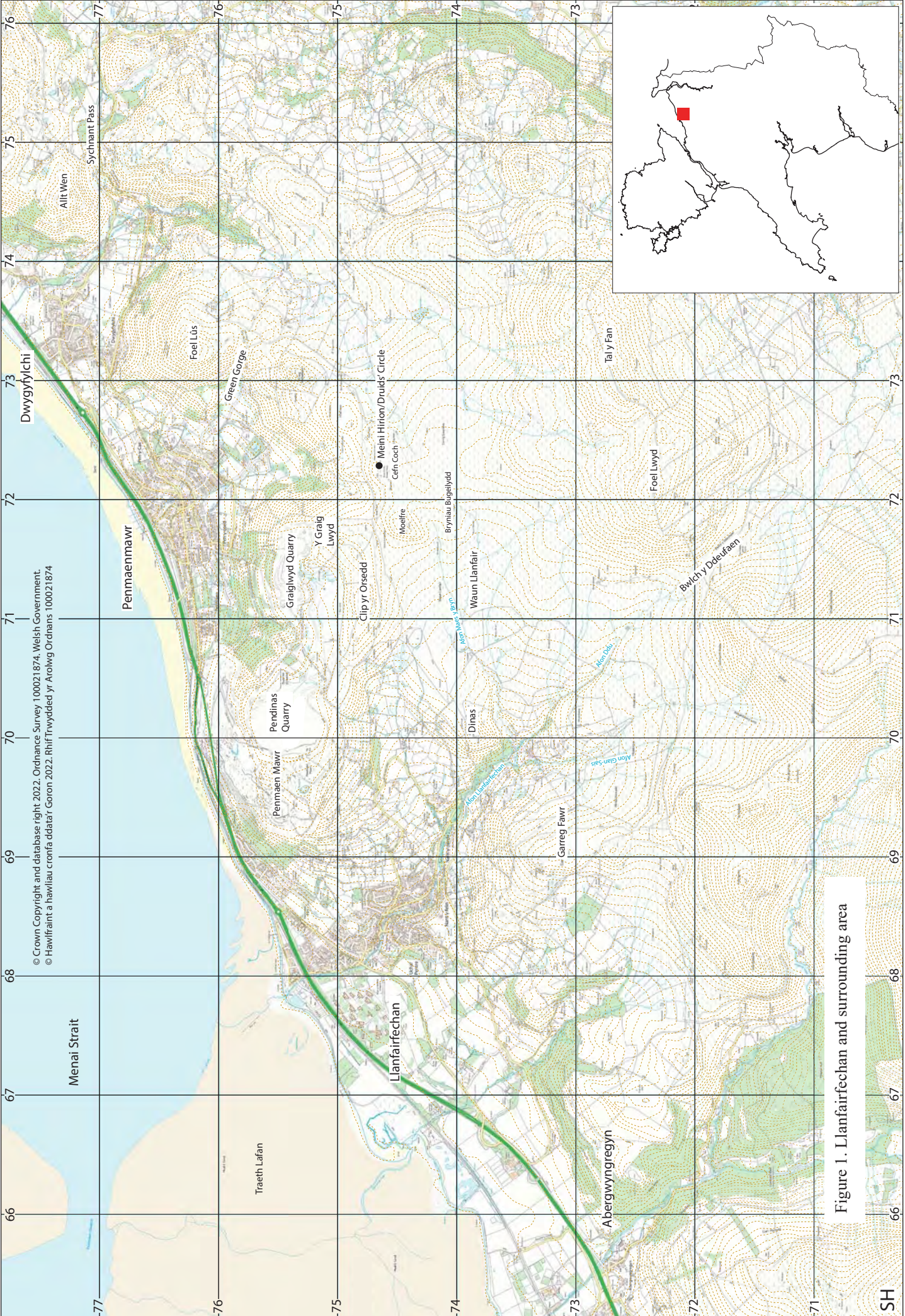


Figure 1. Llanfairfechan and surrounding area

be present in very large numbers on an undisturbed site.

It has been known since 1919 that Neolithic stone axes were produced near a rock outcrop known as Y Graig Lwyd above Penmaenmawr. The first axe roughouts were recognised by Samuel Hazzledine Warren and he subsequently undertook excavations in the early 1920s (Warren 1919; Warren 1922). Warren found several tons of axes and roughouts, many of the best specimens of which were distributed to museums across Britain (Warren 1919, 1922; Glen 1935, 189).

The main axe working areas over Graig Lwyd were investigated in the 1990s by Gwynedd Archaeological Trust (GAT) and Bangor University Department of Continuing Education. This included detailed surveys of the surviving working areas and some small excavations. The surveys revealed the extent of the preserved working hollows in the northern screes, but the excavations and test pitting also demonstrated that the summit of the hill had been exploited for axe making, including quarrying of bedrock, rather than just the use of natural screes (Flook and Williams 1992, Davidson and Williams 1998, Williams and Davidson 1998, Williams and Davidson 2002).

The 1990s work also included the excavation of two cairns to the west of the main outcrop, which proved to have axe-working debris beneath them (PRNs 67326 and 67327 (Williams and Davidson 1998, 17-18)). A project run by GAT to study the pollen evidence and prehistoric sites on Waun Llanfair, a marshy plateau above Llanfairfechan found axe-working flakes under two other cairns (PRN 470 and 485), as well as a small and narrow axe or pick of Graig Lwyd rock under one of the cairns (Caseldine *et al* 2007, 5-8). These finds were associated with flint tools and other evidence of more general occupation, suggesting that a range of activities took place at these sites, and they could be the remains of significant settlement sites. Our understanding of the vegetation history of the uplands in this area is also based on detailed pollen work carried out as part of this project (Caseldine and Griffiths 2014).

In 1961 there was a rare opportunity to fieldwalk one of the ffriddoedd just east of Dinas, when it was ploughed. Mr J. Davies found axe-working flakes scattered over a wide area, with roughouts, hammerstones and a small number of flint flakes (Davies 1961). This represents one of the most likely Neolithic settlement sites identified in the area.

Since the 1990s Mr David T. Jones of Llanfairfechan collected axe roughouts and explored axe-working sites around Llanfairfechan. Mr Jones' collection and knowledge of axe-working sites was recorded in 2017 (Kenney 2017). Mr Jones identified three main axe-working sites: one the screes below the western end of Penmaenmawr Mountain (PRN 67330), on Garreg Fawr (PRN 67328) and in the screes at the foot of Dinas (PRN 67329). Some of his finds were published with John Llywelyn Williams (Jones and Williams 2004, Williams and Jones 2003). In 2017 GAT carried out a review of the environs of the stone sources, which suggested that related use of the landscape was more widespread than has previously been considered and deserves further investigation (Kenney 2017). A Management and Interpretation Plan for this landscape was produced in 2018-19 along with a survey of one of the identified axe-working sites (PRN 67329) (Kenney 2019). These studies provide the basis for the current project.

In 2019 Gwynedd Archaeological Trust and the Snowdonia National Park Authority undertook test pitting in a field just west of site PRN 67329, at the foot of Dinas. Sixteen test pits were dug by volunteers. This demonstrated that the test pit methodology was efficient at locating evidence of axe-working in the pasture fields. It showed that axe debris was present well beyond the limits of the screes and working seemed to extend over a much wider area than previously assumed (Ryan Young, Smith and Kenney 2020). A survey was carried out on the last site in 2018 (Kenney 2019). This information formed the basis of the current project, and the test pitting described in this report aimed to identify how far axe-working activity continued beyond the exposed screes into the pasture field below the previously identified site.

Fieldwork was to continue in 2020 and despite the COVID-19 pandemic plans were made for work in October. However, a local lockdown imposed at the start of October made it inappropriate to have volunteers working on the project and the fieldwork was cancelled. The national lockdown over the winter and into March 2021 made it impossible to carry out fieldwork with volunteers later in the year. The work reported here therefore carried on from the 2019 season, expanding on what had been learnt then.

1.4. Geology and topography around Llanfairfechan

While axe-working sites can be found around both Penmaenmawr and Llanfairfechan the work in 2021 focused on Llanfairfechan as the area with least studied in relation to axe-making sites. Llanfairfechan lies on the north coast of Wales on the southern side of the Menai Strait with Anglesey to the north. At this point the Strait widens as it opens into Conwy Bay and the extensive Lafan Sands cover much of the Strait at low tide (figure 1). The village has developed on an alluvial fan where the Afon Llanfairfechan crosses the coastal plain to the sea after its short journey from the uplands to the south-east. The upper part of the valley is narrow and overlooked by two hills:

Dinas and Garreg Fawr. Dinas is a distinctive hill with a flat summit at about 320m OD, on which was located an Iron Age hillfort (PRN 392). Its southern and western flanks are bare scree with the woodland of Nant y Coed covering its foot to the west. Garreg Fawr is a less dramatic but a bulkier presence with an outcrop of rock at the top reaching 364m OD. To the south are the outliers of the Carneddau range and to the east the long, isolated ridge of Foel Lwyd and Tal y Fan, the latter reaching 610m OD.

To the north-east Llanfairfechan is dominated by Penmaen Mawr, which used to be crowned by the Braich y Dinas hillfort (PRN 712). However, the hillfort and much of the top of the mountain have been quarried away and its slopes remodelled by screes of quarry waste. A length of the original crags and natural scree below them still survives on the western side of the mountain. Running east from Penmaen Mawr is a ridge called Clip yr Orsedd at the eastern end of which is a rock outcrop known as Y Graig Lwyd. The outcrop was formerly much more extensive but has been largely quarried away by the Graiglwyd Quarry. This also had natural screes running down below it much of which have been buried under quarry waste, but some survive on its northern and eastern sides, largely overgrown with heath vegetation.

Where the streams of Afon Maes y Bryn, Afon Ddu and Afon Glan-Sais run down to meet and form the Afon Llanfairfechan, the mountains form a semi-circular bowl around an upland plateau, known as Waun Llanfair (figure 1). This is now a wet, marshy, and rather desolate place but is covered with Bronze Age and Iron Age monuments indicative of more intensive use in the past (Caseldine *et al* 2007). The eastern side of Waun Llanfair is closed off by a shallow ridge running north from Tal y Fan. At the northern end of this ridge is a group of Bronze Age monuments including the Druids' Circle or Meini Hirion, a ring cairn and other features with further cairns and a possible stone circle a little to the west and a standing stone and stone circle to the east.

This area was of interest to the Neolithic people, and therefore of interest to us today, because of its geology. The bedrock under most of the Llanfairfechan area is siltstone of the Nant Ffrancon Subgroup, an Ordovician sedimentary rock. Protruding through these deposits are intrusions of silica-poor magma, also of Ordovician date. These rocks are a Microdiorite, and they cooled at varying rates so that in places the rock is coarse grain and elsewhere it is very fine grained (Geology of Britain Viewer).

The bedrock protrudes through a blanket of glacial till with some deposits of glacial sands and gravels. Alluvial deposits are restricted to the narrow base of the river valley until they open out to form an alluvial fan under the village of Llanfairfechan. Around the eastern and southern sides of Garreg Fawr are built-up deposits of "head", clay, silt, sand, and gravel that have accumulated by down slope movements such as solifluction and soil creep during or after the glacial period (Geology of Britain Viewer).

On a petrological level the igneous rock, referred to locally as "Pen Granite", is defined as augite granophyre (Clough 1988, 7), and generally it is sufficiently fine grained to be coarsely knapped, allowing it to be shaped into setts used to pave the streets of Liverpool and other cities. However, where it is very fine grained, around the margins of the intrusions, the rock has a conchoidal fracture and is particularly suitable for stone axe manufacture. The main area of this very fine rock is a zone 50m to 100m wide around the eastern and southern edges of the Graig Lwyd outcrop, (Williams and Davidson 1998, 3-5), and this is usually thought of as the stone axe source, but there is similar rock on Dinas, Garreg Fawr and round the western margin of Penmaen Mawr.

1.5. Palaeoenvironmental Evidence

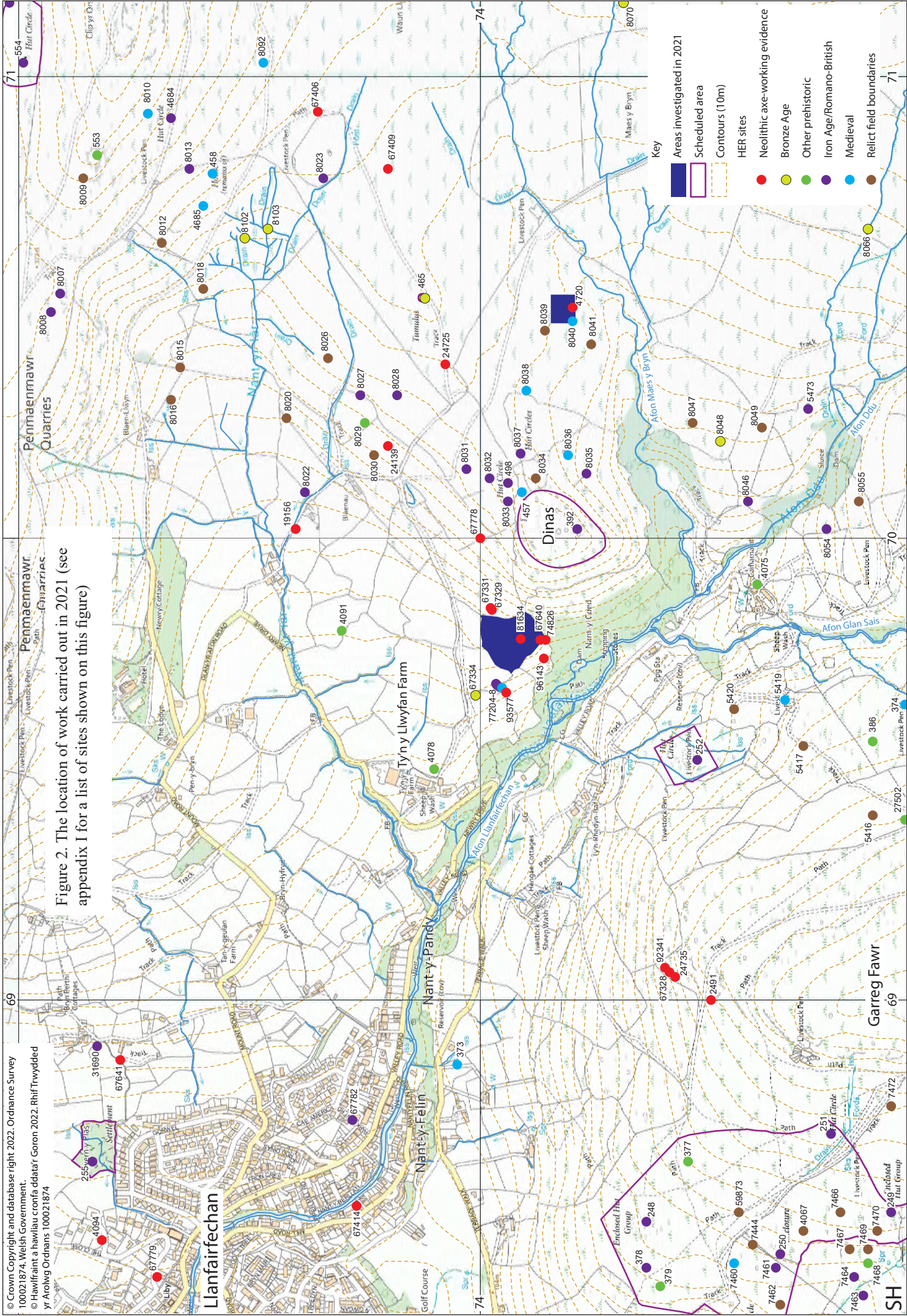
Our understanding of the vegetation history of the uplands above Llanfairfechan has been enhanced by some detailed pollen work carried out as part of a project on Waun Llanfair. This work includes three pollen columns and samples taken from buried soils under excavated features (Caseldine and Griffiths 2014). This evidence suggests that in the later Mesolithic period Waun Llanfair was covered in hazel woodland with stands of pine on higher ground and alder in wetter areas. Some birch and probably oak was present with oak woodland with a component of elm at lower levels.

Towards the start of the Neolithic the pine pollen declined, and alder increased. A fire event and drop in hazel pollen suggests an early Neolithic clearance event and there are also hints of pastoral use of the area. A decline in elm pollen occurred at the same time. In the middle Neolithic a decline in oak pollen suggests clearances in the oak woodlands. Although much of the area was wooded there are hints of open heath grassland nearby.

In the later Neolithic there was alder woodland in the wetter areas, oak woodland in the higher valleys and open hazel and birch woodland with some grass and heathland on the high, drier slopes. There was some small-scale clearance with the use of fire and some grazing activity. Barley type pollen was present in a buried soil with Graig Lwyd flakes and could indicate cereal cultivation, but this pollen type is also produced by some wild grasses. Some of the evidence from beneath two cairns that were excavated suggests a more open grass and heathland environment.

Woodland was still present in the area in the Bronze Age, so during the period of exploitation of the Graig Lwyd

Figure 2. The location of work carried out in 2021 (see appendix I for a list of sites shown on this figure)



stone sources the area was largely wooded with some open areas on the higher slopes. The amount of alder pollen shows that parts of Waun Llanfair were wet during the Neolithic, as they are today, but the presence of trees would mean that more of the area would have been better drained than at present. The trees would also make it a more sheltered environment than at present.

It seems likely that the scree slopes from which the axe material was obtained were never heavily vegetated. The slopes of Dinas, where sheep have been kept off them, have stunted oaks growing on the scree but relatively little undergrowth. The natural screes on the western side of Penmaenmawr Mountain are also wooded but again many areas have little undergrowth, although sometimes considerable amounts of moss. Most of the scree slopes may have been similar in the Neolithic period making them accessible and suitable stones easy to locate.

2. METHODOLOGY

2.1. Aims and Objectives

The research objectives of the overall project are to contribute to the understanding of Neolithic axe working in this area, including the identification of sources of raw material and the social context for access to and exchange of materials within the Welsh landscape. Specific aims include identifying the extent of axe working areas, both the limits of known working areas and identifying the distribution of these areas across the landscape. Other potential aims are to identify contemporary occupation and axe-finishing sites, to locate potential quarrying sites, and to obtain dates from the axe-working sites to contribute to dating the duration of the activity.

The specific aim of the 2021 fieldwork was to further investigate the extent of the axe-working area at the foot of Dinas (figure 2). The test pitting in 2019 had shown the axe debris was widely distributed but more test pits were required to attempt to identify foci of activity or potentially any *in situ* working floors. The nature of the terracing across the field slope was also to be investigated to determine the effect this may have had on the preservation of axe-working sites.

The nature and preservation of deposits within the known axe-working areas in the screes at the foot of Dinas was unknown. It was therefore proposed to dig a small evaluation trench in an undisturbed part of the screes to investigate these deposits. A major aim was to determine whether knapping floors survived and other stratigraphy intact, or whether natural movement and human disturbance had caused a loss of archaeological information.

In addition, the site identified by J. Davies on a high ffridd to the east of Dinas was to be investigated (figure 2). The main aim here was to identify the exact location of the site, as well as to make a preliminary investigation of its extent and nature. This site has been given the name of Maes y Bryn.

The area is rich in Iron Age/Romano-British sites, including a hillfort on the summit of Dinas (PRN 392) (figure 2). There are also medieval long huts scattered over the area. Between these sites are remains of field systems, probably originating in the Iron Age but used into the medieval period, and in some cases up to the present day. The impact of centuries of agriculture on the Neolithic deposits and features was also an aspect of the current investigations.

2.2. Fieldwork

Test pitting

An extensive test pit survey is at the heart of the fieldwork programme for this project. Test pits allow the investigation of deposits obscured beneath pasture and other vegetation in a rapid but controlled manner. Additionally, they provide the opportunity for volunteers of varying experience and ability to experience excavation and recording generally without having to deal with complex features and layers. The test pits were used to identify the quantity and character of axe debris across the areas to be sampled. They enabled the layers with the highest concentrations of debris to be identified and foci of activity to be located.

All the test pits, with one exception, measured 1m square and were situated with the sides facing the points of the compass for consistency and easy recording with volunteers. In some cases, the orientation was rather approximate. The turf from each pit was removed by hand and stacked nearby for reinstatement after the excavation was complete. The spoil from within the pit was removed stratigraphically by layer, sieved onto a tarpaulin and any artefacts found were retained. The test pits were generally excavated down to the natural subsoil, though occasionally this was not reached, or was only reached in one part of the test pit. The layers within the pit were then recorded, using a booklet produced specifically for this project, on simplified context sheets. The numbering system on this project for both contexts and finds uses the pit number as a prefix e.g. (901) is the first context within pit 9. Where the section was of interest a section drawing was created at 1:10. If there were features of interest in the base of the test pit then a post-excavation plan was drawn, also at 1:10. All the test pits



Plate 1. Volunteers digging test pits at the Maes y Bryn site with Dinas in the background (© John Roberts (SNPA))

were photographed during and after excavation. Stony layers were photographed in plan before excavation and at least one representative section was photographed for each pit. The test pits were surveyed using a Trimble Global Positioning System (GPS).

The excavation and recording were carried out by volunteers under the supervision and guidance of GAT and SNPA archaeologists (plates 1, 2, 3 and 4).

Two areas were investigated by test pitting; the Maes y Bryn site in the uplands east of Dinas (centred on SH 705 738), and the Ty'n y Llwyfan site at the foot of Dinas (centred on SH 698 739).

The work at Maes y Bryn was carried out between 22nd and 28th September 2021. At this site the aim was to investigate the location of a find scatter discovered in 1961 when the field was last ploughed. A test pit (TP17) was dug at the central grid reference given for the find scatter. A rough grid of test pits was laid out from this at about 10m intervals. Test pit 17 was located just above an ancient field edge scarp and the grid of pits was laid out above this, to the north, to investigate within this ancient field. However, three test pits were also dug outside the boundaries of the field to compare the deposits and determine whether axe debris could be found outside the limits of the field. One test pit (TP22) proved to be more productive than the others and to test the limits of this concentration of axe debris two other pits were dug close to TP22.

This site is within a ffridd, a large enclosure for sheep, under rough grazing, with parts of it under rushes and bracken. The specific area investigated was under grass, which had been grazed short, making the digging of test pits unproblematic.

The Ty'n y Llwyfan site was located at the foot of Dinas, in one of the highest improved pasture fields on Ty'n y Llwyfan Farm. Sixteen test pits had been dug within this field in 2019, so the aim was to extend this test pit coverage to investigate this field more fully. This work was carried out between 6th and 18th October 2021.

Over the eastern, upper, wall of the field open and consolidated scree is visible within which axe-working has been identified (PRN 67329). The scree appears to continue into the south-eastern edge of this field but are concealed under turf. However, from the surface it appears that most of the field is not underlain by scree. The field is covered by short, sheep-grazed pasture, improved by ploughing, but there is also evidence of more ancient ploughing, probably in the Iron Age and medieval periods, resulting in the formation of lynchets. As well as attempting to identify foci of axe-working, the test pits were intended to investigate where scree was present and how the scarps across the field were formed; whether these were natural or lynchets, or a combination, and how that might impact on the spread of axe debris. Due to the needs to investigate different features across the field the topography guided the location of test pits rather than imposing a grid across the site.

One test pit (TP15) dug in 2019 produced a large quantity of axe debris. It was unclear from the small test pit how much of this was *in situ*, or whether it had largely moved down the slope on which it was located. To investigate this further a larger test pit (TP39) was dug adjacent to TP15. This pit measured 2m by 2m and was dug in the



Plate 2. Volunteer sieving to ensure finds recovery

Plate 3. Volunteers recording a test pit under the supervision of Carol Ryan Young



Plate 4. Volunteers digging a test pit at Ty'n y Llwyfan (© Beca Roberts (CLPS))

same way as the other test pits, but its larger size allowed for the identification of any features or complexities in the deposits.

Field walking

In most of the areas investigated there was no opportunity to identify finds on the surface, but at the Maes y Bryn site moles had been active and there were many molehills over the area. These molehills were inspected in a casual way, when time between test pit digging allowed. The soil of the molehills was disturbed to expose any finds hidden within it. When flakes were located, they were collected, and their location plotted with the Trimble GPS. This was not a methodical survey but did indicate the presence of axe debris well beyond the area investigated by test pitting (see figure 5).

Evaluation trench

Roughouts and axe-working flakes had been recovered from the screes at the foot of Dinas on its western side. This area (PRN 67329) had been surveyed in 2018 to record surface features and locations where axe debris was visible on the ground surface. The natural screes in this area had been used as a source of stone for making axeheads and these had been worked in this area. However, the nature, depth, and preservation of archaeological deposits in this area could not be determined from surface inspection alone. An evaluation trench was therefore dug to investigate this. This work was carried out between 6th and 14th October 2021, running alongside the test pitting.

The evaluation trench (trench 31) was located towards the southern end of the previously surveyed area where small axe-flakes were visible on the surface, suggesting that the area may not be seriously disturbed. The area was cleared of bracken and a trench measuring 4m by 2m was laid out running directly down the slope across a slight terrace.

The deposits were carefully excavated in thin spits, which coincided with layers where possible. Loose flakes recovered during cleaning were bagged and plotted with the Trimble GPS. When cleaning down to the top of a spit an attempt was made to keep flakes *in situ* as much as possible. When a spit was cleaned, as well as general photographs, numerous photographs were taken for photogrammetry. Targets were laid out and surveyed in with the Trimble GPS and were included in the photographs. The Agisoft Professional program was used to combine the photographs to create a 3D model of the site. This was georectified using the surveyed targets. From this data an orthomosaic could be produced. This is a combined, perfectly horizontal image exactly to scale and georectified. This image was traced onto drafting film and annotated in the field to show which items were flakes and which were roughly flaked blocks. Find numbers were also added as finds were lifted.

Planned finds were lifted before excavating the next spit. Flakes, roughouts and smaller or more complex flaked pieces were bagged for further study. Larger blocks, which had been only roughly worked with one or two flakes removed, were recorded on site. These were photographed, measured and weighed then discarded on the spoil heap and used to backfill the trench. They were marked on the annotated plans.

The same procedure was followed for subsequent spits. The quantity of material and care needed to excavate each spit meant that the trench was only excavated to a maximum depth of 0.2m. It was left with some of layer 3102 to be removed. All the finds from the final spit were recovered but the deposits remain to be cleaned back in a subsequent season of work.

Plastic sheet was laid over the trench before backfilling to clearly define where the excavation had reached and to make it easy to reopen.

Excavation was carried out by volunteers under the supervision and with the assistance of Jane Kenney. Volunteers also bagged and recorded finds, annotated the plans and assisted with surveying.

2.3. Post-excavation work

Four volunteers undertook the cleaning and cataloguing all the finds. Finds were washed, dried weighed and counted. A spreadsheet was created to catalogue the finds. George Smith then inspected the collection and assessed the material and identified significant items.

A methodology for studying the whole collection will be specified after the fieldwork seasons are complete.

The current report covers the results of the 2021-22 fieldwork and includes an assessment of the lithic collection by George Smith.

2.4. Outreach

While the project aims to produce archaeological information to understand a nationally important but understudied landscape, of equal importance is the aim to enable volunteers to engage with this landscape and its prehistory and experience archaeological fieldwork. The focus was therefore very much on providing an opportunity for volunteers of all ages, backgrounds and abilities.

Adult volunteers were recruited and managed through the CLPS, with onsite training, supervision and management by GAT and SNPA staff. CLPS also funded welfare facilities and the site vehicle.

Sixty-seven adult volunteers were involved in the fieldwork, some for a day or two and some for the duration. Volunteers who worked at Maes y Bryn were limited to those that were fit and able to walk up to the site, but the Ty'n y Llwyfan site was more accessible. As well as excavation the work provided an opportunity for volunteers to learn recording, photography, finds identification, section drawing and occasionally GPS survey.

Seventy local school pupils from Ysgol Pant y Rhedyn, Llanfairfechan engaged with the project, taking part in test-pitting sessions during October 2021 (plates 5-7). Prior to the fieldwork Dan Amor gave a presentation at the school, along with a question-and-answer session. It was explained to the pupils how they would be helping on site, and that they would be 'archaeologists for the day'.

Pupils also learnt about:

- Archaeology and what archaeologists do
- The Neolithic period in Britain
- Neolithic axe production
- GAT and the Carneddau Landscape Partnership's current project above Llanfairfechan

The site visits were divided into six sessions across three days, led by Dan Amor and Rhys Mwyn, with the assistance of GAT, SNPA and CLPS project staff. Test pitting, especially where there is a good chance of finding artefacts, is well suited to younger audiences and the sessions produced a large number of axe flakes. A re-cap, along with a further question-and-answer session was held at the school. The school programme was funded by the National Lottery Heritage Fund through the Carneddau Landscape Partnership Scheme.



Plate 8. Members of the Young Archaeologists Club digging a test pit (© John Roberts (SNPA))

A well-attended Young Archaeologists' Club (YAC) family session was also organised. GAT runs the Bangor branch of the YAC club, and GAT staff, Dan Amor and Nina Steele, organised the event. The YAC members enthusiastically participated in test pitting, with everyone finding flakes (plate 8).

The school programme and YAC session prompted a large volume of positive feedback from children and adults alike.

Four volunteers undertook the daunting task of cleaning and cataloguing all the finds. This responsible task involved the use of an Excel spreadsheet and the sorting of finds into an organised system, giving them a good experience of the nature of post-excavation archaeological work.

Covid measures were followed throughout. As the work was outdoors the risk of spreading the virus was low but a cabin was used only for storing and single staff use as it was not advisable for many volunteers to shelter



Plate 5. John G. Roberts instructing pupils of Ysgol Pant y Rhedyn on digging a test pit

Plate 6. George Smith showing pupils of Ysgol Pant y Rhedyn the axe roughout in the section of his test pit



Plate 7. Everyone found flakes. Rhys Mwyn confirming the identification of flakes found by pupils of Ysgol Pant y Rhedyn

together indoors. A trailer with sides that opened was provided by Gareth Wyn Jones, for shelter if necessary. Covid procedures were in place for volunteers working in the GAT office washing finds.

To introduce local people to the wider landscape of the axe-working a guided walk was held on Sunday 17th October 2021. This proved so popular that another was held on 7th November. Fourteen people attended the first walk and 20 the second. The walks visited the Ty'n y Llwyfan test pitting site, the summit of Dinas, looked at the area of Waun Llanfair, visited the quarry sites on Graig Lwyd and finished at the Meini Hirion/Druid's Circle (plate 9). Discussions about all the features seen on the route and the nature of the landscape in the Neolithic period were held at the various stops along the route. The walks were led by Jane Kenney and John G Roberts (SNPA Archaeologist) with the support of two mountain leaders provided by CLPS.



Plate 9. Jane Kenney pointing out the excavated Neolithic quarry site on Graig Lwyd during a guided walk

2.5. Archiving

The current report will be submitted to the Gwynedd Historic Environment Record (HER). A database of sites has been produced for ease of entry into the HER. This includes a summary of each site, which is translated into Welsh, as are the site names.

When the whole project is complete the digital archive will be submitted to RCAHMS for long term curation. The finds will be further studied in a later part of this project. A discard policy will be devised and retained material will be deposited with the Penmaenmawr Museum.

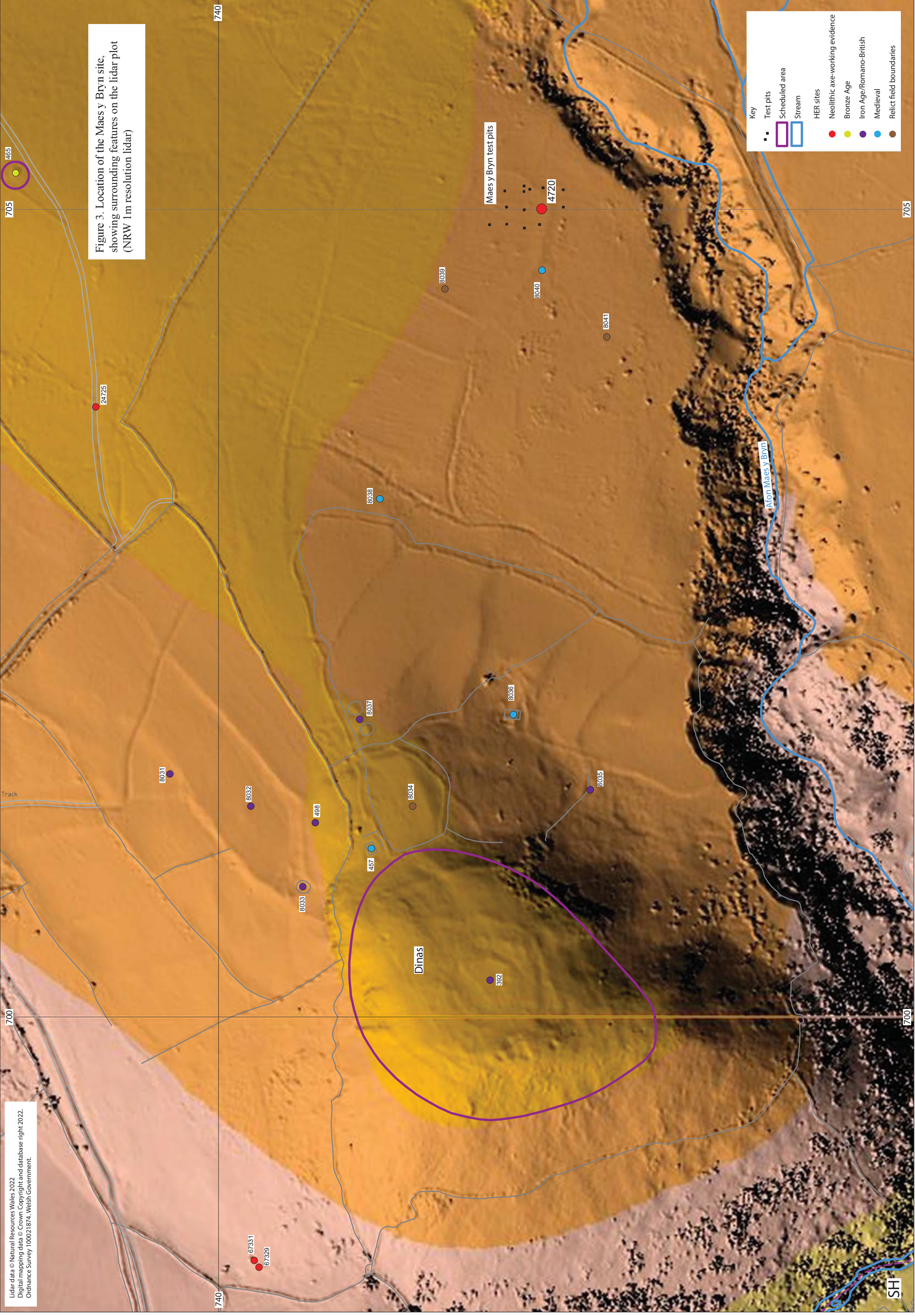


Figure 3. Location of the Maes y Bryn site, showing surrounding features on the lidar plot (NRW 1m resolution lidar)

Key

Test pits

Scheduled area

Stream

HER sites

Neolithic axe-working evidence

Bronze Age

Iron Age/Romano-British

Medieval

Relict field boundaries

3. RESULTS

See Appendix II for details of each test pit.

3.1. Maes y Bryn (PRN 4720, centred on SH 70500 73800)

Introduction

In the winter of 1960-61 the ffridd east of Dinas was ploughed for the “first time in living memory” according to Mr H. Jones of Ty’n y Llwyfan Farm (Davies 1961, 1). In May 1961 J. Davies walked the field and, despite it being partially obscured by the sprouting crop, found a quantity of axe debris. A second visit with Ivor Davies, a local historian from Penmaenmawr, produced more finds. This collection included 7 roughout axes or pieces of roughouts and 3 roughouts for smaller, parallel sided implements, possibly picks or chisels. Many axe-flakes were found, including three that appear to have been worked into flake tools. Three pieces of flint were found, one retouched into a borer. Unusually for the area there were also 4 finished polished axes. One had a blade crudely resharpened by reflaking, one was a broken butt end and two were tools made from reworking larger polished axes, so they were a quite different shape to the original and only small areas of the original polish remained. Further finds not described in detail were found on a later visit, including two more flint flakes. The discovery was promptly published in the Transactions of the Caernarvonshire Historical Society, including some excellent finds drawings (Davies 1961).

This site is about 330m from the screes of Dinas, so while close to the source rock it is quite separated from it (figure 3). Davies concluded that “there can be little doubt that the spot represents at the least a temporary encampment of the axe-makers, if not a more permanent settlement” (Davies 1961, 4). He also considered that “the whole area would amply repay systematic excavation” (Davies 1961, 1). No further investigation of this site had taken place, until the current project, but it remains the most likely known site of a possible Neolithic settlement in this area. The field is now thoroughly overgrown, and it is hard to believe that it was ploughed so



Field Number : 2A
Field Name: Tyn llwyfan
Land Use: Arable,Pasture
Occupier: Thomas Griffiths
Landowner: Bulkeley, Sir Richard Bulkeley Williams, Bart.

Field Number: 13A
Field Name: Glanrafon
Land Use: Arable, Pasture
Occupier: John Hughes
Landowner: Edwards, Ellis

Field Number: 2B
Field Name: Maes y bryn
Land Use: Pasture, Meadow
Occupier: Thomas Griffiths
Landowner: Bulkeley, Sir Richard Bulkeley Williams, Bart.

Figure 4. Part of the Llanfairfechan tithe map (dated 1848) showing the correct field names in the area



Plate 10. Location of the Maes y Bryn site to the east of Dinas (photograph by David Longley)

recently. Fieldwalking, except to spot finds in molehills, is no longer a possibility but test pitting seemed to be a useful technique to use to rediscover this site.

Davies gives a central grid reference of SH 705738, essentially indicating a 100m square, so the first task was to identify this site more accurately. As the grid reference was the only guide this general reference was converted into a precise one (SH 70500 73800) and this was plotted with the Trimble GPS as a start point. It is likely that the main scatter is some distance from this precise point, but it proved to be a perfect place to start.

Site name

The name of Maes y Bryn has been used for this site as the nearest named feature on the 1:25000 map is Maes y Bryn, and the site is close to the Afon Maes y Bryn. The name is, however, somewhat inaccurate, as Maes y Bryn correctly refers to the ffridd on the south-eastern side of Afon Maes y Bryn. The Llanfairfechan tithe map (Welsh Tithe Maps, National Library of Wales) (figure 4) shows the enclosure of Maes y Bryn and a separate parcel of land to the north-west of the stream called Glanrafon under different ownership. The site investigated is actually on Glanrafon land. The land use of Glanrafon is recorded as arable and pasture, but this land parcel extended over Dinas and down to the improved fields. It is assumed that it was the improved fields that were under arable cultivation. However, this is relevant to the current project because this must have included the field investigated at the western foot of Dinas. Both Glanrafon and Maes y Bryn are now part of Ty'n y Llwyfan Farm.

Topography and archaeology

The site is on a south facing slope above the Afon Maes y Bryn, which here runs in a deep, steep-sided gorge (figures 2 and 3, plate 10). The field is a ffridd, an enclosure just below the mountain wall in which sheep can be kept enclosed and off the open mountain, without grazing the improved grassland lower down. Davies does not say what the crop was that was planted in 1961, but it was presumably an improved grass seed mix as the grass here is of good quality. Part of the field is overgrown with rushes, and it appears that this lower southern part was not ploughed in 1961. The field is clearly wet in winter. Although used for pasture in recent centuries the south facing slope could have made it suitable for arable agriculture in the past, when high crop yields were not expected, and animal drawn ploughs could cope with rougher ground and steeper slopes. Just to the west on the eastern slopes of Dinas a series of terraces or lynchets can be clearly seen. There are both roundhouses and a small medieval farmstead within these fields, and it is probable that they were first used in the Iron Age but must have still been used in the medieval period.

Closer to the site investigated, the traces of former fields are slighter but still quite visible on the ground and on the lidar¹ (light detection and ranging) plot (figure 5). The lidar data used in this figure is part of a high-resolution

¹ The casing of "lidar" follows Deering and Stoker 2014.

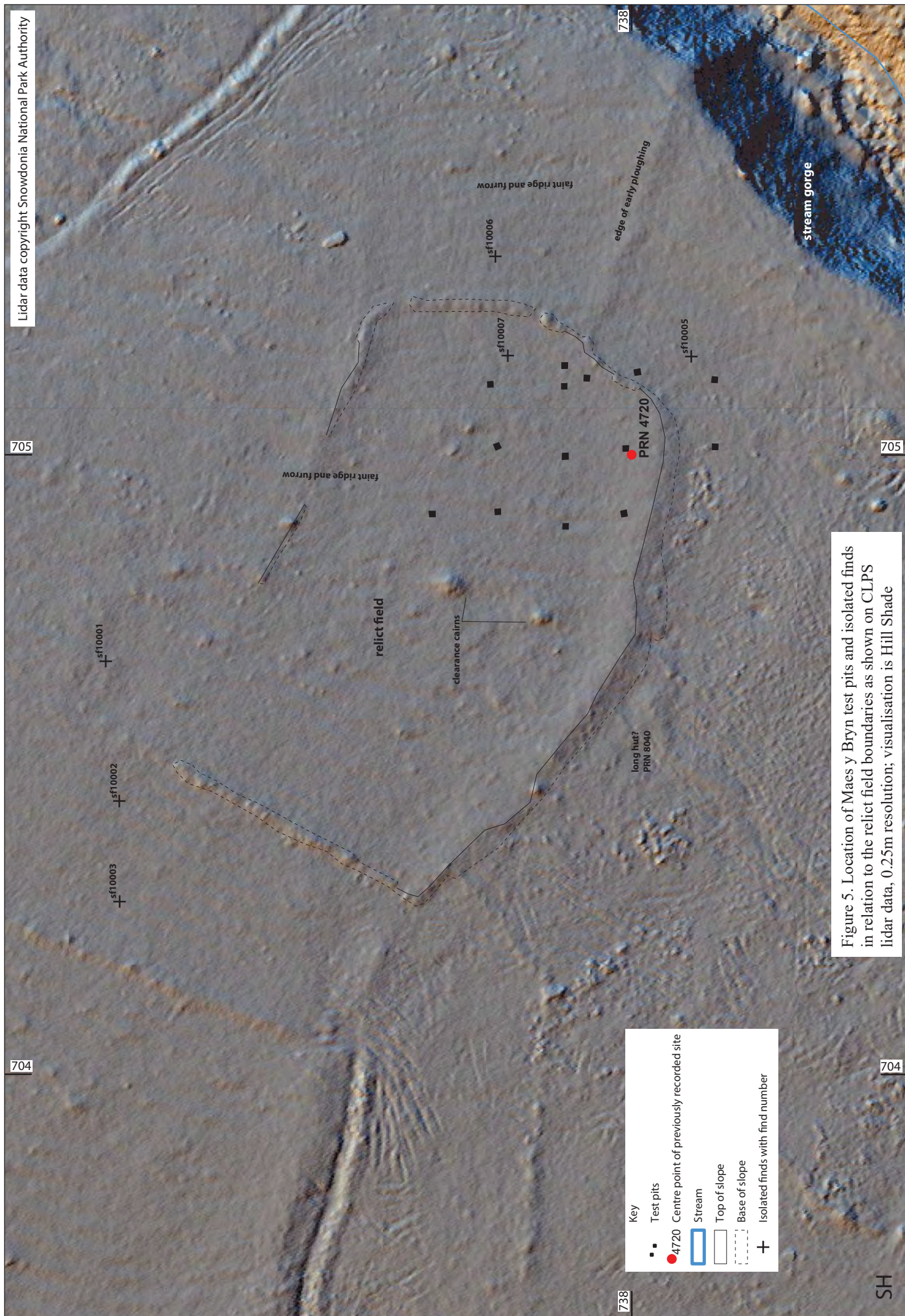


Figure 5. Location of Maes y Bryn test pits and isolated finds in relation to the relict field boundaries as shown on CLPS lidar data, 0.25m resolution; visualisation is Hill Shade

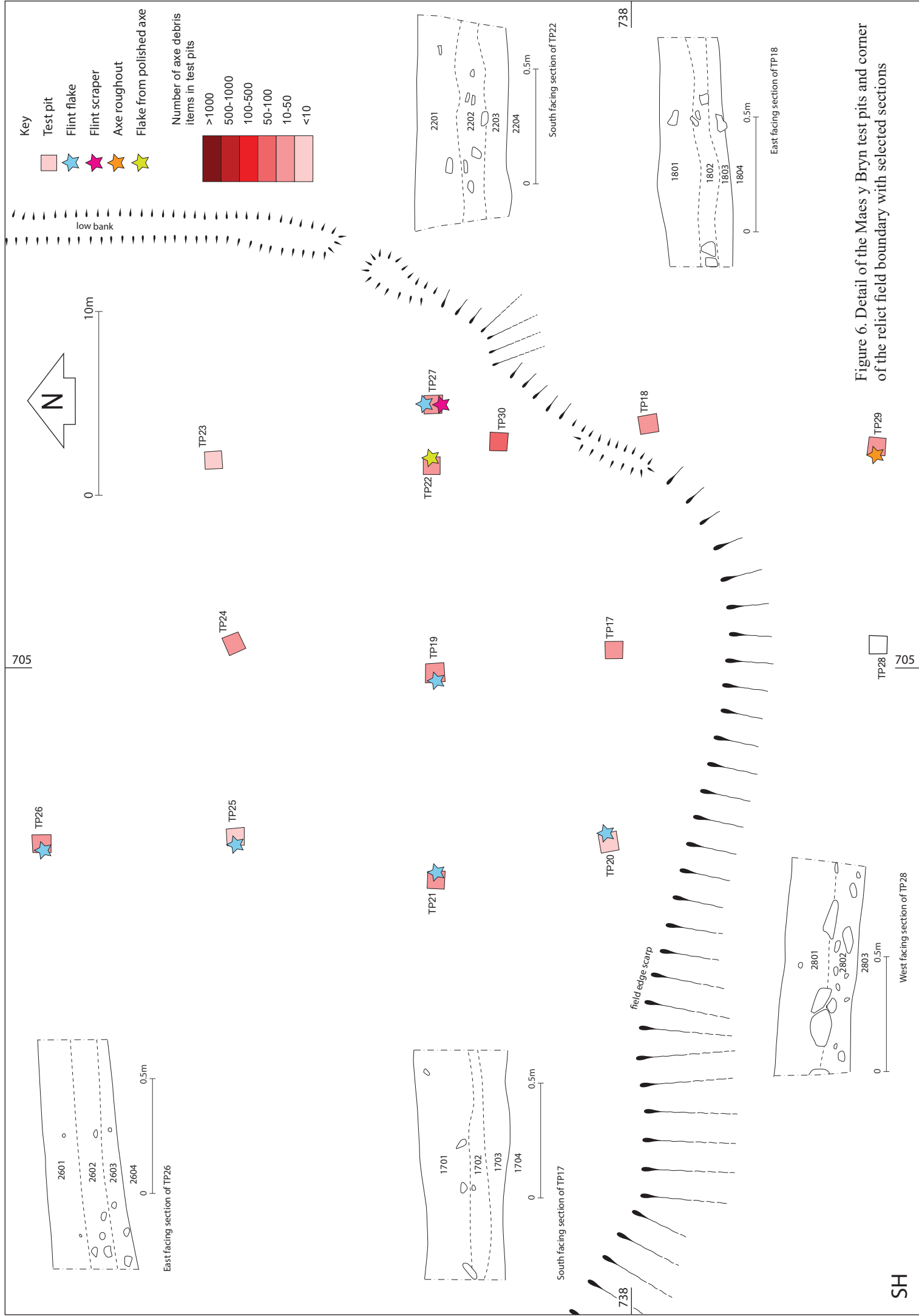


Figure 6. Detail of the Maes y Bryn test pits and corner of the relict field boundary with selected sections



West facing section of TP28

SH

Plate 11. Volunteers digging test pits at the Maes y Bryn site, showing the proximity to the marshland of Waun Llanfair and Foel Lwyd in the background (© John Roberts (SNPA))



survey commissioned by the Carneddau Landscape Partnership Scheme. This provides detail not previously available on other lower resolution lidar data sets. The lidar shows that there are some straight boundaries, visible as low banks, running down the slope and slight traces of narrow ridge and furrow on the same alignment. There are also occasional low mounds that appear to be field clearance cairns. Around the area investigated one of the straight boundaries forms the western side of a small field defined on the southern side by a gently curving scarp up to 0.9m high. Its eastern side is defined by a very slight curving bank. There are faint traces of a northern side to this field indicated by the remains of a bank at the eastern end and a largely ploughed out scarp further east. There are gaps in the eastern boundary that are presumably due to disturbance but may possibly be original. The faint ridge and furrow seems to have crossed the northern boundary of this field but respected the southern scarp edge.

The curving character of the southern and eastern boundaries of this field suggest that these are part of an original, probably Iron Age field, which has been reused in the medieval period, when the ridge and furrow was created and the straight field boundaries. The medieval ploughing seems not to have extended south of the relict field and this southern part of the field was probably only ever ploughed in 1961. That modern ploughing episode must have extended over all the relict field boundaries and other features within the ffridd but as this was a single episode it has not destroyed all evidence of the earlier fields. The nature of the ground surface and vegetation suggests that the modern ploughing extended no further south than the southern scarp.

The site is close to the open, marshy ground of Waun Llanfair, but is on a south facing slope, which would be warmer and drier than much of the surrounding area (plate 11).

Test pits

The central grid reference for the site proved to be in the south-east corner of the relict field and most of the test pits were positioned to explore the deposits within this field, but three were positioned outside the field boundary to compare deposits there (figure 6).

Twelve test pits were dug in this area, in a rough grid, with two additional test pits positioned close to one that was particularly productive, making fourteen test pits in total.

The natural subsoil was generally a yellow-brown gritty clay representing a glacial till. Sometimes the subsoil had larger stones within it but did not seem particularly stony at this site. This natural subsoil was between 0.28m and 0.4m below the ground surface, with the soil deposits being slightly deeper closer to the southern boundary of the relict field and shallower both south of the field and further north within the field. This suggests some soil movement within the ploughed deposits. A stone embedded in the subsoil in test pit 20 had plough scars from several phases of ploughing in different directions demonstrating that the relict field had been ploughed many times (plate 12).

In all the test pits there was a dark brown slightly clayey silt, with a varying amount of stone that was well mixed and represented a ploughed soil layer under the topsoil (plate 13). In some test pits this layer could be divided into two, with the lower part being slightly lighter in colour and often stonier. This lower layer is probably the remains of the earlier ploughsoil of medieval origin that was not disturbed by the modern ploughing. There was no clear ploughsoil layer in test pits 28 and 29 south of the relict field where the surface suggests that no ploughing had occurred.

In most cases the axe debris was found in the topsoil and the upper ploughsoil and was therefore disturbed from its original context. Even the debris found towards the base of the test pits will have been disturbed by the earlier ploughing, so the likelihood of finding preserved, *in situ* deposits of axe-working debris is unlikely within the area



Plate 12. Stone in test pit 20 showing several phases of plough marks



Plate 13. Section of test pit 22, within the relict field



Plate 14. Section of test pit 28, outside the relict field

of the relict field. Beyond the limits of the relict field TP28 produced no axe debris, but a small amount came from TP29, including a roughout. In these test pits a layer 0.2m deep represented undifferentiated topsoil and modern ploughsoil, with deposits below that appearing largely undisturbed. In TP28 the lowest layer was particularly stony (plate 14), while in TP29 the equivalent layer was a less stony buried soil. This suggests that there may be undisturbed prehistoric deposits surviving south of the relict fields. However, in TP29 the axe debris came from the topsoil/ploughsoil and so was in a disturbed context and could have moved some distance and the absence of axe debris from TP28 suggests that there may have been little activity in this area.

The axe debris was fairly evenly distributed but there was slightly higher number of flakes from TP22, 27 and 30 (figure 6). These may indicate a concentration of working, with number of flakes decreasing further away from this location. The flakes from across the site were generally small with a lack of larger primary material. This suggests that the final trimming and shaping of roughouts was taking place here. Probably a piece of scree was selected, tested and roughly knapped before removing to be further worked at the Maes y Bryn site. The roughout from TP29 may represent the type of object taken to the site ready worked (figure 7, sf2902), though George Smith suggests that this may have been a tool rather than a roughout (current report, section 4). This would explain its presence on a possible settlement site.

Of particular interest are the flint flakes recovered (figure 7). These were small flakes from small beach pebble flint and, with one exception, were not retouched, but they represent the transport of flint to the site and its knapping and use here. The retouched piece is a tiny thumbnail scraper made on a very small flint pebble (sf2702). Clearly the only flint available was very small and poor quality but its use indicates that other tasks were undertaken on this site, not just axe manufacture. Scrapers are traditionally thought to have been used for processing hides into leather, though usewear analysis does indicate that they were used for other scraping tasks. Generally, their use is suggestive of a domestic site, however temporary. The use of very small, difficult to work flint pebbles and the lack finer imported flint suggests this activity may date to the earlier rather than later Neolithic (Smith, current report, section 4).

Although 3 flints (2 flakes and the scraper) were recovered from TP27 at the possible focus of the axe-working activity, the other flint flakes came from the more distant test pits. This general scatter of flints may suggest that the focus of settlement activity is some distance from the test pits. Davies (1961) does not give an indication of the size of the artefact scatter that he identified but implies that finds were recovered over quite a wide area. It is likely that there are several foci of axe-working within the general area and the current test pitting has found only one. The discovery of a few axe flakes in molehills about 87m uphill from the axe-working focus suggests that further test pitting would find axe debris over a much wider area here, and possibly locate a flint concentration indicative of the focus of settlement activity.

In TP22 a flake of Group VII stone was found that had polish over the dorsal face (figure 7, sf2205). This is a flake from a finished stone axehead. Davies found several finished axes that had been reworked or roughly resharpened. This flake is one that could have been produced by reshaping or breaking down a finished axe. It is evidence that finished axes were brought to the site, probably at the end of their useful life and reworked on the site.

No dug features of any sort were located in the test pits. The size of the pits means that it is unlikely that features will be encountered unless there is a high density of them in an area. However, the complete lack of dug features with the evidence of early ploughing, may indicate that pits and postholes could have been heavily truncated. It is unlikely that layers such as hearth deposits would have survived in this area.

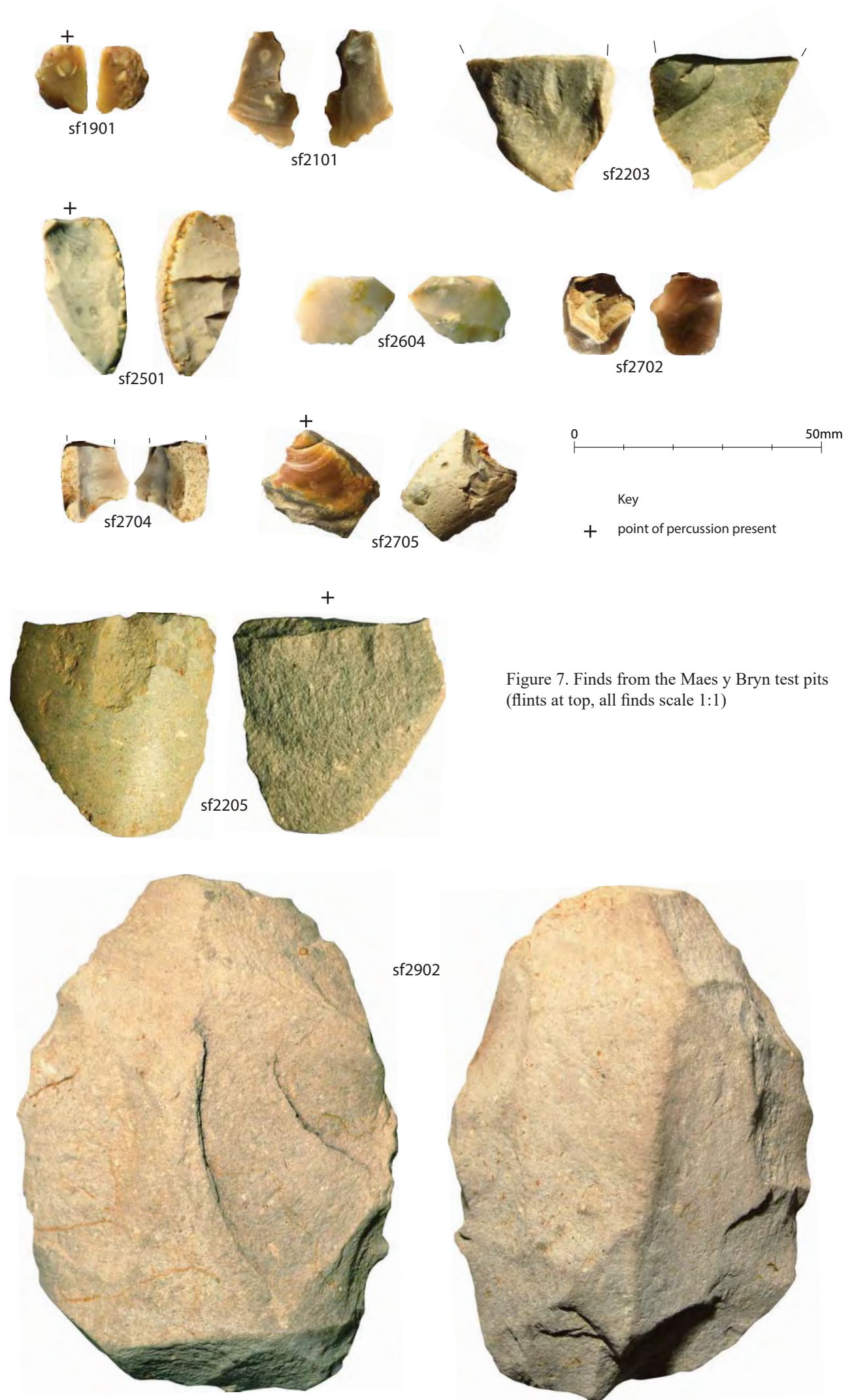
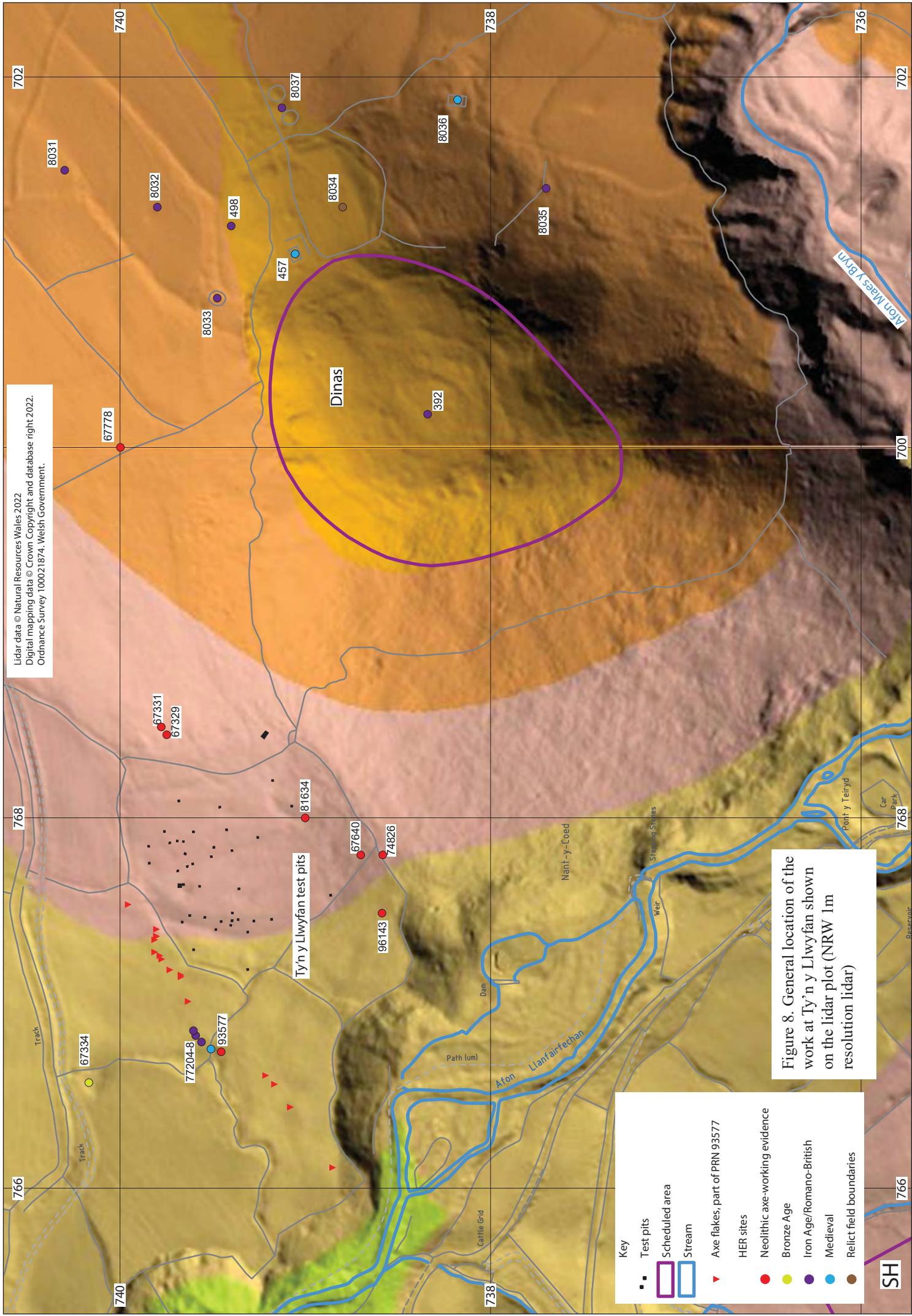


Figure 7. Finds from the Maes y Bryn test pits (flints at top, all finds scale 1:1)

Summary of finds

Pieces of white quartz were also collected and are included in the catalogue, but all appeared to be natural, unworked stone and these are not included below.

| Test pit | Type of object | No of items | Total weight of items (g) |
|----------|---------------------------|-------------|---------------------------|
| 17 | Axe debris | 41 | 767 |
| 18 | Axe debris | 48 | 389 |
| 19 | Axe debris | 28 | 187 |
| | Flint | 1 | 0.3 |
| 20 | Axe debris | 8 | 30.5 |
| | Flint | 1 | 5 |
| 21 | Axe debris | 12 | 84 |
| | Flint | 1 | 0.5 |
| 22 | Axe debris | 40 | 597 |
| | Flint | 1 | 4.5 |
| | Flake from a polished axe | 1 | 22 |
| 23 | Axe debris | 7 | 67 |
| 24 | Axe debris | 15 | 184 |
| 25 | Axe debris | 6 | 27 |
| | Flint | 1 | 5 |
| 26 | Axe debris | 36 | 442 |
| | Flint | 1 | 0.5 |
| 27 | Axe debris | 31 | 647 |
| | Flint | 3 | 2.4 |
| 28 | Axe debris | 0 | 0 |
| 29 | Axe debris | 16 | 658 |
| 30 | Axe debris | 82 | 708 |



Lidar data © Natural Resources Wales 2022
Digital mapping data © Crown Copyright and database right 2022.
Ordnance Survey 100021874, Welsh Government.

Figure 8. General location of the work at Ty'n y Llwyfan shown on the lidar plot (NRW 1m resolution lidar)

Key

Test pits

Scheduled area

Stream

Axe flakes, part of PRN 93577

HER sites

Neolithic axe-working evidence

Bronze Age

Iron Age/Romano-British

Medieval

Relict field boundaries

3.2. Ty'n y Llwyfan

Topography

Much of the southern, eastern, and western sides of Dinas are covered in natural scree that are bare and unvegetated. However, further north, where the slopes are covered in grass, there is still scree under the vegetation. In the improved fields below the western side of the hill the continuation of scree under the grass and turf is indicated by the uneven ground surface, with glacial till forming the substrate under the rest of the fields. The field investigated lies just on this boundary between scree and glacial till (figures 8 and 9). It is at the western foot of Dinas and slopes fairly steeply down from east to west, facing west. The scree continues into the eastern and southern margins of the field but most of the field is beyond the scree (figure 9).

Running north-north-west to south-south-east across the field is a steep west-south-west facing scarp, about 10m high (figure 10). Downslope, to the west of this is another steep scarp running about north to south and curving gradually. In the upper eastern part of the field is a slighter scarp, largely formed by the limit of the scree under the turf. The western scarp is sharply defined with a flat area immediately to the east of it. The main central scarp also has a steeper part long the top sharply defining the edge of a narrow flat area. In both cases the overall scarp appears to be a natural slope but the build-up of soil forming the sharp edges and the levelled areas are probably the result of ploughing and can be described as lynchets. These lynchets define an upper terrace and a middle terrace, with a lower terrace in the western edge of the field (figure 10).

Studying the nature and origin of these scarps was an important objective of the test pitting as former ploughing will define where deposits might be preserved and where they are disturbed and how axe debris might have been moved from its original location.

Test pits (PRN 81634, centred on SH 698 739)

Sixteen test pits were dug across this field in 2019 and the 23 test pits dug here in 2021 were located to expand the information gained from these initial test pits (figure 10).

Test pits TP02 and TP08 dug in 2019 were located close to the expected edge of the scree. These showed that scree deposits had largely faded out by this point. TP08 had a 0.3m layer of scree mixed with soil, but TP02 contained only a scatter of scree pieces embedded in the surface of the glacial till. All other test pits revealed the natural subsoil to be an altered glacial till, generally a yellow-brown sandy clay with stones embedded in it but in places it was more orange-brown and in some places had fewer stones. In TP39, on the face of the central scarp, the natural substrate was a very pale whiteish yellow sandy clay, concreted and very hard.

Upper Terrace

Several test pits were located to investigate the upper terrace above the central scarp. Test pits TP51, 52, 53 and 54 were dug towards the back of this terrace. The soil deposits in these test pits were about 0.3m deep, with only topsoil and a single ploughsoil layer distinguishable (plate 15, figure 11). This confirmed a shallow soil depth on this terrace indicated by TP01, TP03 and TP07 dug in 2019. In TP07 there was only 0.21m of soil down to the natural deposits, though TP03 had 0.4m. The terrace slopes gradually down to the north-west and TP 43 had a slightly deeper layer of topsoil and ploughsoil of 0.4m deep. Here, like over most of the field the ploughsoil, was a mid-brown clayey silt with some stone, but a paler yellow-brown sandy clay layer with larger stones could be distinguished below it. This second mixed ploughsoil-like layer could be found in many of the test pits and is interpreted as a relict soil, probably an earlier level of ploughsoil. Of the test pits placed towards the middle of the terrace TP05 was also about 0.4m deep but TP50 was 0.59m deep and had a visible relict soil layer.

Test pits TP04, 37, 42, 44, 45 and 46 were positioned on the top edge of the central scarp specifically to investigate deposits here. TP04 had soil deposits only 0.40m deep but the other test pits showed a very considerable build-up of soil in this area. TP42 has a soil depth of 0.72m, TP44 a depth of 1.05m, TP45 of 0.75m and TP46 of 0.94m (plates 16 and 17, figure 11). All these had a deep build-up of the mixed relict soil layer that here seemed almost certainly to be a colluvial deposit that had moved downslope through the action of ploughing. This layer was up to 0.48m deep, but in TP44 there was a further mixed relict soil layer below it. This had a scatter of charcoal in the top of the layer but had probably formed from eroding till early in the Holocene.

A tiny fragment of flint debitage was recovered from TP42, with a larger piece of cherty flint from TP45. The latter is a piece of a broken pebble and may not have been worked.

TP36 was located towards the northern part of the terrace. Here there was 0.70m of soil with 0.32m of topsoil and recent ploughsoil over about 0.27m of relict soil, the earlier colluvial ploughsoil. This covered a lower mixed layer, probably an old forest soil developed during the early Holocene. Along the interface between the topsoil and ploughsoil was a concentration of stones, indicating the movement of ploughsoil and the sorting of stones. In this was an axe roughout (sf3611, figure 12) that was recorded in the section of the test pit (plate 18, figure 11).

TP37 was quite different to the other test pits in this area. Under topsoil and ploughsoil about 0.20m deep was a layer of densely packed stone including natural scree and numerous pieces of axe debris in a mid-brown sandy silt

Figure 9. Location of test pits and evaluation trench at Ty'n y Llwyfan with NextPerspectives aerial image showing the immediate landscape and extent of the scree



Key

- Test pit
- Approximate limit of the scree under the pasture

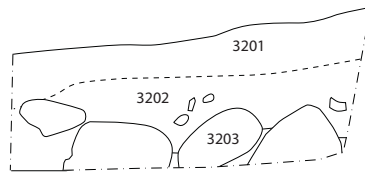
scree under vegetation

open scree

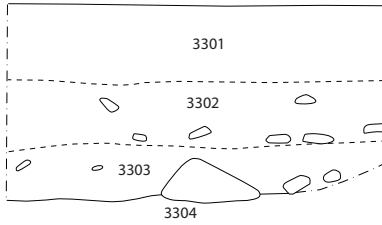
scree under vegetation

open scree

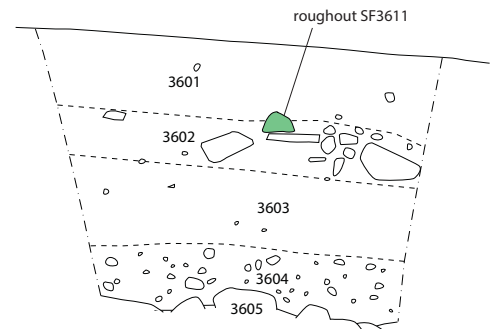




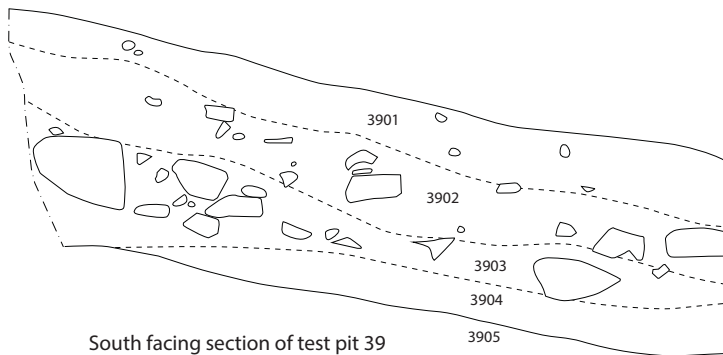
South facing section of test pit 32



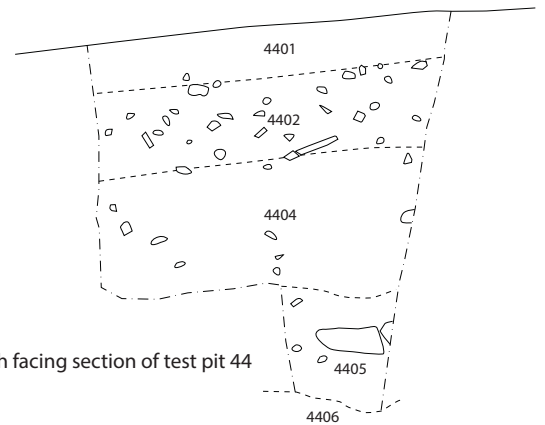
West facing section of test pit 33



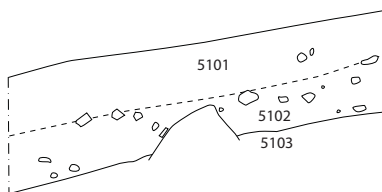
West facing section of test pit 36



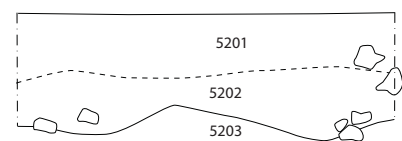
South facing section of test pit 39



South facing section of test pit 44



North facing section of test pit 51



North facing section of test pit 52

Figure 11. Selected sections of test pits at Ty'n y Llwyfan

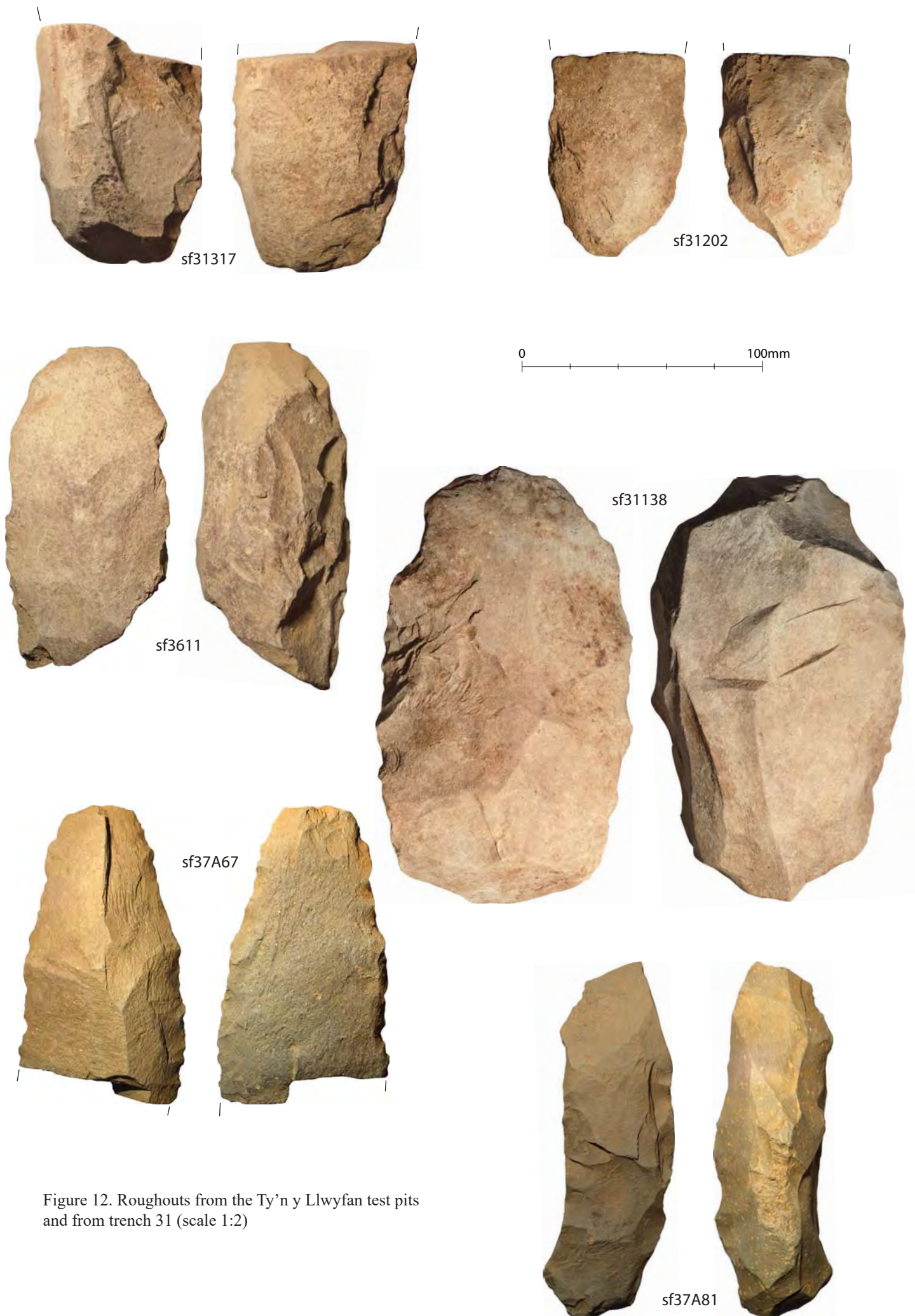


Figure 12. Roughouts from the Ty'n y Llwyfan test pits and from trench 31 (scale 1:2)



Plate 15. Section of test pit 53 in the uphill part of the lynchet



Plate 16. Section of test pit 44 close to the edge of the main scarp



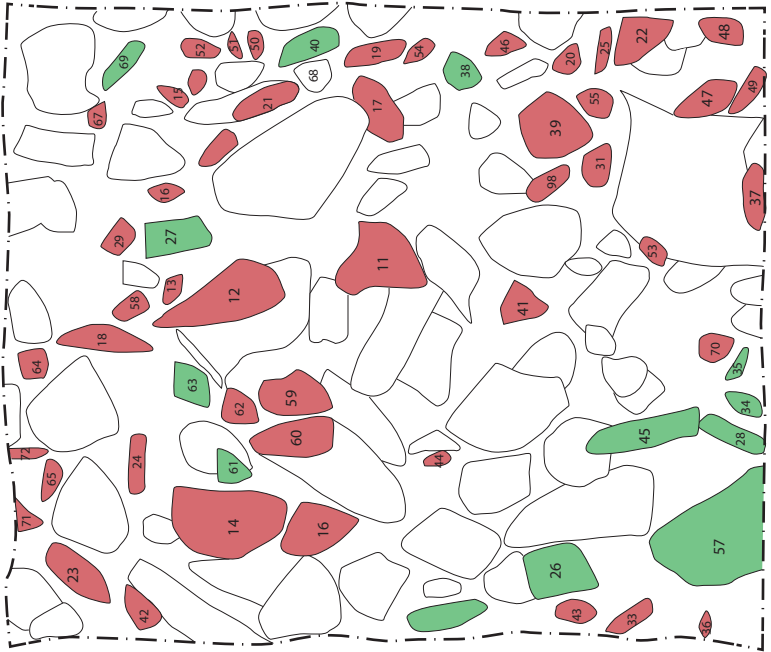
Plate 17. Section of test pit 46 close to the edge of the main scarp



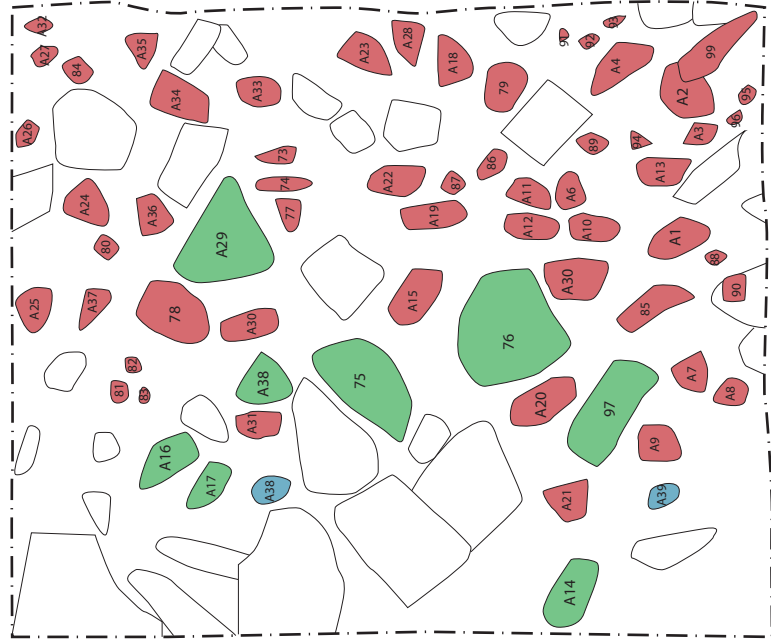
Plate 18. Section of test pit 36 with roughout in section



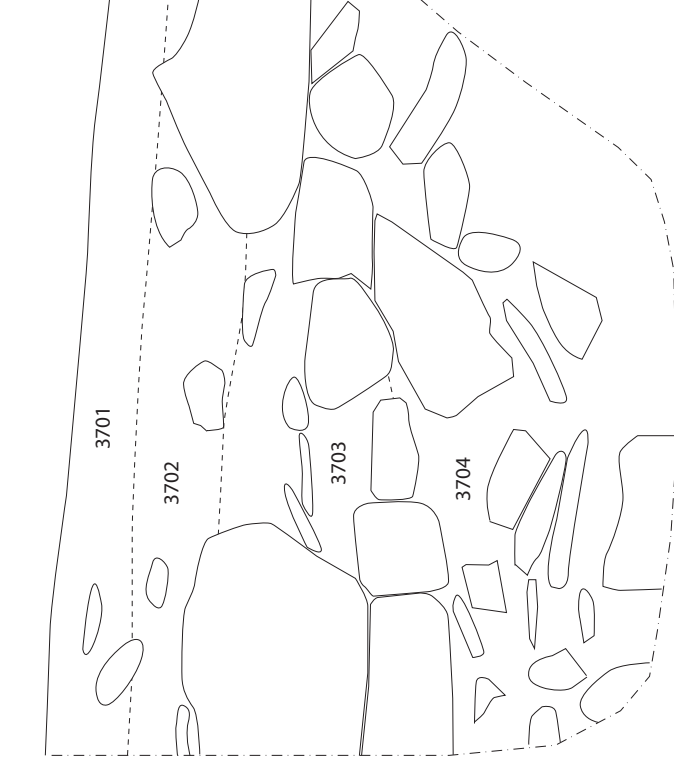
Plate 19. Surface of layer 3703 in test pit 37



Plan of layer 3703 spit 1



Plan of layer 3703 spit 2



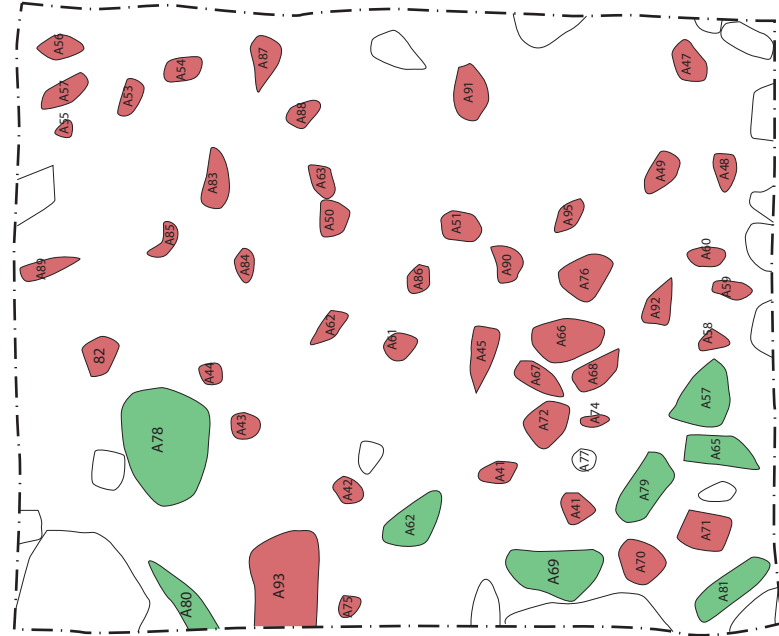
West facing section of test pit 37



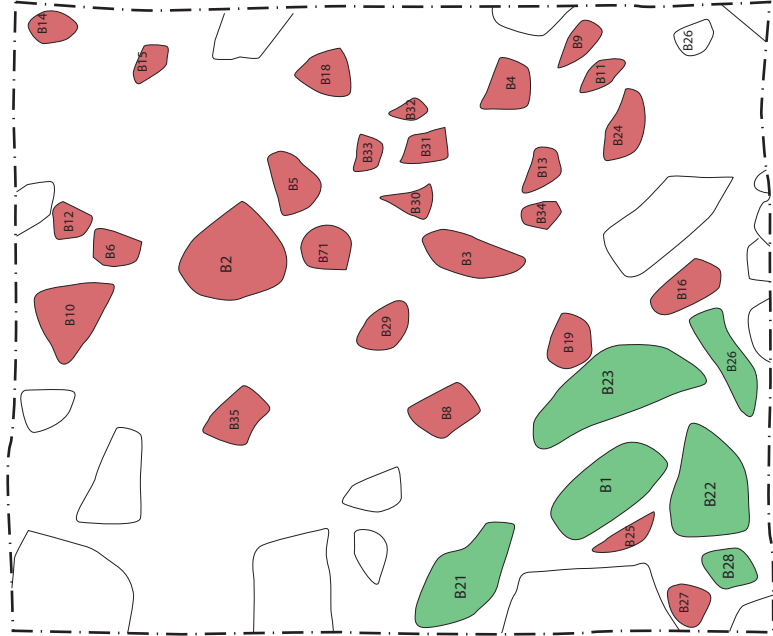
North facing section of test pit 37

- Key
- Axe-working flakes
 - Larger flaked pieces or core
 - Possible hammerstone
 - Unworked stone
 - Trench edge
 - Find number (minus prefix 37)

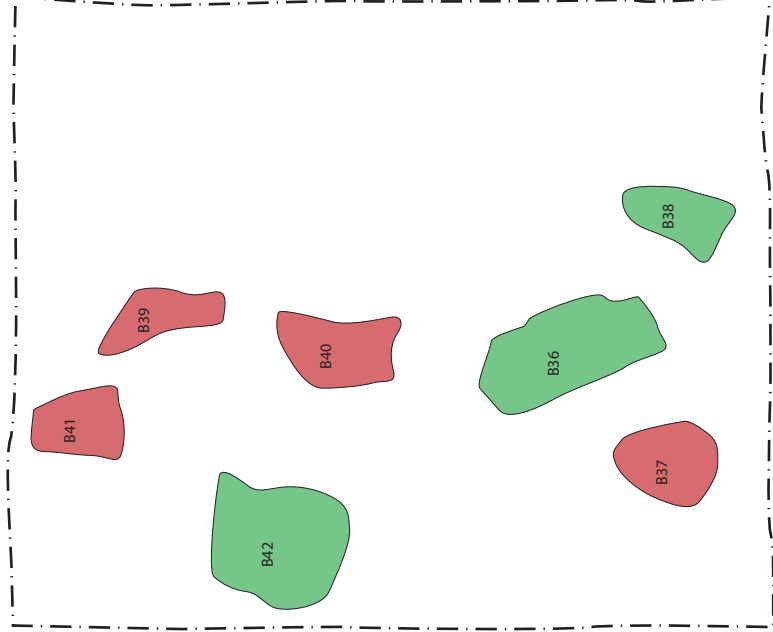
Figure 13. Plans of spits in TP37 and sections of the test pit



Plan of layer 3703 spit 3



Plan of layer 3704 spit 1



Plan of layer 3704 spit 2

matrix (layer 3703) (plate 19). This was 0.17m deep and below that was a similar layer of stone and axe debris in a yellow-brown sandy silt (layer 3704). This layer was at least 0.6m deep, but there was not enough time to reach the natural subsoil in this pit. Layer 3703 was dug in three spits, with the axe debris planned for each spit (figure 13). Layer 3704 was dug in two thicker spits, each planned. Layer 3703 contained numerous small flakes and many large flakes laid as if *in situ* and undisturbed amongst blocks of scree. There were also smaller flakes in layer 3704 but more larger flakes and worked pieces. This might represent a ridge of scree but the presence of axe debris through-out suggests this could be a cairn or mound of dumped material that has built up over time, with axe-working taking place on it at various stages. Much of this mound or ridge must be buried under the colluvial ploughsoil, as it is not visible as a feature on the ground surface. Further excavation is necessary to define the shape and character of this feature.

Central scarp

The central scarp was up to about 10m high and up to about 40m wide. In 2019 TP10 was dug on the face of the scarp and showed that the soil depth here was shallow, as might be expected on a steep slope, at 0.2m total depth. More soil had built up over some areas of the scarp, especially towards the northern end where there was a shelf in the slope, on which a hawthorn bush is currently growing. TP15 located on this shelf was 0.6m deep with 0.30m of ploughsoil packed with axe debris, and a relict soil/earlier ploughing layer 0.25m deep also containing axe debris and some burnt stones. TP40 located a little further south showed that the soil depth here was 0.40m, also with some trace of the relict soil. To further investigate the concentration of axe debris a larger test pit (TP39) was dug adjacent to TP15. TP39 measured 2m by 2m and it was 0.58m deep. It was hoped that the larger size might reveal more detail of the stratigraphy, but instead it confirmed that these were disturbed deposits. This slope had been ploughed and the ploughsoil (layer 3902) up to 0.2m deep (figure 11) contained a large amount of axe debris, including a broken roughout. Below that a stony colluvial layer (layer 3903) also contained axe debris, including large roughly flaked blocks and a roughout. Below that was an interface layer with the natural substrate that also contained some flakes. The hard, concreted natural contained stones up to 0.6m long that protruded into the layers above.

There was one piece of pottery from layer 3902 (sf3916) and two pieces from layer 3903 (sf3931 and 3932) (figure 14). All appear to be medieval pottery but need to be studied by a specialist to identify the ware type and date.

It seems that material has been moved down this scarp mainly by the action of ploughing and it has collected on this slight shelf, but the quantity of axe debris suggests axe-working taking place probably just up slope from these test pits. The discovery of medieval pottery in the colluvial layer suggests that the movement of soil took place due to ploughing in the medieval period.



Figure 14. Pot sherds found in test pit 39

Middle Terrace

This is a level terrace with a very flat surface, so that it appears that it has been levelled by ploughing running along the length of the terrace over a long period. Four pits dug in 2019 (TP09, 11, 12 and 16) suggested deeper soil here with depths ranging from 0.33m to 0.60m. Further test pitting on this terrace showed that although there was a substantial build-up of soil across the terrace it was shallower on the eastern, uphill side and deeper on the western, downhill side as is typical of lynchets formed by ploughing.

TP47, TP48 and TP49 were located on the built-up edge of the terrace. TP47 was 0.71m deep, TP48 was 0.78m deep and TP49 was 0.86m deep but the natural substrate was not reached within it. These had an orange-brown silt representing the lower a lower ploughsoil beneath the more recent ploughsoil. It is possible that the lower ploughsoil is Iron Age in origin and that the upper ploughsoil was due to medieval ploughing. TP34, located near the base of the central scarp was only 0.31m deep, showing where ploughing had eroded into the slope and caused soil to move downhill. Test pits TP32, 35 and 38 also had depths of between 0.30m and 0.36m, while test pits TP33 and TP41, more towards the middle of the terrace were slightly deeper at 0.52m and 0.41m respectively. The ploughsoil on this terrace is a mid-brown sandy silt with relatively little stone, that looks more improved than ploughsoil in some other parts of the field.

A partial roughout was recovered from the ploughsoil layer in Pit 11 (SF1101) with a fairly high amount of axe debris. Test pits TP33, 34 and 35 were dug round TP11 to try and define the limits of an activity focus. TP33 also had a fairly large quantity of axe debris with much less in the other surrounding test pits (figure 10). This suggests that although the axe debris has been disturbed by ploughing on this terrace test pits 11 and 33 located a concentration of debris that indicates that there was a focus of axe-making activity here.

In 2019 TP16 was dug to explore the southern end of this terrace. This test pit was 0.5m deep and a partial axe roughout (SF1601) was found within a charcoal rich deposit (1603). This area was not investigated in 2021 and would repay further exploration, probably using a larger test pit like TP39.

A small number of test pits on both the middle and upper terrace, as well as TP39 produced a few pieces of burnt stone. The significance of this is currently unclear. While burnt stone can be associated with prehistoric activity it could also be the result of gorse burning.

Bottom Terrace

The bottom terrace was small and mostly covered in bracken. In 2019 two pits were located on this terrace, TP13 and TP14. TP13 was 0.43m in depth and TP14 was 0.50m in depth. They both contained only topsoil and ploughsoil over the natural. This area was not further investigated in 2021. Both these test pits contained a small amount of axe debris and also each produced a roughout. It would be useful to determine how much further down the slope axe-working is represented.

In 2018 an archaeological watching brief by Aeon Archaeology on the renewal of a water pipeline found axe flakes on the continuation of this terrace just below the bottom boundary of the investigated field (Dean and Cooke 2019). Twenty-seven flakes were found (PRN 93577) along the route of the pipeline in this area; a few scattered south-west towards the cliff above the Afon Llanfairfechan (figure 8). This watching brief was occasioned by the need to replace a burst water pipe. When the pipe first burst Dŵr Cymru dug a pit to investigate the burst. David T Jones took Jane Kenney to see this pit and they found numerous flakes in the spoil from the pit (PRN 96143, see figure 8). Seven flakes were collected and given to Rich Cooke when the watching brief started. These have been included in the watching brief report (Dean and Cooke 2019).

These finds show that axe debris can be found down to the edge of the wooded gorge in which the Afon Llanfairfechan flows. These fields have been ploughed and some debris might have moved downslope due to the action of ploughing, but it is likely that these finds represent axe-working taking place in this area. This area would repay future test pitting to determine whether concentrations of axe-working debris can be found here.

Trench 31 (PRN 96144, centred on SH 69845 73922)

An evaluation trench measuring 4m by 2m was dug across an area of consolidated scree to investigate the deposits within the natural scree at the foot of Dinas (plate 20). This area had previously been surveyed (Kenney 2019) and slight terrace-like scarps were seen to run across it (figure 15). These might be due to the movement or disturbance of the scree or could be in origin more deliberate structures. The trench was positioned across one of these scarps (plates 21 and 22). Roughly worked blocks of scree can be seen all over this area but some small flakes were also visible on the surface. The presence of these flakes was taken to indicate that there might be undisturbed deposits here.

The upper layer in the trench (layer 3101) was a very dark brown organic silt, essentially the topsoil but largely composed of semi-decayed bracken (plate 23). This and the layer below were full of bracken roots that must have caused some disturbance but equally would have resisted erosion. There were many flakes loose within this soil and the position of these were recorded by GPS.

Below the topsoil was a layer of consolidated scree with large amounts of axe debris in a mid-brown sandy silt matrix (layer 3102) (plates 24 and 25). Most of this layer was removed in two spits, after recording. The finds in the last recorded spit were collected but the remainder of the layer is to be removed next season (plate 26). Within the upper spit of (3202) in the upper south-eastern corner of the trench was a distinct group of small flakes, suggestive of a knapping floor where fine working of a roughout was taking place (figures 16 and 17). There were generally larger flakes towards the lower, north-west end of the trench. It is possible that the larger flakes had rolled further downhill, but it seems likely that this represents another concentration of working, this time representing the initial shaping of a roughout.

In the second spit the flakes were distributed over almost all the trench with less clear patterning though generally more of the larger flakes were found towards the bottom end of the trench (figures 18 and 19). More detailed analysis of the flakes is necessary to confirm these patterns. If it is possible to refit flakes (join them back together to reveal the object that they were struck from) that would demonstrate that specific episodes of knapping are presented.

The terrace-like landform did not become much clearer with excavation but was still visible and further excavation may reveal that it is based on the shape of underlying deposits.

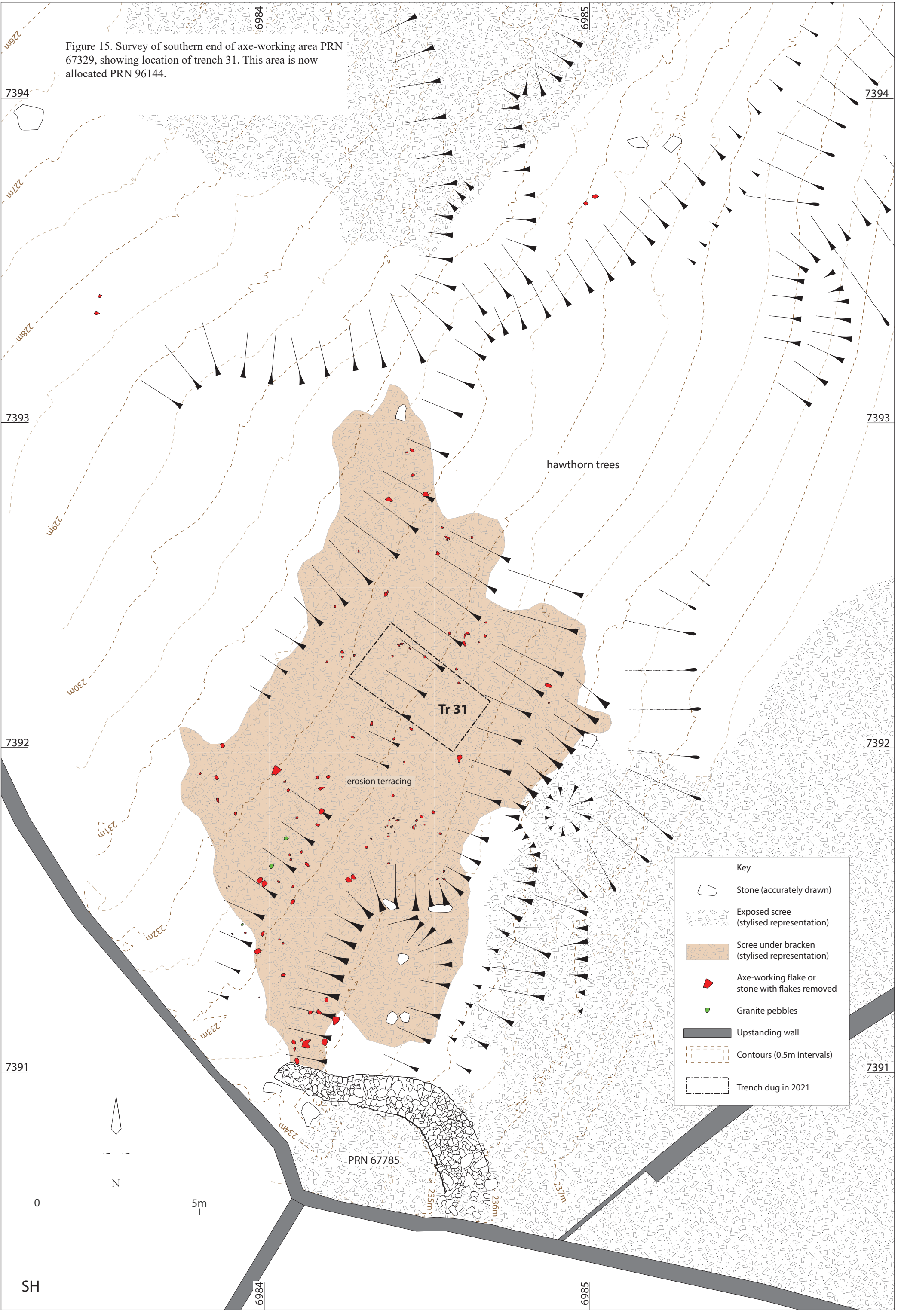
No charcoal was seen in the deposits and certainly no layers or lenses of charcoal indicative of fires. It is a particular aim of the project to find such layers of charcoal that could be dated by radiocarbon assay to give an indication of when working occurred. Possibly such a layer might be found lower down.

The trench was dug to a maximum of 0.2m in depth, and generally no more than 0.1m, and requires the excavation to be completed to determine whether it is underlain by undisturbed natural scree, till or whether there is a great depth of axe debris. The latter seems unlikely as a gritty brown deposit was already becoming visible in places that could be the soil just above the till. However, this interpretation needs to be confirmed and it is not impossible that this is a colluvial soil hiding earlier axe debris.



Plate 20. View for the drone of the evaluation trench (trench 31) during excavation, showing its location on the consolidated scree (© John Roberts (SNPA))

Figure 15. Survey of southern end of axe-working area PRN 67329, showing location of trench 31. This area is now allocated PRN 96144.





Plates 21 and 22. Volunteers digging in trench 31 on a misty day, showing the fairly steep slope of the ground



Plate 23. Trench 31 cleared of bracken and laid out showing the ground surface before excavation (layer 3101)



Plate 24. Trench 31 from the north-west showing the surface of layer 3102



Plate 25. Trench 31 from the south-east showing layer 3102 and showing the position of the trench just above the improved fields



Plate 26. Trench 31 from the north-west showing the second spit of layer 3102 (3102B)



Figure 16. Orthomosaic of the surface of layer 3102

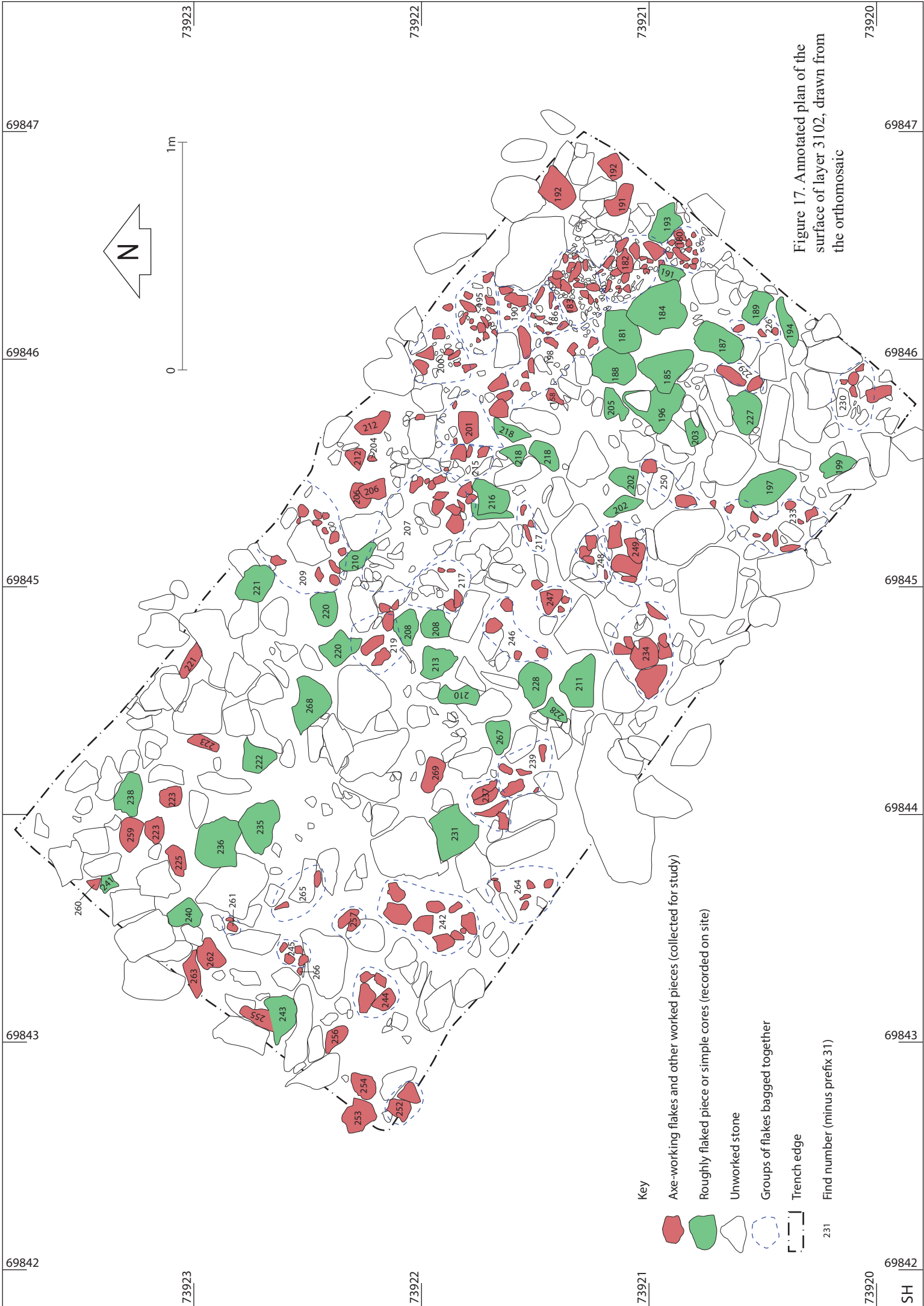
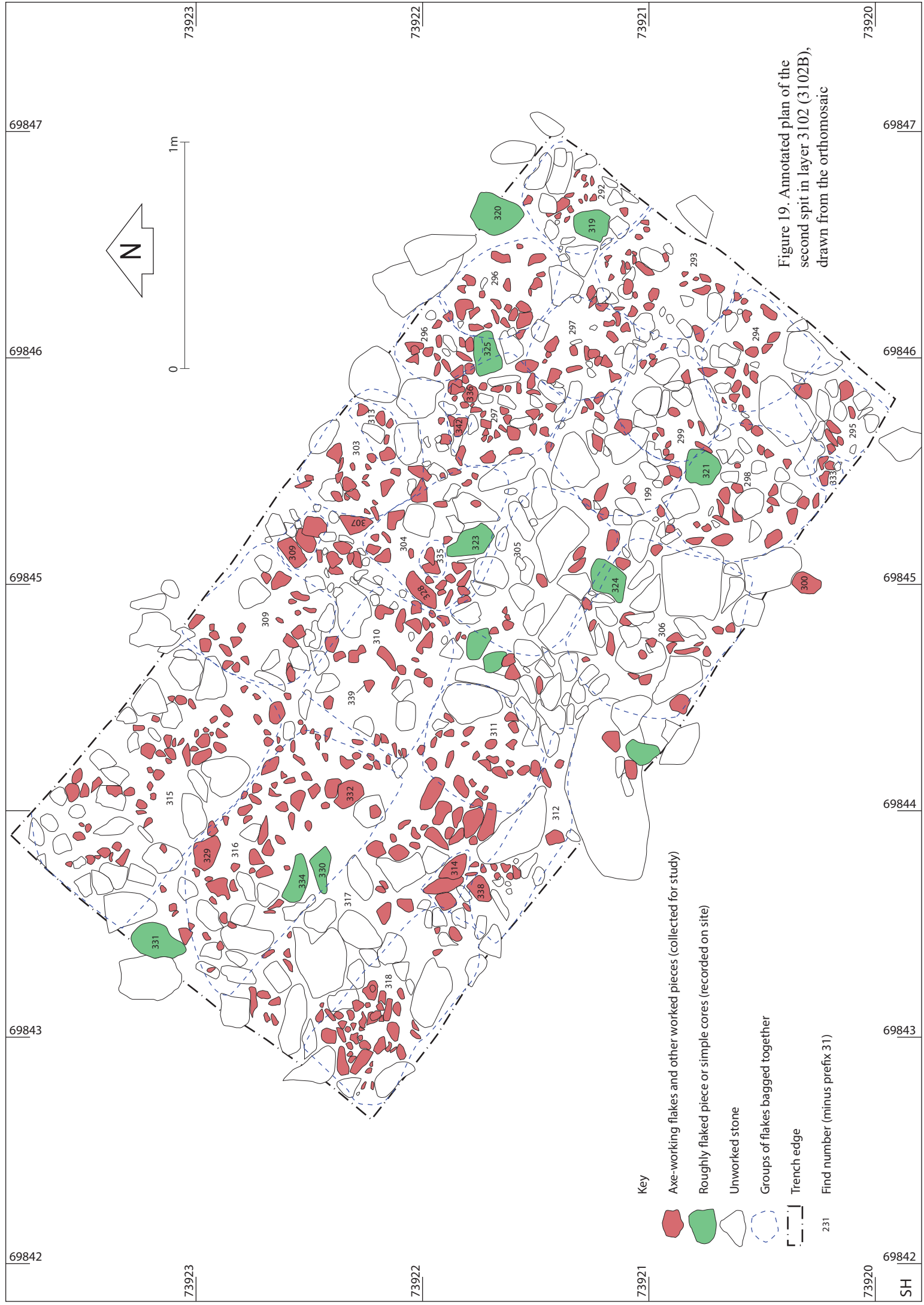




Figure 18. Orthomosaic of the second spit in layer 3102 (3102B)



Summary of finds

Pieces of white quartz were also collected and are included in the catalogue, but all appeared to be natural, unworked stone and these are not included below. Not all the potential axe debris has been checked in detail so final numbers and weights may be less than shown here when unworked items are discarded. The totals for trench 31 include large pieces recorded on site but not retained.

| Test pit | Type of object | No of items | Total weight of items (g) |
|----------|----------------|-------------|---------------------------|
| 31 | Axe debris | 2160 | 228448.5 |
| 32 | Axe debris | 37 | 1217 |
| 33 | Axe debris | 203 | 727 |
| 34 | Axe debris | 32 | 170 |
| | Burnt stone | 7 | 693 |
| 35 | Axe debris | 41 | 559 |
| 36 | Axe debris | 200 | 14382 |
| | Burnt stone | 1 | 403 |
| 37 | Axe debris | 835 | 88760 |
| | Hammerstones? | 2 | 1332 |
| 38 | Axe debris | 30 | 1589 |
| 39 | Axe debris | 2253 | 76051 |
| | Burnt stone | 42 | 2685 |
| | Pot sherds | 3 | 28 |
| 40 | Axe debris | 58 | 1435 |
| 41 | Axe debris | 18 | 1340 |
| 42 | Axe debris | 985 | 17589 |
| | Flint | 1 | 1 |
| 43 | Axe debris | 62 | 1567 |
| | Hammerstone? | 1 | 795 |
| 44 | Axe debris | 1127 | 15184 |
| | Burnt stone | 5 | 527 |
| 45 | Axe debris | 1506 | 16764 |
| | Flint | 1 | 4 |
| 46 | Axe debris | 1055 | 12377 |
| 47 | Axe debris | 43 | 1672 |
| 48 | Axe debris | 40 | 675 |
| 49 | Axe debris | 24 | 2147 |
| 50 | Axe debris | 300 | 2429 |
| 51 | Axe debris | 15 | 263 |
| 52 | Axe debris | 18 | 321 |
| 53 | Axe debris | 48 | 246 |
| 54 | Axe debris | 26 | 214 |

Soil samples/charcoal

| Test pit | Context | Material |
|----------|---------|--|
| 37 | 3703 | Charcoal fragments |
| 37 | 3704 | Small sample of soil containing charcoal |
| 41 | 4102 | Charcoal fragments |
| 44 | 4404 | Bag of soil containing charcoal |
| 45 | 4503 | Small sample of soil containing charcoal |

4. LITHIC FINDS ASSESSMENT REPORT

By George Smith

4.1. Introduction

The project aims to investigate an area around the slopes of Dinas, Llanfairfechan, an outcrop of a fine augite granophyre where surface finds of Neolithic stone axe heads and part-finished axe heads (roughouts) show that such objects had been produced, forming an outlier to the well-known major Neolithic stone axe head production site of Graig Lwyd, 1.5km to the north-east. It aims to understand how extensive the working was, at what period or periods it took place, whether there was associated settlement and how the lithic working took place. In 2019 sixteen 1m square test pits were excavated in a field below the scree slopes of the hill of Dinas. These were widely scattered across the area to provide a sample of whatever activity might be present (figure 10). Surprisingly, every pit produced some evidence of stone working in the form of stone flakes, flake fragments and larger irregular primary pieces, as well as five axe-head rough-outs (Table 1). The latter occurred mainly lower down the hill, away from the scree slopes and not in association with particular concentrations of waste material, suggesting that the later stages of working took place separately from the primary stages. One rough-out, however, was associated with a greater concentration of waste material. This was from pit 15 behind a slight knoll on the hill slope, which may have provided a convenient natural working platform.

Table 1 Summary of lithic objects from the 2019 test pits, Ty'n y Llwyfan

| <i>Test pit no.</i> | <i>Group VII stone axe rough out</i> | <i>Group VII stone primary frag</i> | <i>Group VII stone flake/ frag</i> | <i>Group VII stone angular frag</i> | <i>Chert/ Other: flake/ frag</i> | <i>Utilised pebble, hammer stone?</i> | <i>Split pebble frag</i> | <i>Other rock angular frag</i> |
|---------------------|--------------------------------------|-------------------------------------|------------------------------------|-------------------------------------|----------------------------------|---------------------------------------|--------------------------|--------------------------------|
| 1 | | | 10 | 2 | | 1 | 2 | 8 |
| 2 | | | 12 | 6 | 2 | | | 16 |
| 3 | | 2 | 25 | | | | | |
| 4 | | | 7 | | | | | |
| 5 | | 2 | 24 | | 7 | | | |
| 6 | | | 46 | | 11 | | | |
| 7 | | | 3 | | | | | |
| 8 | | 4 | 147 | | | | 3 | |
| 9 | | | 33 | | 17 | | 2 | |
| 10 | | 1 | 12 | | | 1 | 1 | |
| 11 | 1 | 3 | 84 | | | 2 | | |
| 12 | | | 3 | | 1 | | 1 | |
| 13 | 1 | 7 | 34 | | | | | |
| 14 | 1 | | 4 | | | | | |
| 15 | 1 | 52 | 241 | 1 | 4 | 5 | 122 | 2 |
| 16 | 1 | 12 | 11 | 32 | | | | |
| Total | 5 | 83 | 694 | 41 | 42 | 8 | 131 | 26 |

In 2021 a further series of trial pits were excavated across the whole area that had been examined in 2019, as well as one larger trench, trench 31, which provided a sample of the lower scree slopes themselves, where previous surface finds indicated that working had taken place. In addition, a further series of fourteen pits, Trenches 17 to 30, were excavated on an area, named Maes y Bryn, to the east of the hill of Dinas. That area had been ploughed some years ago, and surface collection from the exposed soil produced a number of finds showing evidence of stone axehead production (Davies 1961). This area, because of its level nature, had potential to have been the location for settlement associated with the axehead production.

4.2. Assessment design

The work in 2021 was more extensive and located some areas of intensive stone working which produced large quantities of lithic material, over 4000 objects. It was not possible to individually study this much material for the assessment, so a large sample was selected, including substantial samples from five of the seven trenches that produced significant amounts of stone-working material and study of all material from nine of the remaining seventeen test pits with lesser quantities of objects. The assessment evidence was recorded in an Access database and is shown in Appendix III. Otherwise, the material is summarised in Tables 2 and 3, below.

Assessment of the lithics from the 2019 work had looked at the material in the terms of the accepted metrical analysis of lithics normally used in the analysis of flint and chert. This did not seem to be useful where the parent material was sourced from quarrying or scree, where the objective was the production of a large bifacial object. All the material is weathered to some extent, much more so than would be the case with flint or chert. There is also a very high breakage rate of the smaller, thinner flakes, demonstrating the amount of trampling that must have taken place. That limits the opportunity for metrical analysis. This is also accompanied by trample damage to edges, which, along with weathering, makes it difficult to distinguish what is just damage from what is deliberate secondary retouch. The present assessment has, therefore, tried an alternative approach by putting the material into three size classes, which attempted to assess the stages of stone-working, from creation of primary blanks, to initial rough shaping, to fine shaping and thinning. The classes are based on maximum dimension, not standard flake length and are first up to 50mm, second 51mm to 100mm and third over 100mm.

4.3. Raw Material

The raw material appears to have all been derived from scree blocks rather than quarrying, although quarrying would have produced unweathered and better-quality stone. The worked waste pieces were also nearly all considerably weathered subsequent to their manufacture. The material itself also seems, from surface observation, to have varied considerably in texture, from finer to coarser, and that might have led to purposeful selection from the scree. This variation in the quality of the Group VII raw material is of interest and proper geological study of samples from material here at Dinas and comparison with material from at Garreg Fawr and Graig Lwyd would be useful.

4.4. Maes y Bryn

All but one of these pits produced some evidence of stone working debitage (Table 2).

Table 2 Maes y Bryn test pits lithic finds summary

| Test Pit no. | Group VII stone axe/rough-out | Group VII stone flake/frag | Group VII stone flake/frag size class | | | Flint retouched piece | Flint or Chert flake/frag | Utilised? pebble | Vein quartz frag |
|--------------|-------------------------------|----------------------------|---------------------------------------|----------|--------|-----------------------|---------------------------|------------------|------------------|
| | | | 0-50mm | 51-100mm | >100mm | | | | |
| 17 | | 40 | 31 | 9 | - | | | | 11 |
| 18 | | 43 | 25 | 8 | - | | | | 26 |
| 19 | | 18 | 16 | 2 | - | | 1 | | 31 |
| 20 | | 7 | 7 | 7 | - | | 1 | | |
| 21 | | 12 | 11 | 1 | - | | 1 | | 20 |
| 22 | 1 re-worked polished axe frag | 39 | 32 | 1 | - | | | | 1 |
| 23 | | 7 | 6 | 1 | - | | | | 60 |
| 24 | | 15 | 12 | 3 | - | | | | 37 |
| 25 | | 15 | 13 | 1 | 2 | | 1 | | 19 |
| 26 | | 15 | 13 | 2 | - | | 1 | 1 | 39 |

| | | | | | | | | | |
|--------------|--------------------|------------|----|---|---|----------|----------|----------|------------|
| 27 | | 13 | 9 | 4 | - | 1 | 2 | | |
| 28 | | 0 | - | - | - | | | | 16 |
| 29 | 1 rough- out | 15 | 10 | 5 | - | | | | |
| 30 | | 50 | 41 | 9 | - | | | | 33 |
| Total | 2 | 291 | | | | 1 | 7 | 1 | 293 |

Although Maes y Bryn is some 300m from the nearest exposure of Group VII stone from the scree slopes of Dinas there is a significant quantity of stone debitage. It is notable that, although light, it is quite evenly spread with no evidence of localised, intensive stone working. Larger, primary material is almost absent as might be expected at a distance from the source, and such working as there was may have been limited to some final trimming or sharpening. Nine stone flake fragments were also collected from molehills in the area (figure 5), all small pieces. That is emphasised by the presence of one axe roughout from a pit (TP29) that has only a low number of waste flakes. The roughout, SF2902 (figure 7), is unusual, short and broad, possibly as a result of its 'tail' end breaking off. That might have led to its discard, but its edges are unusually sharp, and another possibility is that it was an artefact in its own right, such as a chopping tool, without further shaping.

The presence also here, of a few flint and chert pieces including one small 'thumbnail' scraper (SF2702, figure 7) also suggests some more settled activity, as well as a fragment of a broken polished axe (S2205, figure 7) from which a few small flakes had been struck. Such apparently non-utilitarian re-working of axes has elsewhere been interpreted as of symbolic activity. The axe or axe-fragment itself would have been imported to the site. The flint and chert is all produced from small pebble material, either from beaches or glacial gravels, likely to have been sourced at some distance from Maes y Bryn. The sole use of such small and difficult material and the lack of any finer imported material suggests a date in the earlier, rather than later Neolithic period for the activity here.

Although the amount of lithics is sparse, its spread is consistent and there is a slight concentration of stone debitage in pits 17, 18, 19, 22 and 30, in the south-east area of the pitting and that coincides with the presence of the flint scraper and the re-worked polished axe fragment. The depth of deposits here, varies from approximately 0.28m to 0.4m and, as shown by the surface finds, the recent ploughing must have at least disturbed any underlying ancient activity horizon. Nevertheless, the depth of deposit suggests that more must remain and especially any features below the depth of ploughing as shown by the distribution of the Group VII stone finds. Combining the three main horizons recorded, the uppermost produced 135 pieces, the middle 113 pieces and the lowermost 20 pieces. Notably only four pits produced more lithics from the middle layer than the top, pits 17, 18, 22 and 30, all again in the south-east corner of the area suggesting better preservation there.

4.5. Ty'n y Llwyfan

This field, close to the western edge of the scree slopes of the Dinas hill, had been investigated by several test pits in 2019 (Table 1, above). This identified a general spread of stone debitage associated with five stone axe roughouts. The amount of waste material was relatively slight and well-distributed except in the case of one trial pit, TP15, which produced a large number of waste pieces as well as one axe roughout. Interestingly, the other four of the axe roughouts came from pits with only small numbers of waste pieces, as well as being furthest from the scree slopes, where the raw material, presumably, was sourced. This immediately suggests that there could have been some separation of areas for initial creation of axe blanks and others where final finishing took place.

Table 3 Ty'n y Llwyfan test pit lithic finds summary, detail only from pits studied, shown by *. Quantities from pits not studied are liable to be reduced by later discard

| Test pit no. | Area | Group VII stone axe roughout | Group VII stone flake/frag total | Group VII stone flake/frag size class | | | Flint/Chert flake/frag | Utilised? pebble | Burnt stone frags, sandstone or dolerite |
|-------------------|------|------------------------------|----------------------------------|---------------------------------------|----------|--------|------------------------|------------------|--|
| | | | | 0-50mm | 51-100mm | >100mm | | | |
| Middle terrace | | | | | | | | | |
| 32 | | | 35 | | | | | | |
| 33 | | | 203 | | | | | | |
| 34 | | | 32 | | | | | | |
| 35 | | | 41 | | | | | | |
| 38 | * | | 13 | 8 | 3 | 2 | | | |
| 41 | | | 18 | | | | | | |
| 47 | * | | 30 | 23 | 6 | 1 | 1 | | 10 |
| 48 | * | | 38 | 33 | 5 | - | | | |
| 49 | * | | 12 | 8 | 1 | 3 | | | 7 |
| Upper terrace | | | | | | | | | |
| 36 | | 1 | 192 | | | | | | |
| 37 | * | 3 | 305 | 237 | 52 | 16 | | | |
| 39 | * | 3 | 546 | 405 | 120 | 21 | 1 | 1 | 2 |
| 40 | | | 58 | | | | | | |
| 42 | | | 984 | | | | 1 | | |
| 43 | | | 62 | | | | | | |
| 44 | | | 1127 | | | | | | |
| 45 | * | | 446 | 383 | 63 | - | 2 | | |
| 46 | * | | 522 | 501 | 19 | 2 | 3 | | |
| 50 | * | | 283 | 279 | 4 | - | | | |
| 51 | * | | 11 | 9 | 2 | - | | | |
| 52 | * | | 13 | 12 | 1 | - | | | |
| 53 | * | | 40 | 37 | 3 | - | | | |
| 54 | * | | 19 | 17 | 2 | - | | | |
| Lower scree slope | | | | | | | | | |
| 31 | * | 4 | 839 | 606 | 192 | 35 | | | |
| Total | | 11 | | | | | | | |

The pits excavated in 2021 were focussed on two areas of terrace, the middle and the upper terrace (Table 3). The test pits on the middle terrace had produced only small quantities of lithic waste in 2019, although one did produce an axe roughout. One pit on the upper terrace, TP15, had produced a concentration of lithic waste in 2019 as well as an axe roughout, and another, larger trench (TP39) was therefore excavated beside it in 2021 and another series of seven pits along the edge of this terrace just upslope from TP15. Another, larger trench, trench 31, was also excavated within the lower scree slope of the hill to the east where there were indications of a possible working platform.

Middle terrace: Pits 32, 33, 34, 35, 38, 41, 47, 48, 49

The test pits excavated in 2021 on this terrace produced only minor quantities of waste material and no roughouts so there was no indication of any focus of activity. However, two pits produced small quantities of burnt, fragmented

stone, usually associated with some cooking process, which might suggest that small scale domestic activity took place there.

Upper terrace: Pits 36, 37, 39, 40, 42, 43, 44, 45, 46, 50, 51, 52, 53, 54

Of the pits studied from this area, the greatest quantities were from pits 37 and 39. Only a sample was studied from each of these, 2 boxes out of 10 from pit 37 and 2 boxes out of 8 for pit 39. The final quantities from these pits will therefore be about 5 times that shown for pit 37 and four times that shown for pit 39. Pit 37 exposed a deep layer of lithic waste material, which by comparison with the depth of soil in adjacent pits appeared to show a mound of lithic material that had been incorporated in a later build-up of cultivation soil. Pit 39 was close to the 2019 pit 15, which had produced a considerable quantity of material. It produced more worked lithics as well as four axe roughouts showing that the area of stone-working identified in 2019 extended over a larger area.

Scree slope: Pit 31

This trench was a small area excavation of 4m x 2m. It showed that lithics had been worked on the scree slope itself. This produced 13 boxes of material, of which 5 boxes were studied. The final quantities will therefore be at least twice those shown in Table 3.

The final products: blanks and roughouts

The results from trench 31 showed that lithics had been worked directly on the parent material of the scree, and some larger blocks of stone were present that had been split in the initial process of reduction (not included in Table 3). However, the presence of quantities of flakes and of four axe roughouts showed that stone had been worked there to the final stages of roughout production. This is in contrast to the areas on the terraces where parent material must have been carried from the scree. The presence of only one larger block there (in TP37) shows that some primary working must have taken place on the scree slopes and then large fragments carried to the working area. There are certainly some large primary fragments in the terrace trenches, that is, with unworked scree cortex. It seems likely that ‘blanks’ were produced that had potential for working down to axe roughouts. These could, potentially, just be complete pieces of scree of the right size and shape but more likely were very large, thick flakes, of which the dorsal surface consisted of a previous flake facet or a thick flake of which the dorsal surface consisted of a ridge between two previous flake facets. The presence of occasional large, long blades shows there was some methodical approach to producing a roughout shape. Pit 37 produced some large angular pieces with a few facets from secondary flake removals. These pieces could have been ‘blanks’ as discussed above.

Of the eleven roughouts from the Ty’n y Llwyfan excavations, most were shapes suitable for creation of simple, elongated axe heads but two were for production of narrow, chisel type axe-heads, e.g. figure 12, SF37A81, which is thick with a pronounced triangular cross-section. Most were of asymmetric cross-section, with one flattish face and one steeper. This seems to have resulted from the use of blanks that were large thick flakes of which the dorsal surface retained a ridge from the previous block core preparation, easily seen in the case of figure 12, SF37A67. That ridge would then need thinning, with difficulty, as seen in the hinge fracture on SF31317. In the case of the unusual large ovate roughout SF31318, the asymmetric cross-section is very pronounced, producing a boat-shaped profile more suitable for production of an adze than axe.

Five of the roughouts were snapped across, most medially, e.g. figure 12, SF31317, SF31202 and SF37A67, while others snapped at angle like SF3611. The latter seems likely to have happened as an accident during manufacture, while the medial breaks could be deliberate, perhaps destruction of a failed product. Two had been abandoned after reaching a point where a complete piece could no longer be achieved, e.g. SF37A81, while SF31318 seems to just be an unfinished piece.

Ty’n y Llwyfan Discussion

The overall results show that lithic working was very widespread both around and on the scree slope of the hill. Every trench excavated in both 2019 and 2021 produced some lithic debitage and finds from a watching brief during pipeline trenching on an area further downslope showed that a light scatter of debitage extended even further (Dean and Cooke 2019). The result from the test pits showed clearly that there were areas of quite intensive and probably prolonged working, but that some working also took place more widely. This is not surprising for an activity that may have occurred spasmodically over a considerable period, but shows that the lithic working was not solely a specialised mass production process.

The provisional study of stone waste fragment sizes was aimed at trying to identify stages in the roughout production. First of all, broadly the results show the presence of some primary flakes in all areas, whereas it could

have been expected that the working on the scree would have included much higher numbers of large primary fragments. For this purpose, it is actually the proportions of fragments of different sizes that is relevant and proportions for the pits with substantial numbers of waste pieces is shown in Table 4.

Table 4 Waste pieces by size class shown as % proportions from selected pits

| | <i>Group VII stone flake/frag size class</i> | 0-50mm | 51-100mm | >100mm |
|----------------|--|--------|----------|----------------|
| | | % | % | % |
| Middle terrace | Combined pits | 77 | 16 | 6 |
| Upper terrace | Pit 37 | 78 | 17 | 5 |
| | Pit 39 | 74 | 22 | 4 |
| | Pit 45 | 86 | 14 | - |
| | Pit 46 | 96 | 4 | - |
| | Pit 50 | 99 | 1 | - |
| Scree slope | Pit 31 | 72 | 23 | 4 ¹ |

Table 4 shows that proportions of different flake/fragment sizes are fairly similar across all the areas studied with only a slightly greater proportion of small pieces beyond the scree slopes. The medium sized fragments are quite large flakes of varying shapes and the ones essentially from producing a basic roughout shape. The small fragments are those that derive specifically from actually shaping the roughout. These flakes are mainly thin and broad, with a concave ventral surface and often with an S-shaped twist.

4.6. Final assessment

Maes y Bryn: This location is valuable for the possibility of producing dated settlement activity associated with stone axe working at Dinas. The distribution of lithic material from the test pits identifies one area that could be targeted for further evaluation by geophysics and then by excavation.

Ty'n y Llwyfan: The area of pits 15 and 39 consisted of a slight platform upslope from what appears to be a small natural promontory, creating a natural topographic focal point and working platform. However, seven of the test pits, 37, 42, 44, 45, 46 and 50, along the edge of the nearby upper terrace also produced significant quantities of lithic material. The implication of this and the adjoining pits is that there is an extensive, well-preserved area of lithic working below the later soil accumulation. This area appears to be quite localised along the terrace as the nearby test pits, 51-54, just upslope produced markedly fewer lithic objects. The lithic assemblage from this area, produced from only small test pits, will run into some thousands of waste pieces (Table 3), showing how substantial was the amount of activity there. The depth of stratigraphy in pit 37 also provides the possibility of obtaining carbon dating samples from well-sealed contexts. This area could be chosen for larger scale excavation.

The lithic assemblages from pits 37 and 31 are those most likely to contain material from associated flaking episodes that can be compared to the abandoned or broken axe roughouts they contained. So, these have the greatest chance of understanding the lithic reduction process and deserve further study. However, the assemblages from all the pits needs processing to the same basic level that was carried out for the selection studied for the assessment.

As discussed above, the working of stone, together with the high breakage rate here does not make full metrical analysis worthwhile, apart from perhaps a trial sample, probably from TP37.

There are a few flakes that might have secondary working to produce smaller retouched tools, as was found on a few pieces from Graig Lwyd itself (Warren 1921). These need further study.

Although the assemblage contains a few cobbles that were identified as possible hammer stones, none so far have shown any evidence of impact, so how the stone was being worked is still uncertain. A similar situation had already been noted from earlier excavations at Graig Lwyd (Warren 1921; Williams and Davidson 1998), although apparently genuine hammer stones have been found at the Langdale stone axe quarrying and manufacturing site in Cumbria (Bradley and Suthren 1990). It is likely that soft hammers were used for final shaping of roughouts, but large hammerstones must have been needed for primary splitting of blocks and for removal of large primary

flake blanks.

5. POTTERY

Three sherds of pottery were recovered from test pit 39 (figure 14). One from context 3902 and two from context 3903.

SF3916 is a small body sherd with a red-orange exterior and a dark interior. The fabric is quite gritty with occasional larger grits in it. It is undecorated and unglazed but marks from wheel turning are visible on the inner face.

SF3931 is rim sherd with a grey fabric oxidised to red-orange on both the inner and outer faces. The fabric is quite fine and hard. The rim is flat topped and has a groove just below it. The exterior of the sherd has a dark grey-brown slip.

SF3932 is made of grey gritty fabric. It has a sharp curve, and one end is rounded as if it is part of a small conical object or perhaps a spout. There are two grooves on the exterior, one running close to the rounded end.

These pot sherds could be medieval in date but require inspection by a specialist to determine their origin and date.

| Find No | Context | Weight (g) | Length (mm) | Breadth (mm) | Thickness (mm) | Description |
|---------|---------|------------|-------------|--------------|----------------|-------------|
| 3916 | 3902 | 10 | 37 | 36 | 7 | Body sherd |
| 3931 | 3903 | 15 | 48 | 32 | 8 | Rim sherd |
| 3932 | 3903 | 3 | 28 | 22 | 5 | Spout? |

6. DISCUSSION

6.1. Maes y Bryn

The test pitting at the Maes y Bryn site located axe debris in association with flints. Axe-working was clearly taking place on this site despite it being at least 330m from the source screes, but the flints, especially the thumbnail scraper indicate that other activities took place here as well. It is therefore highly possible that there was Neolithic settlement in this area, though that may have been a very temporary settlement.

The presence of a flake struck from a finished polished axe suggests that axes, when too old and broken to be useful for their original function, were either repurposed or deliberately broken down. The presence of similar flakes from polished axes found in pits at Parc Bryn Cegin, Llandygai were interpreted as possibly from the ritual destruction of polished axes (Williams, Kenney and Edmonds 2011). In one pit in particular there were many such flakes, and they had no traces of reuse. They were buried with a large piece of a Mortlake ware bowl (Kenney 2009, 33-35, 47-48). However, the polished axes found by Davies on the Maes y Bryn site appeared to have been reused rather than being in the process of being destroyed (Davies 1961). One had been resharpened by rough flaking and two others had been cut down to make smaller cutting tools. These axes were presumably made in the vicinity of the source rock then taken away for use and brought back towards the ends of their useful life. Bringing these axes back to where they were made does suggest a ritual function, though it may just have been considered appropriate to deposit some old axes when acquiring new ones. Possibly residents of the areas felt able to reuse deposited axes if it was expedient to do so.

Samuel Hazzledine Warren also found several of these old axes in his excavations at Graig Lwyd (Warren 1922), so it is likely that this was a phenomenon that applied to all the source areas. Only further work will reveal the significance of these old axes. It is possible that some were deliberately buried in pits, in which case the Maes y Bryn site, with its shallow deposits and lack of confusing scree might be the best place to find such a deposition.

The test pitting also showed that within the area of the relict field earlier archaeological deposits were unlikely to survive, though cut features might be possible. However, there is a possibility that south of the ploughed area there could be *in situ* Neolithic deposits.

The finds from molehills indicate that the find scatter extends beyond the area investigated in 2021 and it is possible that several foci of axe-working were present across the hillside. The work so far has been very successful in confirming the location of this site and investigating the environment in which it survives but much more work is necessary to find its extents. Searching for possible surviving features and deposits relating to a settlement is a high priority.

6.2. Ty'n y Llwyfan

All the test pits produced axe debris meaning that the limits of the working area have not yet been found. With the flakes found in the pipe trench lower down the hill this indicates that working extended over a very wide area. It can no longer be assumed that working just took place on or very close to the screes.

The test pits demonstrated that the terraces across the field were at least partially shaped by ploughing and can be described as lynchets. Ploughing had caused the soil to move downslope and build up at the edge of each terrace. This seems to have had an impact on the distribution of axe debris. Most of the flakes recovered came from ploughsoil and it is likely that they had moved some distance downslope. Material found lower in the test pits within the earlier ploughsoil may not have moved so far. There were several concentrations of axe debris found, but most could have been formed by soil movement. It was notable that there was a concentration of axe debris along the outer edge of the lynchet of the upper terrace, but the quantity of material seems to be too great to be due solely to soil movement. There must have been axe working deposits in the vicinity. In a similar position on the middle terrace much less material was found, suggesting there were fewer or small concentrations of working in this area.

The large concentration of material in TP15 and TP39 part way down the central scarp could also indicate that extensive working went on just near the top of the slope with material then moving downslope to collect on this slight shelf. The suggestion is therefore that axe making did take place on the top of the central scarp.

This is confirmed by the only undisturbed deposits found in the test pits. TP37 produced very valuable evidence of *in situ* axe debris that was too dense to be disturbed by ploughing. There seems to have been several episodes of axe-working represented amongst natural scree pieces. More work is needed to establish the full nature and extent of these undisturbed deposits. They are entirely invisible on the ground surface, and this demonstrates the value of test pitting to identify such deposits.

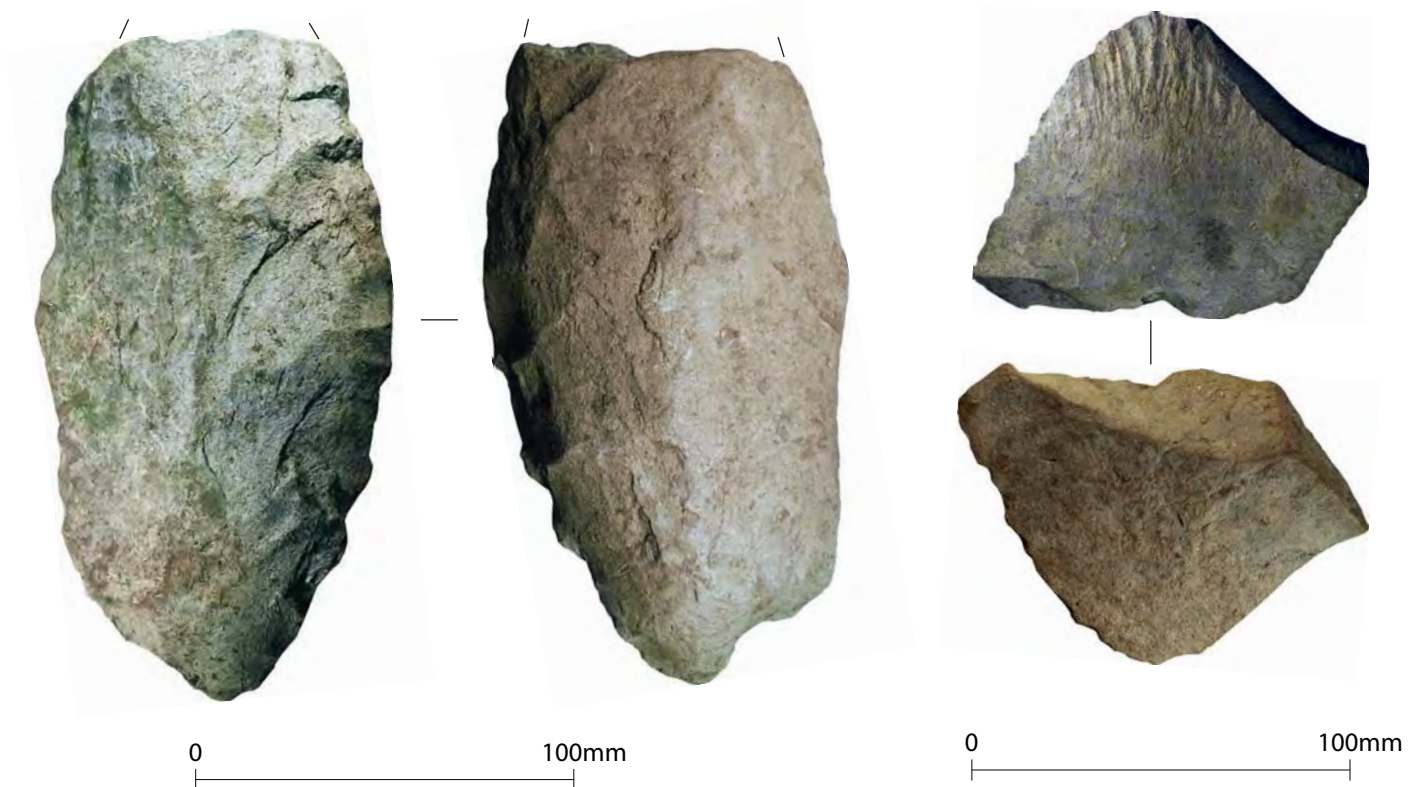


Plate 27. Axe roughout and flake found at Graig Lwyd, Penmaenmawr (PRN 91683)

7. NEW AXE ROUGHOUT FINDS

Some axe roughouts have been found and reported to the Portable Antiquities Scheme or the author in the last year or so. These are recorded on the Gwynedd Historic Environment Record (HER). In addition, a note is included here on work on the Ffridd Tan y Graig axe-working site at Llanfairfechan, which is to be reported on more fully in future.

Roughout and axe-working flake from Graig Lwyd Farm, Penmaenmawr (PRN 91683)

The roughout and flake were found at SH 71803 75805 in an area of erosion next to the path. The find location was next to a track running from Graig Lwyd Farm immediately west just south of the boundary to the improved field and at the base of the hillslope running down from Y Graig Lwyd. The finder described this track as the Prisoner of War Path, though Warren marks a track a little higher up the slope as the "German Prisoners Path" (Warren 1922, fig 1). Warren's site A, an axe-working floor, was next to the German Prisoners Path, but he marks flakes found all down this hillslope. The current find is useful as it confirms that axe-working debris extended right down this hill.

Both finds are of Group VII stone, as would be expected from this location.

Plate 27

Roughout

170mm by 93mm, 43mm maximum thickness. Weight 816g

The roughout has been shaped on both faces along one edge and round one end. On the other edge are a couple of hinge fractures next to the point at which the roughout has broken right, across towards one end. The fractures are probably the traces of the blow that accidentally broke the roughout. Much of the surface of the roughout is unworked and represents the natural surface of the piece of scree used to form it.

Flake

102mm by 76mm, 28mm maximum thickness. Weight 158g

This is a typical axe-working flake from early in the process of making a roughout. It has been struck to remove part of the natural surface of a piece of scree, which has a distinct ridge. There is a clear striking platform present on the flake and a well-formed bulb of percussion.

Bod Hyfryd Roughout PRN 91684

A small roughout found by John Good while digging his garden at Bod Hyfryd, Graiglwyd Road, Penmaenmawr. Find location SH 72093 75917.

The find is a small broken roughout on Graig Lwyd rock. The blade end is quite neatly shaped but there is a ridge on one side, and it appears that the roughout broke while the maker was trying to remove the ridge. The break is directly across the axe towards the butt end, causing the loss of all the butt end of the roughout (plate 28). The roughout measures 110mm by 70mm and is up to 33mm thick. It weighs 321g.



Plate 28. Axe roughout found at Bod Hyfryd, Penmaenmawr (PRN 91684)

The find site is about 220m from the base of the hillslope down from Graig Lwyd. Hazzledine Warren recorded finds of axe-working flakes across this slope and most of the slope is probably natural scree used as a source of stone for making axes. The current find site is well beyond the limits of the scree and much more level ground. It is probable that material was brought here from the scree for working into axes and there may be a working site in the area.

Object inspected and photographed by Jane Kenney on 07/04/2019. John Good intends to donate it to Penmaenmawr Museum.



Plate 29. Roughout found on Garreg Fawr, Llanfairfechan (PRN 92341) (from PAS report, image by Sean Derby)

Axe roughout found on Garreg Fawr (PRN 92341)

Found on Garreg Fawr in an area of known axe-working at SH 6907 7360. Portable Antiquities Scheme Number: GAT-E810AC (The text below is from the PAS report by Sean Derby)

A complete Neolithic axehead roughout of Group VII type. The axe has been roughly shaped (plate 29). The butt of the axe is relatively flat. From the butt, the sides gently convex before tapering to a rounded tip. One of the faces is significantly flatter than the other.

The axe was found in a known area of axe working activity where a number of other roughouts have been found. There is also a lot of knapping debitage which can be found scattered throughout the exposed scree in this area (GAT HER PRN 67328).

The stone source for this axe, as with many of the other finds within this area, was likely scree, rather than quarried stone. This particular find has been roughly worked before it was abandoned. Roughouts could be abandoned for a number of reasons, for example they may have broken or fractured while being worked. They may also have been discarded if it was not possible for uneven areas to be removed (Kenney 2017, 27).

Measurements: Length: 205mm, Width: 110mm (Widest) 34mm (Narrowest), Thickness: 56mm (Butt) 8mm (Tip), Weight (g): 1294

Work by David Thorpe at Ffridd Tan y Graig, Llanfairfechan (PRN 67330)

Inspired by the current work, David Thorpe investigated an area on Ffridd Tan y Graig, Llanfairfechan in the winter of 2021/2022. This is an extensive area of scree identified as an axe working area (PRN 67330). Mr Thorpe identified roughouts (plate 30) over a larger area than previously recorded, and it is probable that the working area spread much further west along the screes (figure 20). He also found many rounded stones; most are cobble sized (10-20 cm diameter) with a few small boulders. They are quite common and found extensively in screes across the area. He suggests that these are hammerstones. These stones were well known to David T Jones, who found this site. They could be found in the bedrock in the quarry, and he said that the quarrymen often threw them down over the cliffs. As they are from within the bedrock, they must have formed in the cooling magma and are essentially part of the diorite. Neither David Jones, nor Jane Kenney has seen any of these stones that they found convincing as hammerstones, but David Thorpe does describe some that he found as broken and with chipped surfaces.

Of considerable importance are flakes scars that David has identified on the crags above the screes at the western end of Penmaenmawr Mountain. This may indicate quarrying of the rock on the face of the crag for axe production as well as using the screes.

David Thorpe will be producing a full report on his work.



Roughout no.48. One of 2 good roughouts found by D. Thorpe, 10/02/2022



Roughout no. 63. Roughout found by Ian Thorpe weekend of 12/02/2022 (blade down, broken top)

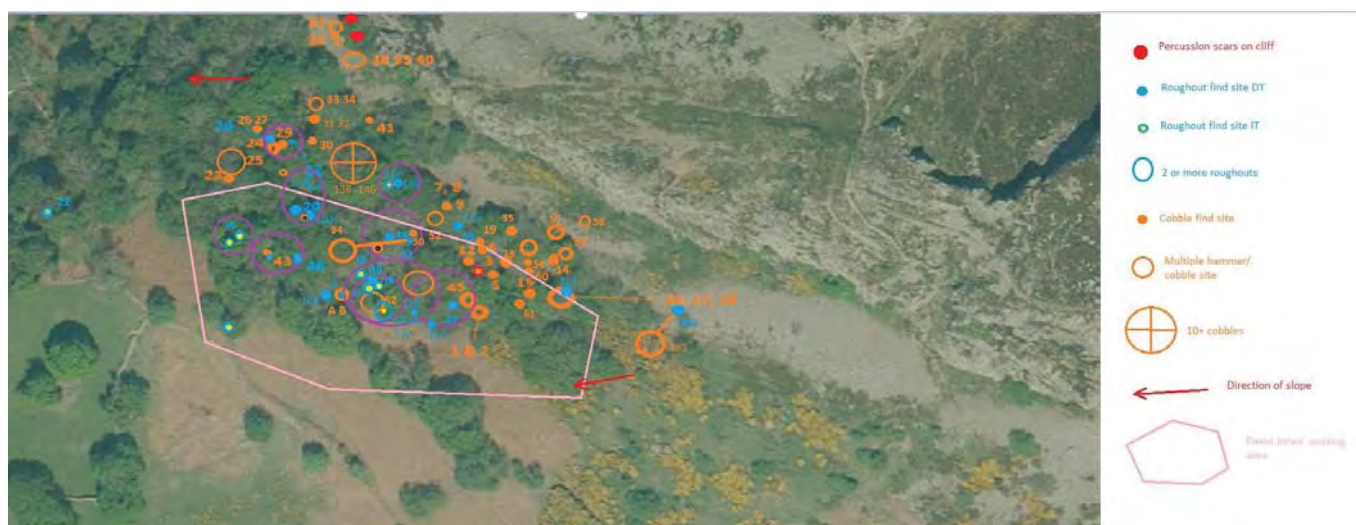


Figure 20. Plan of finds on Ffridd Tan y Graig produced by David Thorpe

8. FURTHER WORK

This season has been very successful but is very much just the start of the work. The Maes y Bryn site has been located, the presence of flint confirmed and even a piece of a flake from a polished axe has been found. It does seem very likely that this site was a settlement site. The test pits dug in 2021 provide a start in investigating this site. More work is necessary to determine the limits of the finds scatter and to identify if there are other concentrations of activity, perhaps where flakes were found in molehills. The possibility of the survival of *in situ* Neolithic deposits south of the relict fields needs investigating, as well as attempting to locate any dug features that could have survived under the ancient and modern ploughing.

The field at the foot of Dinas has now been fairly thoroughly investigated, but the limits of the axe-working have not yet been found. Test pitting in other fields around might help determine this limit. Working in the fields close to the edge of the river gorge may be informative.

Activity in the southern corner of the field near TP16, which produced a roughout and a layer of charcoal could not be investigated in 2021 and so this still needs to be considered. This discovery of undisturbed stone deposits in TP37 is of considerable importance. Axe debris was found throughout these deposits, and it is a priority to establish what this feature is. A long narrow trench across this area might reveal if this is a dumped cairn of material.

The evaluation trench (Tr31) still needs to be completed. This should be dug down to the top of undisturbed scree or to the natural subsoil to determine the depth of the axe debris. There is still the possibility that material that could be radiocarbon dated might be found in this trench.

In the wider landscape work on Garreg Fawr would appear to be a priority as there has been very little study of this hill for axe-working evidence. Close inspection of the screes and the crag face may reveal evidence without the need of digging. The possibility of finding other areas of activity around Waun Llanfair would also be worth investigating, though it is quite a challenging area for access with volunteers. Although much good work has been done on Graig Lwyd there is still more that could be done there, most particularly looking at the main cliff face there that was almost certainly quarried in the Neolithic and possibly excavating below this face.

Work to involve local people in this process of investigation will continue, as will disseminating the results in a variety of ways to make them widely accessible.

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10. ACKNOWLEDGEMENTS

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Many thanks go to the volunteers who carried out the hard work. There were too many volunteers to name all individually, but special mention must be made of Jeff Marple for taking on one of the most challenging test pits and to George Smith, who worked on site as a volunteer and did some of the finds assessment on a voluntary basis. Special thanks also to the find washers Barbara Marshall, Louise Ingham, Judit Abou-Sambra and Martin Lewis. Carol Ryan Young, Neil McGuinness and Jane Kenney of GAT and John G Roberts (SNPA) supervised the work on site, and Carol supervised volunteers while finds washing, and Dan Amor helped to organise the finds washing volunteers. Special thanks to Gareth Wynn Jones for permission to work on his land and for help and support with the project.

David T Jones, on whose work this project is based, and who has given us expert advice in previous years sadly died in June 2021. He was in our thoughts through-out this year's project.

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APPENDIX I: List of Sites

HER sites shown on figure 2. Sites later than the medieval period are not shown on this figure.

| PRN | Site name | Period | Site type | NGR |
|------|--|-------------------|--------------------------------------|------------|
| 248 | Enclosed Hut Group, Carreg Fawr | Roman | Hut circle settlement | SH68527364 |
| 249 | Enclosed Hut Group, Carreg Fawr | Roman | Hut circle settlement | SH68547311 |
| 250 | Enclosure, Carreg Fawr | Roman | Hut circle settlement | SH68457335 |
| 251 | Enclosure, Carreg Fawr | Roman | Hut circle | SH68717324 |
| 252 | Hut Group and Field System, Pont y Teiryd | Prehistoric | Hut circle settlement | SH69527353 |
| 255 | Hut Group, Gwern y Plas, Llanfairfechan | Roman | Hut circle settlement | SH68657484 |
| 373 | Long Huts, Remains of, Nant y Pandy | Early medieval | Long hut | SH68867405 |
| 374 | Hut Platform, South of Camarnaint | Medieval | Long hut | SH69647308 |
| 377 | Cairn, Carreg Fawr | Unknown | Clearance cairn | SH68657355 |
| 378 | Cairn, Carreg Fawr | Bronze age | Cairn | SH68427364 |
| 379 | Cairn, Carreg Fawr | Unknown | Cairn | SH68387361 |
| 386 | Arrow Stone, South-West of Camarnaint | Prehistoric | Arrow sharpening stone | SH69567315 |
| 392 | Dinas Camp Hillfort, Llanfairfechan | Roman | Hillfort | SH70027379 |
| 457 | Platform House, S of Llanfairfechan | Medieval | House platform | SH70107391 |
| 458 | Long Huts, Waun Llanfair | Unknown | Long hut | SH70797458 |
| 465 | Waun Llanfair Barrow, Llanfairfechan | Bronze age | Barrow | SH70527412 |
| 498 | Hut Circle Settlement, Dinas Camp | Unknown | Hut circle settlement | SH70127394 |
| 553 | Cairn, Clip yr Orsedd | Prehistoric | Cairn | SH70837483 |
| 554 | Hut Circle, Clip yr Orsedd | Unknown | Hut circle | SH71037499 |
| 2491 | Axe Heads, Findspot, Garreg Fawr | Prehistoric | Findspot | SH690735 |
| 4067 | Field System, Carreg Fawr | Roman | Field system | SH685733 |
| 4075 | Perforated Stone Axe Hammer, Findspot | Prehistoric | Findspot | SH699734 |
| 4078 | Perforated Stone Axe Hammer, Findspot, Ty'n y Llwyfan | Prehistoric | Findspot | SH695741 |
| 4091 | Stone Tool (Mace), Findspot, N of Dinas Fort | Prehistoric | Findspot | SH698743 |
| 4094 | Graig Lwyd Roughout, Findspot, The Close, Llanfairfechan | Prehistoric | Findspot | SH68487482 |
| 4684 | Hut Circle, Waun Llanfair | Roman | Hut circle | SH70917467 |
| 4685 | Long Hut, Remains of, Waun Llanfair | Medieval | Long hut | SH70727460 |
| 4720 | Axe-working site, Maes y Bryn, near Dinas | Neolithic | Findspot | SH705738 |
| 5416 | Enclosures, Garreg Fawr | Unknown | Enclosure | SH69407315 |
| 5417 | Terraces, Garreg Fawr | Unknown | Terraced ground | SH69557330 |
| 5419 | Long Hut, Garreg Fawr | Unknown; medieval | Settlement; long hut | SH69657334 |
| 5420 | Cultivation Terraces, Garreg Fawr | Unknown; medieval | Terraced ground; cultivation terrace | SH69637345 |

| PRN | Site name | Period | Site type | NGR |
|------|---|----------------------------|--------------------------------|------------|
| 5473 | Enclosed Hut Group, Ffridd Forfudd | Unknown | Hut circle settlement | SH70287329 |
| 7444 | Enclosure, SE of Gwyllt Road | Unknown | Enclosure | SH68477341 |
| 7460 | Possible Long Hut, Garreg Fawr | Medieval | Long hut | SH68437345 |
| 7461 | Hut Circle, Possible, Near Garreg Fawr | Roman | Hut circle | SH68427336 |
| 7462 | Enclosure, Near Gwyllt Cottages | Unknown | Enclosure | SH68347335 |
| 7463 | Circular Enclosure or Hut, W of Garreg Fawr | Unknown | Circular enclosure; hut circle | SH68367317 |
| 7464 | Hut Circle, Near Garreg Fawr | Roman | Hut circle | SH68407319 |
| 7466 | Sub-Circular Enclosure, Near Garreg Fawr | Unknown | Enclosure | SH68547322 |
| 7467 | Rectangular Enclosure, Near Garreg Fawr | Unknown | Enclosure | SH68467320 |
| 7468 | Cairn, Possible, Near, Garreg Fawr | Unknown | Cairn | SH68437316 |
| 7469 | Enclosures, Near Garreg Fawr | Unknown | Enclosure | SH68467316 |
| 7470 | Enclosure, Near Garreg Fawr | Unknown | Enclosure | SH68507314 |
| 7472 | Oval Enclosure, Near Garreg Fawr | Unknown | Enclosure | SH68777311 |
| 8007 | Hut Circle, W of Clip yr Orsedd | Prehistoric | Hut circle | SH70537491 |
| 8008 | Poss. Hut Circle, W of Clip Yr Orsedd | Prehistoric | Hut circle | SH70497493 |
| 8009 | Enclosures, W of Clip yr Orsedd | Unknown | Enclosure | SH70787486 |
| 8010 | Hafods, W of Clip yr Orsedd | Unknown; medieval | Structure; hafod | SH70927472 |
| 8012 | Cultivation Ridges, SW of Clip yr Orsedd | Unknown | Ridge and furrow | SH70647469 |
| 8013 | Possible Hut Circle, Waun Llanfair | Prehistoric | Hut circle | SH70807463 |
| 8015 | Field Boundary, SE of Blaen Llwyn | Unknown | Field boundary | SH70377465 |
| 8016 | Oval Enclosure, Blaen Llwyn | Unknown | Enclosure | SH70307467 |
| 8018 | Former Field Boundary, Nr Waun Llanfair | Unknown | Field boundary | SH70547460 |
| 8020 | Field Boundary, Near Waun Llanfair | Unknown | Field boundary | SH70267442 |
| 8022 | Hut Circle and Enclosure, N of Waen | Prehistoric | Hut circle | SH70107438 |
| 8023 | Sheep Shelter, Waun Llanfair | Prehistoric; post medieval | Hut circle; sheep shelter | SH70787434 |
| 8026 | Field Boundaries, Llanfairfechan | Unknown | Field boundary | SH70397433 |
| 8027 | Hut Circle, N of Dinas Hillfort | Unknown | Hut circle | SH70317426 |
| 8028 | Circular Enclosure, N of Dinas Hillfort | Unknown | Enclosure | SH70317418 |
| 8029 | Field Clearance Cairns, Possible, North-East of Dinas | Unknown | Clearance cairn | SH70257425 |
| 8030 | Field Boundary/Holloway, NE of Dinas | Unknown | Earthwork | SH70187423 |
| 8031 | Hut Circle and Enclosure, NE of Dinas | Prehistoric | Hut circle | SH70157403 |
| 8032 | Hut Circle, NE of Dinas | Prehistoric | Hut circle | SH70137398 |
| 8033 | Hut Circle, Near Dinas Hillfort | Prehistoric | Hut circle | SH70087394 |
| 8034 | Area of Cultivation, E of Dinas Hillfort | Unknown | Cultivation ridge | SH70137388 |

| PRN | Site name | Period | Site type | NGR |
|-------|--|--------------------------|---------------------------------|--------------|
| 8035 | Hut Circle, SE of Dinas Hillfort | Prehistoric | Hut circle | SH70147377 |
| 8036 | Long Hut, Possible, SE of Dinas Hillfort | Unknown; me- dieval | Structure; long hut | SH70187381 |
| 8037 | Hut Circle, Possible, East of Dinas Hillfort | Prehistoric | Hut circle | SH70217394 |
| 8038 | Long Hut, E of Dinas Hillfort | Medieval | Long hut | SH70327390 |
| 8039 | Area of Cultivation, E of Dinas Hillfort | Medieval | Field system | SH70457386 |
| 8040 | Long Hut/Platform House, E of Dinas Hillfort | Medieval | Long hut | SH70477380 |
| 8041 | Circular Enclosure, E of Dinas Hillfort | Unknown | Enclosure | SH70427376 |
| 8046 | Possible Hut Group, W of Fridd Forfudd | Prehistoric | Hut circle settlement | SH70087342 |
| 8047 | Field System, W of Fridd Forfudd | Unknown | Field system | SH70257354 |
| 8048 | Platform, W of Fridd Forfudd | Bronze age; unknown | Burnt mound; plat- form | SH70217348 |
| 8049 | Circular Enclosure, W of Fridd Forfudd | Unknown | Enclosure | SH70247339 |
| 8054 | Possible Hut Group, N of Fridd Fadog | Prehistoric | Hut circle settlement | SH70027325 |
| 8055 | Cultivation Terraces, Ffridd Fadog | Unknown | Cultivation terrace | SH70087318 |
| 8066 | Burnt Mound, Ffridd Forfudd | Bronze age; unknown | Burnt mound; natural feature | SH70677316 |
| 8070 | Possible Burnt Mound, E of Maes y Bryn | Bronze age; unknown | Burnt mound; natural feature | SH71167369 |
| 8092 | Enclosure, S of Clip yr Orsedd | Unknown; me- dieval | Feature; enclosure | SH71037447 |
| 8102 | Burnt Mounds, Possible, Near Waun Llanfair | Bronze age | Burnt mound | SH70657451 |
| 8103 | Burnt Mound, Near Waun Llanfair | Bronze age | Burnt mound | SH70677446 |
| 19156 | Stone Axe Fragment, Findspot, Llanfairfechan | Neolithic | Findspot | SH70027440 |
| 24139 | Graig Lwyd Roughouts, Findspot, Blaenau | Neolithic | Findspot | SH702742 |
| 24725 | Graig Lwyd Axe, Findspot, Llanfairfechan | Neolithic | Findspot | SH7037774076 |
| 24735 | Stone Axes, Findspot, Garreg Fawr | Neolithic | Findspot | SH6905073578 |
| 27502 | Cup Marked Stone, Camarnaint | Prehistoric | Cup marked stone | SH69397308 |
| 31690 | Hut Circle, Possible, Tyddyn Drain | Roman | Hut circle | SH68907483 |
| 59873 | Field system, Garreg Fawr | Prehistoric; medieval | Field system | SH685734 |
| 67328 | Stone Axe Working Area, Garreg Fawr, Llanfairfechan | Neolithic | Stone axe factory | SH69067359 |
| 67329 | Stone Axe Working Area, Ty'n y Llwyfan, Llanfairfechan | Neolithic | Stone axe factory | SH6984573975 |
| 67331 | Stone axe found at foot of Dinas, Llanfairfechan | Neolithic | Findspot | SH6984973978 |
| 67334 | Barrow, Ty'n-Y-Llwyfan | Bronze age | Barrow | SH69667401 |

| PRN | Site name | Period | Site type | NGR |
|-------|---|----------------|-------------------|--------------|
| 67406 | Axe-working flakes, Pen Cefn | Neolithic | Findspot | SH7092474352 |
| 67409 | Axe working site, Waun Llanfair | Neolithic | Stone axe factory | SH708742 |
| 67414 | Stone axe findspot, Llanfairfechan | Neolithic | Findspot | SH6855474268 |
| 67640 | Stone axe roughout, Ty'n y Llwyfan | Neolithic | Findspot | SH69787387 |
| 67641 | Stone axe roughout, Tyddyn Drain | Neolithic | Findspot | SH68877478 |
| 67778 | Stone axe roughout, Dinas | Neolithic | Findspot | SH7074 |
| 67779 | Stone axe roughout, Llanfairfechan | Neolithic | Findspot | SH684747 |
| 67782 | Stone axe-hammer, Park Nant, Llanfairfechan | Bronze age | Findspot | SH6874074277 |
| 74826 | Stone Axe Roughout, Findspot, Dinas | Neolithic | Findspot | SH6978073858 |
| 77204 | Ditch, Llanfairfechan | Early medieval | Ditch | SH6967673953 |
| 77205 | Ditch, Llanfairfechan | Roman | Ditch | SH6967873958 |
| 77206 | Pit, Llanfairfechan | Roman | Pit | SH6968273964 |
| 77207 | Gully, Llanfairfechan | Roman | Ditch | SH6968473965 |
| 77208 | Pit, Llanfairfechan | Roman | Pit | SH6968573966 |
| 81634 | Stone Axe Working Area, Ty'n y Llwyfan Farm | Neolithic | Findspot | SH697739 |
| 92341 | Axe Roughout, Findspot, Garreg Fawr | Neolithic | Findspot | SH69077360 |
| 93577 | Worked Stone Assemblage, Findspot, Llanfairfechan | Prehistoric | Findspot | SH6966673944 |
| 96143 | Axe-working flakes, Ty'n y Llwyfan Farm | Neolithic | Findspot | SH7674873826 |

APPENDIX II: Test Pits

Grid references for test pits rounded to the nearest metre. All test pits measured 1m by 1m, with the exception of TP 39 and trench 31.

Maes y Bryn

TP17

Location: SH 70501 73801

Height OD: 296m

Maximum depth of test pit: 0.39m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|--|
| 1701 | 0.21 | Turf and topsoil | Pale Grey/brown mid greyish brown sandy silt |
| 1702 | 0.11 | Ploughsoil | Darker brown clayey silt, some stone |
| 1703 | 0.12 | Relict soil | Yellow/brown silty clay, stony |
| 1704 | | Natural subsoil | Pale yellow sandy silt, stony |

TP18

Location: SH 70513 73799

Height OD: 296m

Maximum depth of test pit: 0.30m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|---------------------------------------|
| 1801 | 0.24 | Turf and topsoil | Mid brown sandy silt |
| 1802 | 0.07 | Ploughsoil | Dark brown sandy silt, some stone |
| 1803 | 0.06 | Relict soil | Yellower paler brown clay silt, stony |
| 1804 | | Natural subsoil | Yellowish silty clay, stony |

TP19

Location: SH 70500 73811

Height OD: 296.5m

Maximum depth of test pit: 0.28m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|-----------------------------------|
| 1901 | 0.17 | Turf and topsoil | Mid brown sandy silt, some stone |
| 1902 | 0.11 | Ploughsoil | Mid brown silty clay, stony |
| 1903 | | Natural subsoil | Brownish yellow silty clay, stony |

TP20

Location: SH 70491 73801

Height OD: 295.5m

Maximum depth of test pit: 0.28m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|--|
| 2001 | 0.20 | Turf and topsoil | Mid brownish grey sandy silt |
| 2002 | 0.09 | Ploughsoil | Mid brownish brown sandy silt, occasional stones |
| 2003 | | Natural subsoil | Mid brownish orange clayey silt, with large stone embedded |

TP21

Location: SH 70488 73811

Height OD: 296m

Maximum depth of test pit: 0.27m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|--|
| 2101 | 0.15 | Turf and topsoil | Light brown grey sandy silt |
| 2102 | 0.09 | Ploughsoil | Darker brown clayey silt, very stony |
| 2103 | | Natural subsoil | Pale brown-yellow orange silty clay, stony |

TP22

Location: SH 70511 73811

Height OD: 297m

Maximum depth of test pit: 0.40m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|---|
| 2201 | 0.22 | Turf and topsoil | Light grey brown silty sand, some stone |
| 2202 | 0.10 | Ploughsoil | Mid brown silty clay, very stony |
| 2203 | 0.12 | Relict soil | Light yellow brown sandy clay, some stone |
| 2204 | | Natural subsoil | Light yellow sandy clay, some stone |

TP23

Location: SH 70511 73823

Height OD: 298m

Maximum depth of test pit: 0.29m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|-------------------------------------|
| 2301 | 0.20 | Turf and topsoil | Mid brown silty sand, some stone |
| 2302 | 0.09 | Ploughsoil | Darker brown sandy silt, stony |
| 2303 | | Natural subsoil | Yellow/brown sandy clay, very stony |

TP24

Location: SH 70501 73822

Height OD: 298m

Maximum depth of test pit: 0.31m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|--|
| 2401 | 0.16 | Turf and topsoil | Light/mid greyish brown sandy silt, some stone |
| 2402 | 0.09 | Ploughsoil | Mid/dark brown slightly clayey silt, stony |
| 2403 | | Natural subsoil | Brownish yellow sandy clay, stony |

TP25

Location: SH 70491 73822

Height OD: 297.5m

Maximum depth of test pit: 0.36m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 2501 | 0.20 | Topsoil | Grey brown friable silt |
| 2502 | 0.14 | Ploughsoil | Dark brown slightly clayey silt, some stone |
| 2503 | | Natural subsoil | Yellow brown gritty clay, stony |

TP26

Location: SH 70490 73832

Height OD: 299m

Maximum depth of test pit: 0.35m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------|---|
| 2601 | 0.20 | Turf and topsoil | Light brown silt |
| 2602 | 0.12 | Ploughsoil | Dark brown clayey silt, some stone |
| 2603 | 0.07 | Relict soil | Yellow brown clayey/gritty silt, some stone |
| 2604 | | Natural subsoil | Orangey yellow clayey silt, some stone |

TP27

Location: SH 70514 73811

Height OD: 297m

Maximum depth of test pit: 0.40m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-------------|-----------------------|
| 2701 | 0.22 | Topsoil | Grey brown sandy silt |

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 2702 | 0.07 | Ploughsoil | Mid brown silty sand, some stone |
| 2703 | 0.10 | Relict soil | Mid brownish yellow sandy clay, some stone |
| 2704 | | Natural subsoil | Pale yellow silty clay |

TP28

Location: SH 70501 73787

Height OD: 294m

Maximum depth of test pit: 0.34m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 2801 | 0.20 | Topsoil | Dark grey friable silt, rather organic, some stone |
| 2802 | 0.18 | Relict soil | Dark grey gritty silt, numerous stones |
| 2803 | | Natural subsoil | Pale yellow brown gritty sandy clay, stony |

TP29

Location: SH 70512 73787

Height OD: 295m

Maximum depth of test pit: 0.35m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 2901 | 0.20 | Topsoil | Mid brown silty sand, stony |
| 2902 | 0.06 | Relict soil | Greyish brown silty sand, some stone |
| 2903 | 0.06 | Interface | Yellowish brown clayey silt, some stone |
| 2904 | | Natural subsoil | Yellow silty clay |

TP30

Location: SH 70512 73807

Height OD: 297m

Maximum depth of test pit: 0.30m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|-------------------------------------|
| 3001 | 0.11 | Topsoil | Brown sandy silt |
| 3002 | 0.09 | Ploughsoil | Mid brown sandy clay, some stone |
| 3003 | 0.08 | Relict soil | Dark brown silty clay, stony |
| 3004 | | Natural subsoil | Yellow brown sandy clay, very stony |

Ty'n y Llwyfan

Trench 31

Location: SH 69845 73922

Height OD: 233.5m to 232m

Size: 4m by 2m

Maximum depth of trench: 0.20m (not fully excavated)

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|------------------------------------|---|
| 3101 | 0.1 | Topsoil | Very dark brown organic silt, stony |
| 3102 | 0.2 | Consolidated scree with axe debris | Mostly stone with mid brown sandy silt matrix |

TP32

Location: SH 69744 73945

Height OD: 203m

Maximum depth of test pit: 0.36m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-------------|---------------------------------------|
| 3201 | 0.14 | Topsoil | Dark brown silt, some stone |
| 3202 | 0.16 | Ploughsoil | Mid brown sandy silt, frequent stones |

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|---------------------------|--|
| 3203 | | Natural subsoil | Orangey brown silty clay |
| 3204 | | Stones in natural subsoil | Large and medium stones in orange sandy clay |

TP33

Location: SH 69742 73940

Height OD: 203m

Maximum depth of test pit: 0.52m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 3301 | 0.22 | Topsoil | Mid grey-brown clayey silt |
| 3302 | 0.18 | Ploughsoil | Mid grey-brown clayey silt, some stones |
| 3303 | 0.13 | Relict soil | Mid orangey brown clayey silt, occasional stones |
| 3304 | | Natural subsoil | Brownish orange gravelly sandy silt, one large and some medium stones |

TP34

Location: SH 69749 73939

Height OD: 204m

Maximum depth of test pit: 0.31m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 3401 | 0.13 | Topsoil | Dark brown silty sand, occasional stones |
| 3402 | 0.11 | Ploughsoil | Lighter brown clayey silt, stony |
| 3403 | 0.06 | Relict soil | Yellowish brown clayey silt, stony |
| 3404 | | Natural subsoil | Yellow sandy clay, stony |

TP35

Location: SH 69745 73936

Height OD: 203m

Maximum depth of test pit: 0.30m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 3501 | 0.14 | Topsoil | Mid brown sandy silt, occasional stones |
| 3502 | 0.09 | Ploughsoil | Mid/dark brown sandy silt, stony |
| 3503 | 0.08 | Relict soil | Orange-brown clayey silt, stony |
| 3504 | | Natural subsoil | Yellow/orange sandy clay, stony |

TP36

Location: SH 69776 73984

Height OD: 211m

Maximum depth of test pit: 0.70m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 3601 | 0.20 | Topsoil | Very Dark brown humic silt |
| 3602 | 0.12 | Ploughsoil | Dark grey - brown humic silt, very stony |
| 3603 | 0.27 | Relict soil | Yellow brown silty loam, stony |
| 3604 | 0.32 | Relict soil | Brownish-yellow clayey silt, very stony |
| 3605 | | Natural subsoil | Yellow clayey silt, mostly stone |

TP37

Location: SH 69779 73951

Height OD: 215m

Maximum depth of test pit: 0.95m (not bottomed)

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-------------|--------------------------------------|
| 3701 | 0.10 | Topsoil | Mid brownish brown silty sand, stony |

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|----------------------|---|
| 3702 | 0.10 | Ploughsoil | Mid brownish brown silty sand, stony |
| 3703 | 0.17 | Scree and axe debris | Mid brown sandy silt, very stony |
| 3704 | >0.60 | Scree and axe debris | Yellowish brown sandy silt, very stony, occasional charcoal |

TP38

Location: SH 69746 73954

Height OD: 204m

Maximum depth of test pit: 0.33m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--------------------------------------|
| 3801 | 0.14 | Topsoil | Grey/brown sandy silt |
| 3802 | 0.33 | Ploughsoil | Dark brown sandy silt, some stone |
| 3803 | | Natural subsoil | Orange sandy silt, very little stone |

TP39

Location: SH 69763 73968

Height OD: 209m

Size: 2m by 2m

Maximum depth of test pit: 0.58m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 3901 | 0.10 | Topsoil | Dark grey/brown silty clay, some stone |
| 3902 | 0.20 | Ploughsoil | Lighter grey/brown clayey silt, stony |
| 3903 | 0.25 | Relict soil | Mid grey orangey brown clayey silt, stony |
| 3904 | 0.10 | Relict soil | Yellow with orange patches clayey silt, stony |
| 3905 | | Natural subsoil | Very pale whiteish yellow sandy clay, concreted and very hard |

TP40

Location: SH 69763 73957

Height OD: 209m

Maximum depth of test pit: 0.42m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--------------------------------|
| 4001 | 0.12 | Topsoil | Mid brown sandy silt |
| 4002 | 0.13 | Ploughsoil | Mid brown silty clay, stony |
| 4003 | 0.10 | Relict soil | Yellow/brown sandy clay, stony |
| 4004 | | Natural subsoil | Yellow sandy clay, stony |

TP41

Location: SH 69744 73928

Height OD: 203m

Maximum depth of test pit: 0.41m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--------------------------------------|
| 4101 | 0.15 | Topsoil | Mid brown sandy silt, some stone |
| 4102 | 0.09 | Ploughsoil | Mid brown sandy silt, some stone |
| 4103 | 0.08 | Relict soil | Mid orangish brown sandy silt, stony |
| 4104 | | Natural subsoil | Orange sandy clay, some stone |

TP42

Location: SH 69771 73969

Height OD: 212m

Maximum depth of test pit: 0.72m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-------------|--|
| 4201 | 0.20 | Topsoil | Dark grey brown silty loam, some stone |

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 4202 | 0.20 | Ploughsoil | Mid brown gritty silty loam, stony |
| 4203 | 0.25 | Relict soil | Yellowish brown clayey silt, stony |
| 4204 | | Natural subsoil | Yellow brown silty clay, occasional stones |

TP43

Location: SH 69785 73985

Height OD: 212.5m

Maximum depth of test pit: 0.40m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 4301 | 0.16 | Topsoil | Grey/brown silty clay |
| 4302 | 0.15 | Ploughsoil | Mid brown clay silt, some stone |
| 4303 | 0.16 | Relict soil | Yellow/brown sandy clay, some larger stones |
| 4304 | | Natural subsoil | Yellow brown silty clay, some stones |

TP44

Location: SH 69782 73940

Height OD: 216m

Maximum depth of test pit: 1.05m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 4401 | 0.15 | Topsoil | Dark grey brown silty loam |
| 4402 | 0.21 | Ploughsoil | Mid grey brown stony silty loam, stony |
| 4404 | 0.29 | Relict soil | Yellow-brown stony silt, stony |
| 4405 | 0.28 | Relict soil | Yellow-brown clayey silt, some stone. Scatter of charcoal within the top of the deposit. |
| 4406 | Layer | Natural subsoil | Yellow clayey silt (sondage) |

TP45

Location: SH 69775 73961

Height OD: 216m

Maximum depth of test pit: 0.75m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 4501 | 0.18 | Topsoil | Dark grey brown silty loam, occasional stones |
| 4502 | 0.20 | Ploughsoil | Mid brown gritty silt, some stone |
| 4503 | 0.30 | Relict soil | Yellowish mid brown gritty clayey silt, some stone |
| 4504 | | Natural subsoil | Strong yellow brown gritty silty clay, some stone |

TP46

Location: SH 69775 73964

Height OD: 213m

Maximum depth of test pit: 0.94m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 4601 | 0.16 | Topsoil | Dark grey brown silty loam |
| 4602 | 0.27 | Ploughsoil | Mid brown gritty silt, some stone |
| 4603 | 0.48 | Relict soil | Yellowish Mid brown slightly clayey gritty silt, some stone |
| 4604 | | Natural subsoil | Yellow brown gritty silty clay, stony |

TP47

Location: SH 69744 73966

Height OD: 204.5m

Maximum depth of test pit: 0.71m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 4701 | 0.19 | Topsoil | Mid/light brown sandy silt, some stone |
| 4702 | 0.12 | Ploughsoil | Mid/dark brown sandy silt, some stone |
| 4703 | 0.42 | Relict soil | Orangey brown clayey silt, some stone |
| 4704 | | Natural subsoil | Orangey brown silty clay, some stone |

TP48

Location: SH 69740 73948

Height OD: 203m

Maximum depth of test pit: 0.78m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 4801 | 0.19 | Topsoil | Mid brown sandy silt, some stone |
| 4802 | 0.13 | Ploughsoil | Mid/dark brown sandy silt, some stone |
| 4803 | 0.42 | Relict soil | Orangey brown clayey silt, some stone |
| 4804 | | Natural subsoil | Brownish orange gravelly sandy silt, some stone |

TP49

Location: SH 69738 73931

Height OD: 202m

Maximum depth of test pit: 0.86m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|--|--|
| 4901 | 0.25 | Topsoil | Mid brownish silt, some stone |
| 4902 | 0.28 | Ploughsoil | Mid orange-brown silt, some stone |
| 4903 | >0.33 | Relict soil. Base of layer not reached | Mid orange-brown clayey silt, some stone |

TP50

Location: SH 69784 73949

Height OD: 216m

Maximum depth of test pit: 0.59m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 5001 | 0.26 | Topsoil | Mid brown sandy silt |
| 5002 | 0.18 | Ploughsoil | Mid brown gritty silt, some stone |
| 5003 | 0.17 | Relict soil | Yellow/brown gritty sandy silt, some stone |
| 5004 | | Natural subsoil | Brownish yellow gritty clay |

TP51

Location: SH 69794 73942

Height OD: 218m

Maximum depth of test pit: 0.31m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--|
| 5101 | 0.11 | Topsoil | Dark grey brown silty loam |
| 5102 | 0.15 | Ploughsoil | Dark grey brown compact silty loam |
| 5103 | | Natural subsoil | Yellow buff very compact clayey silt, some stone |

TP52

Location: SH 69786 73973

Height OD: 214m

Maximum depth of test pit: 0.38m (dug into the natural in parts)

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---------------------------------------|
| 5201 | 0.17 | Topsoil | Dark brown silty loam |
| 5202 | 0.13 | Ploughsoil | Reddish brown silty clay, some stone |
| 5203 | | Natural subsoil | Pale yellowish grey sandy clay, stony |

TP53

Location: SH 69787 73969

Height OD: 214.5m

Maximum depth of test pit: 0.31m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|--------------------------------------|
| 5301 | 0.12 | Topsoil | Light/Mid brown sandy silt |
| 5302 | 0.17 | Ploughsoil | Mid brown sandy silt, some stone |
| 5303 | | Natural subsoil | Orangey yellow sandy clay, concreted |

TP54

Location: SH 69787 73966

Height OD: 215m

Maximum depth of test pit: 0.34m

| Context No. | Depth (m) | Description | Colour & Composition |
|-------------|-----------|-----------------|---|
| 5401 | 0.10 | Topsoil | Mid brown sandy loam |
| 5402 | 0.20 | Ploughsoil | Mid/dark-brown sandy loam, some stone |
| 5403 | | Natural subsoil | Light brown/orange sandy clay, some stone |

APPENDIX III: Lithic Assessment Catalogue

Key to abbreviations

Material

| | |
|------|------------------|
| c | black chert |
| cig | coarse igneous |
| fe | iron |
| bgl | Graig Lwyd |
| mix | mixed rock types |
| nig | non-igneous |
| sst | sandstone |
| tuff | tuff? |
| unc | unclassified |
| vq | vein quartz |

Object class

| | |
|-------|-------------------------|
| angf | angular frag |
| anv | anvil/working slab |
| axr | axe roughout |
| bs | burnt stone |
| charc | charcoal |
| cr | core reject |
| f/ff | struck flake/frag |
| hst? | Possible hammerstone |
| pf | struck primary frag |
| rp | retouched piece |
| sl | slag |
| sp | split pebble |
| up | ?pecked/utilised pebble |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|-------------------------------------|
| 1 | 100 | 104 | ?hst | gl | 1 | | | | ?pecked |
| 1 | 100 | 104 | sp | gl | 1 | | | | chip removed |
| 1 | 100 | 104 | sp | gl | 1 | | | | chip removed |
| 1 | 101 | 101 | f/ff | gl | 1 | | | | |
| 1 | 101 | 101 | angf | gl | 2 | | | | small angular frags. Non-conchoidal |
| 1 | 102 | 103 | nat | ? | 0 | | | | saved for ref |
| 1 | 102 | 102 | f/ff | gl | 9 | | | | |
| 1 | 102 | 102 | angf | mix | 8 | | | | small angular frags. Non-conchoidal |
| 2 | 201 | 201 | f/ff? | bc | 2 | | | | |
| 2 | 201 | 201 | f/ff | gl | 2 | | | | |
| 2 | 202 | 202 | angf | bc? | 11 | | | | |
| 2 | 202 | 202 | f/ff | gl | 5 | | | | |
| 2 | 202 | 202 | angf | gl? | 6 | | | | |
| 2 | 203 | 203 | f/ff | gl | 5 | | | | |
| 2 | 203 | 203 | angf | bc? | 5 | | | | |
| 3 | 300 | 303 | f/ff | gl | 3 | | | | |
| 3 | 301 | 301 | f/ff | gl | 5 | | | | |
| 3 | 302 | 302 | pf | gl | 2 | | | | primary frags |
| 3 | 302 | 302 | f/ff | gl | 17 | | | | |
| 4 | 401 | 401 | f/ff | gl | 7 | | | | |
| 5 | 500 | 503 | f/ff | gl | 1 | | | | |
| 5 | 500 | 504 | nat | | 0 | | | | unmodified cobbles, discarded |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 5 | 501 | 501 | f/ff | bc | 2 | | | | |
| 5 | 501 | 501 | f/ff | gl | 14 | | | | |
| 5 | 502 | 502 | pf | gl | 2 | | | | |
| 5 | 502 | 502 | f/ff | gl | 9 | | | | |
| 5 | 502 | 502 | if | bc? | 5 | | | | |
| 6 | 602 | 601 | f/ff | gl | 4 | | | | |
| 6 | 602 | 601 | f/ff | gl | 30 | | | | |
| 6 | 602 | 601 | f/ff | bc? | 11 | | | | |
| 6 | 602 | 601 | f/ff | gl | 12 | | | | |
| 7 | 701 | 701 | f/ff | gl | 3 | | | | |
| 8 | 802 | 801 | sp | vq | 2 | | | | indicates human action |
| 8 | 802 | 801 | sp | unc | 1 | | | | indicates human action |
| 8 | 802 | 801 | pf | gl | 4 | | | | |
| 8 | 802 | 801 | f/ff | gl | 66 | | | | |
| 8 | 802 | 801 | f/ff | gl | 80 | | | | a few with possible retouch |
| 8 | 802 | 801 | f/ff | gl | 1 | | | | has possible bituminous adhesions. Possible dating |
| 9 | 901 | 901 | f/ff | gl | 7 | | | | |
| 9 | 902 | 902 | f/ff | gl | 19 | | | | |
| 9 | 903 | 904 | sp | sst | 1 | | | | labelled find 903 |
| 9 | 903 | 904 | sp | cig | 1 | | | | labelled find 903 |
| 9 | 903 | 903 | f/ff | gl | 7 | | | | |
| 9 | 903 | 903 | if | bc? | 17 | | | | |
| 10 | 1002 | 1001 | up? | unc | 1 | | | | |
| 10 | 1002 | 1001 | sp | gl | 1 | | | | |
| 10 | 1002 | 1002 | pf | gl | 1 | | | | |
| 10 | 1002 | 1002 | f/ff | gl | 12 | | | | |
| 11 | 1102 | 1106 | nat | | 0 | | | | natural hole, 1 discarded |
| 11 | 1102 | 1102 | if | gl | 48 | | | | |
| 11 | 1102 | 1102 | f/ff | gl | 5 | | | | |
| 11 | 1102 | 1102 | pf | gl | 2 | | | | |
| 11 | 1102 | 1101 | axr | gl | 1 | | | | |
| 11 | 1102 | 1102 | if | gl | 19 | | | | |
| 11 | 1102 | 1102 | f/ff | gl | 3 | | | | |
| 11 | 1102 | 1103 | nat | | 0 | | | | 3 discarded |
| 11 | 1102 | 1103 | up? | cig | 1 | | | | ?pecked |
| 11 | 1102 | 1103 | cr? | bc | 1 | | | | |
| 11 | 1103 | 1104 | pf | gl | 1 | | | | |
| 11 | 1103 | 1104 | if | gl | 9 | | | | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 11 | 1103 | 1105 | up? | cig | 1 | | | | |
| 12 | 1202 | 1201 | f/ff | gl | 1 | | | | |
| 12 | 1202 | 1201 | if | bc | 1 | | | | |
| 12 | 1203 | 1202 | if | gl | 1 | | | | |
| 12 | 1203 | 1202 | sp | cig | 1 | | | | |
| 12 | 1203 | 1202 | f/ff | gl | 1 | | | | |
| 13 | 1302 | 1303 | f/ff | gl | 11 | | | | |
| 13 | 1302 | 1302 | nat | gl/cig | 2 | | | | 2 prob nat kept for ref |
| 13 | 1302 | 1303 | pf | gl | 2 | | | | |
| 13 | 1302 | 1304 | pf | gl | 5 | | | | |
| 13 | 1302 | 1304 | f/ff | gl | 23 | | | | |
| 13 | 1302 | 1301 | axrf? | gl | 1 | | | | |
| 14 | 1402 | 1401 | f/ff | gl | 4 | | | | |
| 14 | 1402 | 1401 | axr | gl | 1 | | | | |
| 15 | 1501 | 1502 | rp? | gl | 2 | | | | |
| 15 | 1501 | 1502 | f/ff | gl | 50 | | | | |
| 15 | 1502 | 1503 | pf | gl | 6 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 40 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 18 | | | | |
| 15 | 1502 | 1503 | sp | cig | 2 | | | | |
| 15 | 1502 | 1503 | pf | gl | 6 | | | | |
| 15 | 1502 | 1503 | up? | cig | 2 | | | | cobbles with poss pecking |
| 15 | 1502 | 1503 | sp | vq | 5 | | | | small angular frags. Deliberately broken |
| 15 | 1502 | 1503 | if | bc? | 2 | | | | |
| 15 | 1502 | 1503 | up? | sst | 2 | | | | |
| 15 | 1502 | 1503 | pf | gl | 1 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 31 | | | | |
| 15 | 1502 | 1503 | if | mix | 4 | | | | non-gl |
| 15 | 1502 | 1503 | f/ff | gl | 19 | | | | |
| 15 | 1502 | 1503 | pf | gl | 5 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 13 | | | | |
| 15 | 1502 | 1503 | f/ff | unc | 1 | | | | |
| 15 | 1502 | 1503 | bs | gl | 1 | | | | |
| 15 | 1502 | 1503 | if | tuff? | 2 | | | | |
| 15 | 1502 | 1503 | bs | nig | 2 | | | | |
| 15 | 1502 | 1507 | sp | gl | 1 | | | | split ?scree frag |
| 15 | 1502 | 1503 | sp | gl | 1 | | | | ?accidental fracture |
| 15 | 1502 | 1503 | bs | | 2 | | | | |
| 15 | 1502 | 1503 | pf | gl | 1 | | | | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-----------------|----------|--------|--------|----------|---------|--|
| 15 | 1502 | 1503 | bs | gl | 3 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 15 | | | | |
| 15 | 1502 | 1503 | pf | gl | 12 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 11 | | | | |
| 15 | 1502 | 1503 | pf | cig | 1 | | | | |
| 15 | 1502 | 1503 | pf | gl | 3 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 6 | | | | |
| 15 | 1502 | 1503 | pf | gl | 5 | | | | |
| 15 | 1502 | 1503 | if | gl | 6 | | | | |
| 15 | 1502 | 1503 | up? | gl | 1 | | | | ?pecked |
| 15 | 1502 | 1501 | axrf | gl | 1 | | | | |
| 15 | 1502 | 1503 | sp | cig | 1 | | | | |
| 15 | 1502 | 1503 | bs | gl | 3 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 2 | | | | |
| 15 | 1502 | 1503 | bs | gl | 1 | | | | cobble with two heat fractured facets |
| 15 | 1502 | 1508 | nat | gl | 1 | | | | nat boulder frag with glacial scratches |
| 15 | 1502 | 1503 | pf | gl | 5 | | | | |
| 15 | 1502 | 1503 | f/ff | gl | 14 | | | | |
| 15 | 1503 | 1504 | f/ff | bc | 2 | | | | |
| 15 | 1503 | 1504 | sp | mix | 11 | | | | |
| 15 | 1503 | 1504 | nat | | 2 | | | | 2 of 3 kept for ref. No obvious impact evidence |
| 15 | 1503 | 1504 | bs? | cig | 1 | | | | |
| 15 | 1503 | 1504 | f/ff | gl | 16 | | | | |
| 15 | 1503 | 1505 | anv?/ rawmat | gl | 1 | | | | Large flat slab. No working evidence. Possible unused raw material |
| 15 | 1503 | 1506 | rp | gl | 1 | | | | cutting tool. Some bifacial retouch |
| 15 | 1503 | 1504 | pf | gl | 1 | | | | |
| 15 | 1503 | 1504 | pf | gl | 7 | | | | |
| 16 | 1601 | 1607 | perfp | unc | 1 | | | | small naturally spherical pebble with a central drilled small partial perforation. Possibly a natural found object |
| 16 | 1601 | 1602 | if | gl | 3 | | | | |
| 16 | 1601 | 1602 | f/ff | gl | 1 | | | | |
| 16 | 1602 | 1603 | angf | gl | 32 | | | | natural? |
| 16 | 1602 | 1606 | sl | fe? | 2 | | | | |
| 16 | 1602 | 1604 | nat | gl | 6 | | | | no evidence of use. Kept for reference |
| 16 | 1602 | 1606 | charc | charc | 1 | | | | |
| 16 | 1602 | 1603 | pf | gl | 12 | | | | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 16 | 1602 | 1604 | nat | cig | 2 | | | | no evidence of use. Kpet for reference |
| 16 | 1602 | 1603 | f/ff | gl | 7 | | | | |
| 16 | 1603 | 1601 | axr | gl | 1 | | | | broken (recent break?) |
| 16 | 1603 | 1605 | sl | fe? | 6 | | | | |
| 17 | 1701 | 1701 | ff | gl | 9 | 5 | 4 | | |
| 17 | 1702 | 1704 | angf | vq | 2 | | | | |
| 17 | 1702 | 1702 | f/ff | gl | 16 | 15 | 1 | 0 | |
| 17 | 1703 | 1705 | angf | vq | 9 | 0 | 0 | 0 | |
| 17 | 1703 | 1703 | pf | gl | 1 | 0 | 0 | 0 | |
| 17 | 1703 | 1703 | f/ff | gl | 15 | 11 | 4 | 0 | |
| 18 | 1801 | 1801 | f/ff | gl | 13 | 10 | 3 | 0 | |
| 18 | 1801 | 1803 | angf | vq | 11 | 0 | 0 | 0 | |
| 18 | 1802 | 1802 | f/ff | gl | 20 | 15 | 5 | 0 | |
| 18 | 1802 | 1804 | angf | vq | 15 | 0 | 0 | 0 | |
| 19 | 1901 | 1902 | f/ff | gl | 12 | 10 | 2 | 0 | |
| 19 | 1901 | 1902 | angf | gl | 1 | 1 | 0 | 0 | Heat fractured |
| 19 | 1901 | 1901 | f/ff | f | 1 | 1 | 0 | 0 | Mid brown flint pebble frag. Probably anvil-struck |
| 19 | 1901 | 1904 | angf | vq | 31 | 0 | 0 | 0 | |
| 19 | 1902 | 1903 | f/ff | gl | 5 | 5 | 0 | 0 | |
| 20 | 2001 | 2001 | f/ff | gl | 4 | 4 | 0 | 0 | |
| 20 | 2002 | 2003 | f/ff | ch | 1 | 1 | 0 | 0 | Lt grey chert |
| 20 | 2002 | 2002 | f/ff | gl | 3 | 3 | 0 | 0 | |
| 21 | 2101 | 2101 | f/ff | f | 1 | 1 | 0 | 0 | Frag, probably from an anvil-struck core |
| 21 | 2101 | 2104 | angf | vq | 17 | 0 | 0 | 0 | |
| 21 | 2101 | 2102 | f/ff | gl | 8 | 8 | 0 | 0 | |
| 21 | 2102 | 2103 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 21 | 2102 | 2105 | angf | vq | 3 | 0 | 0 | 0 | |
| 22 | 2201 | 2201 | f/ff | gl | 6 | 3 | 3 | 0 | |
| 22 | 2202 | 2202 | f/ff | gl | 32 | 28 | 4 | 0 | |
| 22 | 2202 | 2205 | axeff | gl | 1 | 1 | 0 | 0 | Flake frag struck from the distal end of re-worked polished axe fragment |
| 22 | 2202 | 2203 | angf | vq | 1 | 0 | 0 | 0 | |
| 22 | 2203 | 2204 | f/ff | gl | 1 | 1 | 0 | 0 | Butt end of a thin flake |
| 23 | 2301 | 2301 | f/ff | gl | 7 | 6 | 1 | 0 | |
| 23 | 2301 | 2303 | angf | vq | 47 | 0 | 0 | 0 | |
| 23 | 2302 | 2302 | | | 0 | 0 | 0 | 0 | |
| 23 | 2302 | 2304 | angf | vq | 13 | 0 | 0 | 0 | |
| 24 | 2401 | 2401 | f/ff | gl | 13 | 10 | 3 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 24 | 2401 | 2404 | angf | vq | 33 | 0 | 0 | 0 | |
| 24 | 2402 | 2402 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 24 | 2402 | 2403 | angf | vq | 4 | 0 | 0 | 0 | |
| 25 | 2501 | 2504 | angf | vq | 19 | 0 | 0 | 0 | |
| 25 | 2501 | 2501 | f/ff | f | 1 | 1 | 0 | 0 | Frag of split pebble |
| 25 | 2501 | 2502 | f/ff | gl | 15 | 12 | 1 | 2 | |
| 25 | 2502 | 2503 | | | 0 | 0 | 0 | 0 | |
| 26 | 2601 | 2601 | angf | vq | 14 | 0 | 0 | 0 | |
| 26 | 2601 | 2605 | | | 0 | 0 | 0 | 0 | |
| 26 | 2602 | 2602 | f/ff | gl | 13 | 13 | 0 | 0 | |
| 26 | 2602 | 2606 | angf | vq | 25 | 0 | 0 | 0 | |
| 26 | 2602 | 2604 | f/ff | f | 1 | 1 | 0 | 0 | |
| 26 | 2603 | 2603 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 26 | 2603 | 2607 | angf | vq | 9 | 0 | 0 | 0 | |
| 26 | 2603 | 2608 | up? | sst | 1 | 0 | 0 | 0 | No visible usewear |
| 27 | 2701 | 2701 | f/ff | gl | 13 | 9 | 4 | 0 | |
| 27 | 2701 | 2702 | rp | f | 1 | 1 | 0 | 0 | Thumbnail scraper on a flake with pebble cortex |
| 27 | 2702 | 2704 | f/ff | f | 1 | 1 | 0 | 0 | Secondary flake with pebble cortex |
| 27 | 2702 | 2705 | f/ff | f | 1 | 1 | 0 | 0 | Primary flake, probably from an anvil-struck core |
| 28 | 0 | 2801 | | | 0 | 0 | 0 | 0 | |
| 28 | 2801 | 2803 | angf | vq | 3 | 0 | 0 | 0 | |
| 28 | 2802 | 2804 | angf | vq | 13 | 0 | 0 | 0 | |
| 28 | 2802 | 2702 | | | 0 | 0 | 0 | 0 | |
| 29 | 2901 | 2901 | f/ff | gl | 15 | 10 | 5 | 0 | |
| 29 | 2901 | 2902 | axrf | gl | 1 | 0 | 0 | 0 | Large, thick flake with dorsal ridge on one face and bifacial secondary flaking. Possibly accidentally broken off proximal end, but possibly meant as an oval shaped chopping tool as one edge is unusually thin and sharp |
| 30 | 3001 | 3001 | f/ff | gl | 20 | 17 | 3 | 0 | |
| 30 | 3001 | 3004 | angf | vq | 26 | 0 | 0 | 0 | |
| 30 | 3002 | 3002 | f/ff | gl | 28 | 23 | 5 | 0 | |
| 30 | 3002 | 3005 | angf | vq | 7 | 0 | 0 | 0 | |
| 30 | 3003 | 3003 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 3140 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3120 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3139 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3195 | f/ff | gl | 3 | 3 | 0 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|-------------------------------------|
| 31 | 3101 | 3121 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3130 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3141 | f/ff | gl | 1 | 1 | 0 | 0 | Recent break |
| 31 | 3101 | 3132 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3111 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3137 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3112 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3172 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3145 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3102 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3147 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 3104 | f/ff | gl | 1 | 0 | 1 | 0 | Core frag |
| 31 | 3101 | 3105 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3148 | f/ff | gl | 1 | 1 | 0 | 0 | Recent break |
| 31 | 3101 | 3129 | f/ff | gl | 1 | 0 | 1 | 0 | Has some edge damage |
| 31 | 3101 | 3173 | | | 0 | 0 | 0 | 0 | |
| 31 | 3101 | 3114 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3142 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3189 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 3179 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3163 | f/ff | gl | 4 | 0 | 4 | 0 | |
| 31 | 3101 | 3169 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3178 | | | 0 | 0 | 0 | 0 | |
| 31 | 3101 | 3170 | f/ff | gl | 4 | 4 | 0 | 0 | |
| 31 | 3101 | 3176 | f/ff | gl | 3 | 2 | 0 | 1 | |
| 31 | 3101 | 3174 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3167 | f/ff | gl | 5 | 3 | 2 | 0 | Has some recent trample edge damage |
| 31 | 3101 | 3165 | | | 0 | 0 | 0 | 0 | Recently broken |
| 31 | 3101 | 3181 | f/ff | gl | 1 | 0 | 1 | 0 | Has some trample edge damage |
| 31 | 3101 | 3184 | f/ff | gl | 3 | 1 | 1 | 1 | |
| 31 | 3101 | 3177 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3180 | f/ff | gl | 3 | 0 | 2 | 1 | |
| 31 | 3101 | 3166 | f/ff | gl | 3 | 2 | 1 | 0 | |
| 31 | 3101 | 3182 | f/ff | gl | 5 | 3 | 2 | 0 | Has some recent trample edge damage |
| 31 | 3101 | 3187 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3150 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3196 | f/ff | gl | 10 | 10 | 0 | 0 | |
| 31 | 3101 | 3136 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3109 | f/ff | gl | 1 | 0 | 1 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 31 | 3101 | 3101 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3199 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 31 | 3101 | 3164 | f/ff | gl | 3 | 3 | 0 | 0 | Has some recent trample edge damage |
| 31 | 3101 | 3124 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3110 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3107 | bf | gl | 1 | 0 | 0 | 0 | |
| 31 | 3101 | 3154 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3193 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3125 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3152 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3161 | f/ff | gl | 6 | 4 | 2 | 0 | |
| 31 | 3101 | 3135 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3151 | f/ff | gl | 5 | 3 | 2 | 0 | |
| 31 | 3101 | 3153 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3159 | f/ff | gl | 1 | 0 | 1 | 0 | This rf number used twice |
| 31 | 3101 | 3191 | f/ff | gl | 2 | 0 | 1 | 1 | |
| 31 | 3101 | 3146 | f/ff | gl | 1 | 0 | 0 | 0 | |
| 31 | 3101 | 3118 | f/ff | gl | 1 | 0 | 1 | 0 | Has some possibly later, edge retouch or just trample damage |
| 31 | 3101 | 3198 | f/ff | gl | 6 | 4 | 2 | 0 | |
| 31 | 3101 | 3123 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3156 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3192 | cr | gl | 2 | 0 | 0 | 2 | |
| 31 | 3101 | 3116 | f/ff | gl | 1 | 0 | 1 | 0 | Has some recent trample edge damage |
| 31 | 3101 | 3106 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3183 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3126 | f/ff | gl | 1 | 1 | 0 | 0 | Has some old trample edge damage |
| 31 | 3101 | 3149 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 3144 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3133 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3138 | f/ff | gl | 1 | 0 | 1 | 0 | Has some old trample edge damage |
| 31 | 3101 | 3117 | f/ff | gl | 1 | 1 | 0 | 0 | Has some old trample edge damage |
| 31 | 3101 | 3115 | f/ff | gl | 1 | 0 | 1 | 0 | Has some recent trample edge damage |
| 31 | 3101 | 3122 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3197 | f/ff | gl | 5 | 2 | 3 | 0 | |
| 31 | 3101 | 3143 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3155 | f/ff | gl | 1 | 1 | 0 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|----------------------------------|
| 31 | 3101 | 3119 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3134 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3131 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3137 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3113 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3108 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3138 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3159 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3194 | f/ff | gl | 8 | 7 | 1 | 0 | |
| 31 | 3101 | 3103 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 3190 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 31 | 3101 | 3158 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 31136 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 31 | 3101 | 31102 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 31 | 3101 | 31142 | f/ff | gl | 6 | 4 | 2 | 0 | |
| 31 | 3101 | 31137 | f/ff | gl | 9 | 7 | 2 | 0 | |
| 31 | 3101 | 31101 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 31109 | | | 0 | 0 | 0 | 0 | |
| 31 | 3101 | 31143 | f/ff | gl | 9 | 9 | 0 | 0 | |
| 31 | 3101 | 31122 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 31 | 3101 | 31110 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 31114 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 31111 | f/ff | gl | 14 | 14 | 0 | 0 | |
| 31 | 3101 | 31134 | f/ff | gl | 5 | 4 | 1 | 0 | |
| 31 | 3101 | 31123 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 31 | 3101 | 31135 | f/ff | gl | 8 | 6 | 2 | 0 | |
| 31 | 3101 | 31115 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 31103 | f/ff | gl | 1 | 0 | 1 | 0 | Has some old trample edge damage |
| 31 | 3101 | 31145 | f/ff | gl | 6 | 5 | 1 | 0 | |
| 31 | 3101 | 31139 | f/ff | gl | 10 | 7 | 3 | 0 | |
| 31 | 3101 | 31119 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 31100 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 31112 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 31 | 3101 | 31127 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 31107 | f/ff | gl | 3 | 2 | 1 | 0 | Has some trample edge damage |
| 31 | 3101 | 31144 | f/ff | gl | 13 | 13 | 0 | 0 | |
| 31 | 3101 | 31117 | f/ff | gl | 6 | 6 | 0 | 0 | |
| 31 | 3101 | 31141 | f/ff | gl | 4 | 2 | 2 | 0 | |
| 31 | 3101 | 31128 | f/ff | gl | 6 | 3 | 3 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|---|
| 31 | 3101 | 31120 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 31 | 3101 | 31124 | f/ff | gl | 3 | 2 | 1 | 0 | |
| 31 | 3101 | 31129 | f/ff | gl | 1 | 0 | 0 | 1 | Unusual large, long, curving blade |
| 31 | 3101 | 31105 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 31 | 3101 | 31127 | f/ff | gl | 12 | 10 | 2 | 0 | |
| 31 | 3101 | 31158 | f/ff | gl | 5 | 2 | 3 | 0 | |
| 31 | 3101 | 31152 | f/ff | gl | 10 | 4 | 6 | 0 | |
| 31 | 3101 | 31150 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 31 | 3101 | 31168 | f/ff | gl | 4 | 3 | 1 | 0 | |
| 31 | 3101 | 31149 | f/ff | gl | 9 | 9 | 0 | 0 | |
| 31 | 3101 | 31162 | f/ff | gl | 1 | 0 | 0 | 1 | A very large, thick secondary flake. A probable attempt to create a roughout blank |
| 31 | 3101 | 31126 | f/ff | gl | 1 | 1 | 0 | 0 | One flake with what may be a deliberate retouched, scraper type notch but which might be just chance edge damage |
| 31 | 3101 | 31160 | f/ff | gl | 3 | 3 | 0 | 0 | |
| 31 | 3101 | 31176 | f/ff | gl | 7 | 7 | 0 | 0 | |
| 31 | 3101 | 31159 | f/ff | gl | 9 | 7 | 2 | 0 | |
| 31 | 3101 | 31175 | | | 0 | 0 | 0 | 0 | |
| 31 | 3101 | 31157 | f/ff | gl | 3 | 0 | 3 | 0 | Surface black from heavy iron-panning |
| 31 | 3101 | 31151 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 31164 | f/ff | gl | 5 | 3 | 2 | 0 | |
| 31 | 3101 | 31170 | f/ff | gl | 8 | 8 | 0 | 0 | |
| 31 | 3101 | 31174 | f/ff | gl | 1 | 0 | 0 | 1 | A very large, thick secondary flake. A probable attempt to create a roughout blank. Some later edge damage |
| 31 | 3101 | 31156 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 31166 | f/ff | gl | 4 | 2 | 2 | 0 | |
| 31 | 3101 | 31146 | f/ff | gl | 15 | 11 | 2 | 2 | |
| 31 | 3101 | 31138 | axr | gl | 1 | 0 | 0 | 0 | Complete, part-finished, large, oval roughout with very asymmetric profile, perhaps designed to produce an adze, not an axe |
| 31 | 3101 | 31161 | f/ff | gl | 1 | 0 | 1 | 0 | Possibly just a natural scree frag |
| 31 | 3101 | 31172 | f/ff | gl | 8 | 5 | 2 | 1 | |
| 31 | 3101 | 3157 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 31 | 3101 | 31167 | f/ff | gl | 12 | 12 | 0 | 0 | |
| 31 | 3101 | 31171 | f/ff | gl | 5 | 4 | 1 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|--|
| 31 | 3101 | 31163 | f/ff | gl | 5 | 5 | 0 | 0 | |
| 31 | 3101 | 31169 | f/ff | gl | 3 | 3 | 0 | 0 | |
| 31 | 3101 | 31165 | f/ff | gl | 5 | 4 | 1 | 0 | One flake is a blade |
| 31 | 3101 | 31177 | f/ff | gl | 3 | 3 | 0 | 0 | |
| 31 | 3101 | 31154 | f/ff | gl | 7 | 6 | 1 | 0 | |
| 31 | 3101 | 31153 | f/ff | gl | 4 | 2 | 2 | 0 | One large flake possibly an attempt to create an axe blank |
| 31 | 3101 | 31140 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 31155 | f/ff | gl | 21 | 19 | 2 | 0 | One flake a large blade |
| 31 | 3101 | 3186 | f/ff | gl | 3 | 0 | 3 | 0 | |
| 31 | 3101 | 31104 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 31 | 3101 | 31173 | axrr | gl | 1 | 0 | 0 | 0 | Abandoned roughout. Large core fragment with some bifacial secondary flaking |
| 31 | 3101 | 3171 | f/ff | gl | 6 | 0 | 4 | 2 | |
| 31 | 3101 | 3162 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 31 | 3101 | 3185 | f/ff | gl | 2 | 0 | 2 | 0 | |
| 31 | 3101 | 3175 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 3168 | f/ff | gl | 3 | 3 | 0 | 0 | |
| 31 | 3101 | 31113 | f/ff | gl | 2 | 2 | 0 | 0 | Recent breaks |
| 31 | 3101 | 31116 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 31 | 3101 | 31108 | f/ff | gl | 2 | 1 | 1 | 0 | |
| 31 | 3101 | 31118 | f/ff | gl | 2 | 2 | 0 | 0 | Recent break |
| 31 | 3101 | 31132 | f/ff | gl | 3 | 1 | 2 | 0 | |
| 31 | 3101 | 31147 | f/ff | gl | 4 | 1 | 4 | 0 | |
| 31 | 3101 | 31125 | f/ff | gl | 12 | 8 | 4 | 0 | |
| 31 | 3101 | 31148 | f/ff | gl | 6 | 4 | 2 | 0 | |
| 31 | 3101 | 31106 | f/ff | gl | 1 | 0 | 1 | 0 | Has some old trample edge damage |
| 31 | 3101 | 3188 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3101 | 31131 | f/ff | gl | 7 | 4 | 3 | 0 | |
| 31 | 3101 | 31130 | f/ff | gl | 7 | 5 | 2 | 0 | |
| 31 | 3101 | 31133 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 31 | 3102 | 31183 | f/ff | gl | 73 | 72 | 1 | 0 | |
| 31 | 3102 | 31192 | f/ff | gl | 2 | 0 | 1 | 1 | |
| 31 | 3102 | 31195 | f/ff | gl | 30 | 27 | 3 | 0 | |
| 31 | 3102 | 31200 | f/ff | gl | 19 | 18 | 0 | 1 | One large piece probably a broken discarded roughout blank |
| 31 | 3102 | 31201 | f/ff | gl | 17 | 13 | 2 | 2 | One very large frag prob an attempt at a roughout blank |
| 31 | 3102 | 31181 | | | 0 | 0 | 0 | 0 | |
| 31 | 3102 | 31198 | f/ff | gl | 22 | 14 | 7 | 1 | One flake v large |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|------------|----------|--------|--------|----------|---------|--|
| 31 | 3102 | 31191 | f/ff | gl | 1 | 0 | 0 | 1 | Very large flake |
| 31 | 3102 | 31186 | f/ff | gl | 46 | 44 | 2 | 0 | |
| 31 | 3102 | 31180 | f/ff | gl | 16 | 13 | 3 | 1 | |
| 31 | 3102 | 31190 | f/ff | gl | 16 | 10 | 6 | 0 | |
| 31 | 3102 | 31204 | f/ff | gl | 21 | 16 | 5 | 0 | |
| 31 | 3102 | 31202 | axrf | gl | 1 | 0 | 0 | 0 | Distal end of a broken, near complete roughout with asymmetric cross-profile |
| 31 | 3102 | 31179 | spf | other | 1 | 0 | 0 | 0 | Small split pebble, possibly just of natural glacial origin. |
| 31 | 3102 | 31206 | axrf and f | gl | 2 | 0 | 0 | 0 | One axe roughout frag and one large flake |
| 31 | 3102 | 31182 | f/ff | gl | 32 | 27 | 5 | 0 | |
| 37 | 3701 | 3701 | f/ff | gl | 51 | 47 | 4 | 0 | |
| 37 | 3701 | 3705 | angf | vq | 4 | 0 | 0 | 0 | |
| 37 | 3702 | 3706 | angf | vq | 5 | 0 | 0 | 0 | |
| 37 | 3702 | 3702 | f/ff | gl | 108 | 100 | 8 | 0 | |
| 37 | 3702 | 3702 | f/ff | gl | 53 | 32 | 21 | 0 | |
| 37 | 3703 | 3714 | f/ff | gl | 1 | 0 | 0 | 1 | Large broad curving flake |
| 37 | 3703 | 3717 | f/ff | gl | 1 | 0 | 0 | 1 | Large blade |
| 37 | 3703 | 3721 | f/ff | gl | 1 | 0 | 1 | 0 | Thick curving flake from a scree block |
| 37 | 3703 | 3716 | f/ff | gl | 1 | 1 | 0 | 0 | Curving |
| 37 | 3703 | 3719 | f/ff | gl | 1 | 0 | 0 | 1 | Primary piece split from a block |
| 37 | 3703 | 3726 | f/ff | gl | 1 | 0 | 0 | 1 | Thick block with one flake removal. Rout reject? |
| 37 | 3703 | 3722 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 37 | 3703 | 3708 | angf | vq | 3 | 0 | 0 | 0 | |
| 37 | 3703 | 3703 | f/ff | gl | 12 | 2 | 7 | 3 | Small flakes are thin and curving |
| 37 | 3703 | 3703 | f/ff | gl | 60 | 52 | 4 | 4 | Small flakes are thin and curving |
| 37 | 3703 | 3723 | f/ff | gl | 1 | 0 | 0 | 1 | Large broad flake |
| 37 | 3703 | 3713 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 37 | 3703 | 3731 | f/ff | gl | 1 | 0 | 0 | 1 | |
| 37 | 3703 | 3729 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 37 | 3703 | 3730 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 37 | 3703 | 3727 | f/ff | gl | 1 | 0 | 0 | 1 | Has some recent trample edge damage, not retouch |
| 37 | 3703 | 3711 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 37 | 3703 | 3728 | f/ff | gl | 1 | 0 | 0 | 1 | Thick split block, not a flake. |
| 37 | 3703 | 3725 | f/ff | gl | 1 | 1 | 0 | 0 | Curving |
| 37 | 3703 | 3720 | f/ff | gl | 1 | 0 | 1 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|---|
| 37 | 3703 | 3724 | rp | gl | 1 | 0 | 1 | 0 | Thick flake with steep re-touch along one straight edge |
| 37 | 3703 | 3715 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 37 | 3703 | 3712 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 37 | 3703 | 3718 | f/ff | gl | 1 | 0 | 1 | 0 | |
| 38 | 3801 | 3801 | f/ff | gl | 3 | 2 | 1 | 0 | |
| 38 | 3802 | 3802 | f/ff | gl | 4 | 4 | 0 | 0 | |
| 38 | 3802 | 3803 | angf | vq | 2 | 0 | 0 | 0 | |
| 38 | 3802 | 3802 | f/ff | gl | 6 | 2 | 2 | 2 | 2 large fragments are both possibly axr blank rejects |
| 39 | 3901 | 3908 | bsf | dol | 1 | 0 | 0 | 0 | Possible pot boiler |
| 39 | 3901 | 3907 | angf | vq | 73 | 0 | 0 | 0 | |
| 39 | 3901 | 3901 | f/ff | gl | 118 | 94 | 24 | 0 | |
| 39 | 3901 | 3901 | f/ff | gl | 67 | 60 | 7 | 0 | |
| 39 | 3901 | 3901 | f/ff | gl | 34 | 25 | 9 | 0 | |
| 39 | 3901 | 3901 | f/ff | gl | 119 | 105 | 13 | 1 | The large fragment is a block and probably from a recent fracture |
| 39 | 3901 | 3901 | f/ff | gl | 70 | 65 | 5 | 0 | |
| 39 | 3901 | 3011 | f/ff | gl | 1 | 0 | 0 | 1 | Large split scree block reject |
| 39 | 3901 | 3909 | bsf | unc | 1 | 0 | 0 | 0 | |
| 39 | 3901 | 3910 | spp | ch | 1 | 0 | 0 | 0 | Light grey chert. Possible core reject |
| 39 | 3901 | 3906 | up | sch | 1 | 0 | 0 | 0 | Elongated cobble, 220x80x60, with scratch marks on one side and one edge. Possible medieval plough tip. |
| 39 | 3903 | 3903 | f/ff | gl | 24 | 2 | 12 | 10 | |
| 39 | 3903 | 3921 | bsf | sst | 5 | 0 | 0 | 0 | Split cobble frags |
| 39 | 3903 | 3923 | bsf | sst | 4 | 0 | 0 | 0 | Split cobble frags |
| 39 | 3903 | 3903 | bsf | other | 5 | 0 | 0 | 0 | |
| 39 | 3903 | 3903 | f/ff | gl | 3 | 0 | 0 | 3 | Two large ff and 1 large core f. Scree cortex, possibly showing what scree shapes were selected |
| 39 | 3903 | 3912 | axrf | gl | 1 | 0 | 0 | 1 | Distal end of a broken roughout, thin and probably an abandoned piece |
| 39 | 3903 | 3903 | f/ff | gl | 80 | 44 | 34 | 2 | |
| 39 | 3903 | 3903 | f/ff | gl | 30 | 10 | 16 | 4 | |
| 39 | 3903 | 3924 | axrf? | gl | 1 | 0 | 0 | 0 | |
| 45 | 4503 | 4506 | angf | vq | 1 | 0 | 0 | 0 | |
| 45 | 4503 | 4505 | angf | vq | 3 | 0 | 0 | 0 | |
| 45 | 4503 | 4504 | f/ff | ch | 2 | 2 | 0 | 0 | Light grey chert. One possibly part of a larger struck object |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|--------|---------|---------|-------|----------|--------|--------|----------|---------|---------------------------------|
| 45 | 4503 | 4503 | f/ff | gl | 137 | 112 | 25 | 0 | |
| 45 | 4503 | 4503 | f/ff | gl | 130 | 102 | 28 | 0 | |
| 45 | 4503 | 4503 | f/ff | gl | 179 | 169 | 10 | 0 | |
| 45 | 4503 | 4506 | angf | vq | 1 | 0 | 0 | 0 | |
| 46 | 4601 | 4608 | angf | vq | 10 | 0 | 0 | 0 | |
| 46 | 4601 | 4604 | angf | vq | 5 | 0 | 0 | 0 | |
| 46 | 4601 | 4601 | f/ff | f | 1 | 1 | 0 | 0 | Angular frag |
| 46 | 4601 | 4601 | f/ff | bc | 2 | 2 | 0 | 0 | ?struck |
| 46 | 4601 | 4601 | f/ff | gl | 63 | 58 | 5 | 0 | |
| 46 | 4601 | 4601 | f/ff | gl | 80 | 75 | 3 | 2 | |
| 46 | 4601 | 4601 | f/ff | gl | 50 | 48 | 2 | 0 | |
| 46 | 4602 | 4605 | angf | vq | 5 | 0 | 0 | 0 | |
| 46 | 4602 | 4602 | f/ff | gl | 107 | 107 | 0 | 0 | |
| 46 | 4602 | 4606 | angf | vq | 11 | 0 | 0 | 0 | |
| 46 | 4602 | 4602 | f/ff | gl | 74 | 71 | 3 | 0 | |
| 46 | 4603 | 4607 | angf | vq | 3 | 0 | 0 | 0 | |
| 46 | 4603 | 4603 | f/ff | gl | 148 | 142 | 6 | 0 | |
| 47 | 4701 | 4701 | f/ff | f | 1 | 0 | 0 | 0 | |
| 47 | 4701 | 4701 | f/ff | gl | 8 | 5 | 3 | 0 | |
| 47 | 4702 | 4705 | angf | vq | 2 | 0 | 0 | 0 | |
| 47 | 4702 | 4702 | bsf | other | 10 | 0 | 0 | 0 | Heat shattered frags |
| 47 | 4702 | 4702 | f/ff | gl | 10 | 8 | 1 | 1 | |
| 47 | 4703 | 4703 | f/ff | gl | 6 | 5 | 1 | 0 | |
| 47 | 4703 | 4703 | f/ff | gl | 6 | 5 | 1 | 0 | |
| 47 | 4703 | 4704 | angf | vq | 3 | 0 | 0 | 0 | |
| 48 | 4801 | 4801 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 48 | 4802 | 4802 | f/ff | gl | 18 | 17 | 1 | 0 | |
| 48 | 4802 | 4804 | angf | vq | 1 | 0 | 0 | 0 | |
| 48 | 4803 | 4803 | f/ff | gl | 1 | 1 | 0 | 0 | |
| 48 | 4803 | 4803 | f/ff | gl | 17 | 13 | 4 | 0 | |
| 49 | 4901 | 4905 | angf | vq | 3 | 0 | 0 | 0 | |
| 49 | 4901 | 4901 | f/ff | gl | 3 | 1 | 1 | 1 | Scree cortex on the large flake |
| 49 | 4902 | 4902 | bsf | cig | 2 | 0 | 0 | 0 | ?heat shattered |
| 49 | 4902 | 4906 | angf | vq | 2 | 0 | 0 | 0 | |
| 49 | 4902 | 4902 | f/ff | gl | 2 | 2 | 0 | 0 | |
| 49 | 4903 | 4907 | angf | vq | 4 | 0 | 0 | 0 | |
| 49 | 4903 | 4903 | f/ff | gl | 3 | 1 | 0 | 2 | |
| 49 | 4903 | 4903 | spp | other | 4 | 0 | 0 | 0 | Split cobble frags |
| 49 | 4903 | 4904 | angf | vq | 2 | 0 | 0 | 0 | |
| 49 | 4903 | 4903 | bsf | cig | 5 | 0 | 0 | 0 | Coarse, probably burnt |
| 49 | 4903 | 4903 | f/ff | gl | 4 | 4 | 0 | 0 | |

| Trench | Context | Find No | Class | Material | Number | 0-50mm | 51-100mm | 101mm + | Comment |
|----------|---------|---------|-------|----------|--------|--------|----------|---------|---|
| 50 | 5001 | 5001 | f/ff | gl | 17 | 17 | 0 | 0 | Includes 2 small burnt frags |
| 50 | 5001 | 5004 | angf | vq | 6 | 0 | 0 | 0 | |
| 50 | 5002 | 5006 | angf | vq | 9 | 0 | 0 | 0 | |
| 50 | 5002 | 5002 | f/ff | gl | 57 | 57 | 0 | 0 | ditto |
| 50 | 5003 | 5005 | angf | vq | 4 | 0 | 0 | 0 | |
| 50 | 5003 | 5003 | f/ff | gl | 50 | 46 | 4 | 0 | |
| 50 | 5003 | 5007 | | | 0 | 0 | 0 | 0 | |
| 50 | 5003 | 5003 | f/ff | gl | 159 | 159 | 0 | 0 | Includes some very small finishing flakes |
| 51 | 5102 | 5102 | f/ff | gl | 11 | 9 | 2 | 0 | |
| 52 | 5201 | 5201 | f/ff | gl | 7 | 7 | 0 | 0 | |
| 52 | 5202 | 5202 | f/ff | gl | 6 | 5 | 1 | 0 | |
| 53 | 5301 | 5301 | f/ff | gl | 10 | 10 | 0 | 0 | |
| 53 | 5301 | 5304 | angf | vq | 3 | 0 | 0 | 0 | |
| 53 | 5302 | 5302 | f/ff | gl | 6 | 6 | 0 | 0 | |
| 53 | 5302 | 5303 | angf | vq | 4 | 0 | 0 | 0 | |
| 54 | 5401 | 5401 | f/ff | gl | 14 | 13 | 1 | 0 | |
| 54 | 5402 | 5402 | f/ff | gl | 5 | 4 | 1 | 0 | |
| Molehill | 0 | 10001 | f/ff | gl | 1 | 1 | 0 | 0 | Thin, tertiary flake frag |
| Molehill | 0 | 10002 | f/ff | gl | 2 | 2 | 0 | 0 | Thin, shaping flakes |
| Molehill | 0 | 10003 | f/ff | gl | 1 | 1 | 0 | 0 | Thin, curving, finishing flake |
| Molehill | 0 | 10004 | f/ff | gl | 1 | 1 | 0 | 0 | Probably natural rolled frag |
| Molehill | 0 | 10005 | f/ff | gl | 1 | 1 | 0 | 0 | Thin, shaping flake |
| Molehill | 0 | 10006 | f/ff | gl | 2 | 2 | 0 | 0 | Thin, shaping flakes |
| Molehill | 0 | 10007 | f/ff | gl | 1 | 1 | 0 | 0 | Thin, shaping flake |



Gwynedd Archaeological Trust
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