1696

Archaeological Evaluation Adjacent to the Lligwy Burial Chamber, Moelfre, Anglesey

Cadw

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Archaeological Evaluation Adjacent to the Lligwy Burial Chamber, Moelfre, Anglesey

Project No. G2767

Report No. 1696

Event PRN 46537

Prepared for: Cadw

March 2023

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Cover photograph: Leaf-shaped arrowhead found in the evaluation trench

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Published by Gwynedd Archaeological Trust
Gwynedd Archaeological Trust
Craig Beuno, Garth Road,
Bangor, Gwynedd, LL57 2RT

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Report 1696

Event PRN 46537

CRYNODEB

Derbyniodd Ymddiriedolaeth Archaeolegol Gwynedd gymorthdal gan Cadw i gynnal cloddiad asesu bychan yn union gerllaw Siambr Gladdu Lligwy er mwyn ymchwilio difrod twrch daear i'r archaeoleg claddedig. Beddrod siambrog Neolithig yw Siambr Gladdu Lligwy (PRN 3594), wedi ei leoli yn SH 50139 86035, yng nghymuned Moelfre, Ynys Môn. Mae'n heneb cofrestredig (An009) dan Warchodaeth Cadw. Cynhaliwyd y gwaith rhwng Chwefror 21ain a 24ain 2023 (cynhwysol).

Cafwyd hyd i nifer o ddarganfyddiadau wedi eu gwasgaru trwy'r uwchbridd, gan gynnwys darnau o asgwrn a dannedd dynol. Daethpwyd i'r casgliad fod rhain wedi eu cario i'r wyneb o'r haenau sydd yn union islaw gan weithgarwch twrch daear. Roedd ffos debygol yn torri ar draws cornel y cloddiad, ynghyd â'r hyn sydd yn ymddangos yn nodwedd arall. Roedd y nodweddion hyn yn torri trwy domen o bridd a cherrig sydd efallai yn rhan o'r twmpath o amgylch y beddrod. Wedi selio islaw'r dyddodyn hwn cafwyd haen yn gyfoethog o ddarganfyddiadau, yn enwedig gweddillion dynol chwilfriw. Roedd yr haen hon yn selio cerrig y dadansoddwyd yn wreiddiol fel craigwely doredig, ond allai brofi i fod yn llenwad toriad neu bant yn erbyn ymyl gogleddol y beddrod. Cynrychiolwyd y dyddodion naturiol gan rewglai glân.

Roedd darganfyddiadau yn cynnwys asgwrn a dannedd dynol, ychydig o asgwrn anifail, siert a fflint wedi eu gweithio (gan gynnwys pen saeth cain siâp deilen), crochenwaith neolithig, cregyn môr a cherrig crynion glan môr.

Cyflwynir cynllun prosiect ar gyfer y gwaith ôl-gloddiad, yn ogystal ag awgrymiadau ar gyfer gwaith pellach.

SUMMARY

Cadw grant aided Gwynedd Archaeological Trust to carry out a small evaluation excavation immediately adjacent to the Lligwy Burial Chamber to investigate mole damage to the buried archaeology. The Lligwy Burial Chamber (PRN 3594) is a Neolithic chambered tomb located at SH 50139 86035, in Moelfre community, Anglesey. It is a scheduled monument (An009) in Cadw Guardianship. The work was carried out between 21st to 24th February 2023 (inclusive).

Quantities of finds, including fragments of human bone and teeth, were found scattered through the topsoil. It was concluded that these were brought to the surface by mole activity from the layers immediately below. A probable ditch cut across the corner of the trench, along with what appears to be another feature. These features cut through a dump of soil and stones, that might be part of the mound round the tomb. Sealed under this deposit was a layer rich in finds, especially fragmentary human remains. This layer sealed stones, initially interpreted as broken bedrock, but which might prove to be the fill of a cut or hollow against the northern side of the tomb. The natural deposits were represented by a clean glacial clay.

Finds consisted of human bone and teeth, some animal bone, worked chert and flint (including a fine leaf-shaped arrowhead), Neolithic pottery, marine shells and beach pebbles.

A project design for the post-excavation work is presented, as well as suggestions for further work.

1 INTRODUCTION

The Lligwy Burial Chamber (Primary Record Number (PRN) 3594) is a Neolithic chambered tomb (Plates 1 and 2) located at SH 50139 86035 on a limestone plateau about 1.5km from the coast, in Moelfre community, Anglesey (Figure 1). It is a scheduled monument (An009) in Cadw Guardianship, though the land is owned by Plas Lligwy. It is noted for its large capstone and has an entrance to the east. The tomb was excavated in 1908 but no archaeological work has been carried out on or around the tomb since that date.

In the summer of 2022, a member of the public saw a human tooth in a molehill within the fenced area around the tomb. This was reported to Gwynedd Archaeological Trust (GAT) and on 9th August 2022 Jane Kenney visited the site and located the tooth and also found two split flint pebbles from molehills, which were numerous around the tomb (Kenney 2022). To investigate where the tooth and other finds were coming from it was proposed that a small evaluation trench be dug and GAT, grant aided by Cadw, carried out this work on 21st to 24th February 2023 (inclusive), with final returfing on 27th February.

1.1. Aims & Objectives

It appeared that moles had been disturbing a deposit containing artefacts and human remains to the north of the tomb. The aim of the evaluation was to determine the nature of the deposit being disturbed and the extent of the damage. In particular the aim was to identify where the human tooth originated from, whether there are more human remains in this area and why there are human remains located outside the tomb. The results of the evaluation were to inform management of the monument.

1.2. Copyright

1.3. Acknowledgements

This work has been grant aided by Cadw. Many thanks to the landowner, John Aron, for permission to excavate on his land and for allowing us to park in his field. Thanks to Ashley Batten, Cadw, for arranging the Scheduled Monument Consent and to Ian Halfpenney for advice during the excavation. Thanks to Frances Lynch for a critical clue to finding the Baynes human remains assemblage as well as pottery analysis. Many thanks to Barbara Marshall for washing and cataloguing the finds.

The excavation was carried out by Anne Marie Oattes and Jane Kenney.

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1. Archaeological and historical sites in the area

The Neolithic chambered tomb (PRN 3594, AN009) lies in an area rich in archaeology of many periods (Figure 2). Field walking and test pitting took place in 2016, 2017 and 2019 in the field to the north of the tomb. This recovered worked black chert, flint and pot sherds. Many of the flint finds formed a cluster and were mainly of Mesolithic type, including microliths, suggesting a Mesolithic occupation site in this field. However, a fine black flint pressure flaked knife of later Neolithic type was also found. The black chert artefacts included larger, cruder flaked tools of a Neolithic or later prehistoric date (White 2020, 49-51). This demonstrates that black chert was widely used in the area. Black chert and flint were also found by field walking in a field near Hen Capel Lligwy (White 2020, 50).

The Din Lligwy roundhouse settlement (PRN 2132, AN023) lies to the north-west. This was occupied in the late Roman period. The Parc Salmon Hut Group (PRN 2131, AN102), probably occupied at a similar time, is also nearby. Iron Age and Roman period finds have been discovered by metal detectorists within the fields close to the tomb, including a terret ring (PRN 24016), a bracelet (PRN 81540), and only about 100m from the tomb a number of Roman brooches (PRN 81542).

A concentration of finds including copper alloy waste, coins, fibulae, and spindle whorls have been found by metal detecting in the field immediately south-west of the tomb (PRN 9981). This led to a geophysical survey to investigate the area, which revealed a large rectangular enclosure with a complex central feature (PRN 32808). The features were suggested as possibly of Roman period date, but the anomalies were rather vague and diffuse (Flook and Flook 2013, 52-53).

Hen Capel Lligwy (PRN 2126, AN056) stands just north of Figure 2 at SH4991086322. This is a 12th century chapel, largely rebuilt in the 14th century, with walls surviving to roof height.

Lligwy Farm, now known as Plas Lligwy, appears on the first edition OS County series map of 1889, but is not listed in either the HER or National Monuments Record (NMR), though its garden is listed in the NMR as National Primary Record Number (NPRN) 86549. Structures relating to Plas Lligwy include a ruined dovecot (PRN 2118), a structure identified on the OS County Series maps (PRN 55953).

2.2. Archaeological investigation of the tomb

Like most of the Neolithic tombs on Anglesey Lligwy attracted the attention of early 19th century antiquarians and visitors to the island. Fenton in his tour of Anglesey in 1810 saw the Lligwy tomb and described it as follows:-

"and afterwards to Llygwy to see what was represented to us as a large Cromlech, whereas it is the most perfect Cistvaen I ever remember to have seen, being an immense mass of Limestone, covering a space set round with large low Stones, making a large Chamber within, having two entrances" (Fenton 1917, 264).

The mention of two entrances probably refers to the gap under the capstone on the northern side of the tomb, that might have appeared more like an entrance at that time, though it is not mentioned by Skinner.

Skinner saw the tomb in 1802 and described it as:-

"Not far distant facing the ocean is a cromlech the upper stone six yards long, five yards and a half wide and three yards thick. One end rests upon a bank of earth and the other is supported by four or five small upright stones, leaving a hollow beneath almost two feet high" (Skinner 1908, 79-80).

The footnotes correct Skinner to say that the capstone is 3ft 6 inches thick and rests on a flat rock not a bank of earth. However, Skinner's drawing No. 55 (Figure 3) also includes an earth bank, and it is possible that remains of a mound around the tomb existed then. This is confirmed by a plate included by Wynn Williams in his survey of the tomb which shows a small amount of material built up over the

side stones on the western side of the chamber, in the same location as Skinner's 'earth bank' (Wynn Williams 1867, opposite p135) (Figure 3).

In the early years of the 20th century S. E. Brazier of Birmingham took photographs of the chambered tombs on Anglesey. Copies of these are held by the Gwynedd HER in a collection referred to as the "Edwardian Photograph Albums". A note with one album suggests the photographs were taken in 1905, and this seems likely for the ones of Lligwy tomb, as it shows the tomb prior to the excavation of the site by Neil Baynes in 1908. These photographs (Plate 3) show some soil built up around the base of the tomb in places, probably the remains of a mound. The first task that Baynes undertook before his excavation was remove these slight remains. He says:-

"In April, 1908, the earth, together with a few stones which had accumulated round the cromlech, were removed down to, or rather below, the level of the field" (Baynes 1909, 219).

His photographs of the site prior to excavation show a level and denuded surface around the tomb (Plate 4).

Baynes describes the tomb as having a thick, massive capstone supported on three of the eight stones that form the sides of the chamber (Plate 1). All the stone in the tomb is limestone. He notes that there is a gap in the northern side of the chamber and that the stones on the northern side of the chamber have slumped or moved, probably due to the capstone moving at some time and causing this side to slump (Baynes 1909). Before excavation the level of the soil in the chamber was about 2ft (0.6m) below the capstone and Baynes dug down about 1.2m below the capstone to find the undisturbed clay forming the base of the chamber. The base of the chamber has therefore been dug into the ground and it is necessary to step down from the narrow eastern entrance to enter the chamber. Inside the chamber Baynes found a layer of red clayey soil over a layer of limpet shells, which covered a stony black soil with human and animal bones as well as flint and pottery. This sealed a paving of flat stones, under which was another layer of black soil, rich in finds. Below this, overlying the base of the chamber, was a wet sticky soil containing mussel shells.

As well as excavating inside the chamber Baynes opened a trench measuring 4ft across (1.2m) immediately north of the tomb. This was excavated to a depth of 7ft (2.1m). In this trench *"At a depth of about 4ft was found the black soil containing a quantity of human teeth and fragments of bones, a flint scraper, and a bone pin….also some teeth of bos, sheep, pig and dog"* (Baynes 1909, 224-225). Baynes considered that the black soil may have originated from the tomb when it was broken into:- *"The black soil only extended about 3ft 6 ins. [1.06m] from the cromlech, and the appearance of the soil and stones met with in this particular excavation suggested that at this point an entry may have been forced into the chamber"* (Baynes 1909, 225).

However, he later speculated that the human remains found north of the tomb had been deliberately removed from the tomb to clear it out, possibly wrapped in a skin held together by the bone pin that was found (Baynes 1932, 37).

The finds from the excavation included flint (including 4 flint scrapers), a small number of pot sherds, a bone pin and animal bones of a variety of species. There were also many fragments of human bone and teeth, representing at least 30 individuals, included parts of at least 12 human jaws and several foot bones. The human bones were mostly fragmentary and a brief report on them is given, showing that children were represented as well as adults (Baynes 1909, 225-228). There is no mention of burnt bone, so it is assumed that all the human remains were unburnt.

Baynes does not give descriptions of the finds other than the human bone, but Stuart Piggott later published the pottery (Piggott 1933). One sherd (Figure 4, No. 1) is Beaker and Lynch (1969, 159; 1991, 90) identifies three sherds (Figure 4, Nos 2, 3 and 4) as Late Neolithic Grooved Ware. Piggott considers Nos 8 and 10 to be intrusive Romano-British pottery, but the remaining sherds are probably Early Neolithic Irish Sea Ware. Lynch (1969, Fig 57) also illustrates four flint scrapers and a flint 'slug' knife,

as well as the polished bone pin from the excavation to the north of the tomb. She compares the pin to others found in Late Neolithic burials (Lynch 1969, 159).

Most of the finds are held in the National Museum Wales, Cardiff (part of accession number 42.395). The finds are listed as:-
Bone: 53g of animal bone
Lithics: 14 pieces of debitage, 1 plano-convex knife, 2 retouched pieces, 4 scrapers, 1 utilised piece
Pottery: 47g of rim sherds, 153g of body sherds (styles represented: earlier Neolithic bowl, Grooved Ware)
Worked bone: 1 bone pin
Other: charcoal samples, shell samples
(Burrow 2003, 118)

The human remains are not held in Cardiff. They were studied by Professor Keith curator of the Royal College of Surgeons (Baynes 1909, 225) and a footnote suggests that some of the foot bones were presented by Lord Boston to the Royal College of Surgeons (Baynes 1909, 228), but it appears that the whole collection was given to the Royal College. A query to the Royal College of Surgeons in 2000 about this collection revealed that they did hold all the remains, but these were sent to the National History Museum (copy of email kept by Frances Lynch). The Natural History Museum has confirmed that the assemblage was donated to the Museum by the Royal College of Surgeons in 1955. They hold two boxes of largely cranial/dental remains, which is likely to be the full assemblage (email from Dr Rachel Ives, curator of Anthropology, National History Museum).

His Majesty's Commissioners of Works (Baynes 1932, 38) erected a fence around the monument, prior to 1920 and did minor landscaping around the tomb, but there was no further archaeological work done on the site.

The current work was initiated following a human tooth in a molehill being reported by a member of the public. The tooth was collected by Jane Kenney of Gwynedd Archaeological Trust on 9th August 2022, along with two split flint pebbles, also from molehills. A plan was made of the location of the molehills and finds (see Figure 5), and a short report was written (Kenney 2022).

3 METHODOLOGY

3.1. Evaluation excavation

In order to evaluate the threat from mole burrowing and provide information for mitigation a small evaluation trench was dug to the north of the tomb. As the work took place within the scheduled area Scheduled Monument Consent was obtained before the start of the work. As it was anticipated that more human remains might be discovered a licence for the removal of human remains from the Ministry of Justice was also obtained in advance. The licence stipulates that human remains are to be deposited in Oriel Môn, Llangefni no later than 13th February 2028. A Written Scheme for Investigation was produced for Cadw, and this was followed for the excavation; included as Appendix II.

The work took place on 21st to 24th February 2023 (inclusive), with final returfing on 27th February. The trench measured 2m by 2m and was positioned to cover the area where the human tooth was recovered, but to be far enough from the tomb that deposits with direct relationships to the tomb were not disturbed and there was no risk of weakening any of the stones forming the sides of the chamber (Figure 5). The north side of the tomb was also chosen for investigation because of the possibility of locating Baynes's 'black soil'. All excavation was by hand, including the removal of turf and ploughsoil. Turf and soil were stored on plastic sheets close to the trench and backfilled as soon as the excavation and recording were complete (Plates 5 and 6). It was decided not to cover the trench with geotextile before backfilling to avoid leaving plastic in the ground. Exposed sensitive layers had been excavated and remaining deposits were either natural clay or bedrock or robust, thick deposits.

The turf and ploughsoil was removed to expose archaeological deposits. All excavation was done by trowel, rather than mattock or shovel, to ensure all finds were recovered. As a cut feature, probably a ditch, could be seen in one corner of the trench this was fully excavated where it appeared within the trench. Sondages were dug on either side of the trench to investigate the depth and nature of deposits down to the bedrock and glacial clay. The trench was planned to show the cut of the ditch and then planned again when the sondages were completed, partially removing the edge of the ditch. Sections were drawn of three sides of the trench and part of the fourth side, with another section across the middle of the trench. The first plan and the sections were drawn by hand; the plan at a scale of 1:20 and the sections at 1:10. As the final plan was composed largely of stones this plan was created by photogrammetry. Overlapping photographs were taken of the trench, including targets that had been surveyed in. Agisoft Metashape was used to combine the photographs into a 3D model and the targets were used to precisely scale and geolocate this model. An orthomosaic was produced as the base for a plan to be drawn up.

A record of all deposits and features encountered was made on GAT pro-formas, with detailed notations and these were recorded photographically with an appropriate scale. Photographic images were taken using a digital SLR camera set to maximum resolution in RAW format.

The location of the trench was recorded using a Trimble R8 Global Positioning System (GPS) unit, which was also used to record the location of the drawing baseline and the section lines. All significant artefacts were located in three dimensions using the GPS unit. All artefacts were collected, including modern items, though the latter were not 3D located and most will be discarded after their presence has been noted. A bulk sample of 40 litres (4 tubs), about 90% of the deposit excavated, was taken of the largely undisturbed find-rich layer (007). The sample was to ensure full find recovery and to recover any charcoal and charred plant remains present. Obvious finds from this layer were collected and recorded in three dimensions, but many finds were included in the sample to be recovered during flotation and wet sieving.

3.2. Report and Archive

A working project archive has been created including.

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

This project archive has been used to create the text and illustrations in this report, which presents a preliminary description and interpretation of the results. The report also provides a project design and costs for specialist work and a final report.

The finds have been washed and catalogued. The soil sample has been processed using the standard GAT flotation methodology. The flot was caught in a 250-micron mesh and the residue sieved through a 500-micron mesh. Finds from the sample have been included in the catalogue.

The physical archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. Once the final report has been produced the finds, paper and digital archive will be archived with Oriel Môn, Llangefni, Anglesey Archives and the RCAHMW respectively. Oriel Môn has been informed of the finds and has agreed to take the assemblage (accession number 2/2023), the landowner has agreed to donate the finds to the Oriel and written consent for this will be obtained.

The licence for the removal of human remains stipulates that human remains are to be deposited in Oriel Môn, Llangefni no later than 13th February 2028. They will be held by GAT or the relevant specialist until analysis has been completed.

4 RESULTS

4.1. Excavation

See plans Figures 6 and 7, sections Figures 8 to 12

The initial removal of the turf over the trench revealed a concrete block in the north-east corner of the trench, obscured only by a thin layer of turf. This block (005) measured 0.50m by 0.45m and was 0.44m deep (Plates 7 and 8). It had been cast into a nearly square hole [010], and the concrete had entirely filled the cut. In the top of the block was set the base of an iron post, cut off just above the top of the block. The hole for the concrete had been dug through the topsoil.

The turf and topsoil was up to 0.2m thick, and was a grey-brown silty loam with few stones. This merged into a lower soil horizon (002), which was browner in colour, with occasional small stones but was much the same silty loam as 001. This layer resembled a ploughsoil but the area around the tomb stands slightly higher than the level of the rest of the field and has bedrock close to or on the surface in several places. Current ploughing avoids this area, and it is likely that ploughing was never intensive close to the tomb. This layer is therefore probably the lower A horizon, below the active topsoil, possibly mixed by occasional early ploughing. The topsoil (001) and lower topsoil (002) contained a large number of bone fragments (probably mostly human) and human teeth, along with worked flint and chert and marine shells. These finds were scattered randomly over most of the trench but were scarce in the north-west corner (Figure 13).

Under the topsoil in this corner was a cut feature running north-east to south-west across the trench, with only the south-eastern side visible in the trench (Plates 9, 10, 11 and 12). The side of this feature [004], which is probably part of a ditch, sloped down at about 45 degrees into a rounded base. The side was rather irregular where it clipped the bedrock, but the base was neat and regular where it was dug into glacial clay. This possible ditch was 0.64m deep and over 1.0m wide. The fill of the feature (003) was a brown silty loam with very few stones. It was very homogenous and appeared to continue beyond the ditch cut into a feature [012] running to the north-east (Plate 13). No difference could be seen between 003 and 011, the fill of [012], and they could be the same deposit. Feature [012] had a steep southern side, disturbed by animal burrowing, and a flat base. There was a sharp change of slope between the base of [012] and the side of [004], suggesting that [004] had cut through [012] but the cut could not be seen in section. A rounded beach cobble (SF095) was found resting on the base of [012].

Both [004] and [012] cut through a deposit (006) that covered the rest of the trench (Plates 9, 10, 11 and 14). Deposit 006 was a dark brown silty loam, fairly soft and loose, with numerous large stones up to 0.6m long. It was up to 0.58m deep and over much of the trench was fairly easily distinguished from layer 002, but towards the north-eastern side of the trench the two layers merged, probably due to animal burrowing. The stones were pieces of limestone bedrock, but they were jumbled and laying haphazardly, as if dumped. Recent animal burrows, still voids, were seen within this deposit, and it contained some finds. This deposit was investigated in sondages along the north-eastern and south-western sides of the trench and was left unexcavated in the middle of the trench.

Under deposit 006 was a layer (007) up to 0.23m thick, seen over parts of the south-western sondage (Plate 15) and in a small patch in the north-eastern sondage, probably filling a gryke (a solution fissure in the limestone bedrock). Layer 007 was a dark grey-brown, speckled with fragments of shell, with numerous small stones (small pieces of eroded limestone) and occasional larger stones. It was very loose, with quite a good crumb structure as if worms had been active within it, and it filled the gaps between the stones of deposit 008. Animal burrows ran through this layer and between the stones, including one which contained a modern (unburnt) hazelnut shell gnawed by a mouse. This indicates

that not all the burrowing was done by moles, but that mice were also involved in disturbing the deposits. Despite the disturbance by burrowing the upper interface of this layer was fairly well-defined.

In the base of the south-western sondage were densely packed stones (008) interpreted during excavation as the broken-up surface of the bedrock (Plates 16, 17 and 18). Many of these stones were small or medium sized and flat, but others were larger and more irregular, all were limestone. There were voids between some of the stones, but these may have been the result of burrowing. The largest stone, 0.5m long, lay at an angle but most lay fairly level. In the north-western side of the trench was a mid-red-brown silty clay (009) with few stones. In places the surface of 009 sloped down towards the south-east and it is not impossible that there was a cut in 009, which was filled by the stones of 008, but this possibility was not investigated and 008 was left *in situ* unexcavated.

4.2. Soil sample

One bulk soil sample of 40 litres was taken from layer 007. This comprised most of the deposit excavated in the south-western sondage. This soil sample was floated as described in the methodology to recover charcoal and charred plant remains. The residue was sorted to recover finds and charcoal not separated by wet sieving. All the finds have been incorporated in the finds summary and descriptions below. The aim of the sample was to recover as many finds as possible from this layer, so apart from some more obvious finds that were collected during excavation and the location of which were recorded in 3D, all the material was deposited in the sample buckets for sorting after wet sieving.

A small bag of charred plant remains and charcoal has been recovered from the flotation process and this will be studied by a specialist to identify the species present.

4.3. Finds

4.3.1 Summary of finds

See Figure 13 for find distribution and Appendix I for a full list of finds.

Quantity of finds by material type

Material	weight	no. of items
bone	1096	434*
chert	1139.5	93
coal	170	13
copper alloy	6	1
flint	100	16
gemstones	114	2
other	28	6
prehistoric pot	32.5	27
quartz	22	4
shell	220.5	143*
stone	2862	16

Quantity of finds by context

Context	weight	no. of items
001	520	44
002	1740	159
003	186.5	12
006	250.5	54
007	1535	473*
011	1543	12
EPRN46296 molehills	16.5	3

*Includes rough estimates of items from soil sample from 007

4.3.2 Bone

There are 1096g of bone and teeth, consisting of over 430 individual items. The number of items is approximate as the numerous items from sieving the bulk soil sample from layer 007 were not counted precisely. Most of the bones are fragmented, but some small bones are complete. All the teeth are human and most of the recognisable bones are also human but there are some bones of small mammals and possibly birds. It is notable that a small proportion of the human bones have been burnt. A large proportion of the bones come from layer 007, despite only a small area of this being excavated.

4.3.3 Chert and flint

Most of the lithics were chert with 93 individual pieces, though some of these are unworked lumps of chert collected as an example of the natural material on the site. Chert seems to be present in the limestone locally. The flint assemblage (16 items) includes beach pebbles with slight evidence of working, though some flint flakes were also found. However, a very fine, very small leaf-shaped arrowhead was recovered from the bulk soil sample of layer 007 (Plate 19). A similarly small, thin leaf-shaped arrowhead made on white flint came from the Early Neolithic House 3 at Llanfaethlu, northern Anglesey; though this had a rounded, rather than pointed, base and had been burnt (Rees and Jones 2016, 54-55).

4.3.4 Shell

Almost all the shells found were marine species. These must have been deliberately brought to the site and Baynes mentions layers of shell within the chamber. One layer was predominately of limpet shells and numerous limpet shells are included in the present collection, though winkles and small welks are more common. The lowest layer in the chamber included mussel shells and these seemed to be largely absent from the current excavation, but fragments of mussel shell were found in the wet sieving residue. It appears that mussel shells did not survive as well as other shells and were largely fragmented and eroded by the soil conditions but had been present. It is likely that the tiny fragments of shell visible in layer 007 during excavation were mainly of broken up mussel shells. About 140 shells were found (again the shells from the wet sieving were not precisely counted). This makes a substantial collection of a find type that does not survive well elsewhere in Anglesey and is only well preserved on the limestone.

4.3.5 Pottery

There was a single very small sherd of pottery (SF 165) was recovered by hand from layer 007. A rim sherd and numerous very small sherds and fragments were recovered from the wet sieving of the bulk soil sample of layer 007. These sherds have been inspected by Frances Lynch who provided the following description and comment.

Pottery from Excavation Close to Lligwy Burial Chamber, Anglesey
Frances Lynch, March 10th 2023

Find 165 from Context 007
A single sherd (15 x 12 x 5+ mm). The inner surface is lost but the outer surface is smooth and matt. There is no sign or feel of burnishing. The dark brown clay contains 2 or 3 minute pieces of quartz and there are some slightly large angular pieces of dark stone. There is no sign of decoration on the outer surface.

Find 211 from context 007
1. A single rimsherd (57 x 22 x 8mm). The rim is slightly domed, 15mm wide with a slight internal expansion but firmly out-turned on the exterior, though the edge has been damaged (see Figure 13 for drawing). The fabric is hard fired, pale grey in colour with a lot of white shell tempering. A lot of this has survived but there are also small pits where other inclusions have been lost. White shell is clearly the main temper but there are also some darker inclusions. The surface has been roughly smoothed, more effectively on the inside than the outside. There is no suggestion of burnishing of the outer surface.

2. A tiny scrap of *possible* **Beaker** pottery (12 x 7 x 5mm). Darker grey clay with a few small angular grits (not the white shell) and 1 impressed line of very fine twisted cord.

3. Four small clay balls with white shell fragments, less profuse than in 1 and the clay is yellower, perhaps less well fired so the sieving process may have caused the reduction to balls. Largest 15 x 11mm, smallest 7 x 6mm.

4. 1 yellow/red scrap of pottery 14 x 11 x 3mm with stone and shell. This might be sacrificed to geological identification.

5. Four dark scraps (largest 21 x 15 x 6mm). Dark brown clay with a slightly abrasive feel, as SF 165. Pitted surface with no sign of white shell.

6. 1 small sherd (22 x 18 x 7mm) and four similar scraps. The interior surface is smooth, but the outer is pitted, though the clay is well fired. There is no sign of shell, but some temper has been dissolved since the outer surface is quite vesicular.

General Comment
The single rimsherd has a definite flattened out-turn and is not an everted curled edge to the top of the pot. Such differences were once a feature much commented upon (Case 1961, 175-6) but radiocarbon dating has now shown that these differences have little chronological significance. The survival of shell temper, perhaps due to the limestone subsoil here, is interesting and it might be worth trying to identify the other tempers present. Certainly, some have dissolved but the classic 'vesicular clays' are rare in this small assemblage. It is all earlier Neolithic in my opinion -- apart from the tiny scrap of Beaker (if I am right that it is twisted cord). The Beaker rim from the 1908 excavations shows that, like most megalithic tombs, it continued to be of interest to later generations, whether or not burials were added at that date.

4.3.6 Water-worn pebbles
Several water-worn pebbles were recovered from various layers in the excavation. Some appear to be beach pebbles and must have been deliberately brought to the site, though some could be from the glacial deposits in the area. The largest pebble (SF095) clearly appears to be a beach pebble and was found lying on the base of cut [012] as if placed there (Plate 20).

4.3.7 Other artefacts

Some modern rubbish was recovered from the topsoil, including pieces of plastic and a small sherd of blue and white pottery. There was also a quantity of coal in the topsoil, though it is not clear why this should have been deposited here at such a distance from the nearest inhabited buildings. These modern items will be discarded.

The copper alloy object (SF081) is a piece of thick copper alloy wire (3mm in diameter) curved into almost a semi-circle. The surface is well-preserved and largely unpitted, suggesting that it is of fairly recent date.

Two items relate to the modern ritual use of the monument. SF205 is a perfect sphere with a highly polished surface made from a semi-precious stone, probably Labradorite. It has a diameter if 34.6mm. SF204 is a prismatic clear quartz crystal measuring 24mm by 18mm and 78mm long. It is of a type that can be found in places such as Dauphiné, France and that are now mined for New Age crystal healing (Bonewitz 2008, 219). These items have been deposited at the tomb in recent years presumably for spiritual or healing purposes. It is recommended that after recording these items are returned to the site out of respect for their depositors' beliefs.

5 DISCUSSION

The evaluation trench was successful in providing an indication of the type of deposits being disturbed by moles but most of the layers and features found are difficult to interpret in the small trench. However, one feature can be securely identified. Feature 005 is a concrete base for a metal post; the remains of the iron post are still visible in the top of the base, although it has been cut off almost at the level of the concrete. It was initially thought that this could be part of an early fence around the monument. However, the OS County Series maps show that the fence has been on the current line since before 1920 (Figure 14) and map evidence and photographic evidence show that there was no fence around the monument until after Baynes's excavation in 1908 (Plates 3 and 4). A photograph by Harold Senogles taken in 1936 or 1937 solves the question (Plate 21). This shows a sign in exactly this position and clearly 005 is the concrete base for the post holding the sign. This photograph also shows the style of the original fence around the monument.

No trace of Baynes's excavation trench was seen within the evaluation trench, and it is assumed that his trench did not extend as far as our trench. He describes his "opening" as 4ft across. As the 'black soil' is described as extending 3ft 6 inches from the tomb it is assumed that this trench extended 4ft (1.2m) north of the tomb and there is no record of how wide it was along the side of the tomb. As the present trench was 0.92m north of the edge of the capstone it might be expected that part of Baynes's trench would have been seen, but it depends exactly where on the tomb Baynes measured from. If he continued the trench from the inside of the chamber north, as perhaps his description suggests, then the present trench probably just missed his trench. The 7ft depth (2.1m) depth of the trench suggests it was dug down to the depth of the inside of the chamber. However, Baynes describes the base of the chamber as being 6ft (1.83m) below the capstone (Baynes 1909, 224), so why the trench north of the tomb went down much further is a mystery. Possibly Baynes excavated into a gryke in the limestone bedrock or there was some unknown cut feature at this location. If the latter, it pre-dated the 'black soil' which Baynes says was 4ft down. The lack of detail in Baynes's report is frustrating. The stones in the base of the south-western sondage of the current trench (008) were interpreted on site as being the broken-up top of the bedrock, however, it seems possible that these stones were actually filling a cut or hollow into the glacial clay, sealed by layer 007. There may, therefore, be a dug feature against the northern side of the tomb, the base of which is about 2.1m below the capstone. From inside the chamber, it can be seen that the gap in this northern side has been infilled with fairly small limestone blocks, possibly inserted by Baynes (Plate 22). The mention of two entrances to the tomb by Fenton (Fenton 1917, 264) raises the question whether this gap was largely open in the early 19th century and whether this was an access

route made to break into the tomb, then backfilled with stone. Baynes suggested that access had been forced through this side of the tomb, though his explanation for thinking this is very brief. He says that *"the appearance of the soil and stones met with in this particular excavation* [the one to the north of the tomb] *suggested that at this point an entry may have been forced into the chamber. An operation of this nature would account for the sinking of the north stone"* (Baynes 1909, 225). However, the presence of layer 007, a largely undisturbed Neolithic layer, over the stones of 008 suggests that if these stones did fill a cut, then it was dug and backfilled in the Neolithic period. Much more excavation would be necessary to determine whether there actually is a cut or hollow in this location and what its function might have been.

Layer 007 was a sealed deposit, undisturbed except by some animal burrowing. It had built up directly over the stones 008, and its crumb structure may indicate that it was extensively mixed by worms. It seems probable that this was the ground surface at the time of the use of the tomb, though it was not compacted. Considerable quantities of fragmentary human remains, some of it burnt, had become mixed into this layer. Although Baynes states that his 'black soil' only extended about 3ft 6 inches (1.06m) north of the tomb it is likely that 007 is a continuation of this layer. The concentration of charcoal in 007 was fairly low, so it was only dark grey-brown in colour rather than black, but variation in charcoal in the layer may have been why Baynes did not recognise the layer as continuing further north. Baynes's list of finds from his 'black soil', *"a quantity of human teeth and fragments of bones, a flint scraper, and a bone pin….also some teeth of bos, sheep, pig and dog"* (Baynes 1909, 224-225), is similar to finds from layer 007, though it is unusual that he did not mention marine shells, which were quite numerous in 007. Nor does he mention pottery, which was found in layer 007. Only Early Neolithic pottery was found in layer 007, while Baynes recovered early and later Neolithic pottery, a Beaker sherd and possible Roman-British pottery from the chamber. This may suggest that while the chamber was entered several times over a wide time period layer 007 was deposited over a fairly short period of time and was restricted to the Early Neolithic. However, only a small area of the layer was excavated, so evidence of later activity could be present elsewhere. The significance of activity in this area north of the tomb is indicated by Baynes's bone pin and by the leaf-shaped arrowhead from layer 007. The lack of damage on this very thin and delicate object (Plate 19) shows that this deposit has not been trampled or significantly disturbed.

It is possible that the 'black soil' and layer 007 pre-date the tomb or were the result of activity relating to its construction. In that case the quantity of human bone fragments is of particular interest as it would indicate some type of funerary activity before the construction of the tomb. The prevalence of foot bones and other small bones and loose teeth may suggest excarnation. Some of the bones, including a fragment of broken jaw with teeth, are burnt, suggesting cremated remains were also incorporated in the deposit. It is not impossible that excarnation occurred around the tomb during the use of the tomb itself.

Alternatively, the material in this layer was redeposited from inside the tomb, which would explain its fragmented nature. The human remains recovered from the chamber were largely fragmentary and consisted of mainly jaws and teeth with a few foot bones (metatarsals and phalanges) (Baynes 1909, 226-229). The range of bones appears rather larger from the evaluation trench but most of the unbroken bones were foot bones and there were also teeth and jaw fragments. It therefore seems probable that the human remains in layer 007 originally came from inside the tomb but again more excavation would be necessary to determine the relationship of this layer to the use of the tomb.

One of the original aims of the evaluation was to determine where the human remains originated from and their significance. Finds were recovered throughout the trench and from all deposits, but some deposits contained a higher density of finds (Figure 13). There were few finds from the fills of cut [004] and [012], with the finds being restricted to the edges of the cuts, where they were probably introduced by erosion or animal burrowing. There were numerous finds in the topsoil, which seemed to be quite randomly distributed, but very few came from over cuts [004] and [012] in the north-west corner of the trench. Fewer finds, though still a significant number, came from within layer 006 and many in layer 007. Animal burrows were present in layer 007 and through layer 006, so it is likely that some of the material in the topsoil was brought up to the surface by moles from layer 007. The quantity of finds in

the topsoil seems high to be accounted for purely by this mechanism. Layer 007 was fairly well defined and not significantly mixed with layer 006 above. It would be expected that if most of the finds in the topsoil came from 007 than that layer would have been very extensively and repeatedly mixed by burrowing and would not have appeared as a defined layer. However, the scarcity of finds over ditch [004] does suggest that the finds were brought up from the deposits immediately below, with few finds in the north-west corner because there were few finds in deposit 003.

The other possible origin for the finds in the topsoil might be from spoil from Baynes's excavation. Baynes's does not give any indication of where his spoil was stored or what happened to it after the excavation was finished. Clearly the chamber was not backfilled, though his trench to the north of the tomb must have been. It is notable that the ground within the fence around the tomb is at a higher level than the surrounding ground surface, especially on the southern side. On this side the raised ground level is revetted by stones on which the fence is set (Plates 23 and 24). The most likely reason for raising the ground level in this area is to dispose of the soil by spreading it level over the area within the fence. No record has yet been found for this process, but it seems probable that the levelling and raising of the area inside the fence was due to the need to dispose of the soil. However, the level of the ground to the north of the tomb is much the same as outside the fence, so little spoil seems to have been spread over this area. If this interpretation is correct, finds from Baynes's spoil might be expected around the southern side of the tomb, but probably little around the northern side.

During the excavation it was felt that it was more likely that the finds were from Baynes's spoil but studying the distribution plots it is concluded that most of the finds were brought up by moles from the deposits below. The finds within the topsoil are therefore unstratified and disturbed but do appear to give a good indication of find-rich deposits directly underneath.

Deposit 006 was a deposit of substantial thickness with haphazardly orientated stones. The stones seem to have been dumped along with quantities of soil as the soil matrix supports many of the stones rather than just having built up over them. If this was part of a mound around the tomb it might be expected that the stones would have been more carefully placed, but a mound composed of soil and stones may not have required the stones to be carefully laid. Certainly, the stones do not seem to be a recent dump because the possible ditch [004] cut through this deposit. That feature had a very homogenous, rather inorganic fill, that appeared to be of considerable antiquity. If it had been recent the fill would have been much more organic in nature. None of the finds from this feature can be used to date it as they appear to have been introduced from the deposits it cut through, though the lack of any more recent finds does suggest an early date for the ditch. As deposit 006 overlies layer 007, it post-dates a Neolithic layer but pre-dates the ditch, however, that does not exclude deposit 006 also being Neolithic in date. The finds within it are similar to those in layer 007 but may have been introduced by burrowing. The nature and function of deposit 006 cannot have been said to have been established in this small trench, but it suggests that on this side the chamber was not so much dug down as the ground level outside was built up.

Feature [004] appears to be a ditch running north-east to south-west across the corner of the evaluation trench, though it is possible that it is a large pit or other type of feature. Feature [012] was excavated as if it was part of [004] as the fills were identical and no trace of a cut could be seen in the section between them. However, the lower part of feature [004] could be seen as continuing the north-east to south-west alignment in the base of the trench, and there was a sharp change of angle to the base of [012], which was very flat. This made [012] appear to be a separate feature. What the shape in plan of [012] was could not be determined in the small trench. Why both features were filled with identical fill, as if they were open at the same time, was also unclear. Answers to these questions are presumably to be found to the north of the evaluation trench.

6 SUMMARY OF FINDINGS

In summary, quantities of finds, including fragments of human bone and teeth, were found scattered through the topsoil. It was concluded that these were brought to the surface by mole activity from the layers immediately below. Mice as well as moles are implicated in causing disturbance by burrowing as mouse-gnawed hazelnut shell was found at a considerable depth in a recent burrow.

A probable ditch cut across the corner of the trench, along with what appears to be another feature, possibly open at the same time as the ditch. These features cut through a dump of soil and stones, that might be part of the mound round the tomb or another attempt to build up the level of the ground. Sealed under this deposit was a layer rich in finds, especially fragmentary human remains. This layer sealed stones, initially interpreted as broken bedrock, but which might prove to be the fill of a cut or hollow against the northern side of the tomb. The natural deposits were represented by a clean glacial clay.

The small trench did not enable secure interpretations of these features and deposits to be made but proved that there was a considerable depth and complexity of archaeology in this area to the north of the tomb, including largely undisturbed Neolithic deposits.

7 PROJECT DESIGN FOR POST-EXCAVATION WORK

Much more material was found in the evaluation than anticipated and the range of material is wider than expected. Although Baynes published a fairly detailed analysis of the human remains that he found by Professor Keith, Curator of the Royal College of Surgeons of London, this was intended only as an initial assessment and a full description was planned "for future publication" (Baynes 1909, 226). Other finds are barely described at all, though Stuart Piggott did later record the pot sherds from the site (Piggott 1933).

The present work provides an assemblage from this monument from recorded contexts that is available for detailed analysis. Very little work has been carried out on the Neolithic tombs on Anglesey in recent times, with most excavations dating to the late 19th or early 20th centuries. Despite the small area investigated by the current work this makes it a very important collection that should be studied as fully as possible.

It is recommended that the human bone, animal bone, lithics, imported stones, and shells are studied by specialists to thoroughly describe all finds and assess the potential for further work. The pottery has already been studied by Frances Lynch and the rim sherd drawn, so further work is not necessary on this. The leaf-shaped arrowhead and any other retouched chert or flint items should be drawn. The charcoal and charred plant remains recovered from the bulk sample of layer 007 should be studied and material within that identified.

There is little dating evidence for the use of Neolithic tombs on Anglesey apart from pottery, so the opportunity to obtain radiocarbon dates should not be missed. To identify the full duration of use of the tomb would require many dates, preferably on human remains from inside the chamber. It is assumed that the human remains found in layer 007 did originate from the chamber, but this is not certain, so perhaps numerous dates on this material are not justified. However, some dates would give an indication of the date of use. It is recommended that at least two radiocarbon dates are obtained on suitable human remains from layer 007.

The results of the excavation are more significant than was expected and deserve to be published, probably in Archaeology in Wales. The final report would be written in a style and format suitable for publication with appropriate figures and illustrations.

During the excavation there was considerable interest from both local people and visitors. It would be valuable to take this opportunity to inform local people about the site and the results of the current excavation by giving a talk in Moelfre, once the results of the specialist analysis have been returned.

8 FURTHER WORK

The current work has raised more questions than it has answered. Is deposit 006 part of the mound around the tomb? What is the significance and extent of layer 007? Was there a pit or other cut feature adjacent to the northern side of the tomb or was this an original entrance? Is feature [004] a ditch and if so, what does it relate to? Feature [004] appears to post-date the Neolithic if deposit 006 is part of the mound. The current work has also highlighted how little is known about the tomb, despite its excavation.

All these are essentially research questions, though the extent of significant Neolithic deposits outside the tomb will inform management of animal disturbance, and possibly require extension of the scheduled area. Further investigation should be carefully targeted within the scheduled area. A way to target this might be to carry out a geophysical survey to identify features, especially the ditch. Magnetometry would be problematic as the fence around the tomb would disturb the results for about a metre either side, giving only a small area inside the fence where significant results could be obtained. However, it would be effective outside the fenced area. There has already been a geophysical survey carried out within the field south-west of the tomb which identified potential rectangular features, and it is therefore recommended that the area between the earlier survey and the tomb be surveyed, in addition to a further area north of the tomb (Figure 15). Resistivity might fill the gap in the magnetometry survey inside the fenced area, but Ground Penetrating Radar could also be tried. This has the advantage that it can determine the depth of features, so might give an indication of the depth of deposits. Following the results of a geophysical survey a decision can be made on the extent and location of any further excavation.

The interior of the tomb was fully excavated by Baynes, so further work in there would not be beneficial, but Baynes's finds have not been fully studied and further work on those could reveal much more about the use of the tomb, especially combined with the finds from the current excavation. The human remains in particular might be studied much more thoroughly. As well as a more detailed inspection of the remains there are isotope analyses to determine origin of the individuals and diet, possibly DNA analysis and microscopic analysis of the tooth enamel to identify childhood diseases. A full suite of radiocarbon dates might give an indication of duration of use of the tomb. It is possible that this work could be carried out by a PhD student, possibly with Cardiff University.

A full and detailed description of the finds held by the National Museum Wales would allow comparisons with the present discoveries.

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Plate 14. South-west facing section through deposit 006 (photo reference number G2767_046)

Plate 15. Layer 007 in south-western sondage, from south-west (photo reference number G2767_020)
Plate 16. Stones 008 in base of south-western sondage, from north-west (photo reference number G2767_041)
Plate 17. Stones 008 in base of south-western sondage, from south-east (photo reference number G2767_044)
Plate 18. Orthomosaic of trench as finally excavated
Plate 19. Leaf-shaped arrowhead from layer 007 (scale with intervals of 10mm)
Plate 20. Beach pebble (SF095) lying on base of cut [012], from north (photo reference number G2767_019)
Plate 21. Photograph of Lligwy tomb taken by Harold Senogles in 1936/7, showing original sign and fence
Plate 22. Inside the northern side of the chamber showing small blocks filling the gap (photo reference number G2767_068)
Plate 23. South-east corner of fence around tomb showing raised ground level, from south-west (photo reference number G2767_052)
Plate 24. South-east corner of fence around tomb showing stone revetment, from east-north-east (photo reference number G2767_054)

Figure 1. Location of Lligwy Burial Chamber

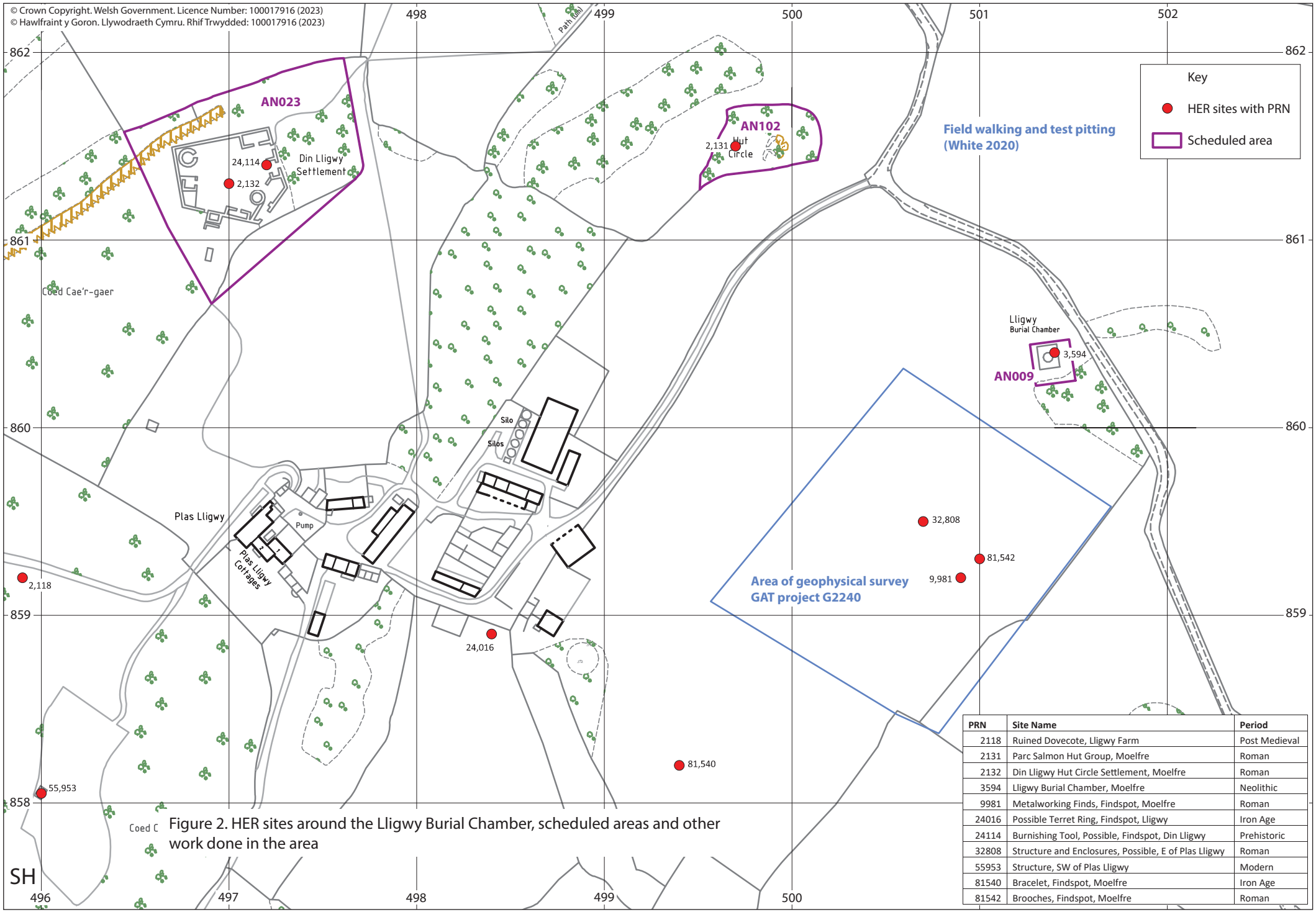
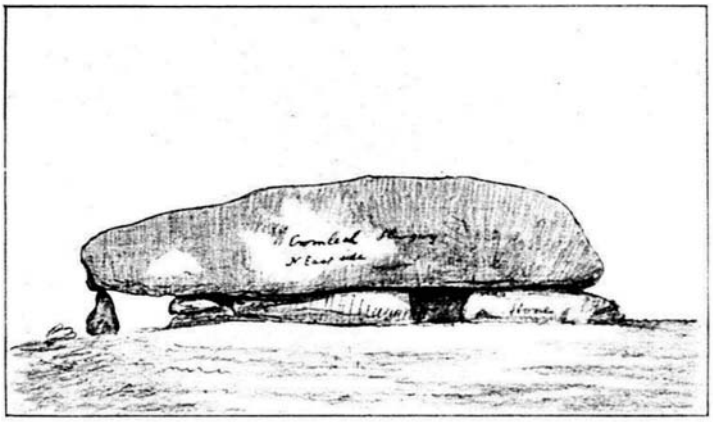


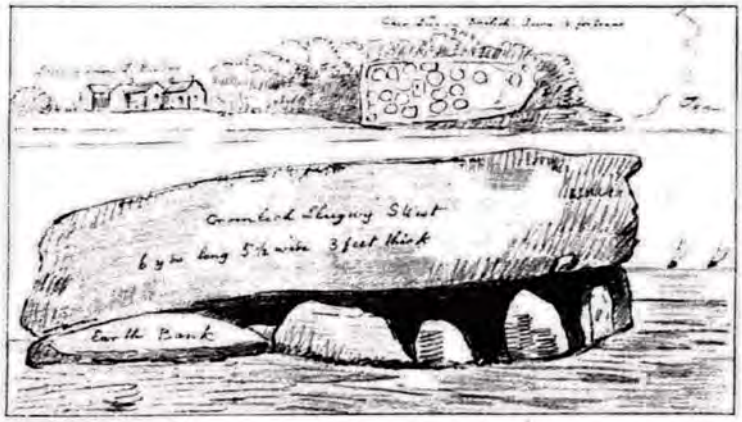
Figure 2. HER sites around the Lligwy Burial Chamber, scheduled areas and other work done in the area

PRN	Site Name	Period
2118	Ruined Dovecote, Lligwy Farm	Post Medieval
2131	Parc Salmon Hut Group, Moelfre	Roman
2132	Din Lligwy Hut Circle Settlement, Moelfre	Roman
3594	Lligwy Burial Chamber, Moelfre	Neolithic
9981	Metalworking Finds, Findspot, Moelfre	Roman
24016	Possible Terret Ring, Findspot, Lligwy	Iron Age
24114	Burnishing Tool, Possible, Findspot, Din Lligwy	Prehistoric
32808	Structure and Enclosures, Possible, E of Plas Lligwy	Roman
55953	Structure, SW of Plas Lligwy	Modern
81540	Bracelet, Findspot, Moelfre	Iron Age
81542	Brooches, Findspot, Moelfre	Roman

Skinner 1801



No. 54 Cromlech Llwgwy, North-East Side (Skinner 1908, 78)



No. 55 Llugwy, Cromlech [and Caer Lligwy] (Skinner 1908, 80)

Wynn Williams 1867

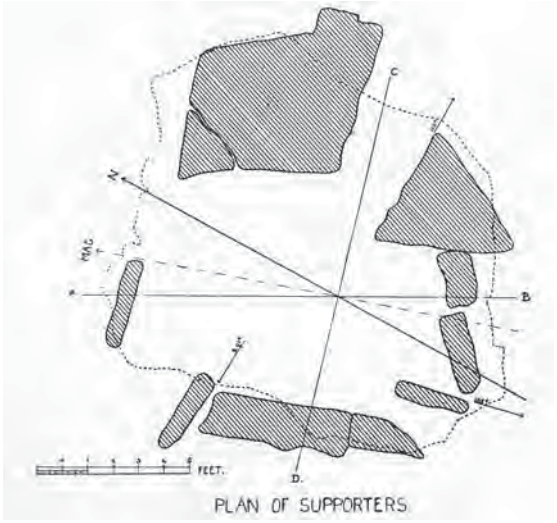
LLIGWY CROMLECH, ANGLESEY. N.E. VIEW.

Lligwy Cromlech, Anglesey, NE view (Wynn Williams1967, opposite 135)

LLIGWY CROMLECH, ANGLESEY. S.W. VIEW.

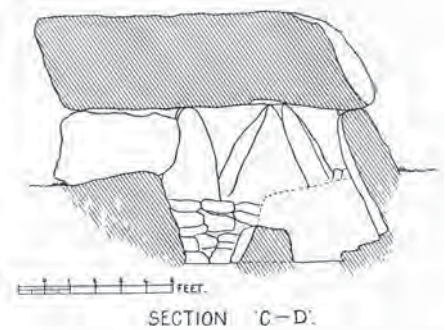
Lligwy Cromlech, Anglesey, SW view (Wynn Williams1967, opposite 135)

Baynes 1908

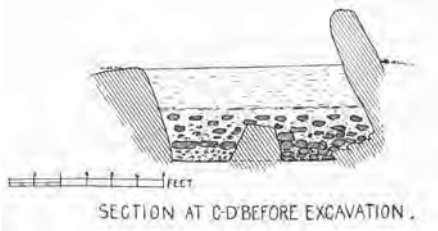


PLAN OF SUPPORTERS

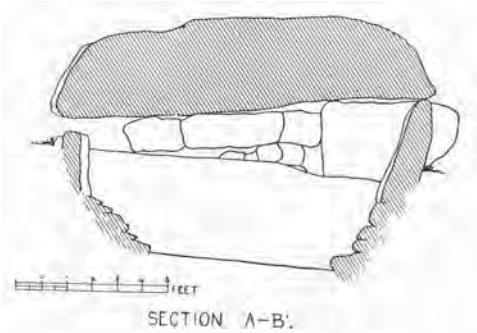
Lligwy Cromlech (Baynes 1909, 220-223)



SECTION C-D.



SECTION AT C-D BEFORE EXCAVATION.



SECTION A-B.

Figure 3. 19th and early 20th century drawings and plans of Lligwy tomb

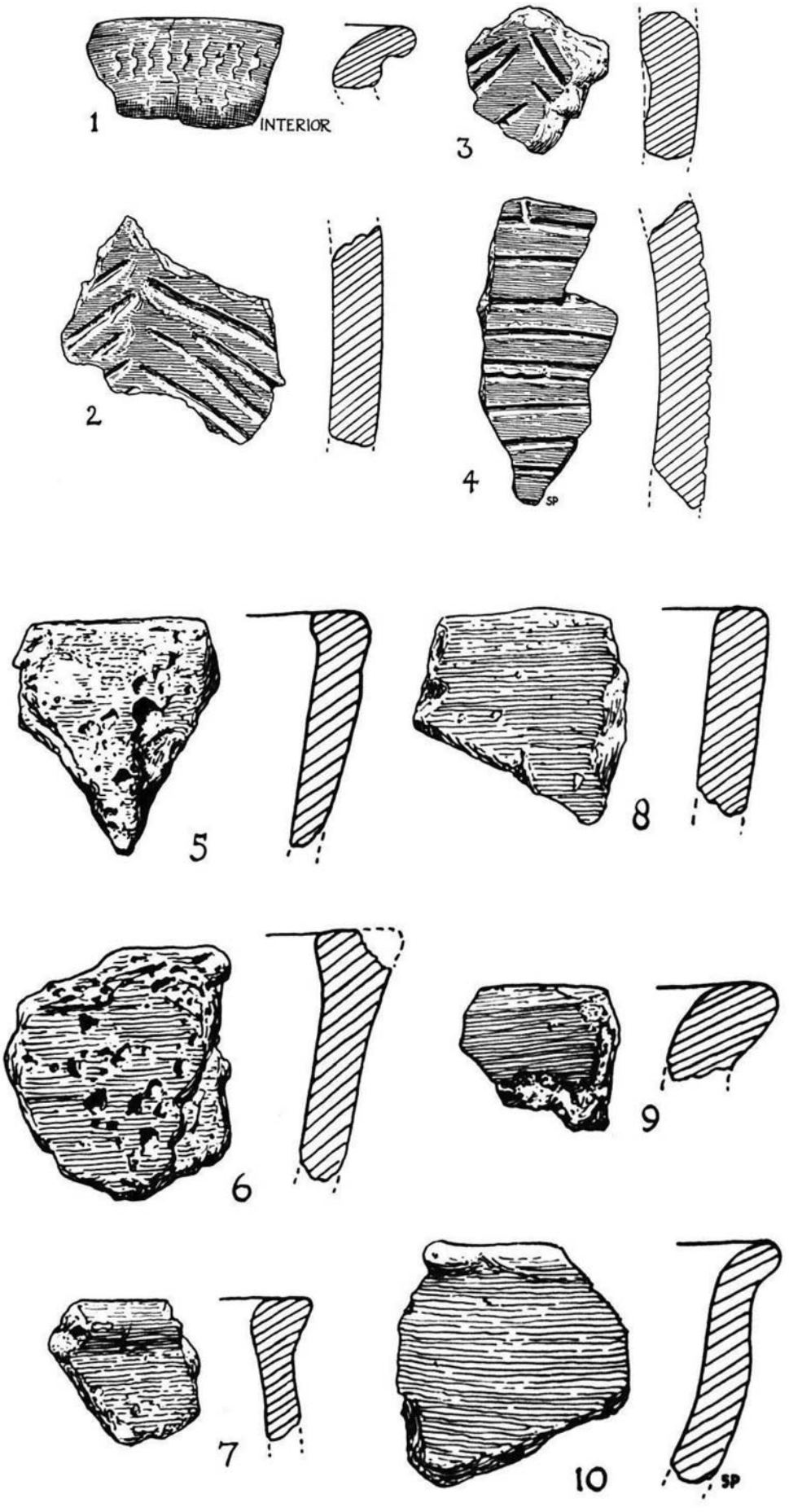


Figure 4. Pottery from Baynes's excavation of the Lligwy tomb from Piggott 1933 Figs 1 and 2, scale 1:1

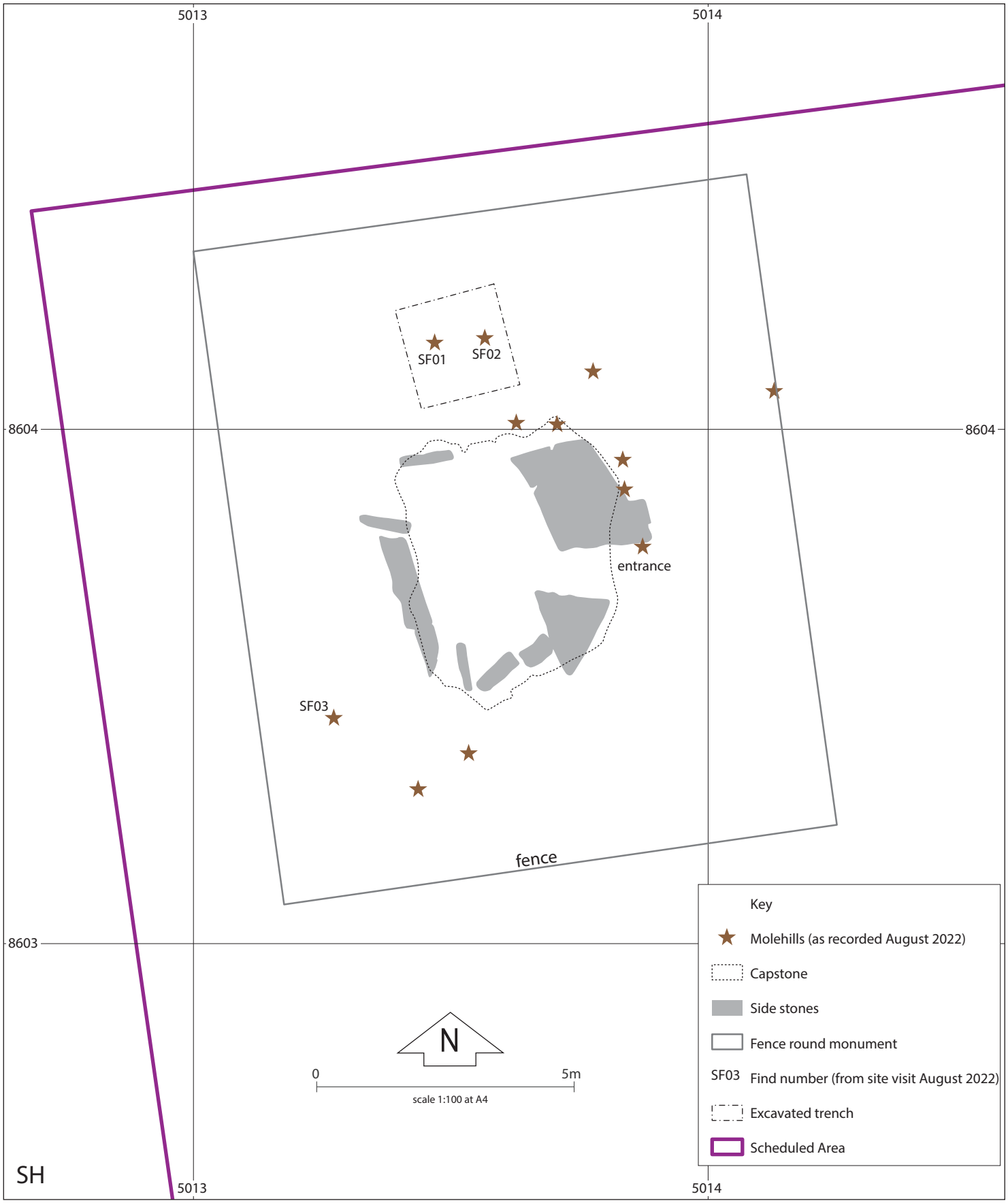


Figure 5. Location of trench in relation to the chambered tomb (plan of the tomb taken from Baynes 1909 located using outline survey of capstone)

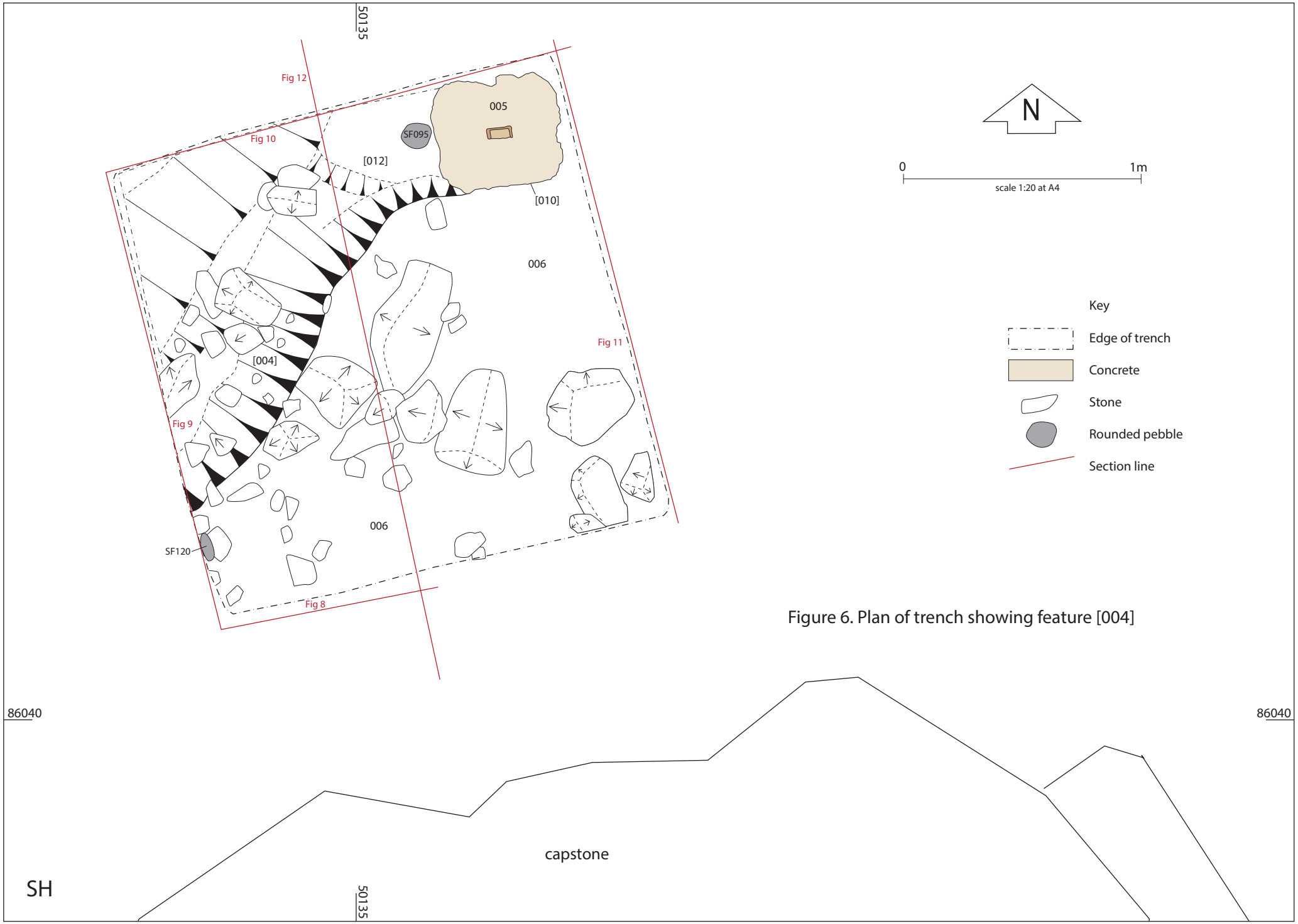


Figure 6. Plan of trench showing feature [004]

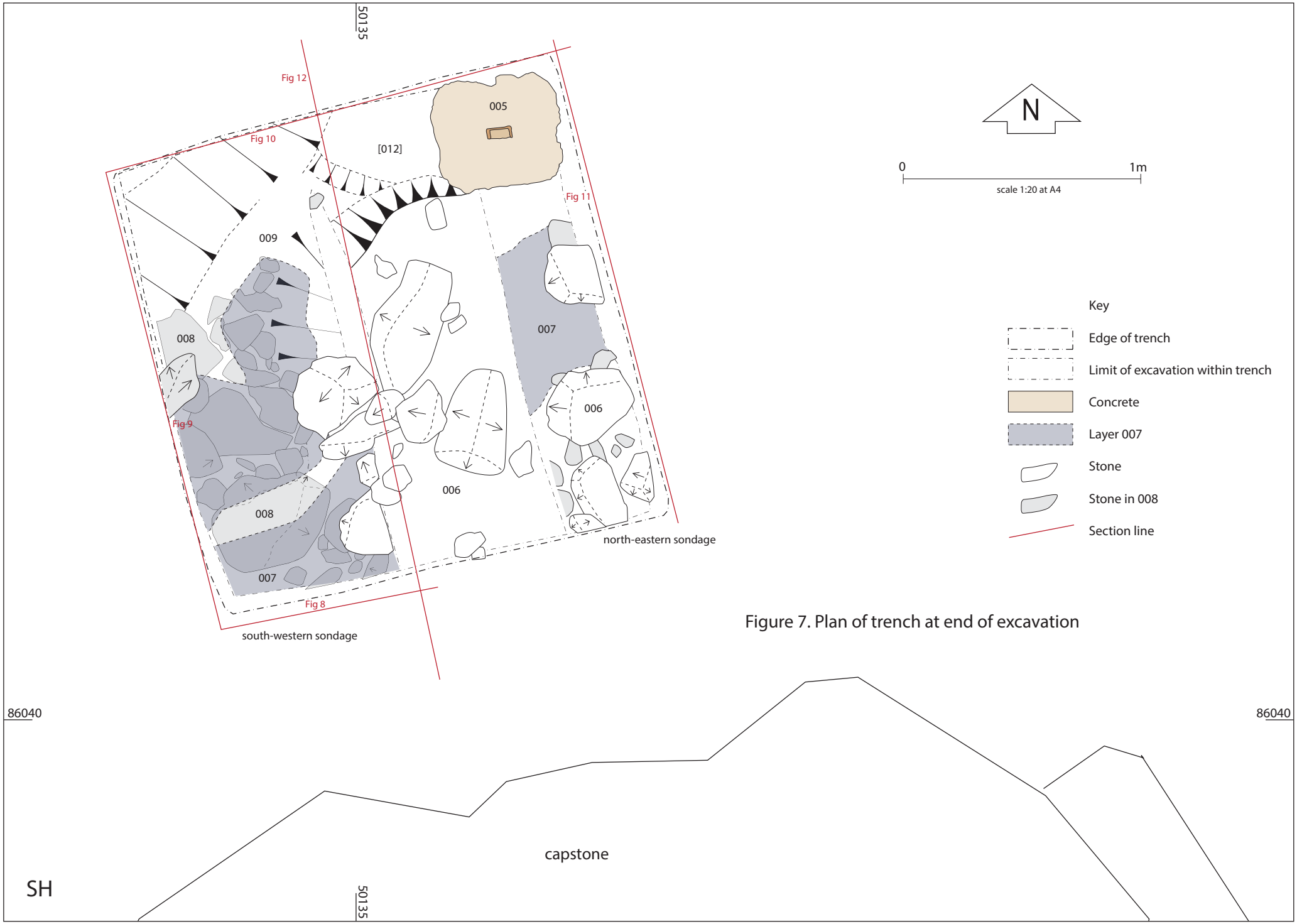


Figure 7. Plan of trench at end of excavation

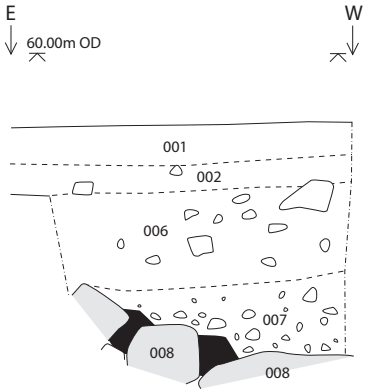


Figure 8. Section of part of north facing side of trench

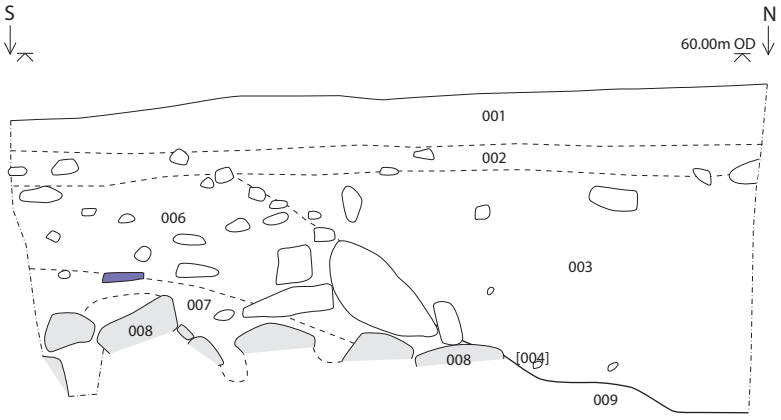


Figure 9. Section of east facing side of trench

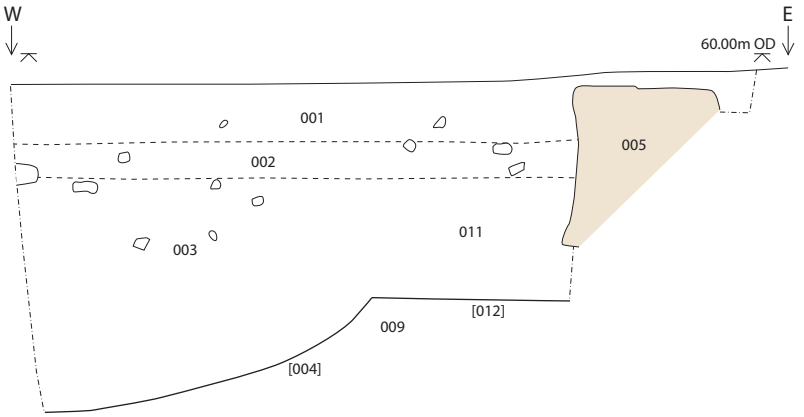


Figure 10. Section of north facing side of trench

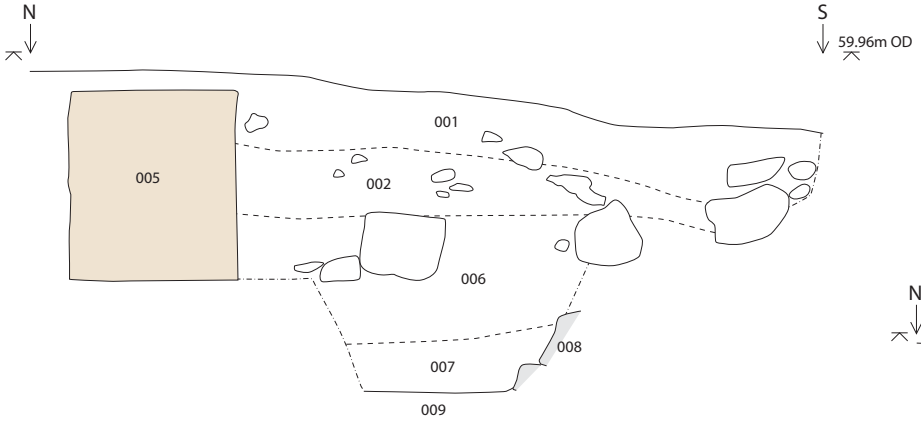
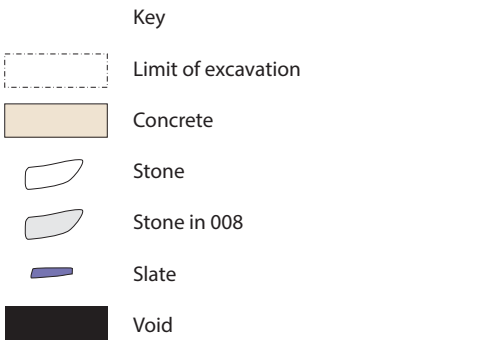


Figure 11. Section of west facing side of trench



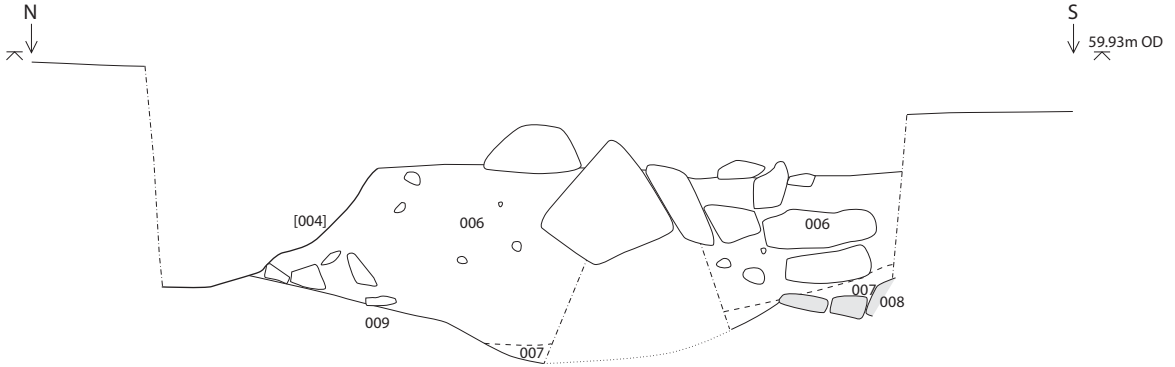
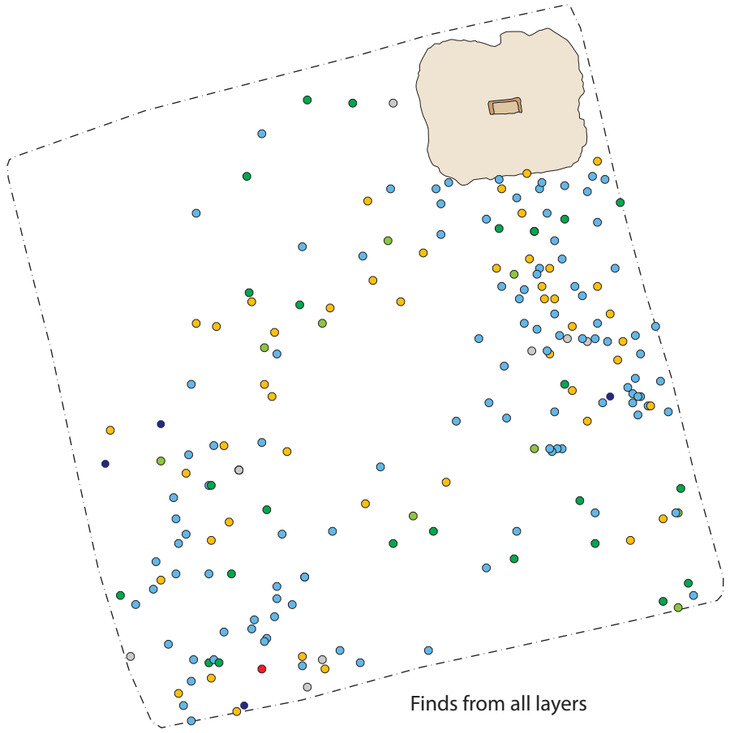
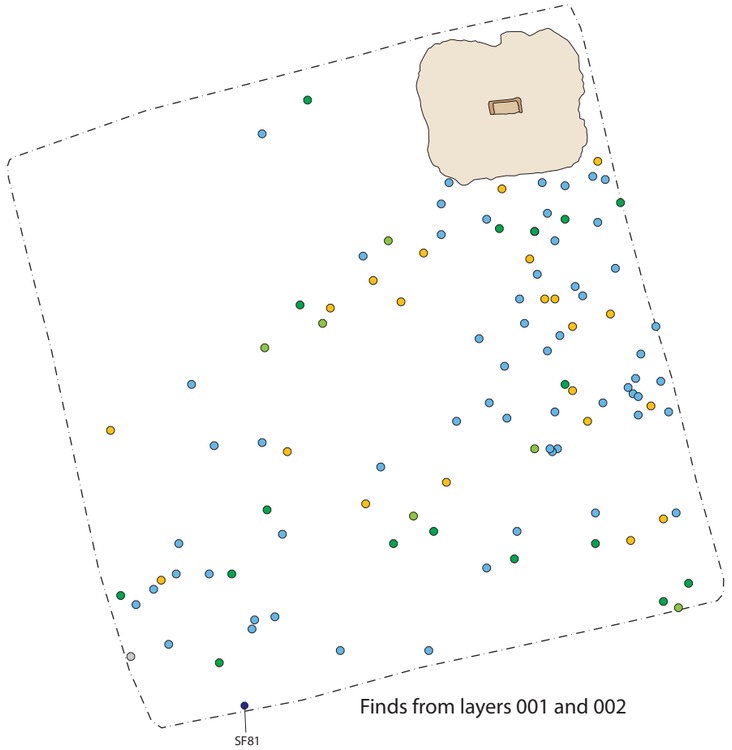


Figure 12. West facing section through deposit 006

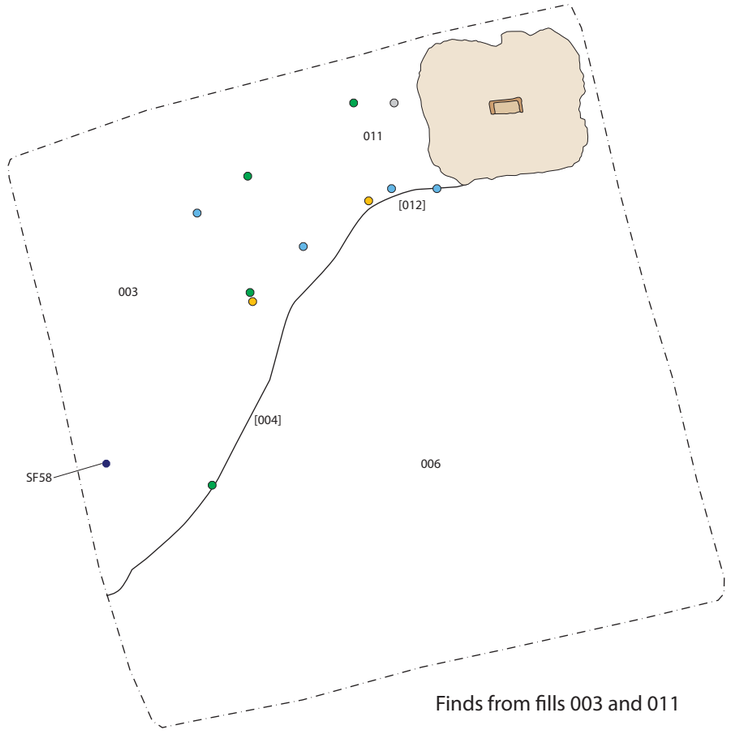
0 1m
scale 1:20 at A4



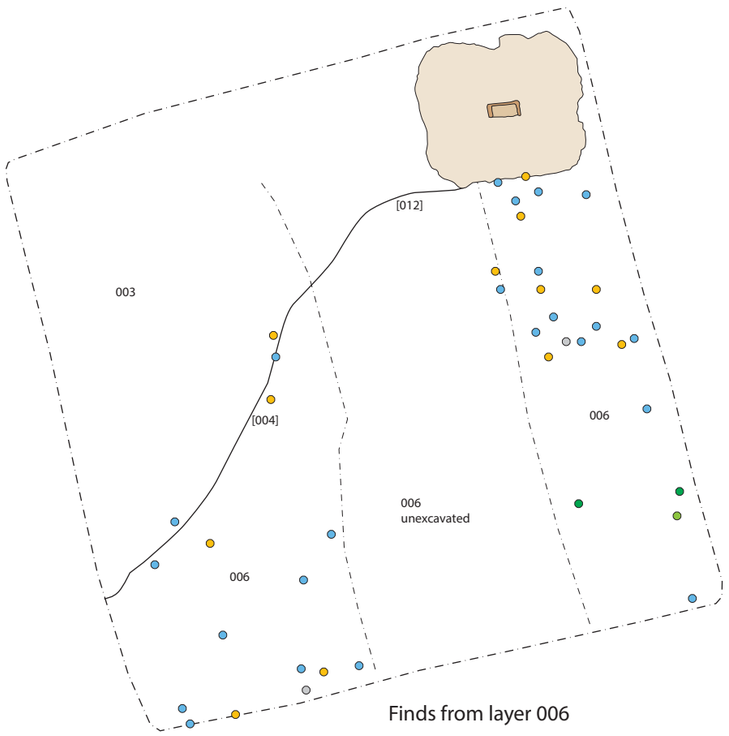
Finds from all layers



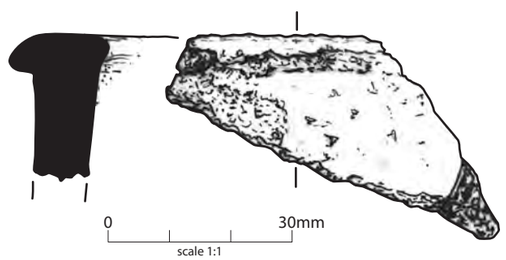
Finds from layers 001 and 002



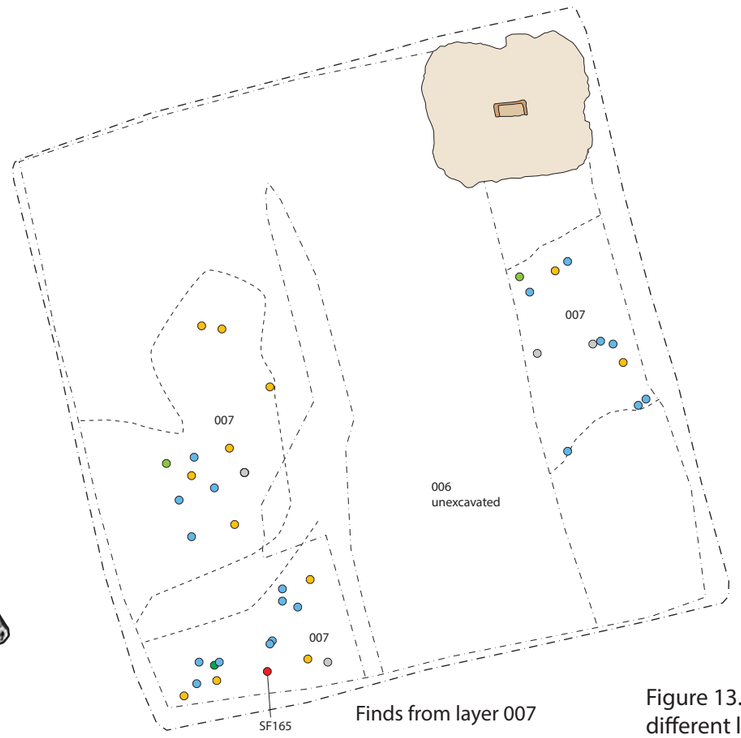
Finds from fills 003 and 011



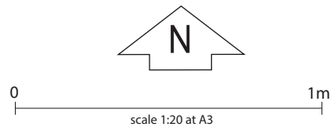
Finds from layer 006



Rim sherd in SF211 from layer 007



Finds from layer 007



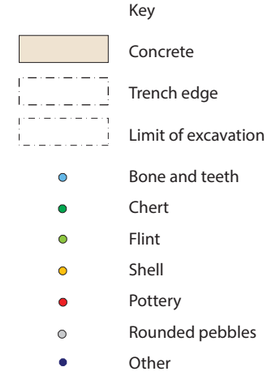
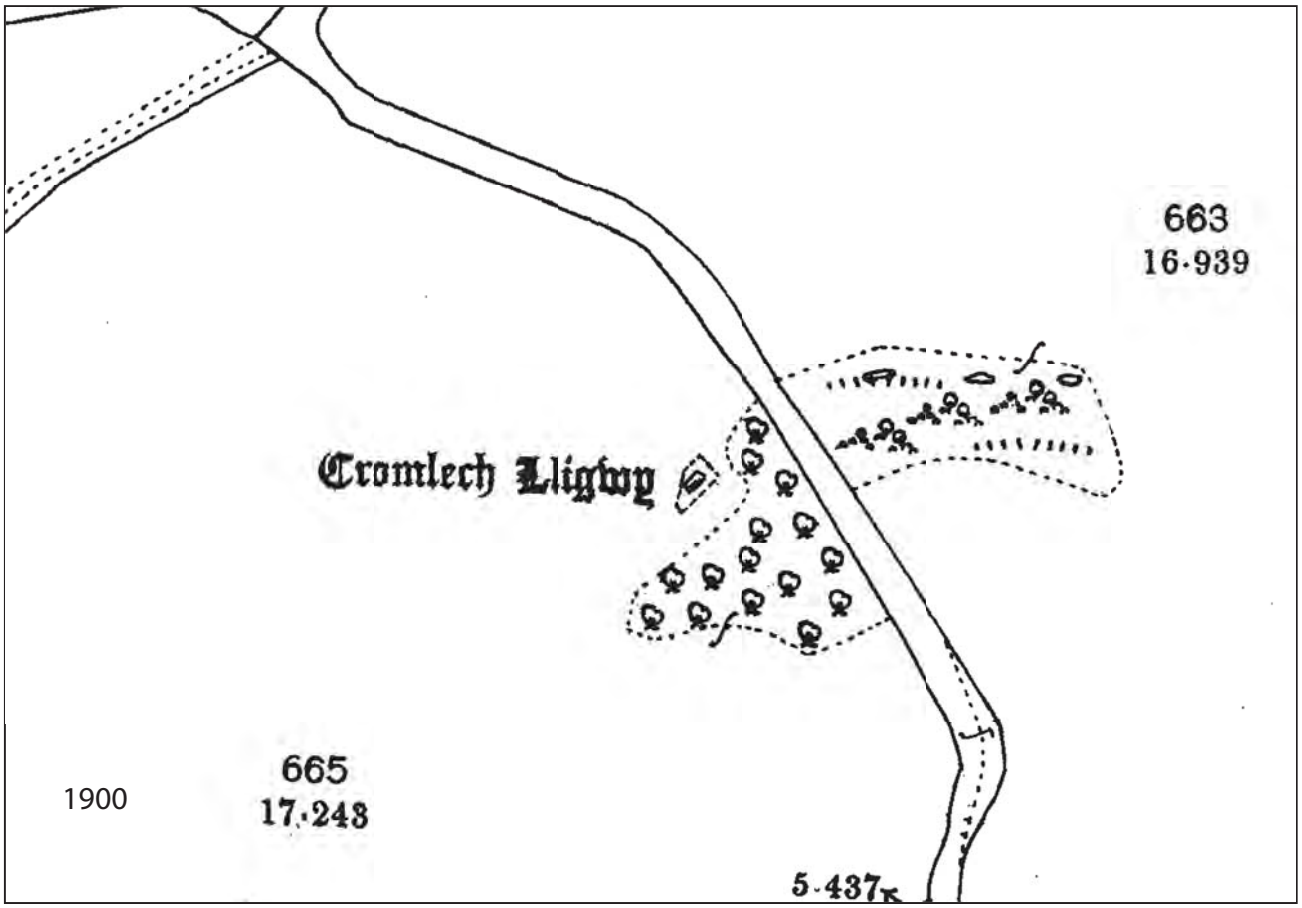


Figure 13. Distribution of finds in different layers of the evaluation trench with drawing of rim sherd from SF211



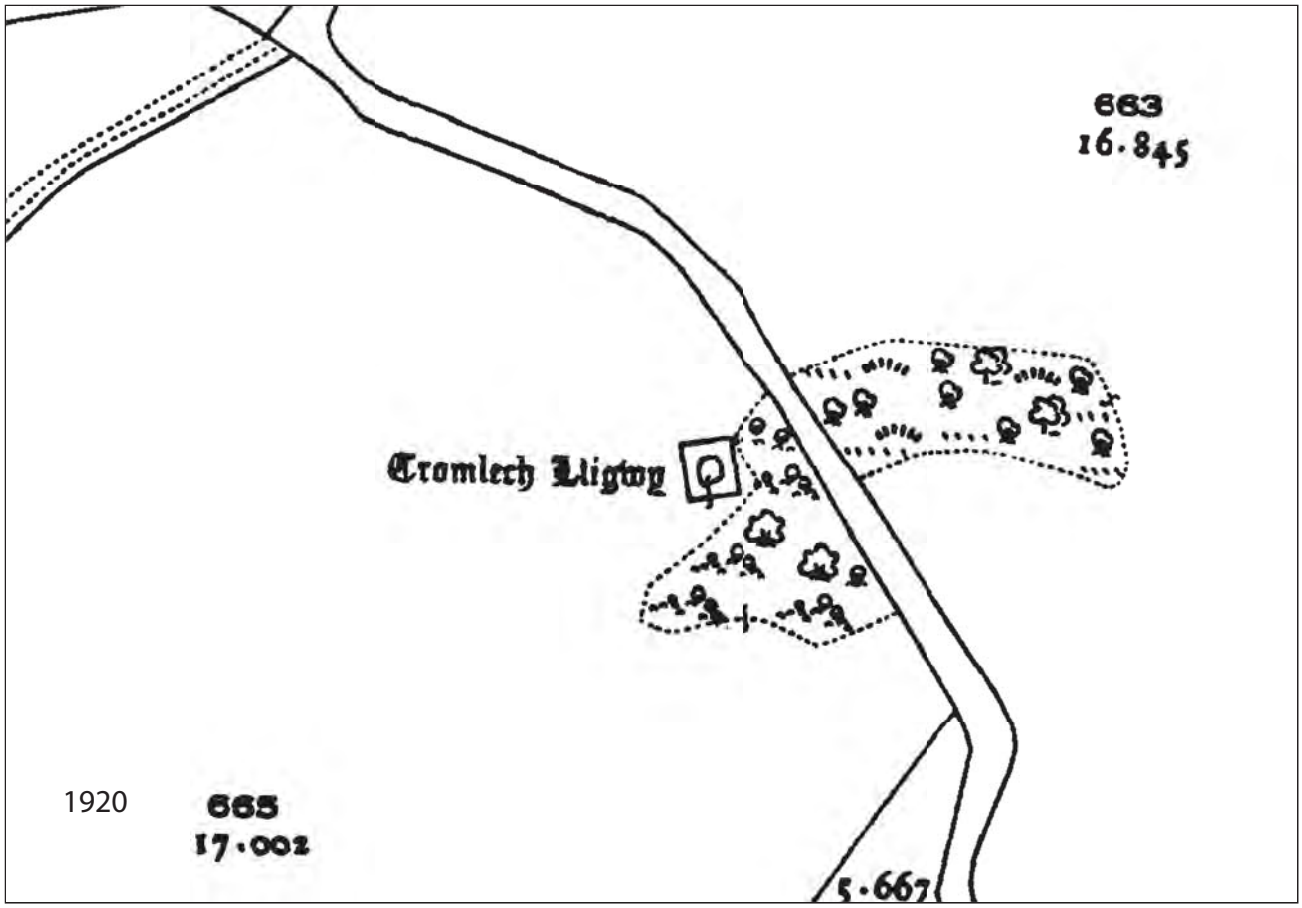


Figure14. Extracts from the Ordnance Survey County Series 25 inch map Anglesey Sheet VIII.5;
top - 2nd edition (1900), bottom - 3rd edition (1920)

Key

Evaluation trench with ditch [004] in corner

Projected line of ditch [004]

PLAS LLIGWY

Map Centre SH5001 8593

6nT

0nT

-6nT

Survey by Roland Flook

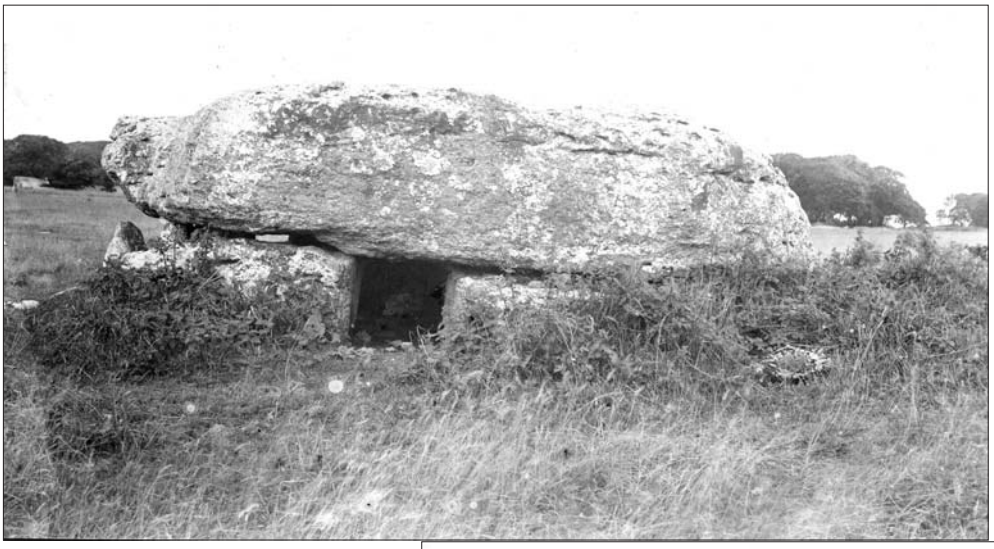
Figure 15. Grey scale plot from Flook and Flook 2013 with projected line of ditch [004] added

0 35 70

meters

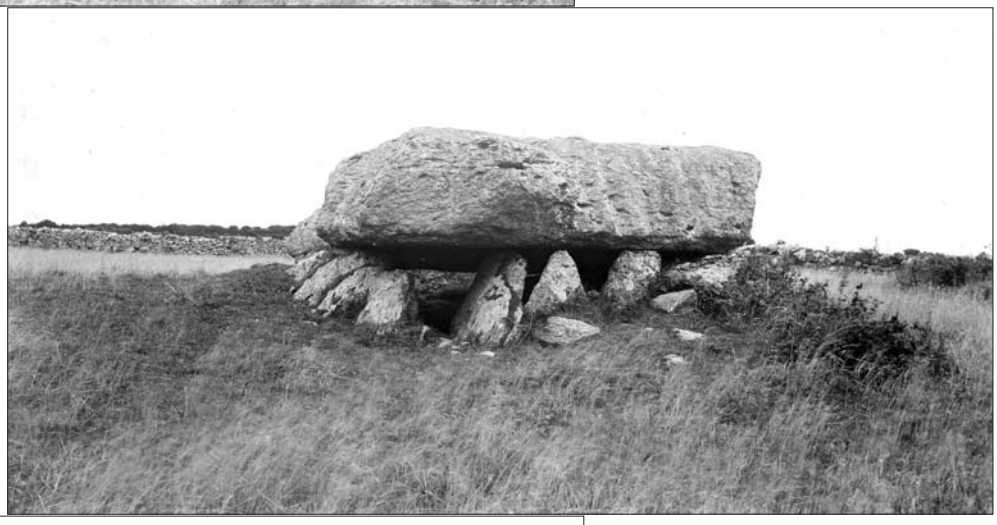
Plate 1. Lligwy chambered tomb from the east, showing entrance
(photo reference number G2767_061)

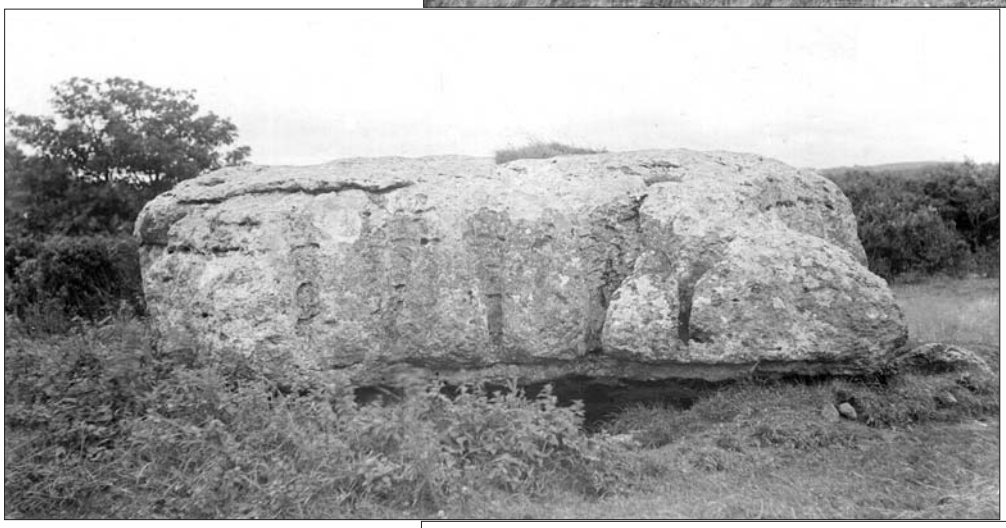
Plate 2. Lligwy chambered tomb showing its position at the edge of a field and within its fence, from the south-west
(photo reference number G2767_049)



From the east-south-east

From the south-south-west





From the north

From the west

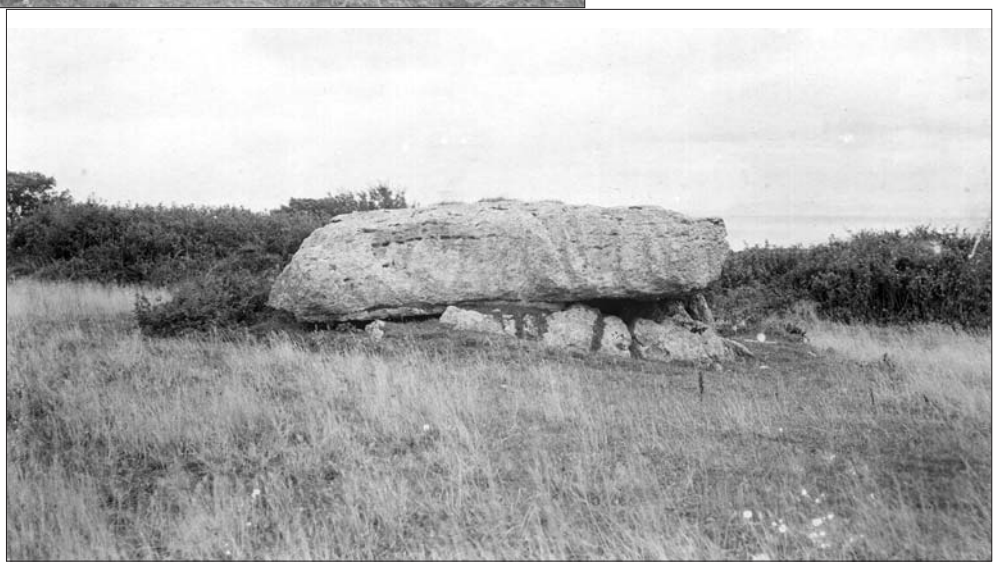
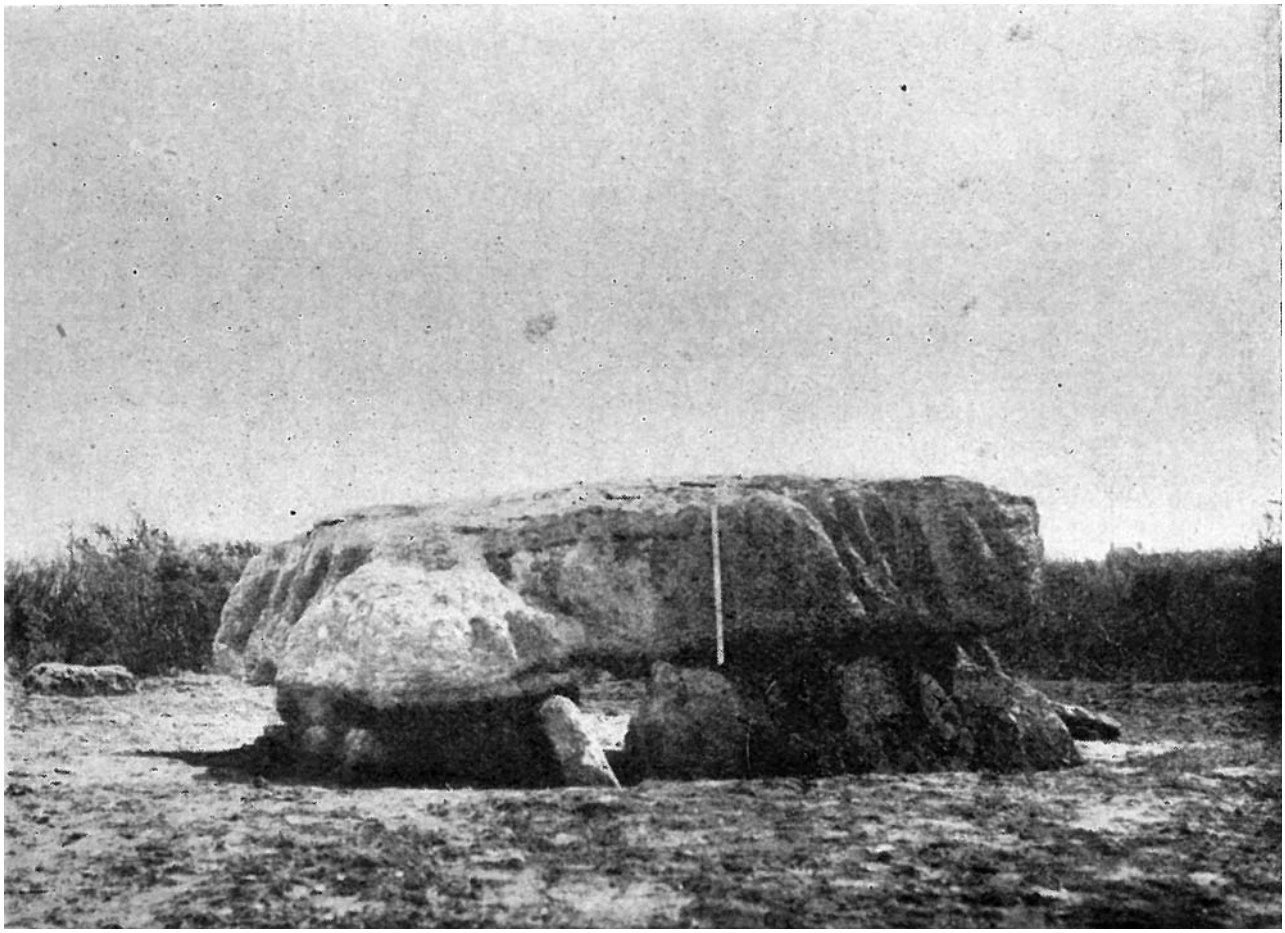
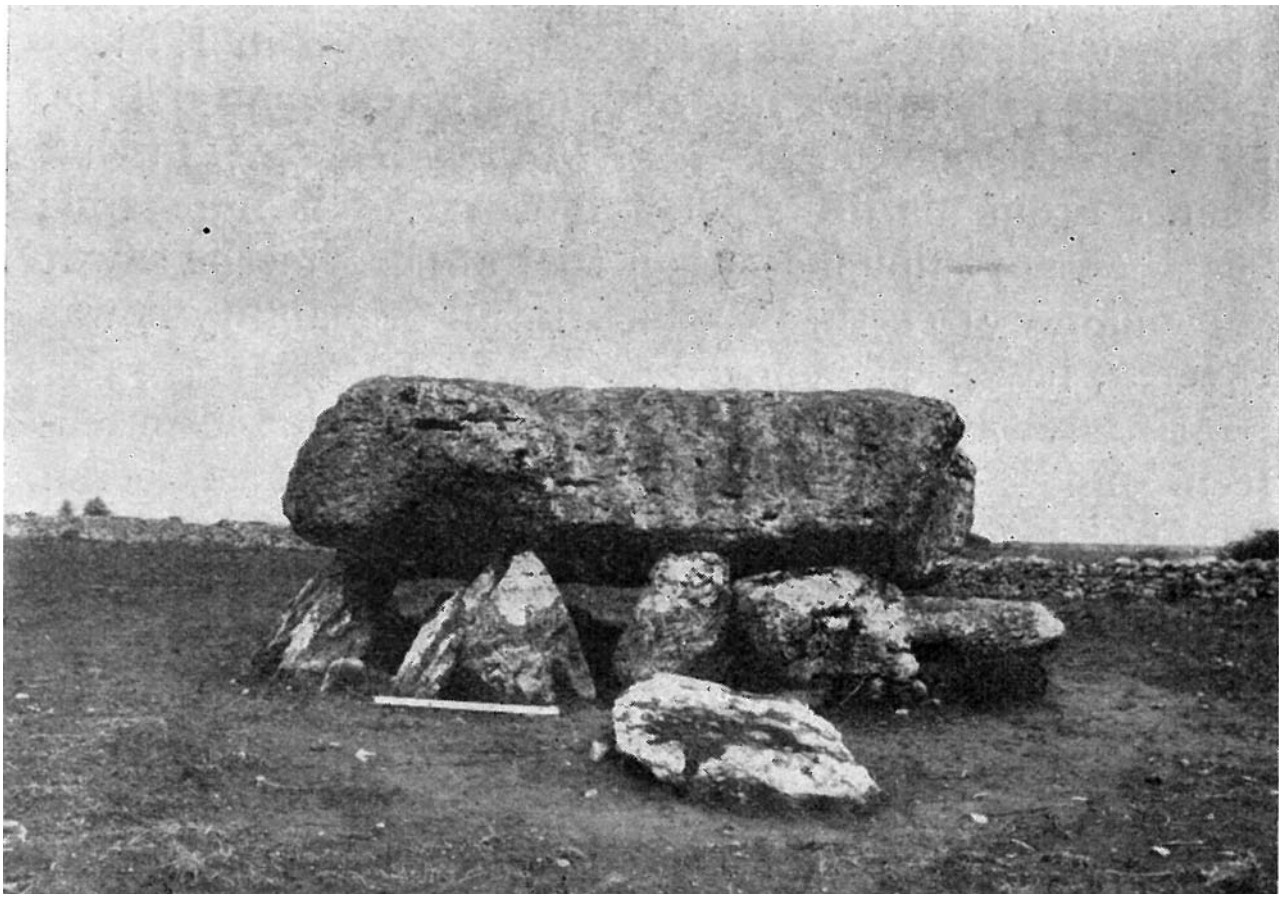


Plate 3. Photographs of Lligwy tomb taken by S. E. Brazier, probably in 1905 (in Gwynedd HER)



From the west



From the south-east

Plate 4. Photographs taken by Baynes in 1908 after "the earth, together with a few stones which had accumulated round the cromlech, were removed down to, or rather below, the level of the field in which it stands" (from Baynes 1909, p218-219)

Plate 5. Trench located to the north of the tomb showing topsoil and turf on plastic sheet, from the north-east (photo reference number G2767_001)

Plate 6. Trench backfilled and returfed, from the south-south-east (photo reference number G2767_059)

Plate 7. Top of signpost base 005, from the NNW (photo reference number G2767_013)

Plate 8. Side of signpost base 005, from the WSW. Also shows cut [012] and SF095 in its base. (photo reference number G2767_014)

Plate 9. Trench from south with ditch [004] fully excavated (photo reference number G2767_015)

Plate 10. Trench from WSW, with ditch [004] fully excavated, also showing [012] (photo reference number G2767_009)

Plate 11. Trench from ENE, with ditch [004] fully excavated (photo reference number G2767_011)

Plate 12. North-east facing section of the trench showing feature [004] cutting deposit 006 (photo reference number G2767_039)

Plate 13. South-west facing facing section of the trench showing fills 003 and 011 being indistinguishable (photo reference number G2767_040)

Plate 14. South-west facing section through deposit 006 (photo reference number G2767_046)

Plate 15. Layer 007 in south-western sondage, from south-west
(photo reference number G2767_020)

Plate 16. Stones 008 in base of south-western sondage, from north-west
(photo reference number G2767_041)

Plate 17. Stones 008 in base of south-western sondage, from south-east
(photo reference number G2767_044)

Plate 18. Orthomosaic of trench as finally excavated

Plate 19. Leaf-shaped arrowhead from layer 007
(scale with intervals of 10mm)

Plate 20. Beach pebble (SF095) lying on base of cut [012], from north (photo reference number G2767_019)

Plate 21. Photograph of Lligwy tomb taken by Harold Senogles in 1936/7, showing original sign and fence

Plate 22. Inside the northern side of the chamber showing small blocks filling the gap (photo reference number G2767_068)

Plate 23. South-east corner of fence around tomb showing raised ground level, from south-west (photo reference number G2767_052)

Plate 24. South-east corner of fence around tomb showing stone revetment, from east-north-east (photo reference number G2767_054)

APPENDIX I: LIST OF FINDS

Find No.	Context No.	Material	Description	Weight (g)	Number of items
EPRN 46296.01	molehill	bone	Human tooth	<1	1
EPRN 46296.02	molehill	flint	Split flint pebble	11	1
EPRN 46296.03	molehill	flint	Split flint pebble	5	1
001	001	chert	Chert piece	8	1
002	001	chert	Chert piece	9	1
003	001	bone	Human tooth	<1	1
004	001	bone	Bone fragments	3	2
005	001	chert	Chert piece	2	1
006	001	bone	Bone fragment	1	1
007	001	flint	Flint pebble, possibly worked	20	1
008	001	chert	Chert flake and chert piece	9	2
009	001	chert	Chert piece	4	1
010	001	chert	Chert flake	<1	1
011	001	chert	Chert pieces	47	2
012	002	bone	Bone fragment	1	1
013	001	chert	Chert piece	7	1
014	002	shell	Marine shell	5	1
015	002	bone	Bone fragments	2	2
016	002	bone	Bone fragments	30	8
017	002	flint	Flint flake	3	1
018	002	shell	Marine shell	2	1
019	002	shell	Marine shell	3	1
020	002	bone	Human tooth	<1	1
021	002	flint	Flint flake	<1	1
022	002	chert	Chert piece	5	1
023	002	chert	Chert flakes	13	2
024	002	bone	Bone fragment	3	1
025	002	bone	Bone fragments	14	3
026	002	shell	Marine shell	2	1
027	002	bone	Toe bone	<1	1
028	002	bone	Bone fragments	3	5
029	002	bone	Bone fragment	1	1
030	002	bone	Bone fragment	11	1
031	002	bone	Bone fragments	28	4
032	002	shell	Oyster shells	2	2
033	002	bone	Bone fragment	7	1
034	002	bone	Bone fragment	26	1
035	002	bone	Bone fragment	1	1
036	002	shell	Marine shells	14	7
037	002	flint	Flint pebble	18	1

038	002	bone	Bone fragment	1	1
039	002	shell	Winkle shell	3	1
040	002	shell	Winkle shell	4	1
041	002	bone	Bone fragment	<1	1
042	002	shell	Marine shell	<1	1
043	002	bone	Small rib	2	1
044	002	shell	Limpet shells	4	2
045	002	bone	Bone fragment	1	1
046	002	bone	Bone fragment	1	1
047	002	bone	Bone fragments	2	2
048	002	bone	Bone fragment	1	1
049	002	bone	Bone fragments	3	2
050	002	flint	Flint pebble	6	1
051	003	chert	Chert flake	2	1
052	011	chert	Chert flake	4	1
053	002	chert	Chert pieces	3	2
054	002	bone	Patella and other bone fragments	6	3
055	003	bone	Small rib	<1	1
056	002	shell	Marine shell	2	1
057	002	bone	Bone fragment	1	1
058	003	quartz	Quartz piece, possibly worked	9	1
059	002	bone	Bone fragment	<1	1
060	002	bone	Bone fragment	27	1
061	002	bone	Bone fragments	8	3
062	002	bone	Skull fragments	22	2
063	002	shell	Marine shells	9	2
064	002	bone	Bone fragment	6	1
065	002	bone	Bone fragments	3	2
066	003	bone	Bone fragment	93	1
067	002	bone	Human tooth	2	1
068	002	stone	Pebble, not a flint pebble as thought	8	1
069	002	chert	Chert piece	4	1
070	002	chert	Chert piece	4	1
071	002	bone	Bone fragment	2	1
072	002	bone	Bone fragments	1	2
073	002	bone	Bone fragment	2	1
074	011	bone	Bone fragments	34	5
075	011	bone	Bird bones	3	4
076	011	shell	Marine shell	2	1
077	002	bone	Bone fragment	<1	1
078	002	chert	Chert flake	7	1
079	003	chert	Chert flake	9	1
080	002	bone	Bone fragment	5	1
081	002	copper alloy	Copper alloy object	6	1
082	002	bone	Human tooth	1	1

083	002	bone	Bone fragment	4	1
084	002	bone	Bone fragment	8	1
085	002	chert	Chert piece	9	1
086	002	bone	Bone fragment	2	1
087	002	bone	Bone fragment	4	1
088	002	bone	Bone fragment	6	1
089	002	bone	Bone fragment	1	1
090	003	shell	Marine shells	1	2
091	003	chert	Chert piece	6	1
092	002	shell	Marine shell	1	1
093	002	bone	Bone fragment	7	1
094	002	bone	Large bone fragment	59	1
095	011	stone	Water-rounded stone	1500	1
096	002	shell	Marine shell	1	1
097	002	shell	Marine shell	1	1
098	002	shell	Marine shell	1	1
099	002	bone	Toe bone	4	1
100	002	bone	Bone fragment	<1	1
101	002	shell	Limpet shell	<1	1
102	002	shell	Marine shell	2	1
103	002	bone	Human tooth	<1	1
104	002	shell	Marine shell limpet	1	1
105	002	bone	Bone fragment	1	1
106	002	stone	Broken cobble	152	1
107	002	shell	Marine shell	2	1
108	002	bone	Bone fragments	8	2
109	002	bone	Bone fragment	3	1
110	002	bone	Bone fragment	2	1
111	002	shell	Marine shell	1	1
112	002	bone	Bone fragment	<1	1
113	002	charcoal	Charcoal fragment	<1	1
114	002	bone	Bone fragment	37	1
115	002	bone	Bone fragments	2	2
116	002	bone	Bone fragment	1	1
117	002	chert	Chert piece	9	1
118	002	bone	Bone fragments	2	2
119	002	bone	Bone fragment	2	1
120	002	stone	Rounded stone	317	1
121	006	bone	Bone fragment	5	1
122	006	shell	Limpet shell plus a part shell	2	2
123	006	stone	Rounded stone	93	1
124	006	bone	Bone fragment	1	1
125	006	bone	Bone fragments	13	3
126	006	bone	Bone fragment	3	1
127	006	shell	Marine shell	3	1

128	006	shell	Marine shell	3	1
129	006	shell	Marine shell	5	1
130	006	bone	Bone fragment	2	1
131	006	bone	Bone fragment	1	1
132	006	bone	Bone fragments	5	2
133	006	bone	Bone fragments	2	2
134	006	bone	Bone fragment	1	1
135	006	bone	Bone fragments	1	2
136	006	bone	Bone fragments	8	2
137	006	shell	Marine shell	1	1
138	006	bone	Bone fragments	1	2
139	006	shell	Marine shell	1	1
140	006	shell	Marine shell	3	1
141	006	bone	Toe bone	3	1
142	006	bone	Bone fragments	2	3
143	006	bone	Bone fragment	<1	1
144	006	shell	Limpet shell	2	1
145	006	bone	Bone fragment	4	1
146	006	bone	Bone fragment	1	1
147	006	shell	Marine shell	3	1
148	006	shell	Marine shell	9	1
149	006	bone	Bone fragment	5	1
150	006	shell	Marine shells	1	3
151	006	shell	Marine shell	1	1
152	006	bone	Bone fragment	1	1
153	006	bone	Bone fragment	6	1
154	006	bone	Bone fragments	2	2
155	006	chert	Chert piece, possibly worked	2	1
156	007	shell	Marine shells	<1	5
157	007	shell	Marine shells	1	2
158	007	shell	Marine shells	1	3
159	007	bone	Toe bone	1	1
160	007	bone	Bone fragments	3	3
161	007	flint	Flint pebble	10	1
162	007	shell	Marine shell	2	1
163	007	bone	Bone fragment	1	1
164	007	nutshell	Mouse-gnawed hazelnut shell from burrow	<1	1
165	007	pot	Tiny Early Neolithic pot sherd	<1	1
166	007	bone	Bone fragments	3	4
167	007	bone	Human teeth	2	2
168	007	bone	Toe bone	1	1
169	007	shell	Marine shells	3	3
170	007	chert	Chert flake	7	1
171	007	shell	Marine shells	2	2
172	007	bone	Bone fragment	1	1

173	007	bone	Bone fragments	27	23
174	007	shell	Marine shells	10	6
175	007	bone	Human teeth	2	2
176	007	bone	Human teeth in fragment of jaw bone	1	5
177	007	bone	Bone fragments	9	5
178	007	shell	Marine shells	9	5
179	007	stone	Rounded pebble	38	1
180	006	flint	Half a flint pebble	8	1
181	006	chert	Chert flake	10	1
182	006	bone	Bone fragments	1	2
183	007	bone	Bone fragments	63	20
184	007	bone	Human teeth	5	6
185	007	shell	Marine shells	5	3
186	007	stone	Rounded pebbles	53	2
187	007	bone	Bone fragments	4	2
188	007	shell	Marine shells	7	3
189	007	shell	Marine shells	4	6
190	006	stone	Rounded pebble	31	1
191	006	bone	Rib bone	4	1
192	007	bone	Rib bone	2	1
193	007	shell	Marine shells	4	2
194	007	flint	Worked flint pebble	9	1
195	007	bone	Toe bone	1	1
196	007	bone	Bone	17	1
197	007	bone	Bone fragment	5	1
198	007	bone	Bone fragments	4	2
199	007	stone	Flat rounded stone	511	1
200	007	stone	Possible burnt stone	27	1
201	007	shell	Marine shells	4	2
202	007	bone	Bone fragments	6	3
203	007	bone	Bone fragments	21	12
204	001	quartz	Very large quartz crystal	56	1
205	001	gemstone	Polished sphere, possibly Labradorite	58	1
206	001	coal	Pieces of coal	170	13
207	002	chert	Unworked chert pieces	729	19
208	003	chert	Possibly worked chert pieces	58	3
209	007	chert	Chert pieces, probably not worked	30	4
210	007	flint	Leaf-shaped arrowhead	<1	1
211	007	pot	Pot sherds, mainly Early Neolithic	32	26
212	007	bone	Many bones and teeth, mostly human, some burnt	221	many
213	007	bone	Many bones and teeth, mostly rodent but some human, some burnt	107	many
214	007	chert	Chert pieces	63	31
215	007	shell	Shell, mainly marine shell	59	many
216	007	stone	Water-worn pebbles	118	3

217	007	quartz	Quartz piece, possibly worked??	5	2
218	007	flint	Tiny flint fragments	1	4
219	001	chert	Unworked chert pieces	51	4
220	001	stone	Small water-worn pebbles	22	3
221	001	chert	Possibly worked piece	24	1
222	001	other	Mixed rubbish from topsoil	28	6
223	002	chert	Possibly worked chert pieces	4	4
224	003	quartz	Quartz pebble, worked?	8	1
225	007	shell	Marine shells	11	2

APPENDIX II: LLIGWY CHAMBERED TOMB, MOELFRE, ANGLESEY (G2767): WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL EVALUATION

Prepared for *Cadw*, January 2023

Introduction

Gwynedd Archaeological Trust (GAT) has been grant aided by *Cadw* to undertake an archaeological evaluation to investigate mole damage at the Lligwy Neolithic Chambered Tomb (scheduled monument AN009, NGR SH 50139 86035) (Figure 1). Finds, including a human tooth, have been recovered from molehills within the fenced area around the Lligwy Burial Chamber. The tooth and a flint pebble came from about 2m north of the tomb, close to the location of a find-rich black layer excavated by Neil Baynes in 1908 (Baynes 1909). It appears that moles are disturbing a deposit containing artefacts and human remains and the nature of the deposit and the extent of the damage is not currently understood.

It is proposed to dig a small evaluation trench measuring 2m by 2m to the north of the chamber to investigate the deposits, evaluate the threat and provide information for any mitigation. The evaluation trench will be dug within the scheduled area around the monument and Scheduled Monument Consent has been applied for in respect of this work. If all permissions are in place it is intended to carry out the excavation on 2nd and 3rd February but alternatively the work may be carried out in the week starting 20th February. The work is anticipated to take two days. The trenching is to be undertaken in accordance with the following guidelines:

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

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

Aims & Objectives
The aims and objectives are to:

- establish the nature and extent of the mole damage within the evaluated area.
- to identify any archaeological deposits under threat of disturbance and establish their significance.

Monitoring Arrangements
The work will be carried out under Scheduled Monument Consent and the fulfilment of the consent will be monitored by Cadw.

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

The GAT HER Enquiry Number for this project is **GATHER1789** and the Event PRN is **46537**. The GAT HER will also be responsible for supplying Primary Reference Numbers (PRN) for any new assets identified and recorded.

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

Archaeological and Historical Background

Archaeological and historical sites in the area
The Neolithic chambered tomb (PRN 3594, AN009) lies in an area rich in archaeology of many periods (Figure 1). Field walking has taken place in the field to the north-east of the tomb resulting in the recovery of Mesolithic flints, but the report on this work is not yet in the HER. The Din Lligwy roundhouse settlement (PRN 2132, AN023) lies to the north-west. This was occupied in the late Roman period. The Parc Salmon Hut Group (PRN 2131, AN102), probably occupied at a similar time, is also nearby. Iron Age and Roman period finds have been discovered by metal detectorists within the fields close to the tomb, including a terret ring (PRN 24016), a bracelet (PRN 81540) and only about 100m from the tomb a number of Roman brooches (PRN 81542).

A concentration of finds including copper alloy waste, coins, fibulae, and spindle whorls have been found by metal detecting in the field immediately south-west of the tomb (PRN 9981). This led to a geophysical survey to investigate the area, which revealed a large rectangular enclosure with a complex central feature (PRN 32808). The features were suggested as possibly of Roman period date, but the anomalies were rather vague and diffuse (Flook and Flook 2013).

Lligwy Farm, now known as Plas Lligwy, appears on the first edition OS County series map of 1889, but is not listed in either the HER or NMR, though its garden is listed in the NMR as NPRN 86549. Structures relating to Plas Lligwy include a ruined dovecot (PRN 2118), a structure identified on the OS County Series maps (PRN 55953).
The tomb itself was dug in 1908 by Neil Baynes (Baynes 1909). The tomb has a remarkably thick capstone supported on horizontal stones with the bedrock about 1.2m below the capstone inside the chamber. Inside the chamber Baynes found a black soil with human and animal bones as well as flint

and pottery, overlying a paving stone. The human bones included parts of at least 12 human jaws and there was a variety of animal species represented.

As well as excavating inside the chamber Baynes opened a trench measuring 7ft by 4ft (2.1m by 1.2m) immediately north of the tomb. In this trench "At a depth of about 4ft was found the black soil containing a quantity of human teeth and fragments of bones, a flint scraper, and a bone pin….also some teeth of bos, sheep, pig and dog" (Baynes 1909, 224-225). However, Baynes considered that the black soil may have originated from the tomb when it was broken into:- "The black soil only extended about 3ft 6 ins. [1.06m] from the cromlech, and the appearance of the soil and stones met with in this particular excavation suggested that at this point an entry may have been forced into the chamber" (Baynes 1909, 225).

A human tooth was reported by a member of the public and this was collected by Jane Kenney of Gwynedd Archaeological Trust on 9th August 2022, along two split flint pebbles, also from molehills. A plan was made of the location of the molehills and finds (see Figure 2) and a short report was written (Kenney 2022).

Methodology

Excavation
It appears that moles are disturbing a deposit containing artefacts and human remains to the north of the tomb and the nature of the deposit and the extent of the damage is not currently understood. It is proposed that a small evaluation trench measuring 2m by 2m is dug to the north of the chamber to investigate the deposits, evaluate the threat and provide information for any mitigation. The precise location of the trench will be determined on the ground to include the area disturbed by molehills but avoid the rising ground immediately adjacent to the tomb. Figure 2 gives an indication of the proposed location of this trench.

All excavation will be by hand, including the removal of turf and ploughsoil. No machinery will be used.

The excavation will involve the removal of turf and ploughsoil to expose any archaeological deposits or earlier excavation spoil. These deposits will be planned and investigated sufficient to establish their nature and potential date and to establish the extent to mole damage. Potentially this could involve the full excavation of the deposits or the excavation of sondages through them depending on the complexity of the archaeology found. If complex archaeology is found it will be investigated sufficient to characterise it, but no attempt will be made to fully excavate and record it.

A record of all deposits and features encountered will be made on GAT pro-formas, with detailed notations and will be recorded photographically with an appropriate scale. Photographic images will be taken using a digital SLR camera set to maximum resolution in RAW format; the photographic record will be digitised in Excel as part of the fieldwork archive and dissemination process. Photographic images will be archived in TIFF format using Adobe Photoshop. A photographic ID board will be used during the evaluation to record site code, image orientation and any relevant trench and context numbers. Any archaeological features/deposits/structures encountered will be manually cleaned and examined to determine extent, function, date and relationship to adjacent activity. The following excavation strategy will generally apply: 50% sample of each small feature, 10% sample of larger features in the form of a sondage through the feature. Any layers or spreads of material will be investigated by sondages or, if small and discrete, by excavating a 50% sample. Any structural features encountered will be cleaned and recorded but will not be removed.

The location of the trench will be recorded using a Trimble R8 GPS unit. If any deposits or features are found a hand drawn plan at a scale of 1:20 will be completed to record the features and limits of deposits. The baseline for the plan will be surveyed with the GPS unit. Other plans may be completed as

necessary. If extensive stone deposits are found it may be considered more accurate and effective to plan them using photogrammetry. In this case targets would be surveyed by GPS to allow the resulting orthomosaics to be accurately scaled and geolocated. Photogrammetry will only be used if this is archaeologically the preferable form of recording.

At minimum a section at a scale of 1:10 will also be completed for at least one side of the trench. Other sections will be drawn as necessary. Plans or sections will normally be drawn at 1:10 or 1:20 scale using GAT A4, A3 or A2 pro-forma permatrace.

The GPS unit will be used to locate all significant artefacts in three dimensions.

Artefacts and ecofacts/samples will be collected as described below.

On completion of the investigation any remaining archaeological deposits will be covered by a layer of geotextile and the trench will be back filled and the turf replaced. If there are no archaeological deposits or remains left in the trench no geotextile will be used.

As the work will take place within the scheduled area Scheduled Monument Consent will be obtained before the start of the work and all conditions of that consent will be complied with.

Human Remains
A human tooth has already been recovered from the area to be investigated, so there is an expectation that other disarticulated human remains may be encountered. No undisturbed burials are likely. A Ministry of Justice licence is required under Section *25* of the Burials Act 1857 for the removal of any body or remains of any body from any place of burial. A licence will be obtained prior to the work and the terms of this will be followed. Due to the age and significance of the human remains from a Neolithic tomb it is preferred that the remains will be held in a museum after analysis is complete and that they are not reburied.

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

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

Ecofacts
Bulk soil samples will be taken from all archaeological deposits containing charcoal, prehistoric finds or otherwise considered to be significant sealed deposits. Bulk soil samples will be of 40 litres, or 100% if the feature is smaller; samples will by GAT staff using 10 litre sampling buckets. Other samples will be considered, such as samples for pollen analysis or soil micromorphology depending on the nature of the deposits.

The bulk soil samples will be processed by flotation and wet sieving and subsequently assessed and analysed for plant species and charcoal, with the results used to inform agrarian practices and wood fuel

use, as well as possibly dating. The processing would be carried out by the GAT Project Archaeologist team, with the subsequent species identification assessment completed by an ecofact specialist. Any deposits deemed suitable for dating will be submitted to a laboratory specialising in radiocarbon dating (e.g., SUERC).

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

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

All finds are the property of the landowner; however, it is Trust policy to recommend that all finds are donated to an appropriate museum (in this case *Oriel Môn, Llangefni*). Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust.

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

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

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

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

Pro-formas: all cross referenced and complete;
Photographic Metadata: completed in *Excel* and cross-referenced with all pro-formas;
Survey data: downloaded using a Computer Aided Design package;
Sections (if relevant): all cross referenced and complete;
Plans (if relevant): all cross referenced and complete;
Artefacts (if relevant): quantified and identified; register completed;

Ecofacts (if relevant): quantified and register completed;
Context register (if relevant): quantified and register completed.

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

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

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

Reporting
A preliminary report will be written on the work but any further post-excavation analysis on finds or samples will be agreed after the submission of the preliminary report.
The preliminary report will be submitted by the end of March 2023 or as soon as possible after. This report will be submitted to the regional Historic Environment Record within six months of project completion. The report will include the following:

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

Illustrations will be included plans and sections and images of artefacts. The report will also include any received specialist input (ecofacts and/or artefacts).

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

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

- Project Information form (Excel);
- File Information form (Excel) – Microsoft Word report text final;
- File Information form (Excel) – Photographic metadata (general);
- File Information form (Excel) – Adobe PDF report final; and
- File Information form (Excel) - Photographic metadata (detail).

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

The selection strategy will take into account:

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

Personnel
The project will be managed by Jane Kenney, Senior Archaeologist. Jane will carry out the work on site with a GAT Project Archaeologist.

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

Insurance
Public/Products Liability
Limit of Indemnity- £5,000,000 any one occurrence and in the aggregate in respect of Product Liability
INSURER Ecclesiastical Insurance Office Plc.
POLICY TYPE Public/Products Liability
POLICY NUMBER UN/000375
EXPIRY DATE 21st June 2023

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

INSURER Ecclesiastical Insurance Office Plc.
POLICY TYPE Employers Liability
POLICY NUMBER 24765101 CHC / UN/000375
EXPIRY DATE 21st June 2023

Professional Indemnity
Limit of Indemnity- £5,000,000 in respect of each and every claim
INSURER Hiscox Insurance Company Limited
POLICY TYPE Professional Indemnity
POLICY NUMBER PL-PSC10002389775/01
EXPIRY DATE 22nd August 2022

Sources Consulted

Baynes, N. E., 1909. 'The excavation of Lligwy Cromlech, in the county of Anglesey', Archaeologia Cambrensis 6th series, vol. 9, 217-231

English Heritage, 1991, Management of Archaeological Projects.

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

Flook, R. and Flook, M., 2013. Findspots and Archaeological Remains Pilot Project: Roman SW Anglesey Landscape Survey, GAT Report No. 1127

Kenney, J., 2022. Mole Activity at Lligwy Burial Chamber, EPRN46296

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

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

Figures

Figure 1. Location of Lligwy Burial Chamber with HER sites, scheduled areas and other work done in the area

Figure 2. Plan of Lligwy Burial Chamber showing location of molehills and finds with location of proposed evaluation trench

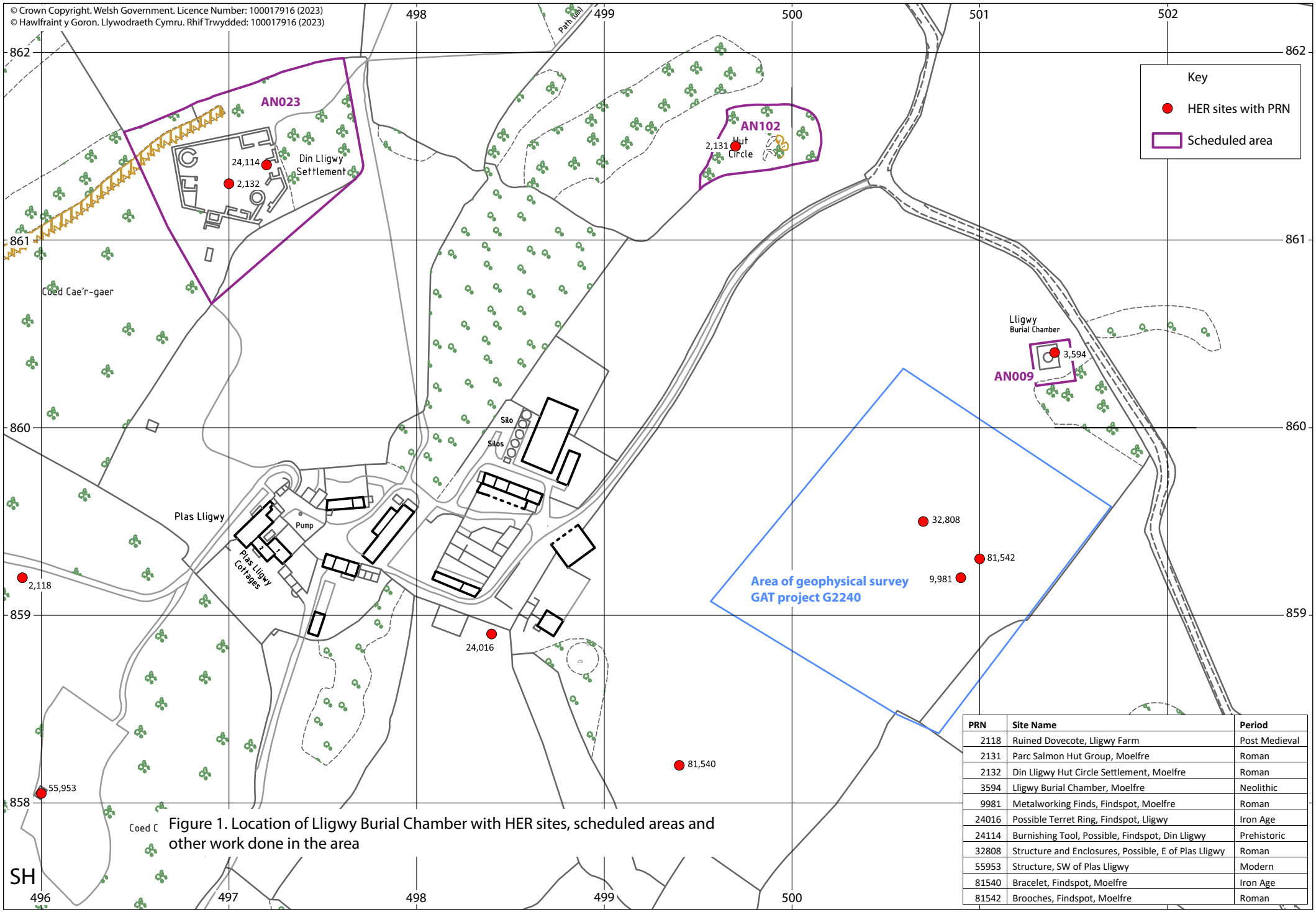


Figure 1. Location of Lligwy Burial Chamber with HER sites, scheduled areas and other work done in the area

PRN	Site Name	Period
2118	Ruined Dovecote, Lligwy Farm	Post Medieval
2131	Parc Salmon Hut Group, Moelfre	Roman
2132	Din Lligwy Hut Circle Settlement, Moelfre	Roman
3594	Lligwy Burial Chamber, Moelfre	Neolithic
9981	Metalworking Finds, Findspot, Moelfre	Roman
24016	Possible Terret Ring, Findspot, Lligwy	Iron Age
24114	Burnishing Tool, Possible, Findspot, Din Lligwy	Prehistoric
32808	Structure and Enclosures, Possible, E of Plas Lligwy	Roman
55953	Structure, SW of Plas Lligwy	Modern
81540	Bracelet, Findspot, Moelfre	Iron Age
81542	Brooches, Findspot, Moelfre	Roman

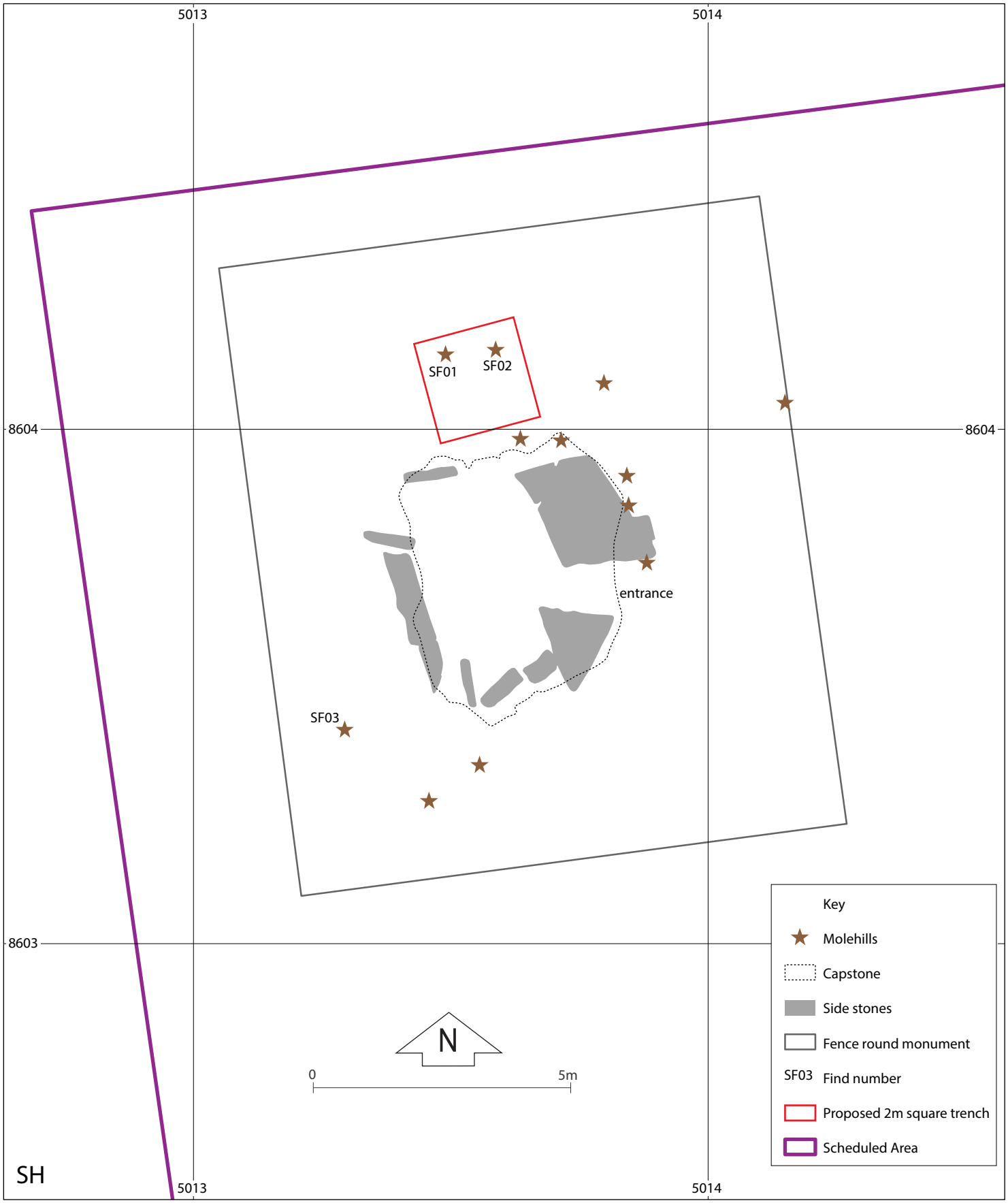


Figure 2. Plan of Lligwy Burial Chamber showing location of molehills and finds with location of proposed evaluation trench

Cadw

Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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