SOUTH ANGLESEY OUTREACH PROJECT

EVALUATION OF A LITHIC SCATTER AND POSSIBLE NEOLITHIC ENCLOSURE AT TREFARTHEN, BRYNSIENCYN, ANGLESEY: PRELIMINARY REPORT

Project No. G1940

Report No. 742

Prepared for
Cadw

June 2008
Revised Dec 2010

By
G.H. Smith

Ymddiriedolaeth Archaeolegol Gwynedd

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Cover: Llanddaniel School group excavation experience

Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

PREHISTORIC FUNERARY AND RITUAL PROJECT FOLLOW-UP: SOUTH ANGLESEY OUTREACH, GAT PROJECT G1940

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ILLUSTRATIONS

SUMMARY

Trial excavation of geophysical anomalies in the area of a Neolithic finds scatter identified several features and further lithic finds. The features showed the presence of a stony enclosure bank but its poor survival in a frequently ploughed field made it impossible to confidently link the finds and the features. None of the excavated finds were reliably diagnostic of date apart from a fragment of a possible Late Mesolithic microlith. Final interpretation must rely on one radiocarbon date obtained from a small pit beneath the enclosure bank. This date was centred on the early fifth millennium BC, probably indicating activity associated with the microlith, prior to the creation of the enclosure. This report comprises an interim description of the results and catalogue of the finds (Appendix 1). A summary note has also been submitted to Archaeology in Wales 2007 (Appendix 3).

1. INTRODUCTION

A two week excavation was carried out at the farm of Trefarthen, near Brynsiencyn in September 2007 as part of a project in South Anglesey for Cadw by Gwynedd Archaeological Trust (GAT). South Anglesey has a marked concentration of Neolithic chambered tombs and must have been a particularly attractive place for early agricultural settlement, with good soils, a longer growing season than the mainland and easy access to the sheltered waters of the Menai Straits (Fig. 1). However, there is little direct evidence of Neolithic settlement in this area, consisting only of a possible sub-circular enclosure associated with flints at Bryn Celli Wen, close to the chambered tomb of Bryn Celli Ddu (Edmonds and Thomas 1991) and of pits, with pottery and flints at Capel Eithin, near Gaerwen (White and Smith 1999). Small scale excavation at Trefarthen, near Brynsiencyn in 2007 was designed to evaluate possible Neolithic settlement features previously identified by geophysical gradiometer survey there in 1999, at SH49156650 (Fig. 2).

The survey had been carried out to investigate the find spot of a collection of Neolithic artefacts discovered some years ago at Trefarthen by the farmer Mr Jack Roberts, while ploughing. These comprised a polished axe and a flaked pick, both of Graig Lwyd rock, a broken saddle quern and a number of flint waste flakes. The axe and pick are held by the farmer (Fig. 3). The saddle quern fragment has been donated to the Oriel Ynys Môn, Llangefni, Anglesey. The flint flakes may have included some diagnostic retouched pieces but were taken for study during an earlier project by Lampeter University (Edmonds and Thomas 1991) and cannot now be located. The find spot was evaluated in 1999 as part of the North-West Wales Lithic Scatters Project carried out for Cadw (Smith 2001). A gridded surface collection carried out as part of that project identified a light scatter of waste flint centred approximately on the area of the previous finds. A gradiometer survey of the same area was then carried out, which revealed a number of possible features (Fig. 4). The most prominent was part of a probable sub-circular enclosure in the same area as the previous lithic finds as well as some fainter features. One was a straight, narrow feature interpreted as a post-medieval drain. The other features comprised a possible very faint rectilinear enclosure, interpreted as a possible earlier field, and two possible small sub-circular features interpreted as possible roundhouses.

The excavation was a community project and carried out by local volunteers including one Bangor University archaeology student on work experience placement (Fig. 11).

Acknowledgements

Many thanks go to the farmer, Jack Roberts, for permitting the excavation as well as for his encouragement and hospitality. Many thanks must also go to the excavators, particularly Chris ‘Beaver’ Hughes, Brian Hyde, Bill and Mary Jones, Alun Jones, Jeff and Kate Marples,

Bryan Precious, Avis Reynolds and Jay Salisbury for quality of work and good humour in the face of unfavourable weather.

The excavation was visited by children from the local primary schools of Brynsiencyn and Llanddaniel who took part in some archaeological exercises and proved to be very enthusiastic and able (Fig, 10). Thanks go to Arwel Owen, Head teacher at Brynsiencyn School, Siwan Jones, head teacher at Llanddaniel School and Karen Peacock of BBC Wales, Bangor who produced a news story of the school visit for the Planed Plant children's news programme on the S4C television channel.

2. TOPOGRAPHIC LOCATION

The enclosure lies on the south end of a low ridge at 15m OD and 150m from the present edge of the Menai Strait (Fig. 2). The surrounding land has a deep silty, well-drained fertile soil that regularly produces arable crops. The subsoil is fine silt with a small proportion of gravel, all overlying limestone. A low hill once lay to the north but was largely quarried away for limestone in the 19th century. The stone was taken away by boat, via a track across the west end of the field to a small quay, some of the stonework of which still survives (Fig. 2).

3. EXCAVATION DESIGN AND METHODS

Four trenches were excavated to investigate four of the geophysical anomalies identified in 1999 (Fig. 5). The trenches were not aligned on the previous grid of 1999 because the origin of the original base line was incorrectly identified. This did not affect the trench design except that Trench 2 did not include any of the interior of the sub-circular enclosure as had been hoped.

Trench 1 was 10m by 2m and cut diametrically across a faint small circular feature, *c*. 15m diameter, interpreted as a possible roundhouse.

Trench 2 was 16m by 4m and was laid out to cut approximately diametrically across the bank of a probable large sub-circular enclosure, *c*. 30m diameter.

Trench 3 was 10m by 2m and cut across two adjacent parallel linear features, one faint the other strong, narrow and straight and regarded as a probable post-medieval drain.

Trench 4 cut across another faint linear feature that seemed to be a continuation of the linear feature in Trench 3, together possibly forming an irregular rectilinear enclosure of a former field.

The ploughsoil was removed by machine and the trenches then cleaned and excavated by hand.

4. EXCAVATION RESULTS

4.1 Trench 1 (Fig. 6)

This trench was designed to provide a cross-section across a faint small oval anomaly seen in the geophysical survey. It was laid out so as diametrically bisect the oval.

After removal of the ploughsoil by machine the subsoil of buff silt with scattered pebbles was exposed over most of the trench but it was evident that there were more stony areas in two

places, approximately where the trench crossed the curvilinear geophysical anomaly. Cleaning over these by hand showed them to be thin scatters of pebbles and slightly larger sub-angular stones, unlike any that occurred within the subsoil (Fig. 12). Removal of a 1m wide strip through these stone scatters showed that they lay directly on top of the subsoil.

No artefacts or other material, such as charcoal or burnt stone were found to suggest human activity and there were no features such as pits or post-holes between the two features, which might be expected if they formed parts of the wall of a roundhouse. The fact that they lay on top of the subsoil suggests that the scatters were not periglacial features because if they were they would have been continuous with the subsoil. However, most of the stones were too small to be structural and not of sufficient size to suggest clearance for post-medieval cultivation. There was no increase in depth of topsoil where the stone scatters occurred to indicate a former bank and no ditch present from which the material for a possible bank could have been excavated. A possible interpretation is that they are the disturbed remains of a ploughed down bank and of a buried former topsoil that had been protected by the bank, most traces of which had been levelled out by ploughing over several centuries. There was no evidence to provide a date for or to explain the purpose of the small oval enclosure defined by the possible bank.

4.2 Trench 2 (Fig. 7)

This trench was designed to investigate the possible enclosure bank, the main focus of the excavation.

Removal of the ploughsoil by machine revealed a dense stony area at the east of the trench and another vague scatter of stones at the west, similar to those in Trench 1 (Fig. 7a). The latter survived as a very low, 2m wide deposit of stones in a silty deposit, the stones being a mix of pebbles and cobbles and some larger sub-angular stones, all incorporated in the profile of the ploughsoil (Figs 13-14). This was interpreted as the remains of a ploughed-down bank 7, which survived only as a ‘ghost’ feature, a scatter of stones within the ploughsoil with no defined limits and no buried soil. As in Trench 1 there was no quarry ditch for the presumed bank material, which must have been scraped up from the surface, rather than from a defined ditch.

To the east of bank 7 a number of small features were identified and recorded as possible stake-holes (Fig. 7b). These were each about 50mm diameter and filled with a fine, silty dark soil. However, these did not fall into any patterns and several were shown to be partly tunnels running off at shallow angles and so were almost certainly all small mammal burrows.

In the eastern part of the trench a spread of stones was found (8), the stones considerable larger than those in bank 7, the spread continuing beyond the edge of the trench to the north, south and east. These stones were mainly sub-angular pieces of limestone together with a few sub-rounded glacial cobbles and small boulders. The stones formed a fairly solid, continuous layer (Fig. 15). Probing in the area to the east of the trench indicated that this stone spread was probably about 8m wide. However, this could be misleading as the area to the east had been affected by excavation for a main sewer outfall pipe running alongside the field and this could have truncated the stone spread. The spread (8) appeared to be the remains of the possible enclosure bank identified by the geophysical survey (Fig. 5).

Between the stones of the stone spread at the north was an area of dark soil (Fig. 16), which, after removal of the stones, was revealed as an irregular area of charcoal-rich soil (14) at the north part of the trench (Fig. 7b). Removal of the charcoal-rich layer showed it to be a shallow spread (Fig. 7c), which contained a number of flint fragments. It covered two small pits, 26 and 28 (Fig. 17), both containing dark soil similar and probably continuous with the charcoal-rich layer 8 (Fig. 7c and 7d).

The charcoal in the spread 14 and in pit 26 and 28 was mainly finely comminuted in the soil but a few larger pieces were collected separately for identification and possible radiocarbon dating (Appendix 2). Two bulk soil samples were also taken for flotation for possible carbonised macro-botanical remains.

A few pieces of flint were found on, in and around the stone spread 8, including waste fragments and a convex scraper. The tip of a small piercer or microlith was the only retouched piece found in the charcoal-rich layer 14. Other waste flint pieces were found elsewhere in the trench, the largest concentration being in layer 14 (Fig. 7b).

4.3 Trench 3 (Fig. 8)

This trench was designed to investigate two fairly straight linear features identified by the geophysical survey. One was broad and interpreted as a possible early field bank and the other was narrow, straight and very well-defined, interpreted as a probable post-Medieval drain.

Removal of the ploughsoil by machine and hand-cleaning showed that the first geophysical anomaly was caused by a rather ill-defined scatter of medium-sized stones amongst a silty loam deposit (Fig. 18). These stones were rather larger than those in the banks in Trenches 1 and 2 and associated with a rather greater depth of soil. This was interpreted as the remains of a ploughed-down bank as suggested by the geophysics. Irregular, shallow pitting suggested that this had been subject to animal burrowing. A 19th century estate map of Trefarthen has field names that indicate rabbit farming in the area.

The narrow linear feature proved, as suggested, to be a drain. It was well-built, stone walled and stone-capped, considerably larger than a normal field drain (Fig. 19). On the geophysical survey this drain could be seen to originate from the entrance to the limestone quarry at the north-west side of the field and so was clearly a drain for the quarry, the abandoned pits of which at the south side are now water-filled. A probable outlet to this drain still exists and is still discharging water, close to the Menai Straits just beyond the edge of the field at the south-east.

A scatter of waste flint, a core and a pebble core reject were during initial cleaning of this trench. One group, close to the find of the reject core, were all at the surface of the subsoil and so probably pre-dated the bank, although the shallowness of the stratigraphy and the presence of animal disturbance mean that this cannot be certain.

4.4 Trench 4

This trench was designed to investigate a very faint linear anomaly seen on the geophysical survey that was interpreted as another possible early field boundary associated with that in Trench 3.

The ploughsoil was removed by machine revealing fairly homogenous silty subsoil. There was no evidence of a bank, either in the surface of the subsoil or in the content of the ploughsoil. It may be that some very slight remnant of a bank survived in the ploughsoil as a stony scatter which created a faint anomaly although this was not evident in the cross-section. The creation of an anomaly from such a faint feature is probably because of the presence of magnetic, iron-rich stones in the former banks.

5. ARTEFACTS

Pottery and glass

The topsoil contained numerous fragments of 18th-19th century table ware, some quite fine, as well as coarser kitchen ware reflecting material deriving from the large estate house of Plas Trefarthen. One fragment of wheel-made grey ware from a probable Romano-British cooking pot came from initial hand cleaning of the remnant ploughsoil in Trench 2.

Recorded finds

2 Context 4 Pottery body sherd. Fine hard dark grey body with black internal and external slip. Wheel-made with slight horizontal carinations. Possibly a later Romano-British cooking pot.

Other

Context 3	Several pieces of glazed white tableware, preserve jar and medicine bottle fragments.
Context 4	Several pieces of glazed white tableware, window glass and clay pipe stem.
Context 12	1 piece of blue transfer-printed white tableware. 1 piece of black internal glazed bread crock.
Context 17	1 piece of blue transfer-printed white tableware. 2 pieces of black internal glazed bread crock.

Iron

One piece, from the ploughsoil, could derive from Medieval ploughing.

Context 2 Possible ox-shoe fragment. Small broad shoe with a turned over end.

Flaked Stone

Two pieces, from the lower part of the charcoal-rich soil in Trench 2. Probably accidental fractures from cobbles.

Context 13	1 thick curving flake struck from a small cobble. Stone unidentified.
Context 14	1 large flake from a cobble. Part of same object as that in context 13.

Other Stone

A few pieces of burnt stone, also from the lower part of the charcoal-rich soil in Trench 2. Possibly indicating, with the scatter of charcoal, that some kind of burning activity had occurred on or around the stony platform 8.

Context 13	Burnt stone fragments, one fine sandstone and one conglomerate. Coal fragment.
Context 14	One burnt cobble fragment, fine sandstone.
Context 14	1 piece of fine sandstone.
Context 17	Two burnt cobble fragments, fine sandstone. Coal fragment.

Flint (Fig. 9)

Raw material and technology

The flint is all corticated to a dull buff-cream colour and several pieces show that they derive from beach or glacial pebbles. It is of poor quality and most pieces are small fragments or chunks, rather than flakes. It is uncertain in some cases whether they are deliberately struck or frost shattered. In this they match closely the material from surface collection in 1999, the

largest part of which consisted of such irregular fragments with only a few regularly struck flakes and no diagnostic worked pieces. This may be a reflection of the very poor quality of the raw material, which broke unevenly and resulted in a high reject rate.

Description
There are two retouched pieces. The first is a broken convex scraper, SF1, (Fig. 9) found during initial cleaning over the top of the stony platform 8 in Trench 2. Scrapers often break like this in use. Those made on pebble flint are not typologically specific and so are not diagnostic. The second is the broken-off tip of a very narrow piercing tool, SF4 which would have to be a drill although it has no wear-signs. It could possibly be a broken Later Mesolithic narrow-blade scalene triangle microlith but it is thicker and the steep retouch is rather heavier than most microliths. This came from the charcoal-rich layer in Trench 2.

One utilised flake came from beneath the stony platform 8 in Trench 2.

One core, SF3 (Fig. 9) came from initial cleaning in Trench 3. It is small and conical, typical of Later Mesolithic assemblages, although dependent somewhat on the small size of the available material. Another, quite large apparently rejected pebble core, SF11 (Fig. 9) was part of small group of flakes, some detached by heat and which re-fitted the core, found in Trench 3 in a position that suggested they pre-dated the dump of soil and stones making up the bank there, interpreted as of Medieval or Post-medieval date (Fig. 8).

Discussion
The assemblage is dominated by small irregular waste pieces. The objects occurred in a scattered way but the majority were found in the eastern half of Trench 2 and by far the greatest number in the charcoal-rich layer 14, beneath the stone platform 8 and in the area where the two small pits, 26 and 28 were found (Fig. 7b). However, there were only a few flints actually in the fill of the pits. The concentration of flint pieces in this area suggests that they were associated with the activity that produced the charcoal-rich layer and the pits. The only retouched piece from the charcoal-rich layer was the piercer/microlith fragment SF 4.

Recorded finds
1 Context 4 Convex scraper fragment. Flint. Mottled - grey with brown mottles. Proximal part of a thick broken flake with steep retouch on one side.
3 Context 3 Core. Flint. Off-white cortication. Small conical. 21mm long, 2mm wide.
4 Context 14 Piercer fragment. Flint. Light grey. Long narrow fragment steep retouched along one straight edge. Possibly a microlith fragment but more likely the snapped-off tip of a very delicate piercer. No evidence for use as a borer, unless it broke before it could be used.
6 Context 14 Chunk. Chert? Heat or impact shattered fragment.
7 Context 14 Chunk. Flint. Frost shattered pebble fragment.
9 Context 14 Flake. Flint. Light grey-red. Possibly slightly altered by burning.
11 Context 3 Pebble core. Flint. Heat altered then unsuccessful flake removal.
12 Context 3 Flake. Flint. Cream cortication. Refits onto SF 11.
13 Context 3 Flake. Flint. Cream cortication. Refits onto SF 11.
14 Context 3 Fragment of crystal quartz. Natural.
15 Context 3 Irregular fragment. Flint.
16 Context 32 Flake. Flint. Mid-grey (Surface find east of Tr 2).

Debitage
Context 1 1 chunk, probably flint, buff-red, possibly as a result of slight burning.
Context 2 2 irregular fragments, chert? Possibly naturally frost shattered.
Context 3 4 chunks. Chert? Possibly naturally frost shattered.
2 chunks, probably flint, slightly burnt, one with pebble cortex.

Context 4	2 Pebble fragments. Flint, burnt.
	4 irregular fragments, flint.
	1 chunk. Chert, light grey. Natural.
	1 small pebble fragment with one flake removed. Black chert.
Context 12	1 small pebble fragment. Flint. Burnt.
	1 irregular fragment. Burnt.
Context 13	1 utilised flake. Flint. Flake with utilisation damage and gloss on one long side edge. 28mm x 14mm.
	1 flake fragment flint, cream cortication. Small distal fragment.
	9 irregular fragments, probably flint, cream cortication, probably waste pieces.
	1 small pebble, flint, probably shattered by burning.
	47 chunks from 10mm-40mm long, probably flint. Natural frost shattered?
Context 14	1 possibly struck flake, chert?
	1 core chunk with 2 or 3 flake removals. Cream cortication. Flint?
	47 chunks and fragments. Flint? Possibly naturally frost shattered.
Context 17	7 irregular fragments. Flint? Cream cortication. Possibly naturally frost shattered.
	1 flake. Possibly struck. Flint?
Context 19	1 irregular fragment. Flint? Cream cortication. Possibly naturally frost shattered.
Context 24	7 irregular fragments. Flint? Cream cortication. Possibly naturally frost shattered.
	1 chunk. Chert. Light grey. Possible core fragment.
Context 25	13 irregular fragments and chunks. Flint? Cream cortication. Possibly naturally frost shattered.
	1 flake fragment. Flint.
Context 27	5 irregular fragments. Flint? Cream cortication. Possibly naturally frost shattered.
	1 chunk quartzite. Possibly naturally frost shattered.
Context 29	3 chunks. Flint? Cream cortication. Possibly naturally frost shattered.

6. DISCUSSION AND DATING

The existence of the enclosure as indicated by the geophysical survey was supported by the identification a bank of stones. Although little was left of the bank, most must have been removed by centuries of ploughing. There was no external quarry ditch and so the bank was probably derived from surface clearance.

The most significant feature was the stony spread (8), the remains of the enclosure bank. This consisted largely of sub-angular pieces of limestone

Removal of the stone spread showed that it lay directly on the subsoil. However, at the north side of the trench it overlay the spread of charcoal-rich soil (14) and two small pits [26] and [28]. The spread (14) contained a larger concentration of flint pieces then anywhere else in the trench and included one retouched piece, a broken piercer or microlith (SF 4). Although the stratigraphy was shallow there is reasonable indication that the buried charcoal-rich layer (14) and pits [26] and [28] were associated with the activity that produced the flints. A radiocarbon date on charcoal from one of these pits has produced a date in the early fifth millennium BC (Appendix 3). This stratigraphically predates the enclosure bank and so may indicate activity on the promontory some time before the enclosure was constructed. It also gives a suitable context for the flint point SF4, as a Later Mesolithic artefact. The occurrence of a few worked flints over bank 8 could have resulted from ploughing because flints occur scattered within the ploughsoil generally.

Most of the charcoal collected proved, on identification to be unsuitable for radiocarbon dating, being nearly all oak and small or fragmentary (Appendix 2). One piece of hazel came from a suitable context, but disintegrated during identification. A piece of oak charcoal was therefore selected from Pit 26 and used for dating (Appendix 3).

The lithic finds made during the excavation substantiate the supposition that this was an area of prehistoric activity although none were reliably diagnostic as to period. There is some difficulty therefore in directly connecting these finds with the better diagnostic finds made by the farmer in the general area of Trench 2. No proof was found that the enclosure was associated with the previous lithic finds and it must remain only a supposition that it was. The finds from the excavation and from the surface collection seem quite different from the group found by the farmer. Could it be that the earlier finds were part of a specific group, perhaps buried in a pit that had become exposed by one ploughing episode, rather than being part of a general scatter within the ploughsoil? The rather widespread scatter of finds from the excavation, including a high proportion of debitage to retouched pieces does show that lithic working was taking place on site. The scatter of lithic material occurred beyond the enclosure, both (Fig. 3) and so did not show a specific association with the enclosure and some of it at least is likely to derive from earlier activity on the promontory.

Apart from major monuments like henges, domestic Later Neolithic activity in a wider British context is mainly found in the form of pit groups, only rarely associated with identifiable enclosures or houses, which were probably small, very lightly built timber structures that left little trace, such as that found preserved beneath a Bronze Age burial mound at Trelystan, Powys (Britnell 1982). The same is true on Anglesey, where pits with diagnostic Late Neolithic material were found in a number of places during the investigation of the new A55 route across the island (Hughes and Davidson forthcoming) and during the large scale area excavations at Parc Bryn Cegin, Bangor (Kenney 2005). The charcoal-rich soil in the general layer (14) and in pits 26and 28 at Trefarthen did not contain specific concentrations of lithic material, to suggest an association, nor was any Neolithic pottery present in the layer or the pits. The indication is therefore that the lithics and the charcoal-rich layer were part of different periods of activity. The radiocarbon date may do no more than confirm this, while the presence of the flint and stone tools provides proof that activity of Later Neolithic date had also taken place on the site. An association between the lithic material and the enclosure is more likely. Some Later Neolithic enclosures of both sub-circular and sub-rectangular form are known, for instance at Fengate, Peterborough, but whether domestic or ceremonial is not known. The location of the enclosure at Trefarthen could be suitable for either. It is in a locally prominent position but is in an area of deep, well-drained, easily worked soils. Further work on the site in future would certainly be worthwhile because it still has potential to be a significant settlement site for the period. This work should concentrate on the interior of the enclosure, beyond the area disturbed by the sewage pipe line, within the plough headland where preservation may be better, or beyond the field boundary where more of the early enclosure bank may be preserved (Fig. 5).

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APPENDIX 1

EXCAVATION ARCHIVE

Records	
Context Records	32
Drawings	
Photographs	62
Artefacts	
Recorded finds	15
Common objects	
Flint/chert debitage	167
Stone debitage	2
Stone	1
Pottery and glass	Various
Iron	1
Environmental samples	
Bulk soil samples	2
Charcoal samples	31

APPENDIX 2

CHARCOAL IDENTIFICATION
by Pat Denne

General comments: all the pieces were very fragile, breaking into small splinters at a touch, and appeared to be highly incinerated. This made identification rather difficult, and impossible to determine other features such as ring width.
In the identifications given below "probably oak" means that characteristics indicate it is very likely to be oak, though one could not discount related species such as chestnut, and "appears to be oak" means there are some oak characteristics visible, but cannot be certain about it. There seems to be more bark present than usual?

Sample	***Context***	***No. of pieces***	***Identification***	***Comments***
02	12	1	Probably *Calluna* or other ericaceous species	Twig about 10mm diameter
03	12	5	1) holly 2) holly 3) probably Pomoideae 4) probably Pomoideae (small twig) 5) probably hazel	Pomoideae group includes apple, hawthorn, rowan etc Plus other fragments too small for identification
04	13	1	Appears to be oak	In small fragments
05	13	2	1) oak 2) oak	
06	13	1	Oak	Erratic grain, possibly twig
07	13	1	Not identifiable	Too incinerated
08	13	1	Probably bark, not wood	
09	13	1	Not identifiable	Too small for ID
10	13	1	Appears to be oak	In small fragments
11	13	1	Oak	
12	13	1	Appears to be oak	In small fragments
13	13	1	Not identifiable	Too fragmented, mainly stone
14	13	1	Oak	
15	13	1	Appears to be oak	
16	13	1	Probably oak	
17	13	1	Oak	
18	13	1	Oak	
19	14	1	Appears to be oak	
20	14	1	Oak	
21	14	4	1) probably holly 2) probably Pomoideae 3) oak 4) oak	Pomoideae group includes apple, hawthorn, rowan etc Plus other pieces too small
22	14 14	7	1) Hazel 2) Probably bark, not wood 3) Too incinerated 4) Too incinerated 5) Probably bark, not wood 6) Oak 7) oak	Plus a few other pieces too fragmented for identification
23	17	1	Oak	Very incinerated, mainly stone
24	24	1	Probably bark, not wood	

25	24	1	Poor condition, mineralised	Not possible to identify
26	27	3	1) probably oak 2) oak	Plus a few other pieces too fragmented
27	27	3	1) oak 2) probably oak 3) probably bark, not wood	Sample very fragmented, mainly soil
28	27	4	1) Probably oak 2) Probably oak 3),4) Too incinerated, mainly earth	
29	27	1	Oak	
30	29	1	Too incinerated for ID	Mainly soil
31	29	3	1) oak 2) oak 3) oak twig c. 10mm diam	

Pat Denne
European Plant Laboratory
Parc Menai,
Bangor
14th May 2008

APPENDIX 3

RADIOCARBON DATING

Kiel, 2. July 2008

Result of Radiocarbon dating of your sample: KIA 36555

Dear Mr. Smith,

Please find enclosed the result of the radiocarbon dating of the sample mentioned above.

The sample was checked under the microscope and an appropriate amount of charcoal was selected for dating. The selected material was then extracted with 1 % HCl, 1 % NaOH at 60°C and again 1 % HCl (alkali residue). The combustion to CO_2 was performed in a closed quartz tube together with CuO and silver wool at 900 °C. The sample CO_2 was reduced with H_2 over about 2 mg of Fe powder as catalyst, and the resulting carbon/iron mixture was pressed into a pellet in the target holder.

The ^{14}C concentration of the sample was measured by comparing the simultaneously collected ^{14}C, ^{13}C, and ^{12}C beams of the sample with those of Oxalic Acid standard CO_2 and coal background material. The conventional ^{14}C age was calculated according to Stuiver and Polach (Radiocarbon **19**/3 (1977), 355) with a $\delta^{13}C$ correction for isotopic fractionation based on the $^{13}C/^{12}C$ ratio measured by our AMS-system simultaneously with the $^{14}C/^{12}C$ ratio (note: This $\delta^{13}C$ includes the effects of fractionation during graphitization and in the AMS-system and, therefore, cannot be compared with $\delta^{13}C$ values obtained per mass spectrometer on CO_2). For the determination of our measuring uncertainty (standard deviation σ) we observe both the counting statistics of the ^{14}C measurement and the variability of the interval results that, together, make up one measurement. The larger of the two is adopted as measuring uncertainty. To this we add the uncertainty connected with the subtraction of our "blank". The quoted 1σ uncertainty is thus our best estimate for the full measurement and not just based on counting statistics. "Calibrated" or calendar age was calculated using "CALIB rev 5.01" (Data set: IntCal04, Reimer et al., Radiocarbon **46**:1029-1058).

The charcoal was of good quality and the sample processed gave more than the 1 mg of carbon recommended for a precise measurement and produced sufficient ion beam. The $\delta^{13}C$ value is in the normal range and insofar the result is reliable.

Please don´t hesitate to contact me should you have any questions regarding this result.

Sincerely Yours

(P.M. Grootes)

KIA36555 G1940 2729 - wood charcoal

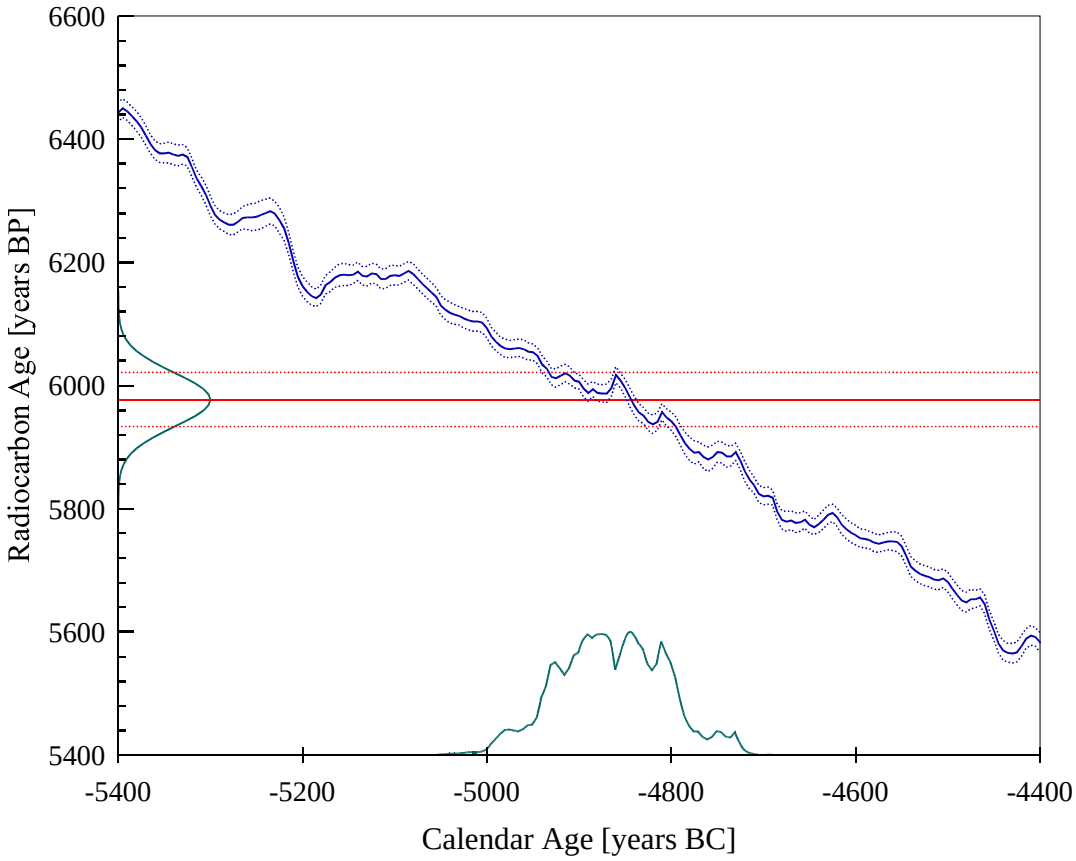
wood charcoal, Trefarthen, Brynsiencyn, South Anglesey, sample depth: 0.50 m

Fraction	Corrected pMC†	Conventional Age	$\delta^{13}C$(‰)‡
Charcoal, alkali residue, 5.2 mg C	47.52 ± 0.26	5975 ± 45 BP	-26.04 ± 0.49

Radiocarbon Age: BP 5977 ± 44

One Sigma Range: cal BC 4932 - 4922 (Probability 4.8 %)
(Probability 68,3 %) 4911 - 4823 (Probability 52.6 %)
4819 - 4799 (Probability 10.9 %)

Two Sigma Range: cal BC 4987 - 4768 (Probability 93.5 %)
(Probability 95,4 %) 4754 - 4743 (Probability 1.9 %)



Best regards

p.p. Mrs. Hamann-Wilke

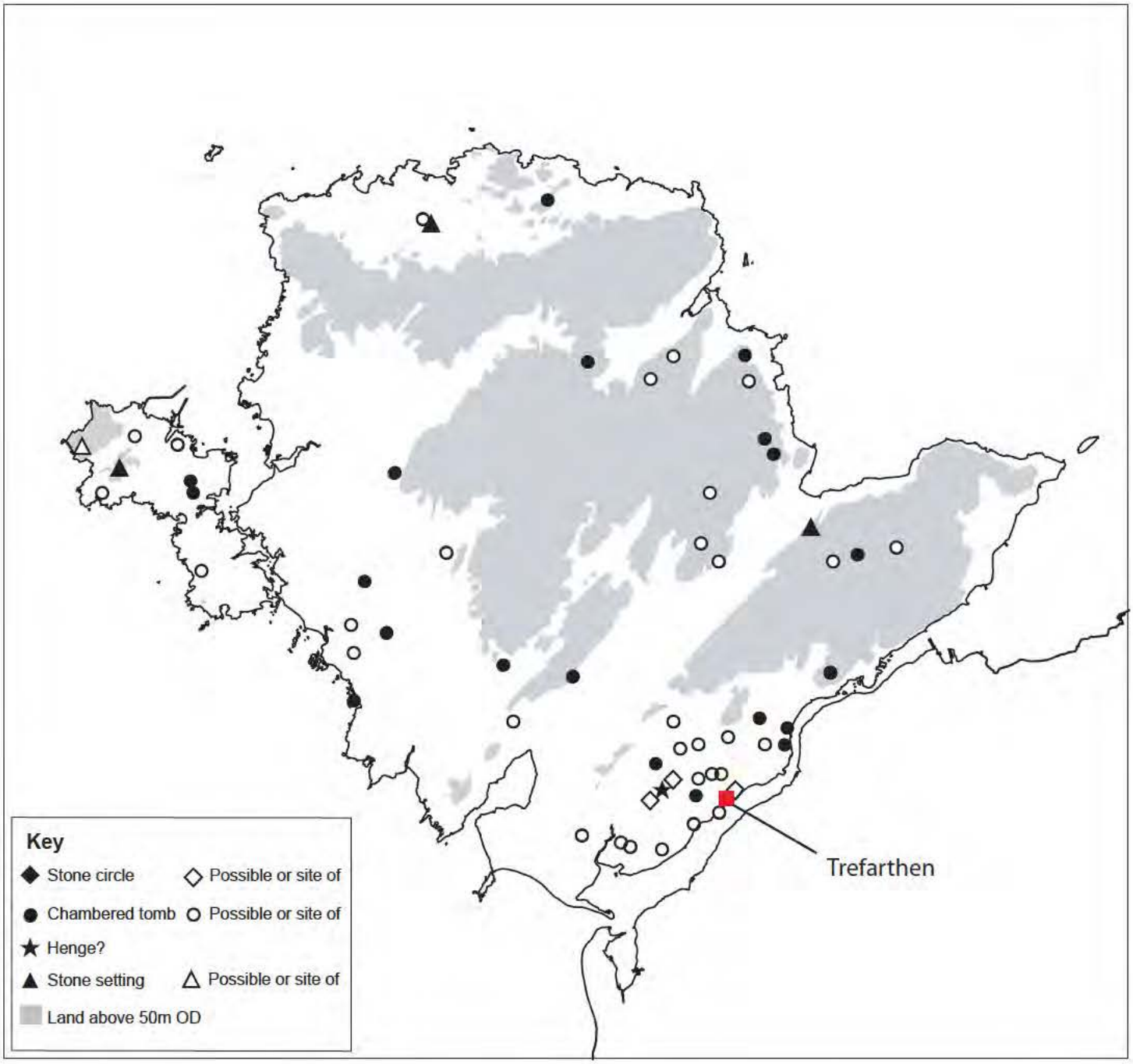


Fig. 1 The location of Trefarthen in relation to the distribution of Neolithic funerary and ritual monuments in Anglesey

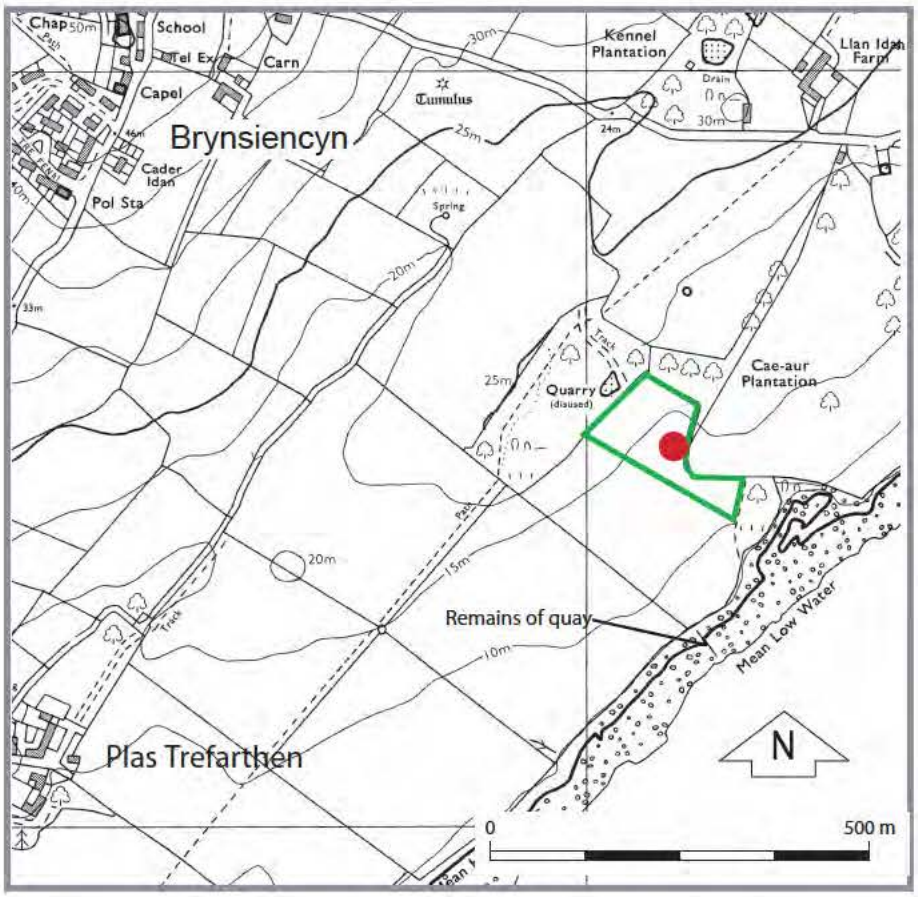


Fig. 2 Trefarthen: location of original surface finds (red) and of study area (greeen)

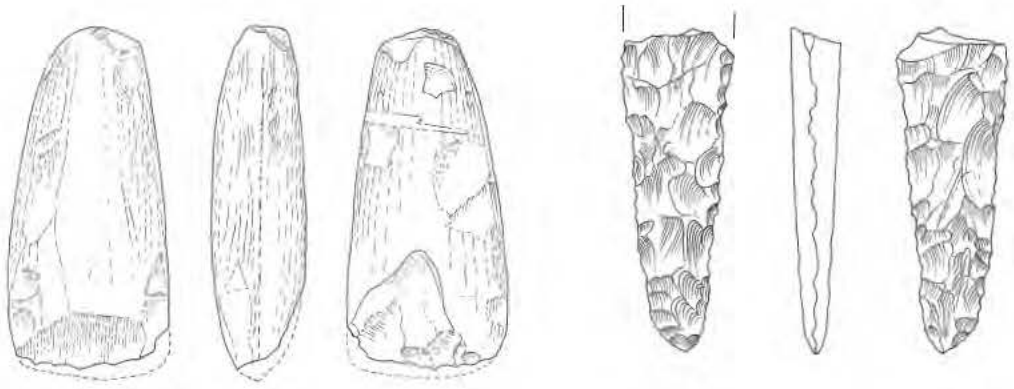


Fig. 3 Neolithic stone axe and pick. Surface finds from Trefarthen, Brynsiencyn. Scale 1:3

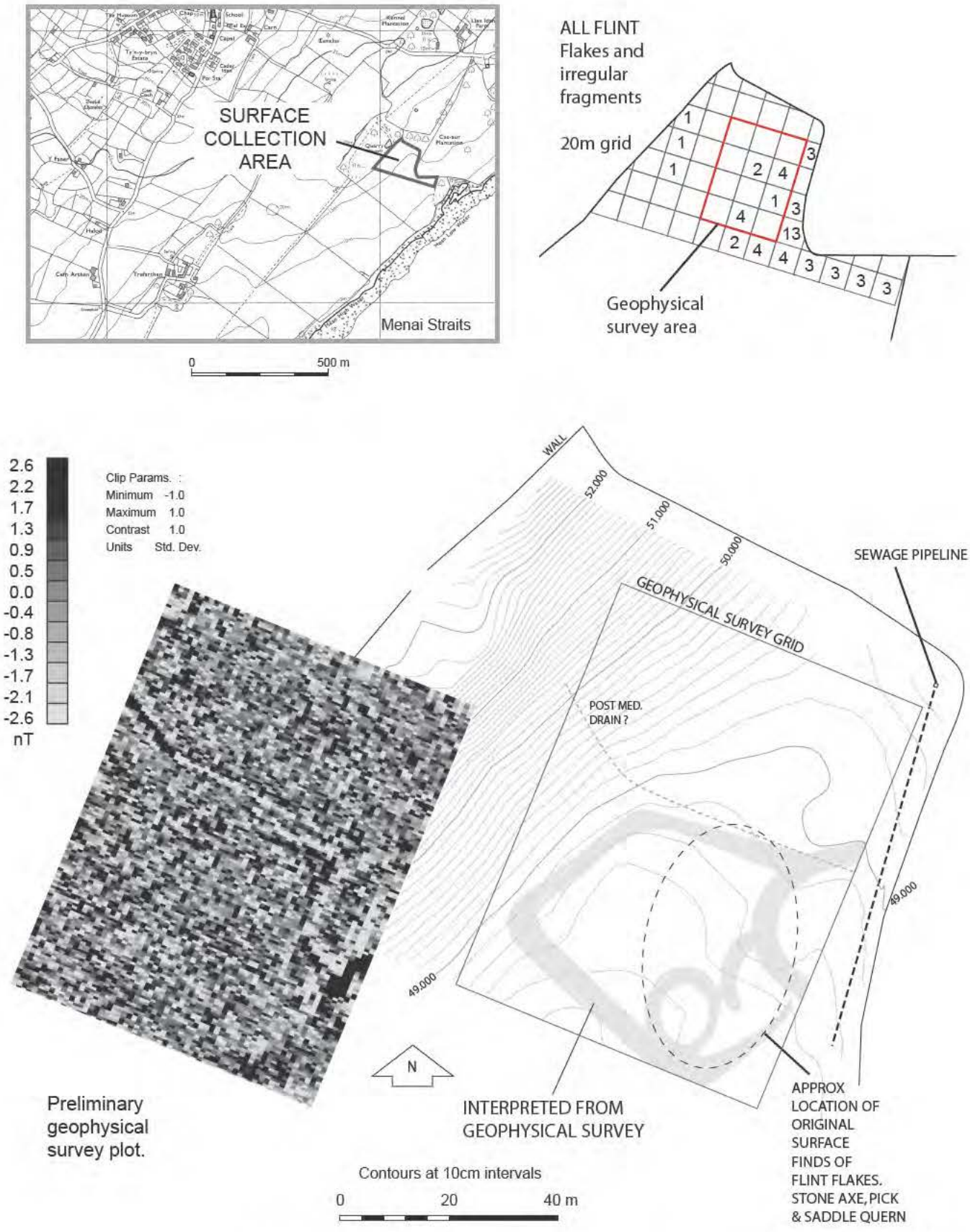
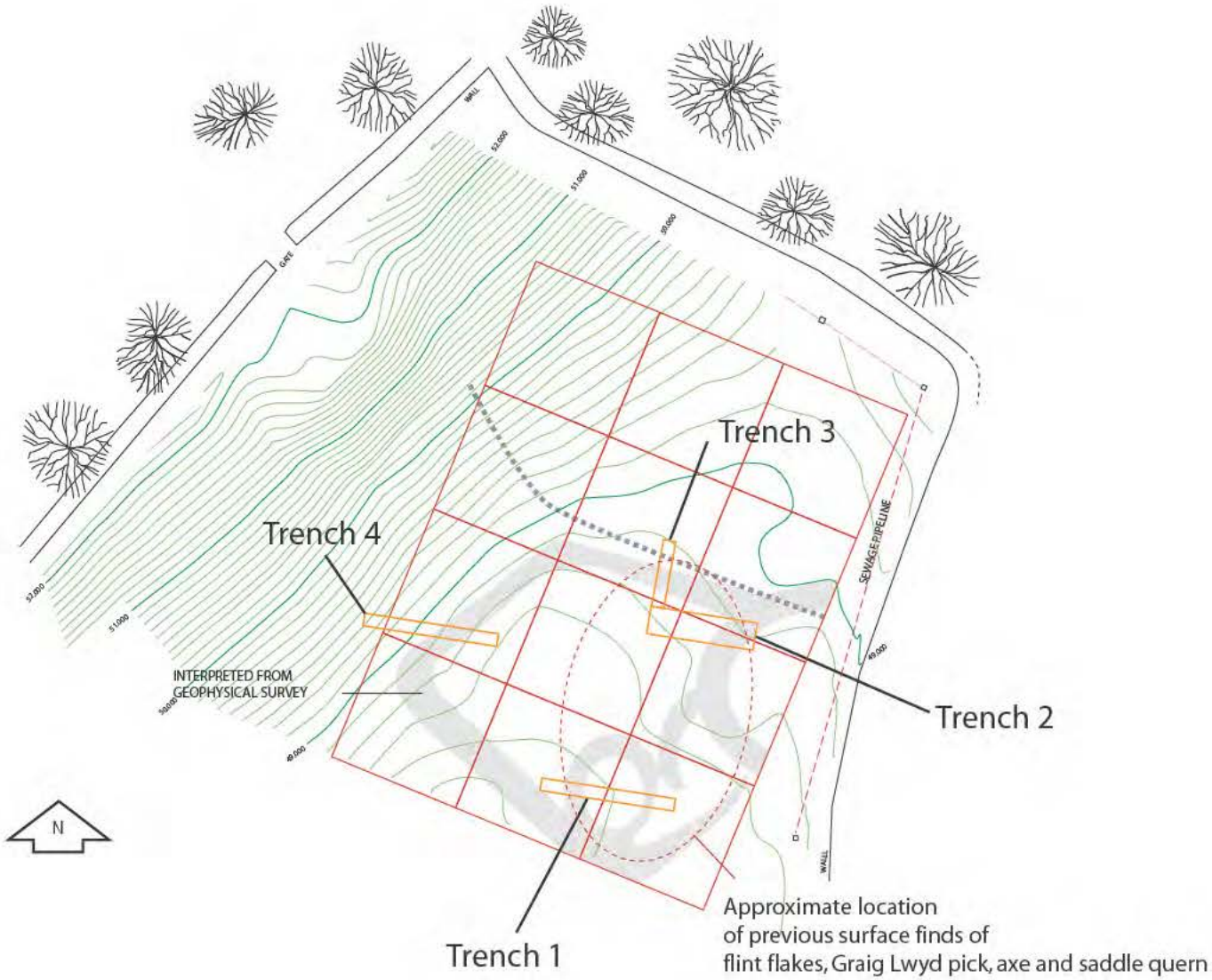
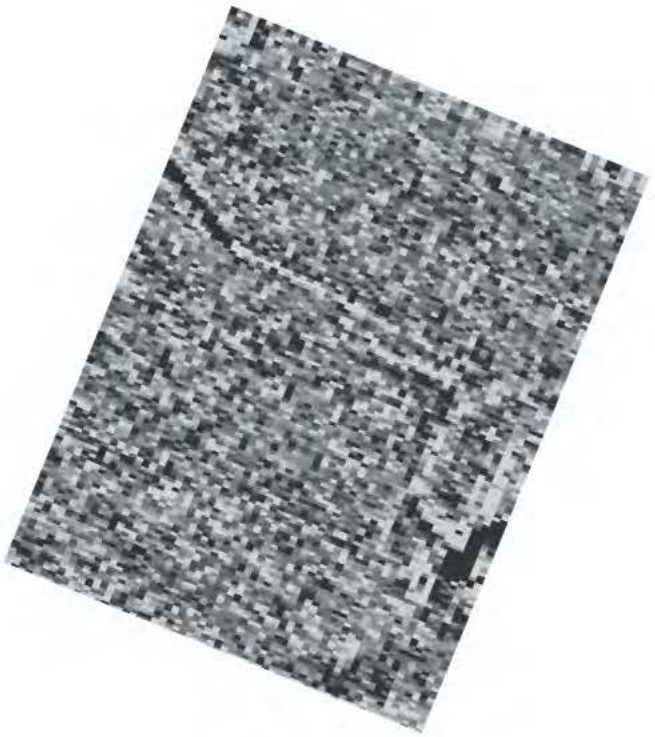


Fig. 4 Trefarthen, Brynsiencyn, Anglesey. Survey results





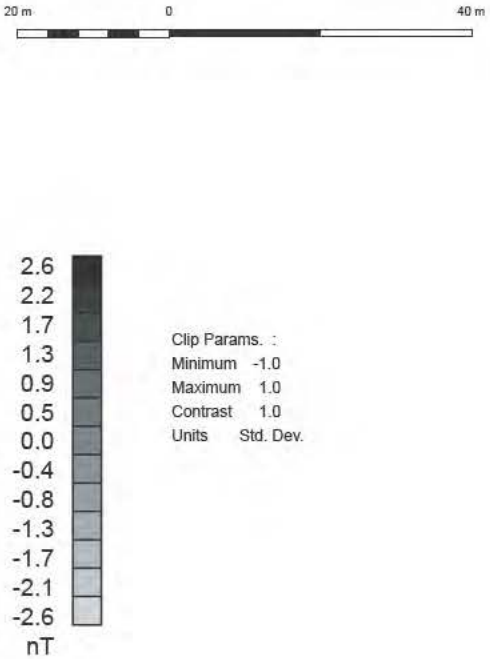


Fig. 5 Trefarthen, Brynsiencyn. Geophysical Survey grey-scale plot and interpretation with the location of the 2007 excavation trenches

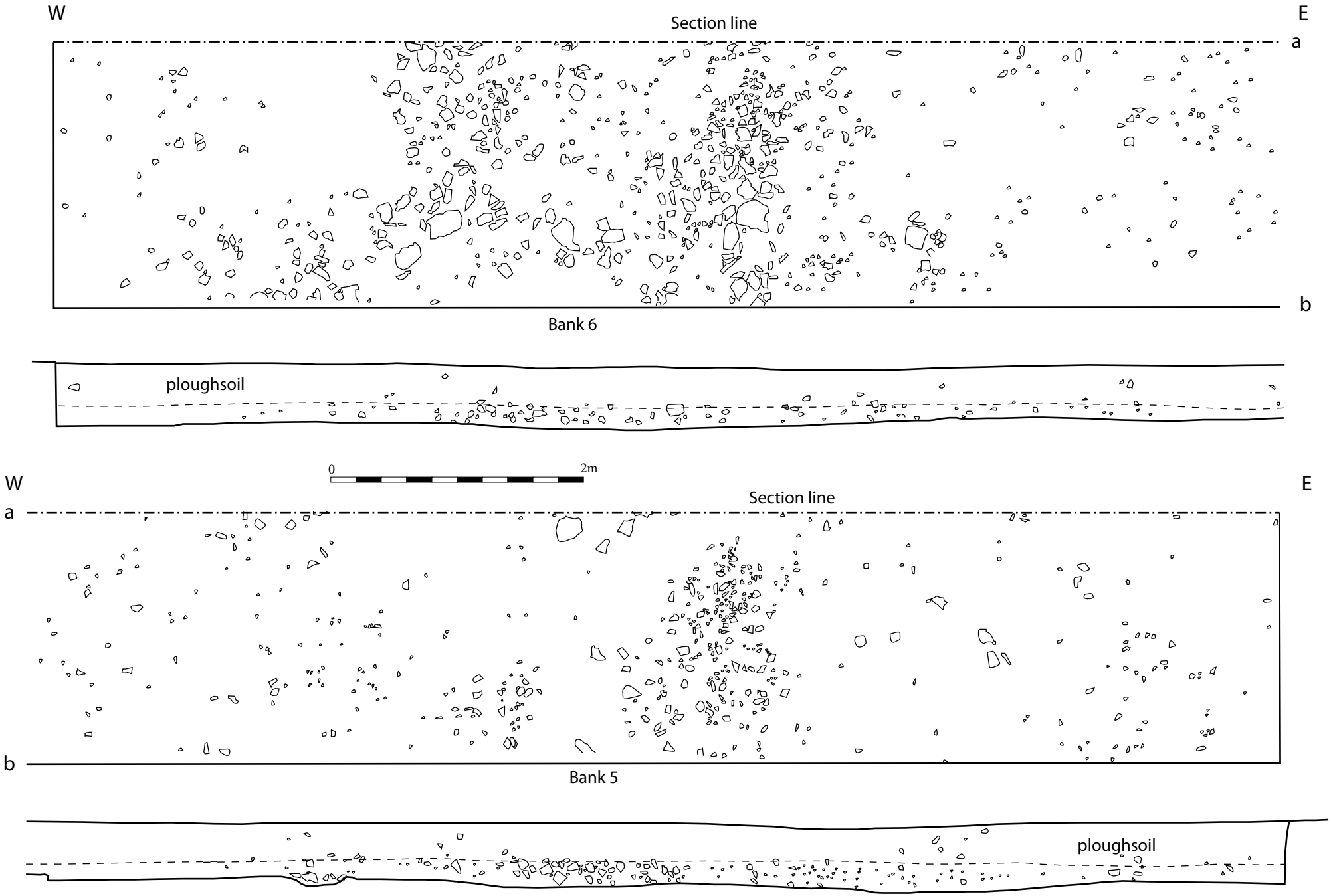


Fig. 6 Trench 1 plan and section

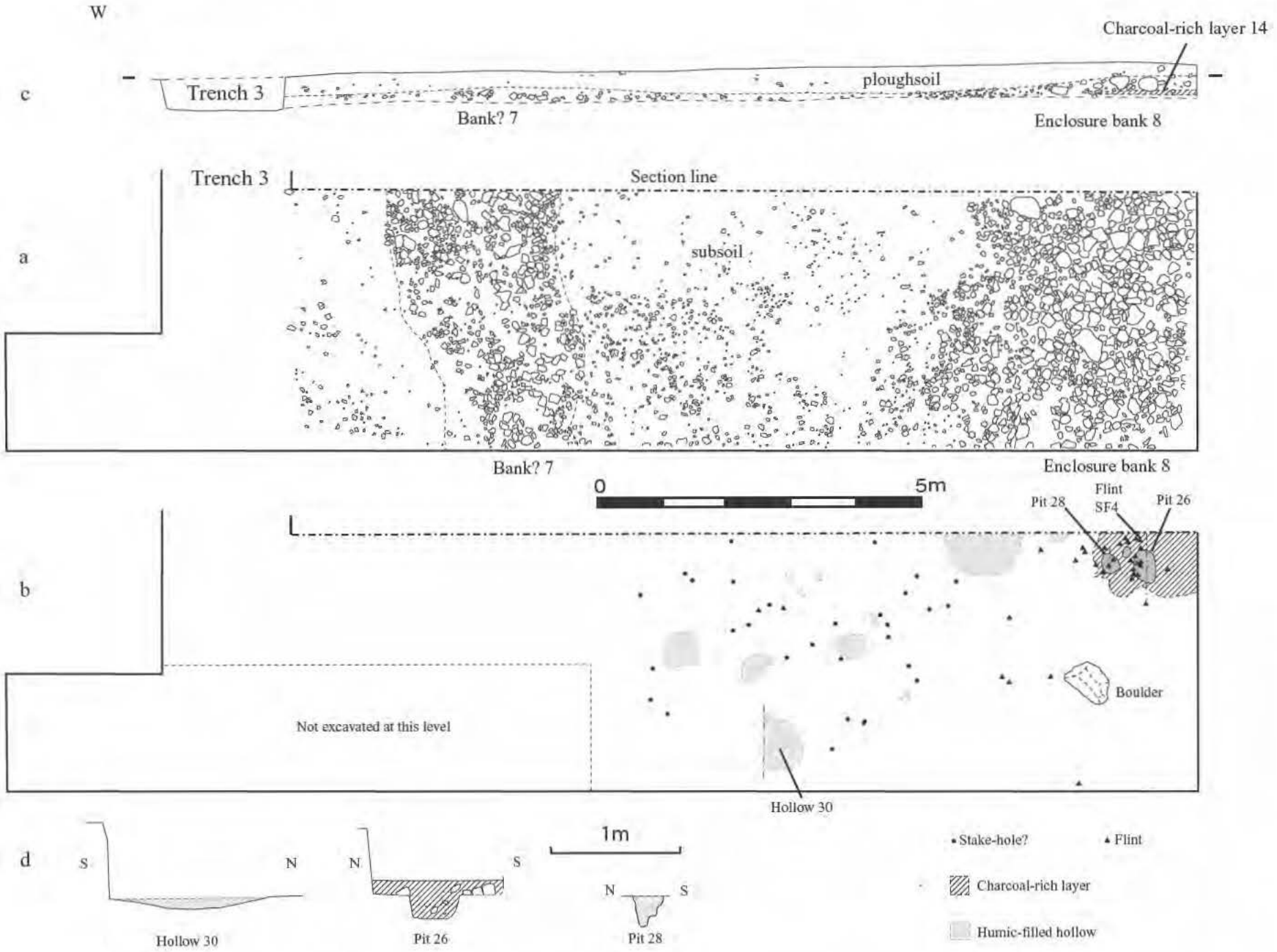
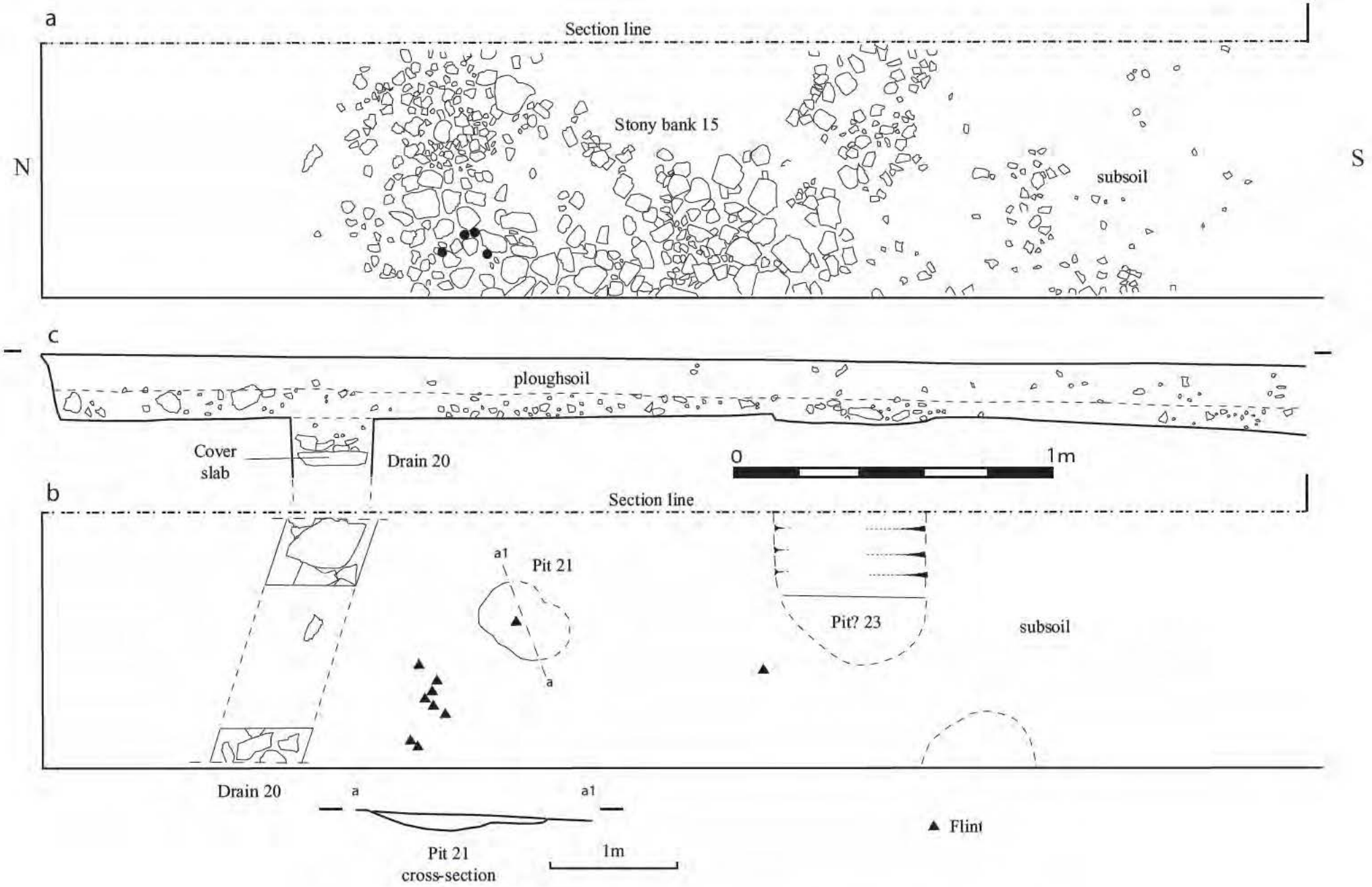


Fig. 7 Trench 2 Plans and Section. a plan after removal of ploughsoil. b plan after removal of stone bank 8. c trench section. d cross-sections of features



Trench 3 a. Plan after removal of ploughsoil. b. Plan after removal of stone spreads. c. Section

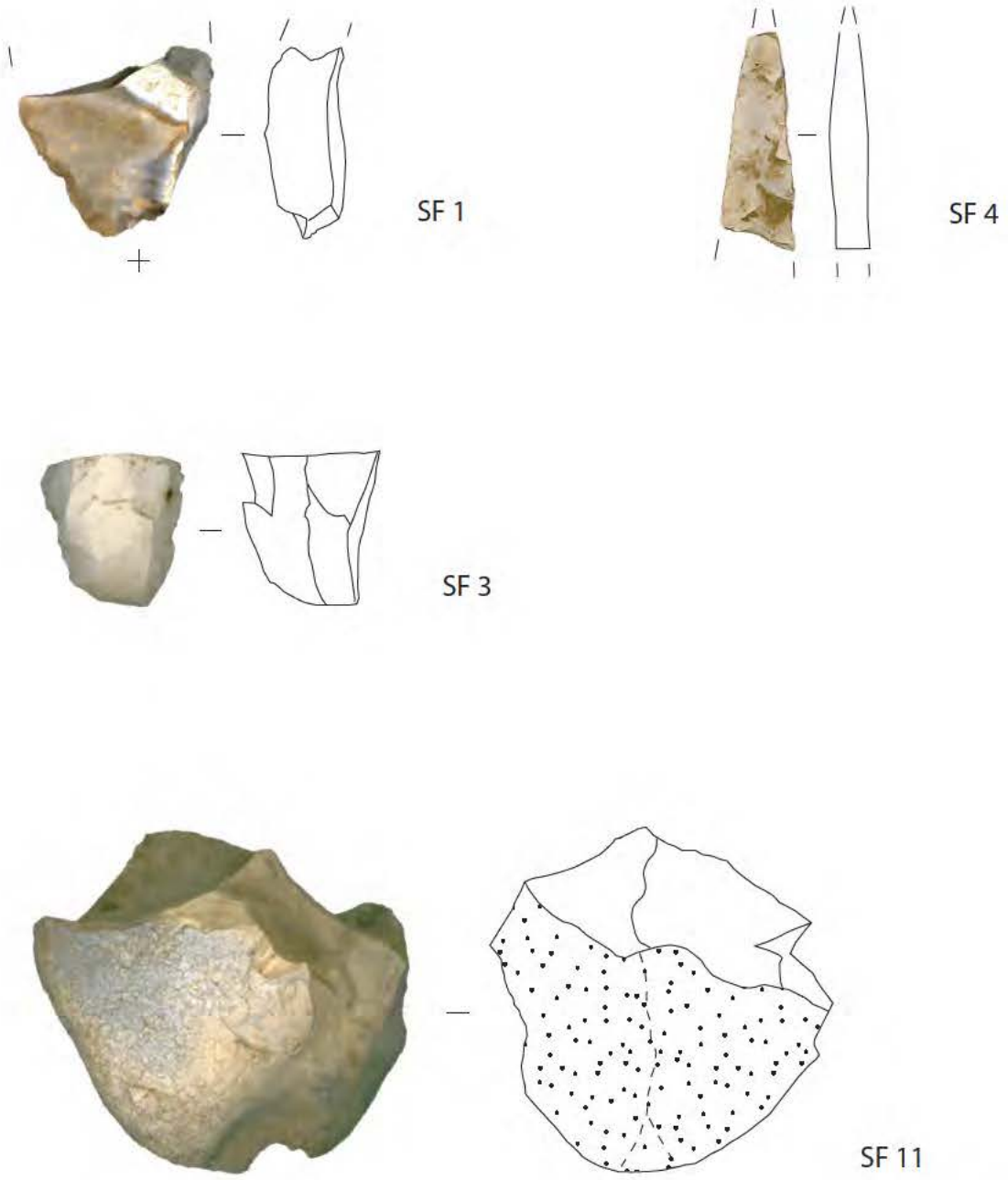


Fig. 9 Flint: SF 1 Convex scraper. SF 4 Piercer or microlith. SF 3 Core. SF 11 Core reject.
Scale: SF 1, 3 and 11 1:1, SF 4 2:1

Fig. 10 School group from Llanddaniel washing finds

Fig. 11 Excavation of Trench 2

Fig. 12 Trench 1 Bank 6 (foreground), from the west. 2m scale

Fig. 13 Trench 2 Bank? 7, from the south. 1m scales

Fig. 14 Trench 2 After cutting through Bank? 7, from the south. 1m scale

Fig. 15 Trench 2 Enclosure bank 8, from the west. 2m scale

Fig. 16 Trench 2 After removal of Enclosure bank 8 to the subsoil surface and before the excavation of pits 26 and 28 (at left), from the west. 1m scale

Fig. 17 Trench 2 Charcoal-rich layer 14 and Pit 26 after removal of Enclosure bank 8, from the west. 30cm scale

Fig. 18 Trench 3 Stony bank 15 cut by Drain 20 (foreground,) from the north. 1m scales

Fig. 19 Trench 3 Stone slab cover of Drain 20, from the west. 1m scale

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