



Archaeoleg Brython Archaeology



Appendix F  
Archaeological Evaluation Report  
Cefn Graianog Possible Eastern Extension  
Document Number B1506.3 FINAL

## **Cefn Graianog Quarry Possible Eastern Extension**

Archaeological Evaluation Report

Prepared for Ellesmere Sand and Gravel Ltd.

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## Crynodeb

*Mae Archaeoleg Brython Archaeology wedi cwblhau gwerthusiad archaeolegol o ardal a oedd wedi ei gofnodi fel anheddiad posib ar dir i'r dwyrain o chwarel Cefn Graianog, Llanllyfni. Mae'r ardal mewn golwg ar gyfer estyniad i'r chwarel presennol, cynheli'r gwaith er mwyn hysbysu unrhyw gais cynllunio a gyflwynir yn y dyfodol.*

*Agorwyd dwy ffos archaeolegol i ymchwilio nodweddion posib a welir ar wyneb y tir. Ni ddarganfyddwyd unrhyw dystiolaeth o weithgaredd domestig na diwydiannol yn ystod y gwaith.*

*Credir mai canlyniad dympio cerrig wrth glirio'r tir ar gyfer aredig mewn man ble mae nifer o waliau yn cwrdd yw'r safle.*

## Summary

*Archaeoleg Brython Archaeology have completed an archaeological evaluation of an area recorded as a possible settlement on land to the east of Cefn Graianog quarry, Llanllyfni. The area of the evaluation is under consideration for an extension to the current quarry, the work was undertaken to inform any future planning applications.*

*Two trenches were opened to investigate features which were visible as low earthworks. No evidence of domestic or industrial activity was discovered during the evaluation.*

*It is believed that the site is the result of dumping stones at a convergence of field boundaries during episodes of field clearance for arable farming.*



## 2 Background

### 2.1 Archaeological and Historical

The archaeology of the area occupied by the quarry is well documented due to numerous phases of archaeological monitoring and investigation undertaken in advance of and during extraction since the 1970s, and supplemental research which was undertaken during the 1970s and 80s. The combined results provide an insight into the human history of the area from the earliest Neolithic through to the modern day.

It is known from pollen analysis from peat cores taken during the 1970s and 80s that there was an episode of vegetation clearance, which may represent the first signs of arable farming on the ridge, around 4000BC – 3850BC (Kelly, 1998). Ridge and furrow marks which can be seen in a number of areas show that cultivation continued into the medieval period and beyond although most of the fields are now laid to pasture.

Discoveries made during recent extensions have included Bronze Age pits in 2012 and Early Medieval metalworking features which were radiocarbon dated to the 7<sup>th</sup> and 8<sup>th</sup> centuries (GAT forthcoming). Field boundaries initially identified in aerial photographs have also been identified during recent extensions. It is possible that these boundaries are of a similar date to the metalworking features but as yet no firm relationship has been established.

A programme of mitigation in advance of an extension to the west is currently ongoing and has identified an Early Bronze Age cist cemetery with probable later cremations and a series of pits, possibly representing domestic activity, which appear to date to the Early to Middle Bronze Age (ABA forthcoming).

It had been suggested that the site of the evaluation was a possible settlement associated with nearby field banks which appear to be part of an extensive relict field system.

It is also noted that the site has clearly been used in recent years for dumping of field clearance stones which may be obscuring underlying features. It is possible that the feature is the result of field clearance dumping over an extended period of time. The identifiable boundaries in the area clearly converge in the vicinity of the site and may be the reason for successive episodes of dumping.

### 3 Aims and Objectives

The aim of the proposed evaluation was to establish the archaeological value of the identified features in order to inform the proposed planning application and archaeological mitigation if planning permission is granted.

Therefore the main objectives of the archaeological works were to:

- Determine whether the visible features are archaeological in origin.
- As far as is possible within the scope of the evaluation, determine the function and date of identified archaeological features.
- Increase understanding of the archaeology and historical development of the area.
- Inform future management of the site.

## 4 Methodology

Prior to any invasive fieldwork a photogrammetric survey of the site was undertaken to aid with the positioning of the trenches. This survey was also combined with a GPS survey of the area to produce a topographic survey which is presented in Figure 4.

It was proposed that a maximum of three trenches were excavated in order to establish whether visible features were archaeological in origin and determine their value so that an appropriate programme of mitigation could be designed if the area was to be included in any future planning applications.

If significant archaeological features were identified in any of the trenches subsequent trenches would not be opened. During the evaluation, however, it was the lack of evidence of activity associated with settlement which resulted in only two trenches being opened. Upon consultation with Jenny Emmett of GAPS it was decided that there was little value in opening the third trench

Both trenches were excavated by hand and recorded using a combination of photogrammetry, GPS survey and measured drawings.



## 5 Results

### 5.1 Trench 1

Trench 1 was positioned to investigate a possible circular feature, defined as a low stony bank, at the south-west corner of the area. The trench measured 7m x 2m and was orientated north-south to investigate the bank itself and deposits to either side.



Plate 1: Trench 1 pre-excitation, scales 1m

Upon opening the trench it was clear that many of the stones (02) within the 'interior' were poorly sorted and appeared to be the result of random dumping or collapse from a standing structure. The stones were carefully removed by hand so that any structural elements could be identified.

It did appear that the stone bank consisted of larger stones which were initially thought to represent the displaced upper courses of a rough stone wall, however as more loose material removed this appeared increasingly unlikely. Ultimately it was determined that the stones were all the result of dumping.

A sondage was excavated in order to investigate the 'interior' of the feature. This was slightly off-set from the north-west facing section of the trench to avoid necessitating the removal of some of the larger stones from the section.

Within the 'interior' of the feature a former ground surface (03) was identified under the upper layers of loose stones. This consisted of a light, well compacted, deposit with a distinctive clay rich grey band, typical of a former turf layer. Below this was a dark deposit (04) which could possibly suggest a deposit of organic material associated with livestock although this could equally be a layer of degraded topsoil below the turf surface. Although very dark this deposit was clearly not

the result of burning. Stones below the dark deposit were well embedded in mineralised sandy gravel (05) which is typical of the natural geology of the area.



Plate 2: Trench 1 post-excitation, scales 1m, view from the west-south-west

It was clear from the results that although there was evidence of human activity in the form of field clearance, nothing was found to suggest occupation or industrial activity at the site.

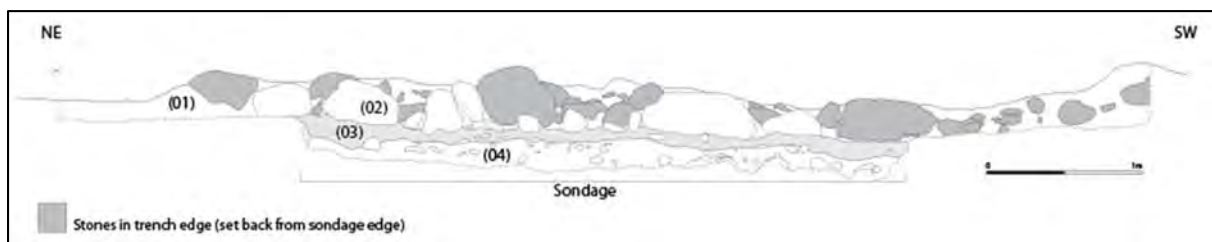


Figure 2: North-west facing section of Trench 1



## 5.2 Trench 2

This trench was positioned to investigate a possible rectangular feature which was visible as a low bank and hollow. The trench measured 6.5m x 1.5m and was orientated north west – south east.



Plate 3: Trench 2 pre-excitation, scale 1m

Upon removal of the turf and topsoil (06) the presence of large stones in the vicinity of the bank again made the feature look fairly promising. Removal of the upper loose stones appeared to reveal a moderately consolidated bank of stones (07), however further cleaning failed to demonstrate any structure.

A sondage was excavated against the south-west facing side of the trench in order to gain a better understanding of the bank and any deposits which may have been present on its inner edge.

Stones on the inner side of the bank were poorly sorted and floating within a sand rich clay-silt deposit of mid orange-grey brown sub soil (08). There was clearly no structure and the stones appeared a gradual accumulation, probably associated with successive episodes of field clearance. Natural glacial subsoil (09), consisting of yellow-orange till, was encountered below this stony subsoil layer.

A single sherd of post-medieval glazed pottery was found during removal of the topsoil on the outer edge of the stone bank.





Plate 4: Trench 2 post-excavation, scales 1m, view from the south-east

As in Trench 1 there was a notable lack of charcoal or any other indication of domestic or industrial activity within the trench. It is possible that the bank was originally part of a boundary, similar in construction to others observed during stripping in advance of extraction to the west. These boundaries appear to have formed fairly organically by clearing stones during land improvement and dumping along naturally occurring bands of larger boulders within the glacial subsoil, probably forming the first fields in the landscape

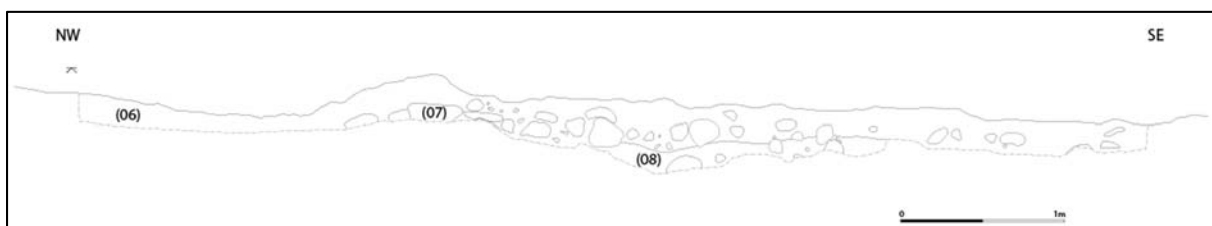


Figure 3: South-west facing section of Trench 2

### 5.3 Topographic Survey

The topographic survey was undertaken using a Leica 1200 GPS system and combined with the results of the photogrammetric survey to better define features.

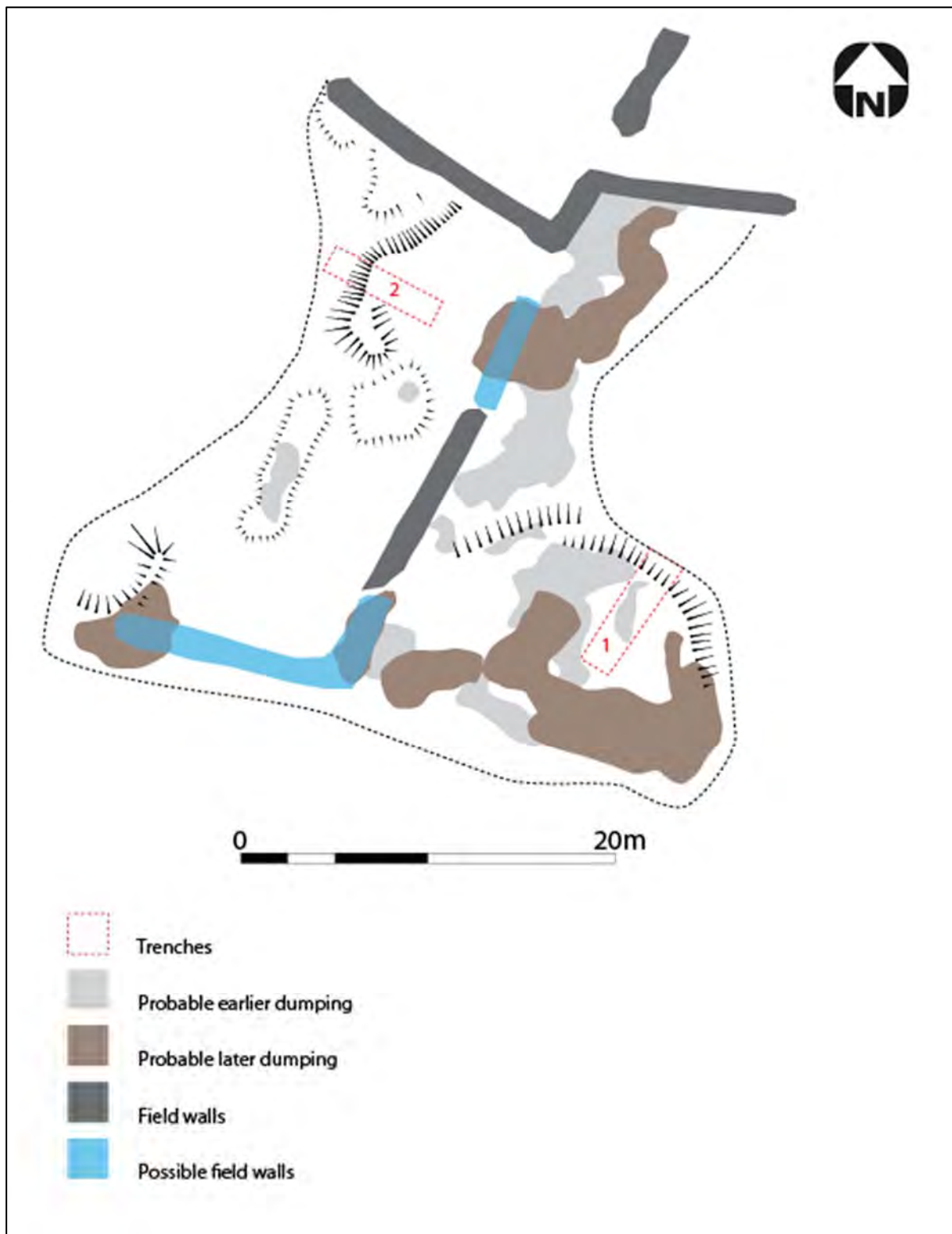


Figure 4: Topographic survey of area

Neither survey conclusively demonstrated the presence of significant earthworks or structures. The surveys do however show a pattern of dumping on the eastern half of the site and the possibility that the field wall which runs through the centre of the area may turn, or meet another boundary, to the south.

## 6 Conclusion

In conclusion it is believed that the area in question is unlikely to be a settlement as recorded in the Historic Environment Record. Both the topographical survey and results of the evaluation trenching make it much more likely that the features which are present are simply the result of successive episodes of field clearance dumping at a convergence of boundaries.

The presence of possible terracing and clear evidence of ridge and furrow ploughing show that the area was exploited for arable farming for centuries (see Figure 5). Given the stony nature of the ground episodes of clearance to improve the fields must have resulted in tonnes of stone being removed, much of which would have been utilised in formalising boundaries but much would also have been dumped on the fringes of usable land.

It is possible that some structural elements may still be present at the site. The evaluation was relatively limited in its scope but clearly demonstrated a lack of evidence for domestic and industrial activity. It is possible that small enclosures may remain hidden by later dumping, these may come to light if the area is subject to stripping in advance of quarrying in the future.

Given the results of the evaluation it is believed that the archaeological value of the features are low.

## 7 Recommendations

If the area is to be considered as part of any future extensions to the quarry it is recommended that it is subject to a mitigation programme consisting of strip map and sample so that any underlying features can be identified and investigated.

Due to the nature of the stone dumping which has taken place extra thought and care will be required during stripping. A general methodology was discussed with Jenny Emmett during a site visit, this proposed:

- The western portion of the area should be carefully stripped, possibly with a small tracked excavator, so that any buried walls and features can be identified.
- On the southern edge and eastern side of the area the larger stones which are clearly the result of recent dumping should be removed to reveal earlier dumping deposits and any underlying features.
- Stones from earlier dumping episodes should be gradually removed by mechanical excavator under constant archaeological supervision to identify any features which may be present.
- Any identified archaeology should be appropriately investigated and recorded.



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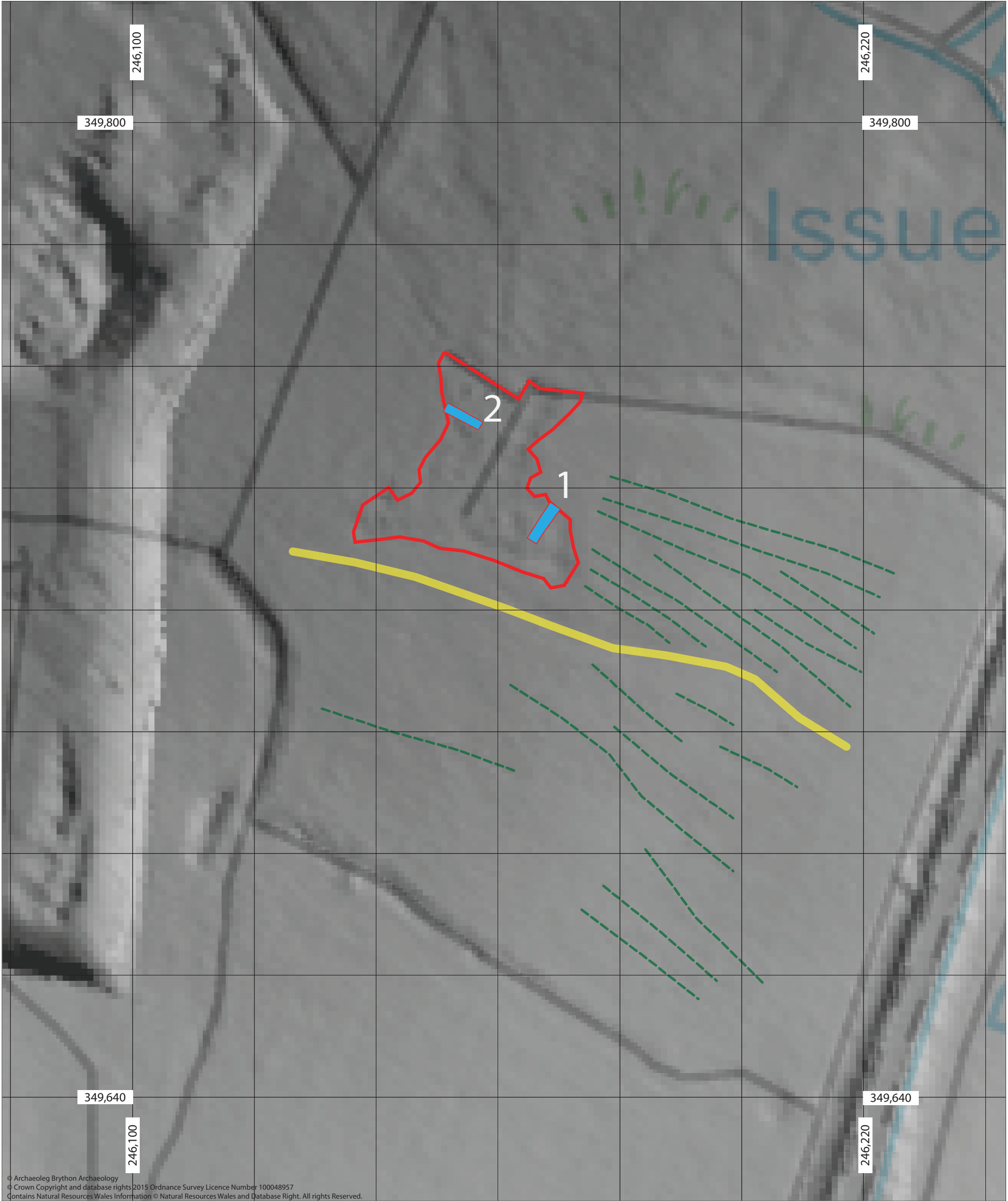
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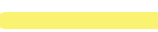

### 8.1 Websites

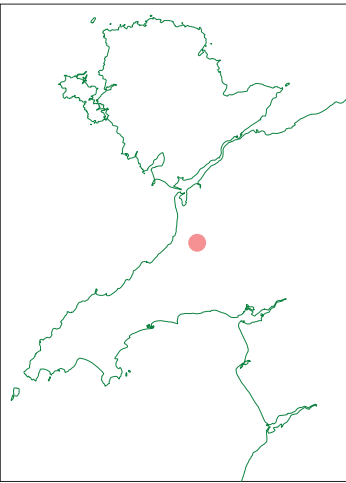
[www.coflein.gov.uk](http://www.coflein.gov.uk) (RCAHMW)



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**Figure 5**  
Plan showing location of possible boundary and ridge and furrow ploughing. (Background 1m DTM LiDAR Data and Ordnance Survey 10k Map, Grid: 20m)

- Key**
-  Area of Investigation
  -  Trenches
  -  Possible Boundary
  -  Possible Ridge and Furrow



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