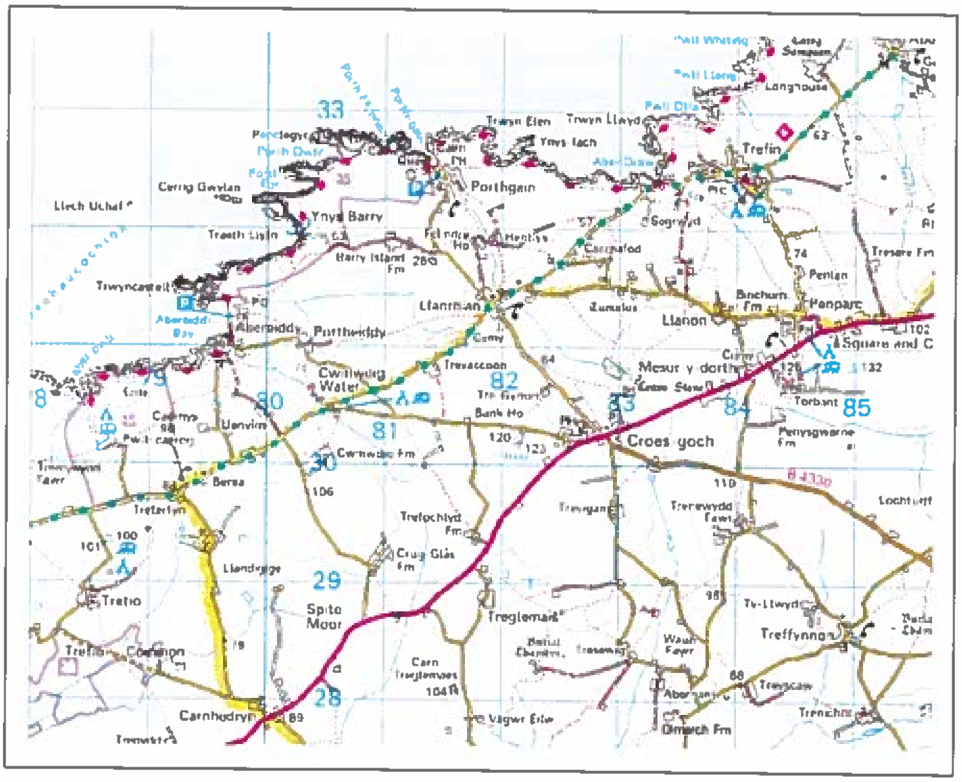
EVENT PRN 47125

CAMBRIAN
ARCHAEOLOGICAL
PROJECTS

Croesgoch
Pembrokeshire

Desk Based Assessment & Geophysical Survey



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Report No. 588

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Croesgoch
Pembrokeshire

Desk Based Assessment & Geophysical Survey

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REGISTERED ORGANISATION IfA

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Non Technical Summary

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The desk-based assessment section of the report will appraise the documentary, photographic and cartographic evidence pertaining to the site and its immediate environs.

The geophysical survey section of the report describes the results of a dual fluxgate gradiometer survey undertaken within the assessment area. The survey revealed four features within the assessment area. A ditch or non metallic service (A) and three ephemeral features of uncertain interpretation (B, C, D). However, a recent archaeological evaluation undertaken in an adjacent area identified a large, possibly prehistoric, post hole, and because of this further, intrusive, field evaluation is recommended.

1 Introduction

1.1 Location and scope of work

1.1.1 Between June and September 2009 Cambrian Archaeological Projects (CAP) carried out a desk based assessment and geophysical survey on land adjacent to the Croesgoch – Llanrhian road, Croesgoch, Pembrokeshire. This work was carried out on behalf of Meirion Williams of Pembroke Design.

1.1.2 This was in respect of a planning application for development and a brief set by, and an archaeological specification agreed with, The Dyfed Archaeological Trust – Heritage Management, Llandeilo.

1.1.3 The development concerns the proposed construction of residential dwellings situated at NGR SM 82767 30384 (Fig 1).

1.2 Topography and Geology

1.2.1 Croesgoch lies at approximately 100m above sea level some 2.5km from the north Pembrokeshire coast. The landscape round Croesgoch is predominantly agricultural. To the south the land is gently undulating whilst to the north the land slopes down towards the sea.

1.2.2 The underlying solid geology of the assessment area is comprised of a Llanvirn and Arenig sedimentary formation of the Ordovician Era (British Geological Survey 2001).

1.3 Archaeological and historical background

1.3.1 The following is an extract from Pannetts (2009) desk based assessment for a development at Croesgoch School located immediately to the south west of the assessment area.

1.3.2 The site lies approximately 75m to the north of Parc-y-fynwent, the location of three recorded long-cist burials (PRN 7568), one of which has been dated to AD 370 to 600, the late Roman/early post-Roman period (Ludlow 2003). One of the cists was revealed during development work in the 1960s, with the remaining two uncovered during

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1.3.3 Historical sources suggest that the village of Croes-goch provided the focus for religious activities throughout the medieval period. Medieval sources contain references to a chapel (PRN 12480) having been constructed in the village in the post-conquest period (Ludlow 2003), although its exact location is not known. The possibility that the graveyard provided the focus for this chapel has been raised (*ibid*), and it can perhaps be hypothesised that the recorded chapel had its origins in an earlier building contemporary with the graves. There is no evidence to suggest the original extent of the graveyard, however an antiquarian source describes the site as 'covered with graves marked out by stone coffins' (*ibid*) suggesting that it was an extensive site. There is also reference to a stone coffin containing a sword (*ibid*). No evidence of an enclosure surrounding the graveyard has been observed, either in modern field boundaries or in aerial photographs (*ibid*), however this may also have been obscured by development and changes in field layouts.

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2.1.1 The aims and objectives of the desk based assessment were:

2.1.2 To collate and assess relevant information held in the regional HER (including the results of previous archaeological investigations).

2.1.3 To collate and assess all cartographic and photographic information relevant to the area.

2.1.4 To assess the topography and past landuse of the area through maps and site visits.

2.2 Geophysical Survey

2.2.1 The main aims of the geophysical survey were to assess the presence/absence of subterranean archaeological remains within the assessment area.

2.2.2 To determine the extent and location of any archaeological remains present.

2.2.3 To inform the approach to any possible trench locations should an evaluation phase be deemed necessary.

3 Survey Methodology

3.1 Scope of Fieldwork

3.1.2 Two Fluxgate Gradiometers were used to undertake the survey. Previous research has shown that fired, or cut and backfilled archaeological features such as kilns and hearths, ditches and pits often have an anomalously higher magnetic susceptibility than the surrounding subsoil due to burning and biological processes. Differences in magnetic susceptibility within the subsoil and archaeological features can be detected as changing magnetic flux by an instrument such as a fluxgate gradiometer. Data from this may be mapped at closely spaced regular intervals, to produce an image that may be interpreted to locate buried archaeological features.

3.1.3 The machines used for the survey were Geoscan Research FM256 fluxgate gradiometers using the double speed dual gradiometer survey mode. Detailed surveys were carried out in grids of 50m x 50m along parallel traverses spaced at 2m intervals, recording data points spaced at 0.5m intervals to a maximum instrument sensitivity of 0.1nT in accordance with English Heritage Guidelines. The grids were surveyed in the 'zigzag' style (traverses walked alternately south-north/north-south). At regular intervals the data was downloaded to a laptop computer for storage and assessment.

3.1.4 The location of the survey area was then surveyed using a Topcon GTS 725 total station.

3.2 Data Processing and Presentation

3.2.2 Following the completion of the detailed surveys, processing and analysis took place using Geoscan Research's Geoplot v.3.00k software. The most typical method of visualising the data is as a greyscale image. In a greyscale, each data point is represented as a shade of grey, from black to white at either extreme of the data range. A number of standard operations were carried out to process the data. The gradiometer data was mathematically adjusted to account for instrument drift over time. The mean level of each traverse of data was reduced to zero and all grids matched so that there were no differences between background levels. The data was then analysed using a variety of parameters and styles and the most useful of these were saved as a *JPEG image and manipulated using Adobe Illustrator software. The results of the survey were then overlaid onto a digital map of the study area. This was then used to produce the interpretation figures.

3.2.3 All works were undertaken in accordance with both the IFA's *Standards and Guidance: for a geophysical survey* and current Health and Safety legislation.

3.2.4 Project Manager Chris E Smith and project assistant Hywel Keen undertook the geophysical survey.

4 The Desk-Based Assessment

4.1 Background

4.1.1 The assessment area is on land to the east of the Llanrhian road out of Croes-goch.

4.1.2 Croesgoch School, adjacent to the south of the assessment area, has recently been subject to a field evaluation by CAP (Pannett 2009). Pannetts (2009) report highlighted

the presence of late/post Roman and medieval features within close proximity to the assessment area. These are described in Para 1.3.2.

4.2 **Scheduled Ancient Monument and Listed Building Data**

4.2.1 A total of 34 Scheduled Ancient Monuments and Listed Buildings were recorded as being located within 2km of the assessment area. These are listed by period below and are shown on Fig 3.

4.3 **Palaeolithic**

4.3.1 No recorded Palaeolithic activity was found for this area.

4.4 **Mesolithic**

4.4.1 No recorded Mesolithic activity was found for this area.

4.5 **Neolithic**

4.5.1 Two Scheduled Ancient Monuments described as prehistoric rather than specifically Neolithic or Bronze Age are located within a 2km radius of the assessment area. These are as follows:

4.5.2 White house chambered tomb – PE159 - SM825284

4.5.3 Bickney Beacon round barrow – PE260 - SM831314

4.5.4 White House chambered tomb, a probable mortuary monument of Neolithic date (Cummings and Whittle 2004, 159) is located 2km to the south of the site; Bickney Beacon round barrow, a Bronze Age burial mound is located 1.5km to the north of the site. This latter monument was excavated in the 19th century and was found to contain a large stone-lined cist containing traces of a possible inhumation and a 'holed axe hammer' (RCAHMW). There are numerous other sites of Neolithic and Bronze Age date in this part of the county, including several well-preserved chambered tombs such as Carreg Samson and the settlement site of Clegyr Boia (Cummings and Whittle 2004, 2), attesting to the significance of this part of the Pembrokeshire landscape in the early prehistoric period.

4.6 **Bronze Age**

4.6.1 See above

4.7 **Iron Age**

4.7.1 No recorded Iron Age activity was found for this area.

4.8 **Roman**

4.8.1 No recorded Roman activity was found for this area.

4.9 **Post Roman/Saxon/Dark Age/Early Medieval**

4.9.1 A single Scheduled Ancient Monument of Early Medieval date is recorded within a 2km radius of the assessment area. This is shown below:

4.9.2 Inscribed stone – PE047 - SM839307

4.9.3 The stone is an incised cross of early medieval date and is currently located 1km to the north-east of the assessment area. The stone has been built into a wall beside the road for at least the last 70 years. It has a Latin outline ring cross inscribed upon it and is thought to date to the 7th to 9th century AD. There is no evidence to suggest the original location of this stone (Pannett 2009).

4.10 **Medieval**

4.10.1 Two recorded medieval Listed Buildings were located within 2km of the assessment area, these are as follows:

4.10.2 PRN 12383 - Manor House

4.10.3 PRN 87554 - Church of St Rhian

4.11 **Post Medieval**

4.11.1 A total of 29 recorded Post medieval Listed Buildings were located within 2km of the assessment area, these are as follows:

4.11.2 PRN 12384 – Stable range attached to west end of Manor House

4.11.3 PRN 12385 – School House, Llanrhian village

4.11.4 PRN 12386 – Church hall, Llanrhian village

4.11.5 PRN 12387 – Village pump, Llanrhian village

4.11.6 PRN 12388 – Slated pavement & Enclosure wall at village pump, Llanrhian village

4.11.7 PRN 12389 – Llanrhian water mill

4.11.8 PRN 12390 – Outbuilding at Llanrhian mill

4.11.9 PRN 12391 - Treneved

4.11.10 PRN 12392 – Outbuilding to east of Treneved

4.11.11 PRN 12393 - Brynhyfryd

4.11.12 PRN 12394 – Outbuilding to west of Brynhyfryd

4.11.13 PRN 12395 – The Watch House

4.11.14 PRN 12396 – Trevacoon

4.11.15 PRN 12397 – Walls to walled garden at Trevacoon

4.11.16 PRN 12398 – Outbuilding attached at SW angle to walled garden at Trevacoon

4.11.17 PRN 12399 – Outbuilding, Former stable, on east side of farmyard at Trevacoon

4.11.18 PRN 12400 – Farm building to west of Trevacoon

4.11.19 PRN 12402 - Range of farm buildings enclosing north end of farmyard at Trevacoon

4.11.20 PRN 12403 – Range of farm buildings enclosing north end of farmyard at Trevacoon

4.11.21 PRN 12414 – Capel y Bedyddwyr/Baptist Chapel, A487 (N. Side) Croesgoch

4.11.22 PRN 12415 – Y Lodge, A487 (N. Side) Croesgoch

4.11.23 PRN 12416 – Trearched, A487 (N. Side) Croesgoch

4.11.24 PRN 12417 - Trenewydd Fawr, Croesgoch

4.11.25 PRN 12418 - Cart shed to east of Trenewydd Fawr, Croesgoch

4.11.26 PRN 12419 – Granary range to east of Trenewydd Fawr, Croesgoch

4.11.27 PRN 12420 - Range of outbuildings on south side of Farmyard at Trenewydd Fawr, Croesgoch

4.11.28 PRN 12421 – Outbuilding on west side of farmyard at Trenewydd Fawr, Croesgoch

4.11.29 PRN 12422 – Range of outbuildings on east side of Farmyard at Trenewydd Fawr, Croesgoch

4.11.30 PRN 12442 - Treglemais Fawr, Treglemais

4.12 **Multiperiod/Undated**

4.12.1 No recorded Multiperiod/undated activity was found for this area.

4.13 **Cartographic Evidence/Map Regression Analysis**

Tithe Map 1840s

4.13.1 The 1840s Tithe Map (Fig 4) shows the assessment area in very clear detail. The whole field is shown as well as its boundaries and surroundings. No features are marked within the assessment area. Only three buildings are shown as being present within the village of Croesgoch at this point.

1888 1st edition 6 Inch Ordnance Survey Map

4.13.2 The assessment area is clearly depicted on this map (Fig 5). It is again shown as being a blank field with no structures marked. A contour line is shown in the field heading in an east west direction. The field's eastern boundary is marked as being in woodland/undergrowth/marsh. No further features are noted.

1908 2nd edition 6 Inch Ordnance Survey Map

4.13.3 The assessment area is clearly depicted on this map (Fig 6). Again it is depicted as being blank. The same contour line is marked and numbered 300 (height in feet above sea level). The tree/undergrowth covered eastern field boundary is now shown as being only thinly tree covered. It is also marked with hachures depicting a steep slope or bank running the length of the field's eastern boundary and sloping to the east. No further features are noted.

1946 RAF Aerial Photograph

4.13.4 The 1946 RAF aerial photograph (Plate 1) shows the assessment area as being largely the same as shown on the previous OS maps. A structure is marked as being adjacent to the south eastern boundary of the field. No new features are noted.

1959 RAF Aerial Photograph

4.13.5 The 1959 RAF aerial photograph (Plate 2) shows the assessment area as being largely the same as shown on both the previous OS maps and the 1946 aerial photograph. No new features are noted.

1971 Aerial Photograph

4.13.6 The 1971 aerial photograph (Plate 3) is not of great quality but does show the assessment area as being largely blank. A small structure is shown as being present in the northern corner of the field. No further features are noted.

1996 Aerial Photograph

4.13.7 The 1996 aerial photograph (Plate 4) is of very good quality. It again shows the assessment area as being largely blank. The structure in the north corner of the field is still marked as being present. No further features are noted.

2009 Aerial Photograph/Satellite Image

4.13.8 The 2009 aerial photograph/satellite image (Plate 5) shows the assessment area in very clear detail. The structure in the north corner of the field is shown as still being present. No other features are shown.

5 Geophysical Survey Results

5.1 Ground conditions

5.1.1 Generally the weather conditions whilst on site were mainly sunny and dry. The ground and grass underfoot, however, was damp from the previous night's rainfall.

5.2 Survey Location and Summary

5.2.1 The assessment area (Fig 2) was surveyed using a total of 20 grids, each measuring 20 x 20m. Features affecting the results of the survey included a telegraph pole and associated metal anchor points and a low mound of earth covered in undergrowth which was not surveyed. Thick undergrowth was located around the edges of the survey area. The small water treatment plant at the northern tip of the survey area was surrounded by a large metal fence. This area was also not surveyed.

5.2.2 To mitigate against these hindrances the survey area was located so as to not be in close proximity to the metal fence, anchor points or thick undergrowth.

5.3 Results of the Survey

5.3.1 The geophysical survey shows four separate features (Figs 7 and 8).

5.3.2 Feature A shows as a linear magnetic response. This is only slightly bi-polar and shows up mainly as white.

5.3.3 Feature B shows as a very faint and ephemeral linear feature.

5.3.4 Feature C shows as an area of disturbance and is associated with an extant mound within the survey area. This may represent a recent disturbance.

5.3.5 Feature D appears as a scattering of small bi-polar responses immediately adjacent to The Forge towards the southern end of the assessment area. This is likely to be a series of metallic objects within the topsoil, possibly associated with activity at The Forge.

5.4 Interpretation

5.4.1 Features A, being only slightly bi-polar in nature, may represent a non-metallic service such as alkathene. Alternatively it may represent a linear feature with traces of in situ burning.

5.4.2 Feature B may represent a ditch. The feature is very faint and may also represent background 'noise' on the survey.

5.4.3 Feature C is likely to represent a modern disturbance as the survey was conducted over an extant mound. The mound may represent a backfilled geo-technical pit.

5.4.4 Feature D, the scattered small bi-polar responses, may represent light industrial activity associated with The Forge. Unfortunately, the scattered metallic readings serve to mask any features which may be underneath.

6 Conclusions of the Geophysical Survey

6.1.1 The geophysical survey undertaken within the assessment area has shown that the area appears to contain very few readily identifiable features. Apart from Feature A (possible ditch/service) all other features are reasonably ephemeral in nature. This could be due to either a relatively deep subsoil overburden masking any features or the features themselves being extremely ephemeral.

7 Discussion and Interpretation

7.1 Reliability of field investigation

7.1.1 The geophysical survey was slightly hampered by modern building activity. The telegraph pole in the middle of the field had to be manoeuvred around and the metallic response it emitted was picked up by the survey. This could have masked other features. The water treatment plant has a large metallic fence around it which also had to be avoided.

7.2 Overall interpretation

7.2.1 The desk based assessment and geophysical survey have both highlighted a lack of readily identifiable archaeological features in the assessment area.

7.2.2 The archaeological and historical background of Croesgoch shows several cist burial features of late/post Roman date in the area. However, it should be pointed out that both assessment methods used are limited in their scope. The desk based assessment can only reliably identify and locate features from the eighteenth to nineteenth centuries onwards, whilst the geophysical survey will not show deeply buried or ephemeral features.

7.2.3 Post-Roman/early medieval features are particularly rare in Wales with relatively little known of this period compared to others. The importance given to features of this date is down to their rarity.

7.2.4 There is a reasonable likelihood, given what has been located elsewhere in Croesgoch, of such features existing within the assessment area.

7.2.5 The importance of these features is detailed with the Research Framework for Archaeology in Wales. The relevant section of this document is attached to this report as Appendix III.

7.3 Recommendations

7.3.1 Given the results of a recent archaeological evaluation carried out by CAP at Croesgoch School adjacent to the assessment area in which a large, possibly prehistoric, post hole was located (Pannett 2009) combined with the occurrence of regionally significant dark age/early medieval finds from within Croesgoch itself, it is likely that the assessment area contains more such features.

7.3.2 The posthole located at Croesgoch School is indicative of structures in the area. Smaller structural features, such as postholes, do not show up particularly well on geophysical surveys and are hard to interpret. Such features may well be located within the assessment area.

7.3.3 Ephemeral and possibly isolated features such as these may not necessarily be adequately highlighted through geophysical survey. For this reason further work is considered necessary.

7.3.4 There are three main options for further work, these are; an intensive watching brief, a field evaluation or a topsoil strip.

7.3.5 A watching brief would be carried out by an archaeologist being on site during construction and monitoring all ground works.

7.3.6 A field evaluation would consist of a series of archaeological trenches being excavated within the assessment area prior to any construction work taking place. This allows a small percentage of the assessment area to be sampled for archaeological features.

7.3.7 A topsoil strip would involve the topsoil deposits of the whole assessment area being removed under archaeological supervision in order to locate any archaeological features.

7.3.8 However, it should be pointed out that if features were located during a watching brief or field evaluation this may ultimately result in a topsoil strip also being required in order that the archaeology is adequately recorded.

8 Acknowledgements

8.1.1 Thanks are extended to Meirion Williams of Pembroke Design for his help in organising the cutting of the undergrowth so the geophysical survey could be undertaken and to Hywel Keen for his assistance with the survey.

8.1.2 Also thanks to: The curatorial staff at The National Library of Wales and The Royal Commission for Ancient and Historic Monuments (Wales), for their help during the desk-based assessment.

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4.5.2 White house chambered tomb – PE159 - SM825284

4.5.3 Bickney Beacon round barrow – PE260 - SM831314

4.5.4 White House chambered tomb, a probable mortuary monument of Neolithic date (Cummings and Whittle 2004, 159) is located 2km to the south of the site; Bickney Beacon round barrow, a Bronze Age burial mound is located 1.5km to the north of the site. This latter monument was excavated in the 19th century and was found to contain a large stone-lined cist containing traces of a possible inhumation and a 'holed axe hammer' (RCAHMW). There are numerous other sites of Neolithic and Bronze Age date in this part of the county, including several well-preserved chambered tombs such as Carreg Samson and the settlement site of Clegyr Boia (Cummings and Whittle 2004, 2), attesting to the significance of this part of the Pembrokeshire landscape in the early prehistoric period.

4.6 **Bronze Age**

4.6.1 See above

4.7 **Iron Age**

4.7.1 No recorded Iron Age activity was found for this area.

4.8 **Roman**

4.8.1 No recorded Roman activity was found for this area.

4.9 **Post Roman/Saxon/Dark Age/Early Medieval**

4.9.1 A single Scheduled Ancient Monument of Early Medieval date is recorded within a 2km radius of the assessment area. This is shown below:

4.9.2 Inscribed stone – PE047 - SM839307

4.9.3 The stone is an incised cross of early medieval date and is currently located 1km to the north-east of the assessment area. The stone has been built into a wall beside the road for at least the last 70 years. It has a Latin outline ring cross inscribed upon it and is thought to date to the 7th to 9th century AD. There is no evidence to suggest the original location of this stone (Pannett 2009).

4.10 **Medieval**

4.10.1 Two recorded medieval Listed Buildings were located within 2km of the assessment area, these are as follows:

4.10.2 PRN 12383 - Manor House

4.10.3 PRN 87554 - Church of St Rhian

4.11 **Post Medieval**

4.11.1 A total of 29 recorded Post medieval Listed Buildings were located within 2km of the assessment area, these are as follows:

4.11.2 PRN 12384 – Stable range attached to west end of Manor House

4.11.3 PRN 12385 – School House, Llanrhian village

4.11.4 PRN 12386 – Church hall, Llanrhian village

4.11.5 PRN 12387 – Village pump, Llanrhian village

4.11.6 PRN 12388 – Slated pavement & Enclosure wall at village pump, Llanrhian village

4.11.7 PRN 12389 – Llanrhian water mill

4.11.8 PRN 12390 – Outbuilding at Llanrhian mill

4.11.9 PRN 12391 - Treneved

4.11.10 PRN 12392 – Outbuilding to east of Treneved

4.11.11 PRN 12393 - Brynhyfryd

4.11.12 PRN 12394 – Outbuilding to west of Brynhyfryd

4.11.13 PRN 12395 – The Watch House

4.11.14 PRN 12396 – Trevacoon

4.11.15 PRN 12397 – Walls to walled garden at Trevacoon

4.11.16 PRN 12398 – Outbuilding attached at SW angle to walled garden at Trevacoon

4.11.17 PRN 12399 – Outbuilding, Former stable, on east side of farmyard at Trevacoon

4.11.18 PRN 12400 – Farm building to west of Trevacoon

4.11.19 PRN 12402 - Range of farm buildings enclosing north end of farmyard at Trevacoon

4.11.20 PRN 12403 – Range of farm buildings enclosing north end of farmyard at Trevacoon

4.11.21 PRN 12414 – Capel y Bedyddwyr/Baptist Chapel, A487 (N. Side) Croesgoch

4.11.22 PRN 12415 – Y Lodge, A487 (N. Side) Croesgoch

4.11.23 PRN 12416 – Trearched, A487 (N. Side) Croesgoch

4.11.24 PRN 12417 - Trenewydd Fawr, Croesgoch

4.11.25 PRN 12418 - Cart shed to east of Trenewydd Fawr, Croesgoch

4.11.26 PRN 12419 – Granary range to east of Trenewydd Fawr, Croesgoch

4.11.27 PRN 12420 - Range of outbuildings on south side of Farmyard at Trenewydd Fawr, Croesgoch

4.11.28 PRN 12421 – Outbuilding on west side of farmyard at Trenewydd Fawr, Croesgoch

4.11.29 PRN 12422 – Range of outbuildings on east side of Farmyard at Trenewydd Fawr, Croesgoch

4.11.30 PRN 12442 - Treglemais Fawr, Treglemais

4.12 **Multiperiod/Undated**

4.12.1 No recorded Multiperiod/undated activity was found for this area.

4.13 **Cartographic Evidence/Map Regression Analysis**

Tithe Map 1840s

4.13.1 The 1840s Tithe Map (Fig 4) shows the assessment area in very clear detail. The whole field is shown as well as its boundaries and surroundings. No features are marked within the assessment area. Only three buildings are shown as being present within the village of Croesgoch at this point.

1888 1st edition 6 Inch Ordnance Survey Map

4.13.2 The assessment area is clearly depicted on this map (Fig 5). It is again shown as being a blank field with no structures marked. A contour line is shown in the field heading in an east west direction. The field's eastern boundary is marked as being in woodland/undergrowth/marsh. No further features are noted.

1908 2nd edition 6 Inch Ordnance Survey Map

4.13.3 The assessment area is clearly depicted on this map (Fig 6). Again it is depicted as being blank. The same contour line is marked and numbered 300 (height in feet above sea level). The tree/undergrowth covered eastern field boundary is now shown as being only thinly tree covered. It is also marked with hachures depicting a steep slope or bank running the length of the field's eastern boundary and sloping to the east. No further features are noted.

1946 RAF Aerial Photograph

4.13.4 The 1946 RAF aerial photograph (Plate 1) shows the assessment area as being largely the same as shown on the previous OS maps. A structure is marked as being adjacent to the south eastern boundary of the field. No new features are noted.

1959 RAF Aerial Photograph

4.13.5 The 1959 RAF aerial photograph (Plate 2) shows the assessment area as being largely the same as shown on both the previous OS maps and the 1946 aerial photograph. No new features are noted.

1971 Aerial Photograph

4.13.6 The 1971 aerial photograph (Plate 3) is not of great quality but does show the assessment area as being largely blank. A small structure is shown as being present in the northern corner of the field. No further features are noted.

1996 Aerial Photograph

4.13.7 The 1996 aerial photograph (Plate 4) is of very good quality. It again shows the assessment area as being largely blank. The structure in the north corner of the field is still marked as being present. No further features are noted.

2009 Aerial Photograph/Satellite Image

4.13.8 The 2009 aerial photograph/satellite image (Plate 5) shows the assessment area in very clear detail. The structure in the north corner of the field is shown as still being present. No other features are shown.

5 Geophysical Survey Results

5.1 Ground conditions

5.1.1 Generally the weather conditions whilst on site were mainly sunny and dry. The ground and grass underfoot, however, was damp from the previous night's rainfall.

5.2 Survey Location and Summary

5.2.1 The assessment area (Fig 2) was surveyed using a total of 20 grids, each measuring 20 x 20m. Features affecting the results of the survey included a telegraph pole and associated metal anchor points and a low mound of earth covered in undergrowth which was not surveyed. Thick undergrowth was located around the edges of the survey area. The small water treatment plant at the northern tip of the survey area was surrounded by a large metal fence. This area was also not surveyed.

5.2.2 To mitigate against these hindrances the survey area was located so as to not be in close proximity to the metal fence, anchor points or thick undergrowth.

5.3 Results of the Survey

5.3.1 The geophysical survey shows four separate features (Figs 7 and 8).

5.3.2 Feature A shows as a linear magnetic response. This is only slightly bi-polar and shows up mainly as white.

5.3.3 Feature B shows as a very faint and ephemeral linear feature.

5.3.4 Feature C shows as an area of disturbance and is associated with an extant mound within the survey area. This may represent a recent disturbance.

5.3.5 Feature D appears as a scattering of small bi-polar responses immediately adjacent to The Forge towards the southern end of the assessment area. This is likely to be a series of metallic objects within the topsoil, possibly associated with activity at The Forge.

5.4 Interpretation

5.4.1 Features A, being only slightly bi-polar in nature, may represent a non-metallic service such as alkathene. Alternatively it may represent a linear feature with traces of in situ burning.

5.4.2 Feature B may represent a ditch. The feature is very faint and may also represent background 'noise' on the survey.

5.4.3 Feature C is likely to represent a modern disturbance as the survey was conducted over an extant mound. The mound may represent a backfilled geo-technical pit.

5.4.4 Feature D, the scattered small bi-polar responses, may represent light industrial activity associated with The Forge. Unfortunately, the scattered metallic readings serve to mask any features which may be underneath.

6 Conclusions of the Geophysical Survey

6.1.1 The geophysical survey undertaken within the assessment area has shown that the area appears to contain very few readily identifiable features. Apart from Feature A (possible ditch/service) all other features are reasonably ephemeral in nature. This could be due to either a relatively deep subsoil overburden masking any features or the features themselves being extremely ephemeral.

7 Discussion and Interpretation

7.1 Reliability of field investigation

7.1.1 The geophysical survey was slightly hampered by modern building activity. The telegraph pole in the middle of the field had to be manoeuvred around and the metallic response it emitted was picked up by the survey. This could have masked other features. The water treatment plant has a large metallic fence around it which also had to be avoided.

7.2 Overall interpretation

7.2.1 The desk based assessment and geophysical survey have both highlighted a lack of readily identifiable archaeological features in the assessment area.

7.2.2 The archaeological and historical background of Croesgoch shows several cist burial features of late/post Roman date in the area. However, it should be pointed out that both assessment methods used are limited in their scope. The desk based assessment can only reliably identify and locate features from the eighteenth to nineteenth centuries onwards, whilst the geophysical survey will not show deeply buried or ephemeral features.

7.2.3 Post-Roman/early medieval features are particularly rare in Wales with relatively little known of this period compared to others. The importance given to features of this date is down to their rarity.

7.2.4 There is a reasonable likelihood, given what has been located elsewhere in Croesgoch, of such features existing within the assessment area.

7.2.5 The importance of these features is detailed with the Research Framework for Archaeology in Wales. The relevant section of this document is attached to this report as Appendix III.

7.3 Recommendations

7.3.1 Given the results of a recent archaeological evaluation carried out by CAP at Croesgoch School adjacent to the assessment area in which a large, possibly prehistoric, post hole was located (Pannett 2009) combined with the occurrence of regionally significant dark age/early medieval finds from within Croesgoch itself, it is likely that the assessment area contains more such features.

7.3.2 The posthole located at Croesgoch School is indicative of structures in the area. Smaller structural features, such as postholes, do not show up particularly well on geophysical surveys and are hard to interpret. Such features may well be located within the assessment area.

7.3.3 Ephemeral and possibly isolated features such as these may not necessarily be adequately highlighted through geophysical survey. For this reason further work is considered necessary.

7.3.4 There are three main options for further work, these are; an intensive watching brief, a field evaluation or a topsoil strip.

7.3.5 A watching brief would be carried out by an archaeologist being on site during construction and monitoring all ground works.

7.3.6 A field evaluation would consist of a series of archaeological trenches being excavated within the assessment area prior to any construction work taking place. This allows a small percentage of the assessment area to be sampled for archaeological features.

7.3.7 A topsoil strip would involve the topsoil deposits of the whole assessment area being removed under archaeological supervision in order to locate any archaeological features.

7.3.8 However, it should be pointed out that if features were located during a watching brief or field evaluation this may ultimately result in a topsoil strip also being required in order that the archaeology is adequately recorded.

8 Acknowledgements

8.1.1 Thanks are extended to Meirion Williams of Pembroke Design for his help in organising the cutting of the undergrowth so the geophysical survey could be undertaken and to Hywel Keen for his assistance with the survey.

8.1.2 Also thanks to: The curatorial staff at The National Library of Wales and The Royal Commission for Ancient and Historic Monuments (Wales), for their help during the desk-based assessment.

9 Bibliography and references

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Cummings, V., and Whittle, A. 2004. *Places of Special Virtue: Megaliths in the Neolithic Landscapes of Wales*. Oxford: Oxbow.

Pannett A. 2009. *Croesgoch School. An Archaeological Evaluation.* CAP Report No. 583

Ludlow, N. 2003 *A Burial from the Cist Cemetery at Croesgoch, Pembrokeshire.* Cambria Archaeology, unpublished client report No. 2003/56 *cited in* Pannett A. 2009. *Croesgoch School. An Archaeological Evaluation.* CAP Report No. 583

Other sources consulted

Cadw Scheduled Ancient Monument and Listed Buildings database

Full printout of all sites within a 2km radius of the site

RCAHMW National Monuments Record Centre, Aberystwyth and National Library of Wales, Aberystwyth:

Tithe Map 1840s
1st Edition 6 Inch OS Map 1888
2nd Edition 6 Inch OS Map 1908

1946 RAF Aerial Photograph
1959 RAF Aerial Photograph
1971 Aerial Photograph
1996 Aerial Photograph

Others source

2009 Satellite Image/Aerial Photograph (Google Earth)

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Cummings, V., and Whittle, A. 2004. *Places of Special Virtue: Megaliths in the Neolithic Landscapes of Wales*. Oxford: Oxbow.

Pannett A. 2009. *Croesgoch School. An Archaeological Evaluation.* CAP Report No. 583

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1946 RAF Aerial Photograph
1959 RAF Aerial Photograph
1971 Aerial Photograph
1996 Aerial Photograph

Others source

2009 Satellite Image/Aerial Photograph (Google Earth)

CAMBRIAN ARCHAEOLOGICAL PROJECTS

APPENDIX I:
Figures

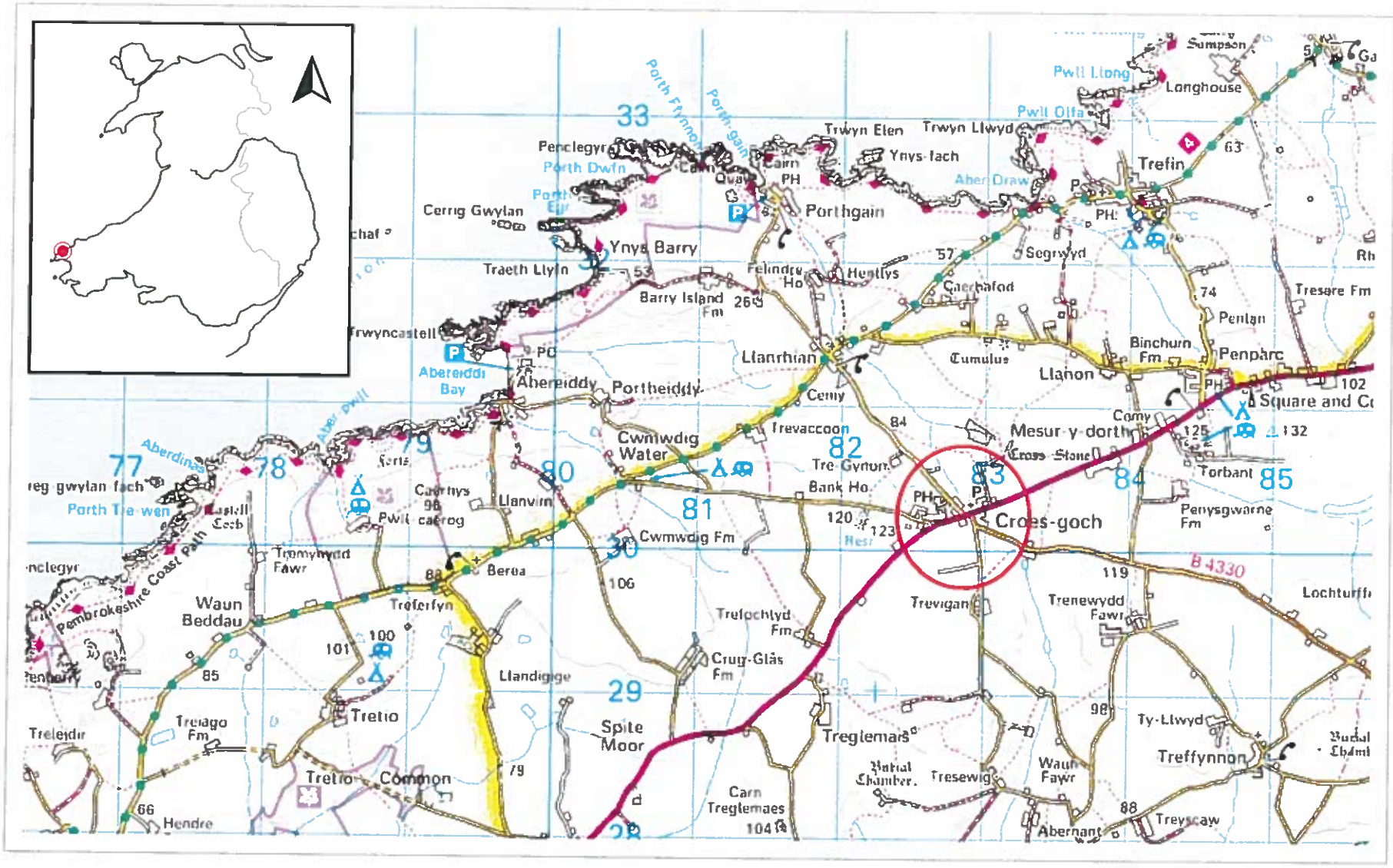


Fig 01: Site location map

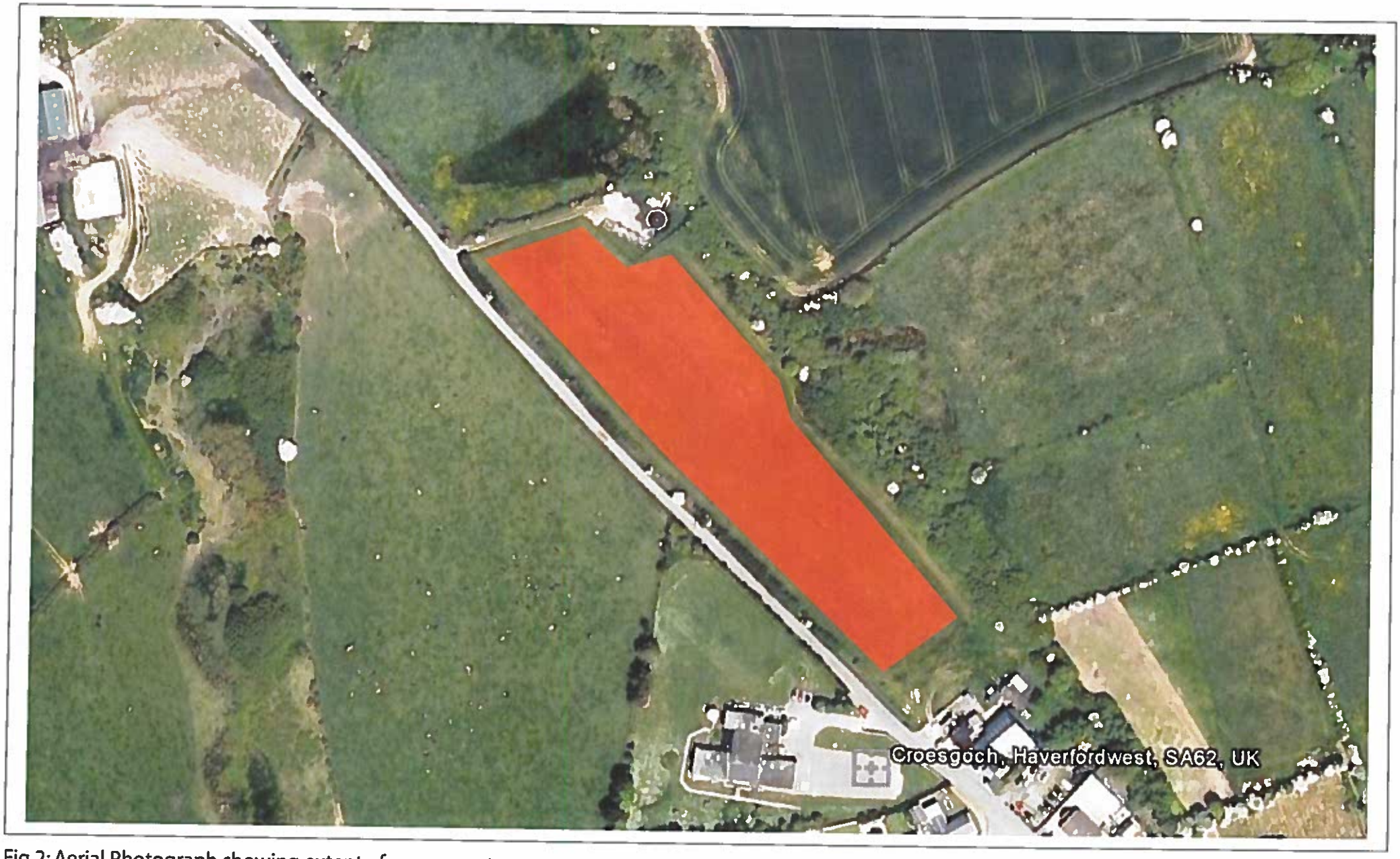
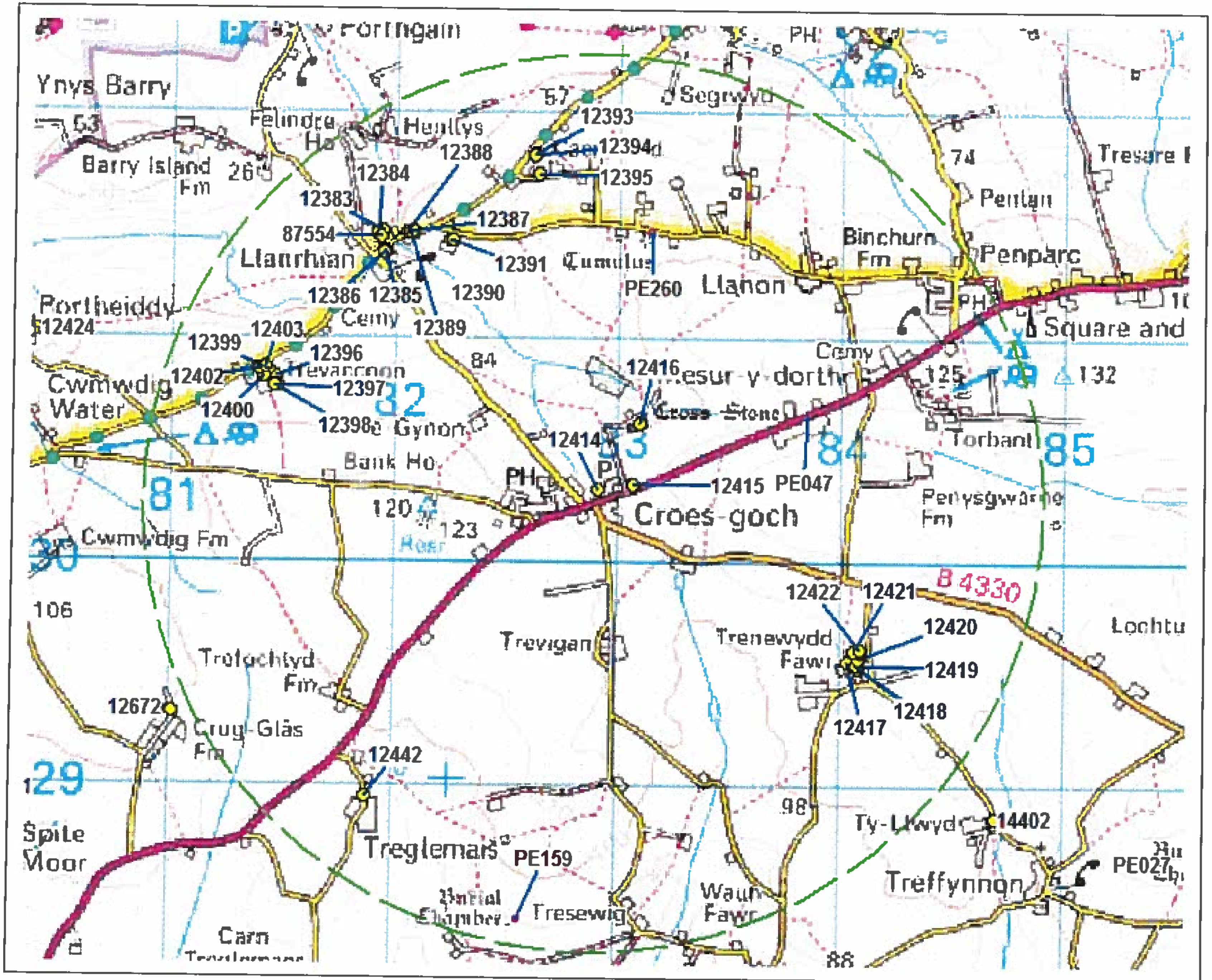


Fig 2: Aerial Photograph showing extent of assessment area



Ynys Barry
Barry Island Fm
Felindre Ho
Heullys
Llanrhian
Porthleiddy
Cwmwdig Water
Trevacoon
Gynon
Bank Ho
Cwmwdig Fm
Segrwyd
Cemy
Llanon
Binchurn Fm
Penparc
Pentan
Tresare
Square and
Torbant
Penysgwarne Fm
Croes-goch
B 4330
Trevigan
Trenewydd Fawr
Lochtu
Trefochtyd Fm
Crug-Glâs Fm
Treglemais
Burial Chamber
Tresewig
Waun Fawr
Ty-Llwyd
Treffynnon
Spite Moor
Carn
PE260
PE047
PE159
PE027
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12672
14402
87554

Fig 3: HER data showing locations of all Scheduled Ancient Monuments and Listed Buildings within a 2km Radius of the assessment area

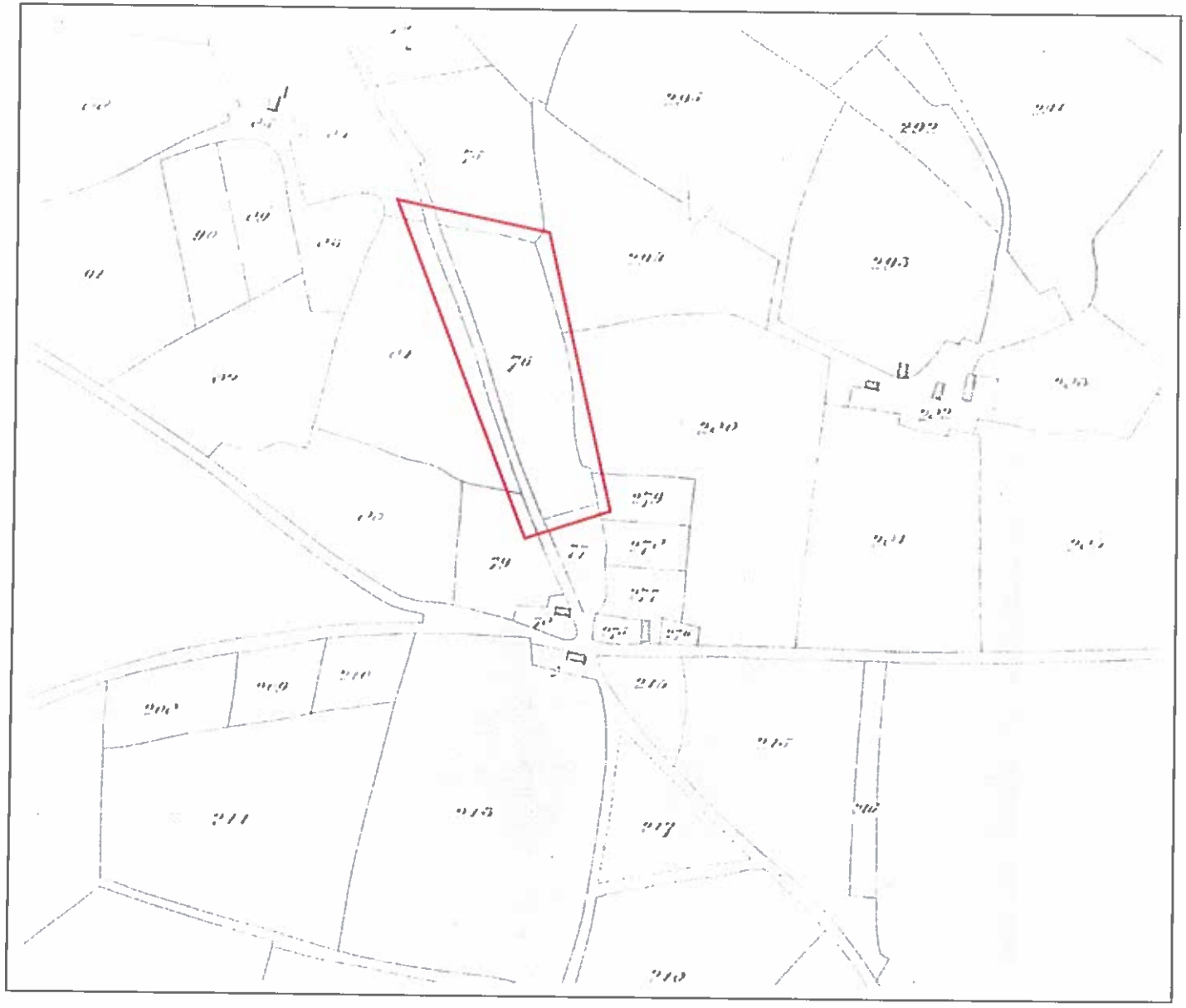

Fig 4: 1840s Tithe map showing the assessment area

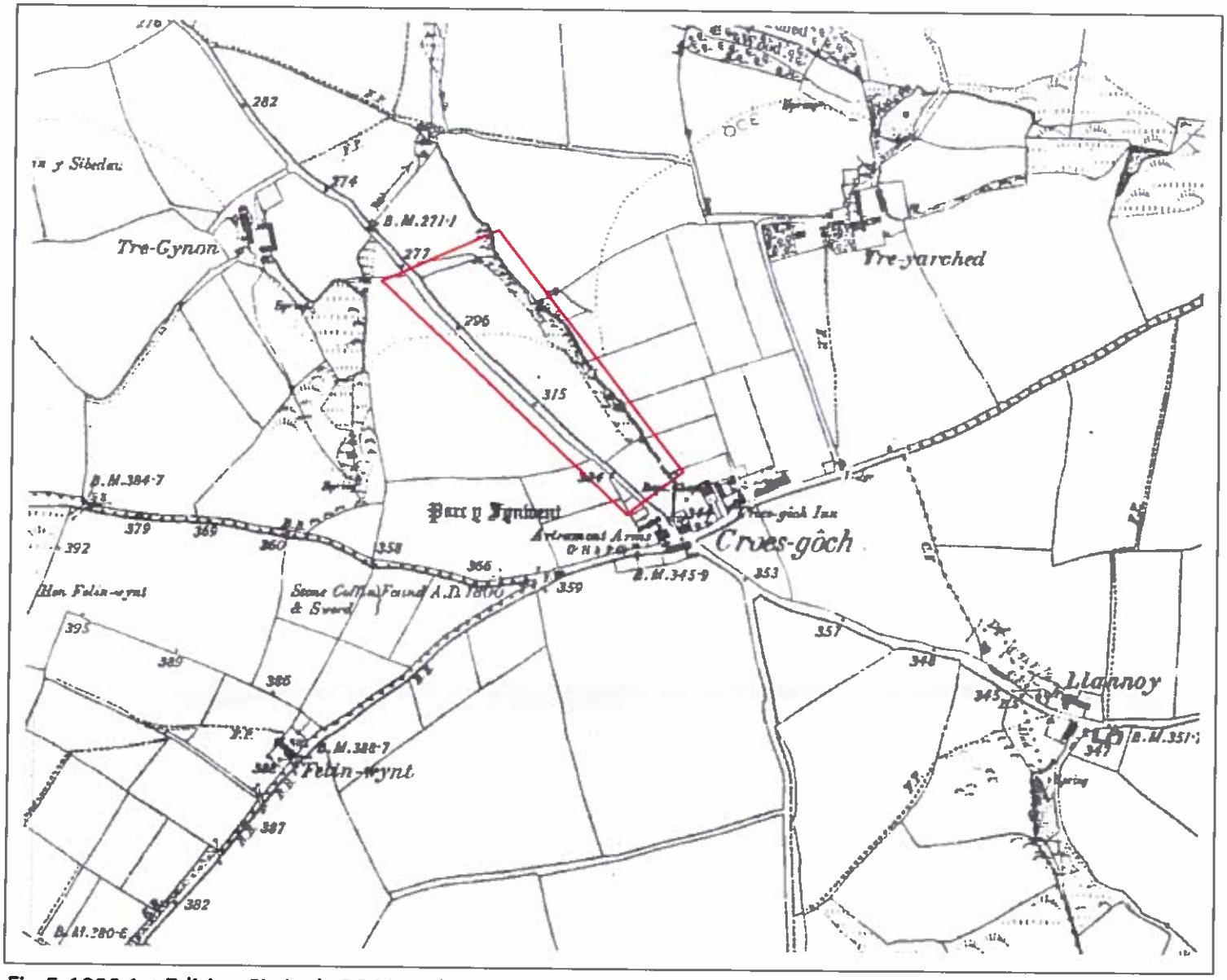

Fig 5: 1888 1st Edition Six Inch OS Map showing the assessment area

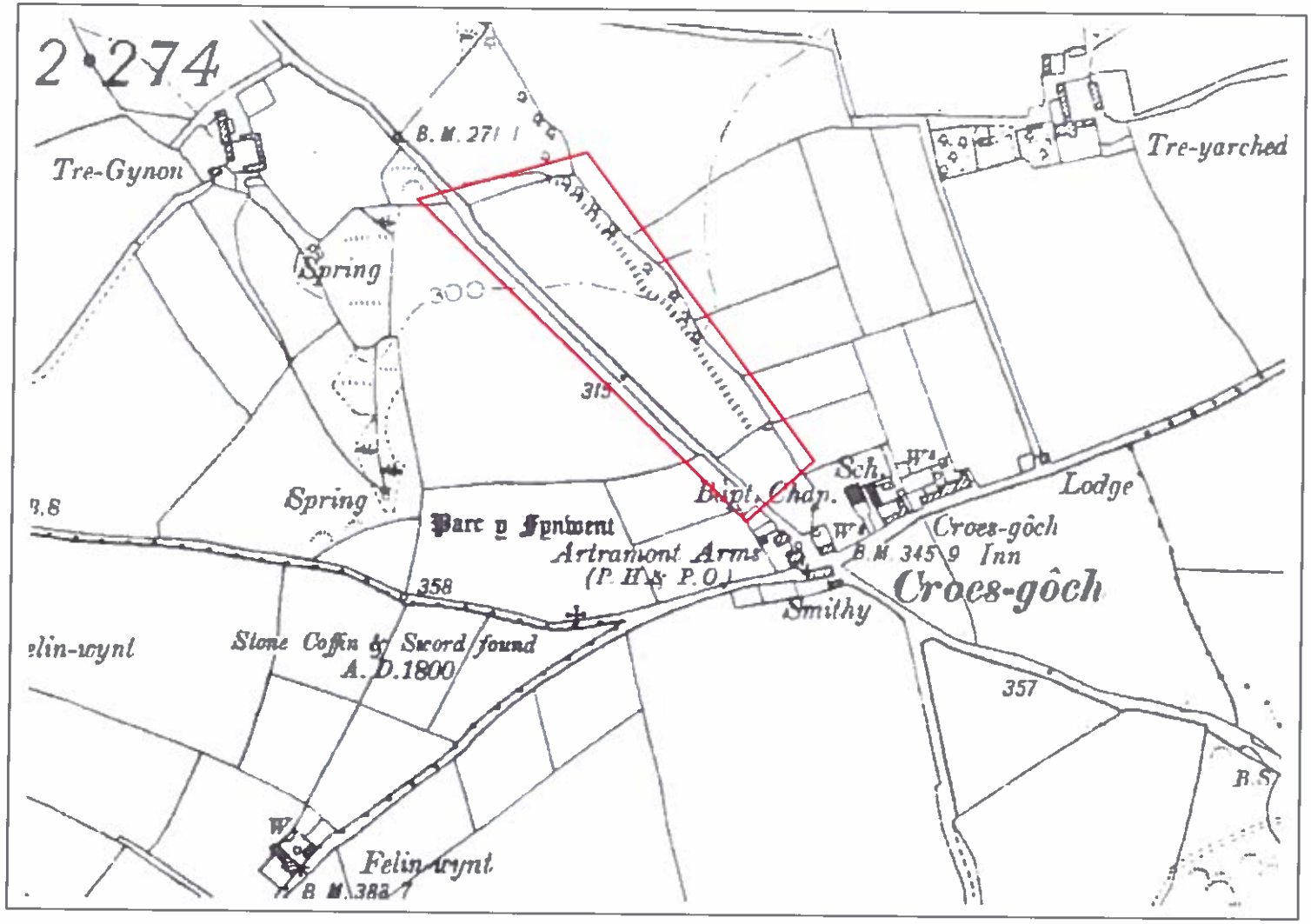

Fig 6: 1908 2nd Edition six Inch OS Map showing the assessment area

Fig 8: Aerial Photograph with survey results overlaid showing extent of assessment area

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APPENDIX II:
Plates

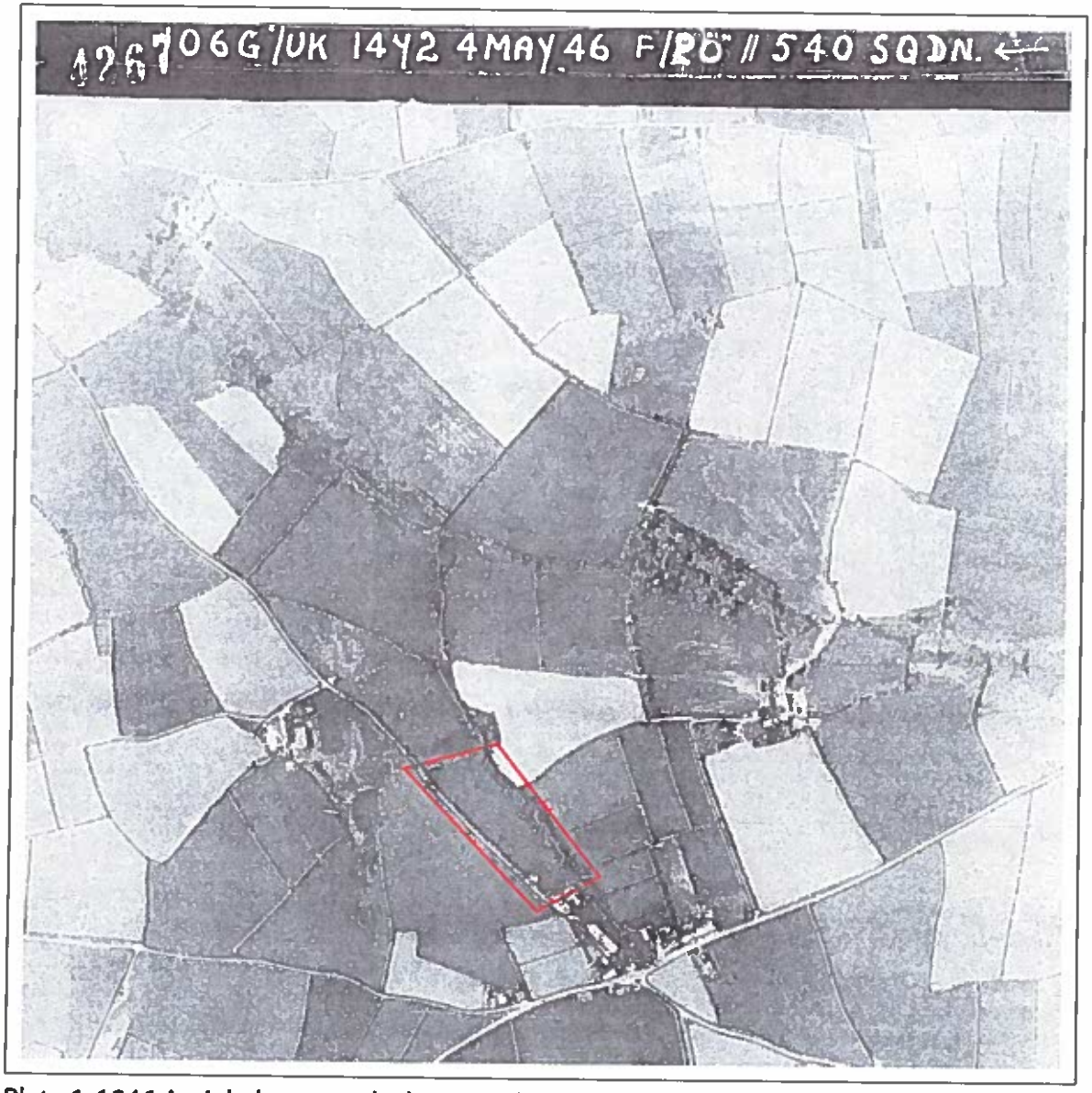

Plate 1: 1946 Aerial photograph showing the assessment area

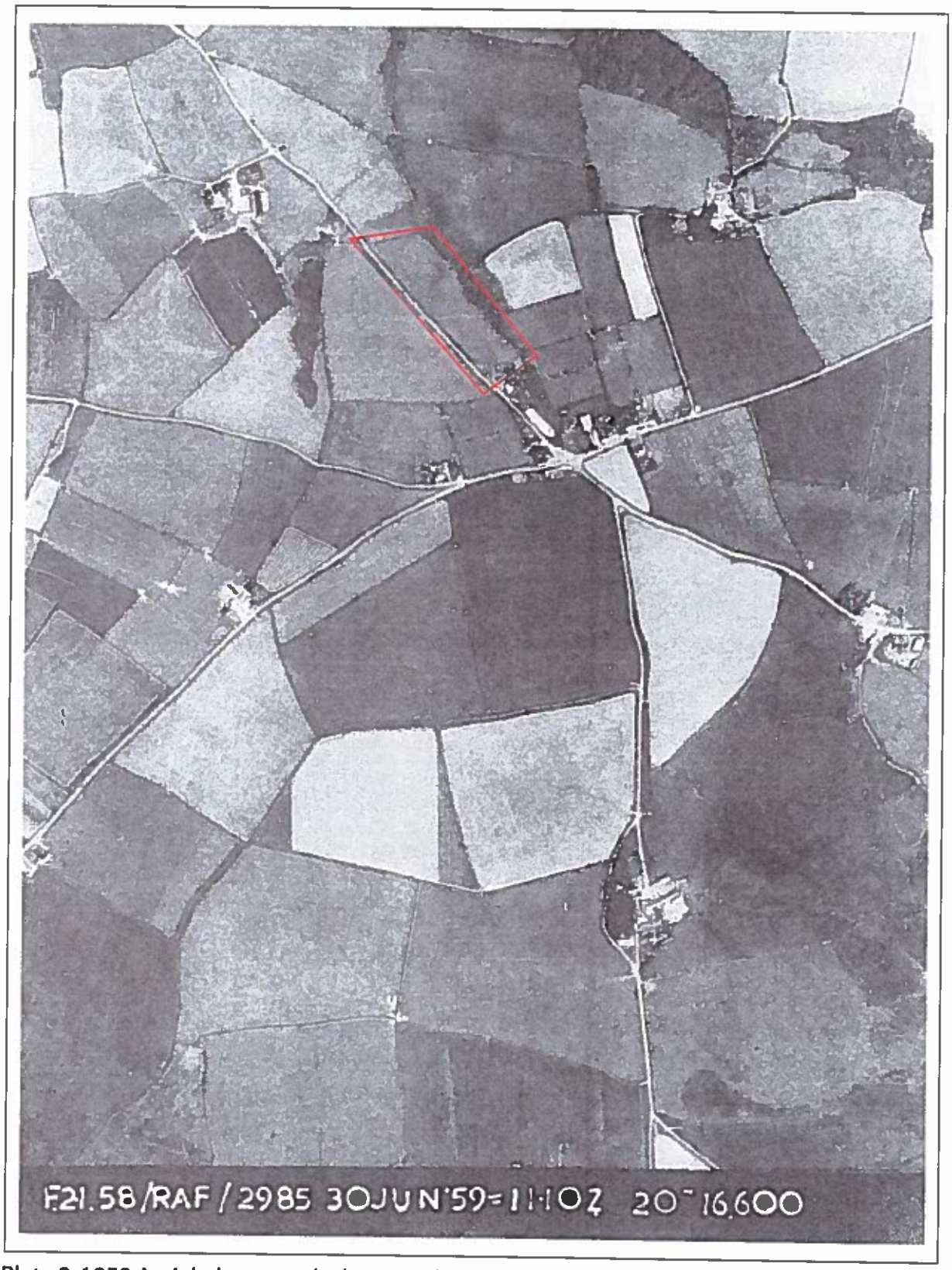

Plate 2: 1959 Aerial photograph showing the assessment area

Plate 3: 1971 Aerial photograph showing the assessment area

Plate 4: 1996 Aerial photograph showing the assessment area

Plate 5: 2009 Satellite image showing the assessment area (Google Earth)

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APPENDIX III: Archaeological Research Framework - Wales

EARLY MEDIEVAL WALES: A FRAMEWORK FOR ARCHAEOLOGICAL RESEARCH

Nancy Edwards,[1] *Alan Lane,*[2] *Ian Bapty,*[3] *Mark Redknap*[4]

INTRODUCTION

The early medieval period in Wales (*c* AD 400-1070), spanning the centuries between the end of Roman rule and the coming of the Normans, embodies a process of fundamental social, political and economic transition from which – in language, human landscapes, culture and belief – the recognisable beginnings of Wales itself first emerged. Yet it is still a period about which we know remarkably little archaeologically and the evidence to date leaves many of the most fundamental questions unanswered. The documentary sources, though they are also notoriously sparse and frequently difficult to interpret, continue to provide a basic chronological framework. However, historical questions have tended to frame our knowledge or lack of it and have often been seen to drive the archaeological research agenda. Thus, the end of Roman imperial control, Irish settlement in the west, the establishment of distinct regional kingdoms, the emergence and ideological triumph of Christianity, increasing Anglo-Saxon pressure in the east, the Viking impact, Anglo-Norman conquest and the Welsh response, provide datable, or otherwise, markers to what might be expected to be major changes, if indeed they are recognisable in the archaeological record. The impact these factors had on the population, settlement and land use are for archaeology to answer.

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This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

Early Medieval

The aim of this paper is to provide an archaeological research framework for the early medieval period in Wales, which we would expect to be refined in the light of new work and fresh debates. The process for the archaeology of Wales as a whole was initiated in a conference held by IFA Wales/Cymru in 2001 (Briggs 2003), though this failed to include a paper on the early middle ages, the only period of Welsh archaeology not to be represented. Following this conference the four Welsh Archaeological Trusts were funded by Cadw to compile regional resource audits and from the data identified a research assessment was initiated. In autumn 2002 four regional seminars were held at which papers on the early medieval period were included (Bapty 2003; Edwards 2003; Lane 2003; Redknap 2003). These were followed up in May 2003 with a seminar hosted by the Early Medieval Wales Archaeology Research Group in association with the National Museum & Gallery Cardiff; the fruits of this discussion have been incorporated into this pan-Wales paper. A short paper (Bapty 2004) was included in a national seminar in September 2004 on the development of a research agenda and a research strategy for all periods of Welsh archaeology. However, it was thought that the problems of identifying the archaeology of the early medieval period in Wales and a research strategy for their possible solution merited more extensive consideration.

SETTLEMENT ARCHAEOLOGY

The settlement evidence for the early medieval centuries is poor throughout most of western and northern Britain. A few areas, in particular those with alkaline sand deposits such as the Hebrides or Orkney, have exceptional preservation but otherwise settlements, houses and artefacts are difficult to recognise and poorly understood. These problems affect substantial parts of upland England as well. After the relative

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

richness and visibility of the Roman period the rarity of distinctive artefacts and settlements poses immediate problems. Wales, like much of the rest of Britain, has no native ceramic tradition in the first millennium AD; consequently site recognition and dating by field walking, even when following up on cropmarks, is virtually impossible.

Strengths

It is difficult to talk in terms of strengths regarding the settlement archaeology of early medieval Wales. The number of dated sites remains tiny. A small group of hillforts has been known since the 1960s largely on the basis of imported ceramics and glass and, more rarely, metal and other diagnostic objects (Alcock 1963b). However only a handful of sites has been added in the subsequent forty years and those originally listed because they had VCP, now recognised as Iron Age salt containers, have been largely discounted (Edwards and Lane 1988). The small multivallate hillfort of Dinas Powys (Glam) remains the largest, and the only substantial, published assemblage of artefactual and ecofactual material from Wales (Alcock 1963a; 1987, v-150). The reconsiderations of the site by Ewan Campbell (1991) and Ken Dark (1994, 67-9) have demonstrated that the published phasing with strong multivallation attributed to the Norman period is wrong. Both the initial simple promontory defence and the much stronger multivallate phase can be confidently attributed to the fifth – seventh centuries and the site can be seen to belong to a group of high status sites, such as Cadbury Congresbury and Tintagel, clustered round the southern Bristol Channel (Alcock 1995, illus 1.1, 140-53). The addition of Hen Gastell (Neath Port Talbot) to this group (Wilkinson 1995) represents one of the few rescue archaeological contributions to our knowledge of these hillforts, though its appearance and location –

a craggy hilltop strategically sited near the mouth of the River Nedd, a focus for both land and water communications – is reassuringly familiar. The imported artefacts of these fifth- to seventh-century sites are now quite well understood and can be dated by external sequences in the Mediterranean, and radiocarbon and stratigraphic sequences elsewhere in Britain and Ireland (Campbell 1991). The recognition that glass vessels were also being imported from the continent has refined dating on a significant number of sites (Campbell 2000).

The pre-Viking and Viking-period site at Llanbedrgoch (Ang) has provided the first substantial assemblage for the eighth – tenth centuries when the earlier imports have ceased (Redknap 2004). The recognition of one roundhouse alongside rectangular structures in a pre-Viking context, as well as Viking-period houses with clear Irish Sea parallels, is a very welcome development since clear house plans have been virtually non-existent in Wales. The crannog at Llan-gors (Powys), a royal site associated with the kings of Brycheiniog, is securely dated to the late ninth – early tenth century. However the crannog as a site type remains unique in Wales and appears to be a one-off high status experiment. Its eroded middens contain a wide range of artefacts, including an embroidered textile and metalwork (some in Irish style). This assemblage reflects the high status and tastes of its occupants, considerably enhancing our understanding of court life and culture in this period, and will also provide useful comparisons with that from Llanbedrgoch.

Over the last forty years our understanding of distinctive early medieval artefacts has improved significantly so that sites with few finds but occasional datable objects can now be recognised more confidently: for example, a class G penannular brooch at

Drim Camp (Pembs) (Webster 1998), D ware and a Byzantine intaglio at Cefn Cwmwd (Ang) (Maynard 1999, 55; Denison 2000; pers comm Roger H White) and the class H penannular from Pant-y-Saer (Ang) (Redknap 1991, 31). The significance of these sparse finds can be hard to assess but, where backed by radiocarbon or other scientific dates for features, can indicate activity that may be more than temporary occupation or casual losses.

Weaknesses

There is little convincing evidence for the continued use of Roman urban or military sites, including those which remained in occupation during the fourth century. What might be termed the 'Wroxeter model' of continuity has been very influential on the thinking of early medieval specialists (White, R H and Barker, P, 1998; Dark, K R, 2000, 108-10). However the failure to identify any material assemblages to accompany the hypothetical Romanised building tradition at Wroxeter (Shrops) has led to a recent challenge to the published evidence (Fulford 2002). The town of Caerwent (Mons), in the most Romanised part of Wales, seems to have given its name to the early medieval kingdom. The Romano-Celtic temple east of the forum was maintained until the late fourth century but some town houses were abandoned by then. However activity into the early fifth century is suggested by the cutting of pits through mosaics and evidence of iron working (e.g. House I.28N) (Brewer 1997, 38-9). Regular supplies of bronze coin ceased after *c* 395-402 signalling wider economic disruption. The general consensus is that the monetary economy had virtually ceased by the 420s and Caerwent failed to operate as an urban unit beyond the early fifth century (Brewer 1997, 29-30). The post-Roman burials outside the East Gate and those from within the town indicate a population in the vicinity but no clear evidence

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

of early medieval secular occupation has been recognised in the modern excavations (Campbell and Macdonald 1994; Edwards and Lane, 1988). Equally, the early medieval finds from the Roman fort at Caernarfon (Gwynedd) hint at activity in the area but little more (Edwards and Lane 1988, 115-16). The palisaded enclosure post-dating the Roman fort at Pen Llystyn (Gwynedd) suggests another class of unrecognised site, though whether its position is consequential to the fort is unclear (Edwards and Lane 1988, 102-4).

The difficulty of identifying sites and characteristic early medieval site types is clear. Within the hundreds of hillfort/defended enclosure sites listed in the later Bronze and Iron Age sections of the four regional Historic Environment Records there must undoubtedly be early medieval examples. A number of Iron Age/Romano-British hillfort/enclosure sites have produced slight evidence of later activity, usually dated by radiocarbon – Woodside, Dan-y-Coed, Penycoed (Carms), Drim (Pembs) (Williams and Mytum 1998a, 144-5) and Great Castle Head (Pembs) (Crane 1999) – but with little structural or associated material culture. There has been little progress in identifying an early medieval hillfort site type. The most recent attempt, by Ken Dark (1994, 135-8), has listed a group of inland multivallate promontory forts, essentially modelled on Dinas Powys, as a potentially distinct early medieval group, but as yet there is limited evidence to support this suggestion.

Several sites with modern excavations have yet to be published. The early medieval radiocarbon date and imported E ware at Carew (Pembs) (Campbell 1990) raises the question of when its multivallate promontory fort was constructed and used. Brawdy (Pembs) is the type site for Dark's inland promontory fort model but its important

sequence from the Iron Age to the medieval period has yet to be published in full (Dark, K R 2000, 185). Equally only progress reports are available for Llanbedrgoch (Redknap 2004) and Llan-gors (Redknap and Lane 1994).

Very few sites have been investigated away from the coastal belts of north and south Wales. New Pieces (Powys) remains a lone dot on the distribution map in Mid Wales (Edwards and Lane 1988, 97-8) and the absence of the fifth- to seventh-century imports upriver from the Glamorgan-Somerset line remains a puzzle and a problem for Gwent as well as the English western counties (Alcock 1995, illus 1.1).

Research Issues and Opportunities

The difficulty in finding sites is the key problem since chance discovery and rescue archaeology have had limited impact over the last forty years. Therefore the main aim over the next decade should be to arrive at a point where we are able to recognise a range of characteristic early medieval settlement types of both high and low status, have some idea of their chronology and changes in settlement types over time and some awareness of potential regional differences. It is only then that it will be possible to ask more sophisticated research questions about the reasons behind such changes and differences and to interrogate the material evidence for what it might reveal about Welsh society in the early medieval period.

A clearer understanding of later fourth-century settlements, both Romanised and more native forms, could provide a valuable starting point. Opportunities should be taken to explore further the fate of towns and the degree of economic and social disruption. In the countryside most villas in south-east Wales appear to have been abandoned by the

mid-fourth century. A similar pattern can be discerned at lower status sites like Thornwell Farm and Caldicot (Mon) (Hughes, G 1996; Insole 2000, 29). If this evidence from the south east is confirmed elsewhere in Wales current academic reluctance to accept the mass abandonment of Roman period rural sites at the end of the fourth and during the fifth century may have to be overcome. The possibility that the withdrawal of the Roman army and other specialists, coupled with population movement on whatever scale, caused significant social and economic upheaval should not be underestimated. Nevertheless discoveries elsewhere would suggest that late Roman rural sites in areas of reasonable soils could be productive. The stray finds from some hut groups, such as Pant-y-Saer and Cefn Cwmwd, and the recent, as yet unpublished, early medieval radiocarbon dates from the settlement at Arddleen (Powys) (Grant 2003), show some use, albeit not necessarily continuity.

Although it is clear that hillforts are an early medieval, high status site type occupied mainly during the fifth to seventh centuries, there are important questions to be answered concerning recognition, chronology, reuse of older sites or construction of new ones, structures, functions, economy and the location of such sites in the broader landscape. The data gathered during the current Cadw-funded *Defended Enclosures Project* being carried out by all four Welsh archaeological trusts may help with recognition of potential sites but this needs to be followed up with more detailed archaeological investigations, including research excavation. Some targeting of the inland promontory forts, which may be comparable to Dinas Powys, would allow us to test the 'Brawdy' hypothesis. Investigation of known sites such as Carew and Gateholm (Pembs) (Edwards and Lane 1988, 70-5) could further refine our models for site identification. It is also important to note that unenclosed settlements, such as

Longbury Bank (Pembs) with its quite rich fifth- to seventh-century assemblage (Campbell and Lane 1993), discovered through chance as a byproduct of Palaeolithic investigation, suggest that many sites of this kind may remain to be discovered. The known reuse of early medieval hillforts for later Welsh and Anglo-Norman castles, as for example at Degannwy (Aberconwy), Dinas Emrys (Gwynedd) and Hen Gastell may also be a valuable pointer to the presence of other sites (Dark, K R, 1994).

The almost total failure to recognise and investigate Viking-age sites remains striking but by the twelfth century a variety of settlement types can be identified and the origins of these should be investigated archaeologically. In particular, many of the sites of the *llysoedd* ('courts') of the Welsh princes, particularly in Gwynedd (Johnstone 1997), can now be identified. Excavations at Rhosyr (Ang) uncovered a range of twelfth- and thirteenth-century buildings (Johnstone 1999) but there was no opportunity to uncover earlier levels so we do not know whether the origins of such sites lie in the early medieval period or later. Likewise the sites of some of the adjacent bond settlements (*maerdrefi*), such as Neigwl and Ystumgwern (Gwynedd), have also been identified. Examples should be targeted for archaeological investigation which might, amongst other things, reveal their origins (Edwards 1997a, 6). Equally, now that Cadw's *Medieval Rural Settlements Project* has been completed (Roberts forthcoming), there is the potential to target abandoned, later medieval farmsteads on good agricultural land to determine their origins as well as answer other questions. So far the only site of this type to be excavated using modern techniques outside areas of Anglo-Norman control is Graeanog (Gwynedd), which seems to have been established around the twelfth century (Kelly 1982), though there was a

hutgroup nearby with indications of early medieval occupation (Fasham *et al* 1998, 155).

Our understanding of early medieval buildings remains sketchy. The further investigation of known sites, which have rectangular structures, such as Gateholm, as well as the recent excavation of the timber buildings from the pre-Viking phase of Llanbedrgoch (Redknap 2004), should help refine our expectations of early medieval settlements and consequently allow us to recognise the often slight traces which survive. The possibility that buildings may have little in the way of below ground structure remains significant, though the recognition in the last decade of several new house types in Scotland (e.g. Pitcarmick and Easter Kinnear) should act as a prompt for researchers working on Wales (Foster 1996, 57-8).

The historical sources suggest that Wales did not create the conditions for urbanism in the early medieval centuries. There is no reason to expect to find a Dublin, a York or a Chester. A clearer understanding of the scale and longevity of Rhuddlan, which seems to be an Anglo-Saxon *burh*, would be desirable, particularly since it was in Welsh hands by the beginning of the eleventh century (Quinnell and Blockley 1994, 208-13). As yet there is nothing to match the manufacturing and trading activity at Whithorn (Dumfries and Galloway) but it is worth remembering that prior to excavation the scale of that site was unknown (Hill, P, 1997). Meols (Ches) provides a model for what is assumed to be a beach market and the following up of coastal finds (e.g. Kenfig, Glam, or Castlemartin, Pembs) analogous to Bantham (Devon) would be desirable (Dark, K R 1994, 91-3; Griffiths 1992).

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

One encouraging development in settlement studies comes from the *Portable Antiquities Scheme*, the funding of which has recently been secured for the forseeable future (http://www.finds.org.uk/). The database of early medieval metalwork from Wales has increased significantly since the inception of this scheme, though it remains small in comparison with England. The potential for artefacts to indicate the location of settlements is well illustrated by the National Museums & Galleries of Wales's recording of finds between 1989-92, crucial to the identification and excavation of Llanbedrgoch. Where detecting is done carefully on ploughed sites and accurately reported it is clearly providing information which the archaeological community should follow up by further exploration, including geophysics, sampling and where appropriate more extensive excavation. The acidic nature of much of Wales means that opportunities to excavate sites with good preservation should be seized even where the sites are not threatened. In this context midden deposits at sites such as Dinas Powys which have had excavation in the past could profitably be investigated using modern techniques of recovery and analysis.

It is likely that early medieval sites will continue be found by chance or in the investigation of other periods. Given how little we know every opportunity should be taken to follow up such evidence.

ECONOMY, LAND-USE AND THE EXPLOITATION OF LANDSCAPES AND NATURAL RESOURCES

Current understanding of the economic basis of early medieval society in Wales neatly encapsulates the difficulties of studying the period as a whole. It is generally agreed that there was a mixed farming economy (Davies 1982, 31-50), necessarily

with an emphasis on animal husbandry rather than tillage in less productive areas, and that the best use of pasture was probably facilitated by transhumance. Other natural commodities must also have been exploited including woodland, wetland, marine and mineral resources. In the south the Llandaff charter material indicates the existence of an established pattern of landed estates (Davies 1978; 1979). The farming economy must have been sufficiently developed to have produced some surplus in order to support the life-styles evidenced on the few high-status sites which have been recognised and where the artefacts include exotic items indicative of long-distance contacts. Further economic central places similar to Llanbedrgoch probably await discovery. Yet the economy seems to have been insufficiently developed to promote the establishment of either larger *emporia* or towns.

Therefore what little is known suggests an overwhelmingly rural economy based on farming and exploitation of the landscape with systems of subsistence and small-scale production, exchange and trade at a variety of levels, local, regional and long distance. Yet there is precious little direct data to indicate what these systems were, how they operated and how they shaped the appearance of the surrounding environment and human landscape. Even where it is possible to 'see' major elements of the early medieval landscape – as, for example, the Offa's and Wat's Dyke systems in the east – there is virtually no knowledge of the contemporary environmental surroundings of such structures, nor how economic factors and political control of resources may have featured in the reasons for their construction in the first place.

Strengths

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

Settlement excavations have produced useful snapshot information relating to economic activity in particular times and places. Though unpublished, the rich environmental assemblages from Llan-gors (Redknap and Lane 1994) and Llanbedrgoch (Redknap 2004) are of great significance. Recent analysis of animal bones from the former has provided evidence for livestock rearing and hunting (Mulville and Powell in prep). This will allow valuable comparison, not only with the contemporary assemblage from Llanbedrgoch, but also with the faunal evidence from the earlier high status site of Dinas Powys (Gilchrist 1988) and later material from Rhuddlan (Levitan 1994) allowing a broader economic picture to emerge.

Particular environmental niches have also produced important evidence for subsistence and wider economic exploitation. The best example is the Gwent Levels (Mon) where areas which had been drained in the Roman period appear to have been abandoned at the beginning of the early medieval period and only reclaimed with the advent of the Normans; yet the presence of fish traps datable to the early medieval period point to continuing specialist activity utilising the particular resources of the littoral and immediate offshore zones (Rippon 1996). Coastal settlement sites have generally, as one might expect, produced remains of marine foodstuffs including shellfish and a range of fish species (Brassil 1987).

In terms of wider industrial activity, exploitation of mineral resources is represented by early medieval radiocarbon dates from the vicinity of the mines on the Great Orme (Aberconwy) (Lewis 1994), Copa Hill (Cere) (Timberlake and Mighall 1992), Pen Cerrig y Mwyn (Carms) and possibly Pen Dylife (Powys) (Timberlake 2003, 33, 39). There is also smithing debris from Abernant, Kemeys Inferior (Newport) (Tuck *et al*

2001) and evidence of metalworking and production activity from Dinas Powys, Llangors and Llanbedrgoch. In line with this, typological evidence suggests that some metal artefacts – such as pennanular brooches of post-Roman type (Fowler, E 1963; Dickinson 1982) – are of local manufacture. Susan Youngs (in litt) has drawn attention to a comparatively rare type of penannular brooch with spatulate terminals and stamped decoration, and its probable western British origins. Found in Wales, for example at Kenfig Burrows (Glam) (Lethbridge and David 1928), and in the Marches, it is attributed to the second half of the sixth or early seventh century. Fragmentary Anglo-Saxon objects from Dinas Powys (Graham-Campbell 1991) and Dinorben (Savory 1971, 133) imply some sort of contact and/or trading with the Anglo-Saxon world. The apparent concentration of Anglo-Saxon metalwork in south-east Wales illustrates the wider cultural landscape for the Dinas Powys assemblage, and the diffusion of objects from England from the sixth century, if not earlier (Redknap forthcoming). Such finds may reflect the influence and political liaisons of kings of south-east Wales and the dynasty of Meurig ap Tewdrig with Anglo-Saxon kingdoms during this period.

In addition to local exchange and trading activity, evidence for commercial contacts further afield – and with the Mediterranean and France in particular – is provided in the fifth to seventh centuries by imported pottery and glass from several high status sites, notably Dinas Powys (Alcock 1963a). This material parallels that from other high status settlements elsewhere in western Britain and Ireland (Campbell 1991; 1996; 2000), and perhaps represents continuation or renewal of trading activity along the Western seaboard first established during the Roman period. Such high status goods contrast sharply with the apparent cessation of local pottery production with later Anglo-Saxon types (St Neots and Chester wares) from the tenth-century *burh* at

Rhuddlan (Quinnell *et al* 1994), Llanbedrgoch (Redknap 2000, 64) and Monmouth (Clarke 1991, 29; Marvell 2001, 86) among the few diagnostically early medieval ceramics known from Wales. In the Viking period there are also silver hoards and coin hoards (Dykes 1976; Boon 1987) the contents of which are indicative of Wales's place in the wider Viking economic world, while the finds from Llanbedrgoch are clearly part of a Viking Irish Sea network.

Weaknesses

In essence, the present picture is mostly derived from only a few sites and local contexts leaving major chronological and spatial gaps in our knowledge; it is also biased towards an unrepresentative sample of specialised and/or high status sites. Moreover, much of that material is actually of a fairly limited nature. We may, for example, have radiocarbon dates suggesting early medieval activity at prehistoric mining sites, but the structural evidence relating to it is minimal.

In overall terms then, we know little of the character and development through time of the early medieval economy, or of the particular patterns of exploitation of different landscape zones. Beyond work that has been done within limited site-based analyses, there has, as yet, been very little broader based pollen analysis to inform a picture of the wider environment of the period (Dark, P 2000, 149-50, 165; Davies 2001). The only exception is the study of Tregaron Bog (Cere) which suggested a reduction in pastoral farming and tillage and woodland regeneration during the early middle ages (Morriss 2001; Hughes, P D M *et al* 2001).[5] Alongside this, it is still not possible to see the physical organisation of the landscape. For example (and in evident contrast to

[5] We are grateful to Astrid Caseldine for bringing this research to our attention.

the proceeding and succeeding periods) there is, apart from that predating the Norman motte at Hen Domen (Powys) (Barker and Lawson 1971; Fowler, P 2002, 152-3), a complete absence of field systems certainly dating to (or in use during) the early medieval period. Similarly, beyond fragmentary evidence that industrial and trading activity was happening, there is no developed sense of how such processes were controlled and organised and how they contributed to wider political and social activity.

Research Issues and Opportunities

In order to improve our knowledge and understanding of the early medieval environment we need to identify a more complete data sample on which to base our analysis. Although this may include further investigation on the limited number of known settlement sites with good environmental evidence and setting them in a broader landscape context, the identification of a wider range of settlements of the period is a priority (see above) with the systematic recording and analysis of the range of environmental data those sites might yield. Similarly, there is an evident opportunity to continue the broad based research within particular landscape contexts which have already yielded high quality environmental data relating to the period (such as the Gwent Levels), and to exploit the chance (in tandem with study of other periods) to identify and explore other niche environments (for example within upland peat and lowland wetland contexts). It is also worth noting that riverine and coastal environments have produced early medieval finds in landscapes comparable to parts of Wales in Scotland and Ireland, and the potential here – for example to identify and explore marine midden deposits – appears considerable.

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

The incidence of radiocarbon dates implying an early medieval component to sites primarily being investigated in connection with other periods (both earlier and later) suggests another significant research opportunity to broaden our understanding of the early medieval environment and economy. However rarity of diagnostic early medieval artefacts means that full sequences of radiocarbon dates will be an important tool in recognising such an early medieval component to known ancient landscapes. The early medieval radiocarbon dates for mining sites (see above) are an obvious case in point, and further research into the detailed nature of the activity associated with these dates is a priority.

Another area where significant opportunities are likely is in the study of metal artefacts. The impact of metal detecting, and more especially from an archaeological research point view, of the *Portable Antiquities Scheme* as a mechanism for getting such finds into the record, promises (for all the issues that come with detecting) to generate a significantly increased sample of material. The challenge here will be to capitalise on this growing database. Some cataloguing and synthesis of this metalwork has already demonstrated the potential for valuable insights into mechanisms of production and the scale of exchange (Redknap forthcoming); further recording and specialist studies are essential to increase our understanding of the economy. Similarly, further research on intrusive pottery would be valuable, notably on the late fourth-century Calcite-gritted wares imported from the East Midlands (the latest pottery found at Wroxeter) which have a largely coastal distribution in south Wales.

A co-ordinated programme of palaeo-environmental work/pollen sampling across Wales is of the greatest importance since it has the power to generate significant

insights into the effects of climate deterioration and amelioration and local and regional patterns of vegetation succession and change, as well as demonstrating the particular nature of plant resources available at a given place and time. Clearly such a research programme is of broader interest than just the early medieval period, though particular monuments – for example coastal middens such as Twlc Point (Pembs) and Offa's and Wat's Dykes – may additionally preserve sealed environmental deposits offering specific insights into the early medieval environment. Work currently in hand by the Clwyd-Powys Archaeological Trust (with funding from Cadw) to investigate the short dykes of mid Wales is already yielding quality information of this kind (Hankinson 1993).

Framing these opportunities are – given the current state of knowledge – some very basic research questions. What was the wider environmental context of the early medieval landscape? What was the detail and nature of early medieval patterns of industrial activity, exchange and trade? How were local systems of agricultural production organised, and what did they consist of? What use – for both subsistence and other aspects of economic production – was made of the range of different environments across Wales? If the end point of such questions is to inform additional analysis of how economic patterns influenced – and were influenced by – processes of early medieval social, political and cultural interaction, it is perhaps too early as yet to begin to phrase that next tier of enquiry in any informed way. Failure to build on and peer through the current fragmented evidence to develop more sophisticated models and understanding of the early medieval economy will only result in a vicious circle where poor knowledge begets a vague and unsuccessful research focus and hence continuing poor knowledge.

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

ECCLESIASTICAL SITES, CEMETERIES AND SCULPTURE

Though scarcely glimpsed archaeologically, the origins of Christianity in Wales lie in the Roman period, but how widespread or effective it had become by 400 is open to debate and certainly remains to be demonstrated. Nevertheless the development of the early Christian church is one of the most fundamental historical processes of the early medieval centuries. During the fifth and sixth centuries evidence on some of the inscribed stones suggests the spread of Christianity, at least amongst the upper echelons of society, and it is likely that during the sixth century many of the major monastic sites were founded. Around the eighth(?) century there may have been a gradual shift from burial in kin cemeteries to burial associated with ecclesiastical sites which eventually became parish churches and chapels of ease; in addition some early cemeteries developed into local church sites. Some minor churches may have been connected with landed estates. Over the last few years there have been some major advances enabling recognition and increased understanding of early medieval ecclesiastical sites in Wales (Edwards and Lane 1992; Edwards 1996); however, remarkably little archaeological excavation has taken place. In contrast, excavations of cemeteries have been more widespread and several significant sites have been investigated. There has also been renewed interest in the important corpus of early medieval inscribed stones and stone sculpture (Nash-Williams 1950).

Ecclesiastical Sites

Strengths

Completion in 2004 of the pan-Wales Cadw *Early Medieval Ecclesiastical Sites Project* carried out by the four Welsh archaeological trusts may be seen as an important landmark (articles summarising the major results will appear in Edwards forthcoming b). For the first time relevant archaeological and documentary evidence

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

for the identification of a hierarchy of early medieval ecclesiastical sites has been systematically gathered, checked by fieldwork and evaluated allowing recommendations for scheduling and an appropriate response when the archaeology is threatened. It also provides a vital base-line for the development of a research strategy for the future.

Weaknesses

It is possible to identify the locations of almost all the major ecclesiastical sites noted in the early medieval sources, for example St Davids (Pembs), Llantwit Major (Glam) and Clynnog Fawr (Gwynedd), though Bangor-on-Dee (Wrexham), the important early monastery mentioned by Bede (*Ecc Hist* II.2; Sherley-Price 1990, 106-7), remains a notable exception. However, the first documentary reference to a site is often centuries after its likely foundation. Moreover not a single major ecclesiastical site has undergone any significant programme of modern archaeological exploration and excavation. This is partly because of the continuity of Christian worship on almost all these sites up to the present. Nevertheless the situation contrasts greatly with that elsewhere in Britain and Ireland where a significant number of important excavations on major ecclesiastical sites have taken place over the last forty years. Although some of these, for example Clonmacnoise (King 1992; 1998a; 1998b; 2003; Moore, F, 1996) and Portmahomack (Carver 2004), have been on ruinous sites, others, such as Whithorn (Hill, P, 1997), Monkwearmouth and Jarrow (Cramp 1969) and Winchester (Biddle and Quirk 1962) have been located adjacent to the present buildings.

With the notable exceptions of Burry Holms (Swansea), an island site which remains unpublished (RCAHMW 1976, no 821, fig 5), Capel Maelog (Powys), an abandoned

chapel (Britnell 1990), Pennant Melangell (Powys), which underwent targeted excavation during major church renovation (Britnell 1994) and the redundant church at Llanychlwydog (Pembs) (Murphy 1987), the same lack of modern archaeological investigation is true for smaller ecclesiastical sites in Wales. Although a proportion of these local churches and chapels have been abandoned, many are on the sites of present parish churches and chapels of ease. Such sites, with the exception of those, mainly in south-east Wales, which are noted in the Llandaff charter material (Davies 1978; 1979), seldom appear in the documentary record before the thirteenth century and have otherwise been identified through a combination of indicators, some more reliable than others. These include the presence of early medieval sculpture, characteristic burials, sometimes dated by radiocarbon, curvilinear enclosures, holy wells and church dedications (Edwards 1996). A further problem is the lack of pre-Romanesque church fabric in Wales with the exception of the Anglo-Saxon outlier at Presteigne (Powys (Taylor and Taylor 1965, ii, 497-9).

Research Issues and Opportunities

Having identified a range of definite and likely ecclesiastical sites, future research should be formulated to answer some fundamental but very basic questions. Interdisciplinary research is essential but archaeological investigation should play a leading role. Firstly, what are the origins, patterns of development and chronology of early medieval ecclesiastical sites in Wales and how do these relate to the emergence of the parish system? Secondly, what can archaeological excavation tell us about structures and other features associated with individual early medieval ecclesiastical sites in Wales, their layout, spatial patterning and associated functions? Thirdly, how do individual sites fit into the broader picture – not only ecclesiastical hierarchies and

landscapes, including estates, but also the relationship between church sites and the pattern of secular settlement? It is only when we begin to answer these questions that we shall be able to compare and contrast the archaeological evidence for the early medieval Welsh church with that in other parts of Britain and beyond.

Having identified the sites, the essential next step over the next decade or so is for carefully focussed research programmes directed towards answering these questions. Small-scale rescue excavations and watching briefs are unlikely to produce significant breakthroughs. To begin with a small number of sites, both major and minor and in different parts of Wales, which have already been identified as having major potential, should be targeted for systematic programmes of non-destructive archaeological exploration of both the sites themselves and their surrounding landscapes using aerial photography, geophysical survey and the study of map evidence. Where appropriate these should be followed up with carefully targeted excavations to test the stratigraphy, the survival potential for environmental evidence and human bone, and to obtain dating evidence. These sites are likely to include examples, such as St Arfans (Mons), where the focus of the site may have shifted slightly (Redknap forthcoming), sites long abandoned, such as Llanfihangel Ysgeifiog (Ang), and both working and redundant churches undergoing major repair programmes as these arise. Modest, carefully focused research programmes on complex sites and their landscape settings and the development of these over time, for example Llantwit Major (Glam) or Clynnog Fawr (Gwynedd), also have the potential to yield valuable evidence. When the results of such research programmes have been analysed, the opportunity should then be taken to conduct one or two larger research excavations on contrasting sites already identified as having significant archaeological remains. It is recognised

that the active support and involvement of church and local communities is essential to the success of such projects, as has been demonstrated at Whithorn and Portmahomack in Scotland. It is also relevant to note the potential for heritage and other development opportunities and the archaeological funding which these might release.

Cemeteries

Strengths

Over the last thirty-five years there has been an increasing number of significant cemetery excavations in different parts of Wales, some of which have yet to reach final publication. These include undeveloped sites such as Caer Bayvil (Pembs) (James 1987), Plas Gogerddan (Powys) (Murphy 1992), Tandderwen (Denbs) (Brassil *et al* 1991) Capel Eithin (White, S I and Smith, G, 1999), Arfryn and Tŷ Mawr (Ang) and the Atlantic Trading Estate (Glam) (James 1992, 96-8); developed but abandoned chapel sites such as Capel Maelog (Powys) and Capel Ffraid (Ang) (Davidson 2002; 2003); and Bangor (Gwynedd) (Longley 1995) and Llandough (Cardiff) (Thomas, A and Holbrook, N 1994) which are within or adjacent to major church sites. Early medieval radiocarbon dates have also been obtained for skeletons from early excavations at the Roman villa at Llantwit Major (Redknap and Roberts in prep). Atlantic Trading Estate, Llandough and Capel Ffraid (Ang) are particularly important because of good bone preservation, unusual in the acid soils of Wales. At Llandough detailed research has been done on the palaeopathology of the large skeletal assemblage (Loe 2003; forthcoming) and at Capel Ffraid a programme of DNA testing has also been carried out.

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

Research Issues and Opportunities

Some longstanding research questions remain to be answered but the increasing amount of data also makes it possible to formulate new questions. Undoubtedly the most pressing is the need for a better understanding of dating and chronology. The number of radiocarbon dates is gradually increasing. However, we also need to discover the origins of undeveloped inhumation cemeteries and how long they remained in use, the origins of particular grave types, notably long cists in west Wales, and when they were finally abandoned, and the pattern of growth of individual cemeteries. It is particularly important to break down the traditional boundary between the Roman and early medieval periods. This would allow regional differences to be identified and questions answered about the possibility of the survival or revival of some Iron Age traditions in the later Roman or post-Roman centuries and the relationship of some early medieval cemeteries to prehistoric monuments. Equally, can cemetery locations and burial rites tell us anything about conversion to Christianity? Breakthroughs in palaeopathology and the scientific analysis of human bone, including DNA and oxygen and strontium isotope analysis, offer exciting opportunities for addressing questions about the health of the early medieval population of Wales, their family groupings, place of origin and ethnic identity.

In order to make progress in answering these questions, firstly the data from the increasing number of modern excavations needs to be systematically gathered and interrogated alongside the reassessment of older material on a pan-Wales basis taking in the later Roman period as well as the early medieval centuries. Secondly, opportunities should be taken to assess the archaeological potential of possible early

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

medieval cemetery sites, including sites already identified or investigated before the availability of scientific dating, and to obtain further radiocarbon dates. However, it should be remembered that graves seldom show up in geophysical surveys, only enclosures and boundaries, and in eastern Wales it has proved particularly difficult to identify potential early medieval cemeteries because long-cist graves are rare. Where opportunities arise for more extensive work priority should be given to sites with good bone survival and, if total excavation is not possible, the investigation of significant areas to include peripheries and boundaries and the landscape context. Only major excavations of individual sites with a representative number of radiocarbon determinations can hope to identify the size of the cemetery population, the type of community represented, changes over time and how long it was in use.

Sculpture

Strengths

Over 500 examples of early medieval inscribed stones and pieces of stone sculpture have now been identified in Wales. These are an unrivalled source of epigraphic, linguistic and artistic information which can tell us, not only about the development of Christianity in Wales, but also about society, identity and cultural (including Irish Sea, English, Continental and Scandinavian) connections. The complete publication of the new *Corpus of Early Medieval Inscribed Stones and Stone Sculpture in Wales* (Redknap and Lewis 2005; Edwards 2005; forthcoming a) will therefore be an important milestone. Research by Sims-Williams (2002; 2003) on the language of the stones has independently reviewed the dating and cultural significance of the inscriptions while that of Tedeschi on the epigraphy (1995; 2001; forthcoming) and Charles-Edwards (2000) has revealed important evidence of Roman period origins for

the scripts and the British contribution to the evolution of Insular scripts. The recent establishment by Cadw of a *National Committee for Recording and Protection of Early Medieval Inscribed Stones and Stone Sculpture* should also be noted.

Research Issues and Opportunities

The *Corpus* includes discussion of the discovery and context of each monument. As a result a small number of monuments, for example Llanfaelog 1 (Ang), Gelli-Gaer (Cefn-Gelli Gaer) 1 (Merthyr Tydfil), *Maen Achwyfan* (Flints), may be identified as probably *in situ* while others, such as Penbryn 1 (Cere), Fishguard South 1 (Pembs) and the Pillar of Eliseg (Denbs), are at or very close to their original sites and the earliest recorded locations of a significant number of others can be pinpointed. Many others have been found during church restoration, grave-digging or built into churchyard walls strongly suggesting their original association with these sites and indicating their early medieval use. The archaeological investigation, including excavation, of the known contexts of a small number of inscribed stones and their landscape settings, where these are apparently unassociated with church sites, would be particularly valuable since this might finally resolve the issue of whether they actually marked graves and the significance of associations with cemeteries, prehistoric monuments and/or Roman roads. Multidisciplinary investigation of the context of some other monuments, for example the cross known as *Maen Achwyfan* (Nash-Williams 1950, no 190) where some archaeological investigation of the surrounding landscape has already been carried out (pers comm David Griffiths), should be seen as part of projects to ensure their future preservation and display. The legacy of early medieval sculptural traditions in the twelfth and thirteenth centuries and the implications of this also merit research.

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

SOCIAL AND CULTURAL CONTINUITY, CHANGE AND CONFLICT

What was the pattern of relationship and interaction between different political and cultural groups in the early medieval period and what was the extent and influence of incursion and/or settlement by incoming Irish, Scandinavians and Anglo-Saxons? At the end of the period what was the nature of the transition to Norman administration? Documentary sources for the early medieval period in Wales have been instrumental in shaping archaeological and other research on subjects such as Roman survival, the evolution of kingdoms, the impact of Irish settlement at the end of the Roman period and its continuing cultural influence, the effects of Viking raiding and other activities, both in the Irish Sea and elsewhere, and changing relations with the Anglo-Saxons and their increasing pressure in the border regions. The study of place-names and language has also played a significant role. Archaeologically, with the exception of the Viking phase of the settlement at Llanbedrgoch (Ang) (Redknap 2004), the Anglo-Saxon *burh* at *Cledemutha* (Rhuddlan, Denbs) (Quinnell and Blockley 1994; Manley 1987) and Llan-gors crannog (Powys) (Redknap and Lane 1994) which demonstrates Irish influence however indirectly, external influences on settlements have proved very difficult to identify. Offa's, Wat's and the Short Dykes, however, are monuments of great significance which have the potential to shed considerable light on English/Welsh border relations in this period. Otherwise we are dependent on identifying distinctive artefacts indicative of potential Irish, Anglo-Saxon or Viking activity and/or influence and trying to tease out the nature of the human contacts which lie behind them.

Irish Settlement and Cultural Contact

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

There is an ongoing debate amongst early medieval archaeologists (e.g. Campbell 2001) (as there is amongst prehistorians) as to how we can use material evidence to distinguish between cultural influence and significant population movement. However, there seems no reason to question the long held view that at least some Irish influx took place in Wales at the end of the Roman period in the kingdom of Dyfed and to a lesser extent elsewhere, notably Brycheiniog. Archaeologically, this is supported by the presence of ogam-inscribed memorial stones, a handful of which are monolingual. Finds of ornamental metalwork which appear to be of Irish type probably indicate cultural and economic contacts rather than settlement (though concentrations of such metalwork might be significant); there are no indications that Irish colonists lived in distinctive settlement types and wattle roundhouses are a feature of both sides of the Irish Sea.

It may, however, be possible to make progress by addressing broader research questions. Firstly, a reassessment of the concept of the 'Irish Sea Province' (Moore, D, 1970) and the changing nature and intensity of contacts around the Irish Sea in the early medieval period might prove illuminating. Similarly comparison could usefully be made with such contacts during earlier and later periods, notably the Bronze and Iron Ages and later middle ages. Secondly, research on the inscribed stones and stone sculpture of northern Pembrokeshire (Edwards 2005) has revealed the significance of cultural and other contacts around and across the Irish Sea throughout the period. This strongly suggests that northern Pembrokeshire was the area of most intense Irish settlement at the end of the Roman period (Thomas, C 1994), but this now needs to be investigated further, perhaps as part of wider landscape archaeological surveys in the area.

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Viking Activity

Over the last twenty years there has been an increasing awareness of the Viking impact, including some settlement in the ninth and tenth centuries, in Anglesey and possibly Arfon in the north west and in Tegeingl (Flints) in the north east, as well as the importance of the trade route between Dublin and Chester and on to York and wider economic contacts around the Irish Sea (Davies 1990, 48-60; Edwards 1999; Loyn 1976). The settlement at Llanbedrgoch (Ang) is of international significance. This situation contrasts with the evidence from the south west where the presumption of settlement, probably later in the tenth and eleventh centuries with the rise of Bristol as a trading port, is largely based on place-names (Richards 1975; Charles 1998, i, xxxiv-xxxvii; Loyn 1976, 20). Archaeological evidence for this pattern is confined to occasional artefacts and some examples of Viking-influenced sculpture (Redknap 2000). For the future major questions still remain concerning the nature, extent and date of Viking settlements, as well as the impact of other contacts, cultural, economic and violent.

Some areas for future research can be suggested. Firstly, as already demonstrated at Llanbedrgoch, clusters of Viking-age metalwork may be indicative of settlement and therefore steps should be taken for exploratory archaeological investigation and more major excavation where appropriate. Secondly, multi-period research on the landscapes of ports, harbours and landing beaches, as well as maritime routes, might shed further light on economic activity at this time. For example, at Llanddewi Aber-arth (Cere) a Viking-style hogback is located in the church overlooking the mouth of the Arth and an associated beach (Edwards 2005) and at Laugharne (Carms), which is

located on the west side of the Taf estuary, there are both Viking-influenced sculpture and late Anglo-Saxon coins (Dykes 1976, 20, 27). Further study of the contexts of Viking-age hoards might also prove rewarding. Further archaeological investigation of Buttington (Powys), particularly in the vicinity of the church and its environs, should also be carried out in order to determine whether this was the site of the joint English/Welsh victory in 893 over a Danish army after a prolonged siege (Redknap 2000, 32-5). The opportunity for further investigation might be taken prior to the proposed development of an industrial estate in the village. However, radiocarbon dating of skeletal evidence from charnel pits in the churchyard has proved to be of post-medieval date (Redknap and Roberts in prep). The completion of a full programme of radiocarbon dating and scientific analysis of the surviving skeletal evidence from the few presumed Viking burials in Wales would also be instructive (Redknap 2000, 94-8; Redknap and Roberts in prep; Dane, Edwards and Roberts in prep).

Relations with the Anglo-Saxon Kingdoms

Offa's, Wat's and the Short Dykes

Offa's and Wat's Dykes, which straddle the border between England and Wales, are amongst the most substantial monuments of the early medieval period in Britain; they have the potential to provide key evidence of the evolving relationship between the Anglo-Saxons and the Welsh. They were the subject of pioneering fieldwork by Cyril Fox (1955) and further research by Frank Noble (1983). Over the last thirty or more years there has been an extensive programme of multidisciplinary research and archaeological investigation known as the *Offa's Dyke Project*, which, though as yet unpublished, has done much to clarify the course and character of Offa's and Wat's

Dykes (Hill, D, 2000; Hill, D and Worthington, M, 2003) and provides an important base-line for future research. A Cadw-funded research project has also been initiated to investigate the Short Dykes.

Nevertheless, there are still major research questions to be answered. Firstly, much still needs to be done to elucidate the dating and chronology of the dykes. On the basis of the historical evidence (Asser), there seems no reason to doubt that Offa's Dyke was built during Offa's reign (757-95), but the dating of Wat's Dyke and all the Short Dykes remains uncertain. The only radiocarbon date from Wat's Dyke, which centres on the fifth century (cal AD 411-561, 1 sigma; cal AD 268-630, 2 sigma; Hannerford 1997), came from a hearth underneath the dyke and therefore only provides a *terminus postquem*. Secondly, there are still questions to be answered about the line of Offa's Dyke, particularly its presence or absence across Herefordshire, which is crucial to understanding its significance in Powys. Thirdly, many aspects of the varying earthwork and other constructional features still need to be clarified, especially the presence or absence of entrances and palisades and the complexity of Offa's Dyke. Fourthly, scant work has been done on the landscape context of the dykes since Fox, and we have little idea of the environments they passed through or how they related to established settlement patterns. It is only when we have a better understanding of the above questions that the functions of the various dykes can be satisfactorily resolved: though the general context of Offa's Dyke suggests that it marked a boundary between Mercia and the Welsh kingdoms, there are still conflicting interpretations about its function(s) ranging from defence to treaty marker.

This was originally published in Archaeology in Wales, 2005, Volume 45, pp 33-46

Progress towards answering these questions should be made as part of a long-term conservation plan for the dyke systems involving heritage bodies on both sides of the modern border. Firstly, where the lines of the dykes are still unclear, these need to be clarified using aerial photography, geophysical survey and trial excavation where appropriate. Secondly, the large number of small sections across Offa's and Wat's Dykes have been unable to answer many of the most pressing questions so opportunities should be sought for a small number of larger rescue and/or research excavations with accompanying landscape and palaeoenvironmental research. Whether or not there were palisades is a matter of some urgency since parts of the Offa's Dyke Footpath run along the tops of the dykes. Every opportunity should also be taken to collect samples for radiocarbon dating in order to try and build up a better picture of dating and chronology; this is particularly important for Wat's Dyke and the Short Dykes.

Other Evidence

The only archaeological evidence of definite Anglo-Saxon settlement in Wales is the *burh* at *Cledemutha* (Rhuddlan, Denbs) briefly established by King Edward the Elder in 921, which was intensively investigated in the early 1970s with some work since (Quinnell and Blockley 1994; Manley 1987). There is also tantalising evidence from Monmouth which points to structures pre-dating the early Norman defences (Clarke 2001). Further opportunities to investigate these sites should be taken where appropriate. Otherwise the Anglo-Saxon influenced vegetal ornament on the crosses at Penally (Edwards 2005) and the pieces of Anglo-Saxon ornamental metalwork from Dinas Powys (Graham-Campbell 1991) have been found in obviously Welsh contexts, where they are indicative of cultural contacts (see above). However chance

discoveries of Anglo-Saxon ornamental metalwork are now increasingly found as the result the *Portable Antiquities Scheme*. Links between Wales and Anglo-Saxon England are reflected in this material, though the basis for an assessment of acculturation remains statistically weak. The scattering in Monmouthshire, an obviously border area, may be indicative of Anglo-Saxon settlement and there are also finds from coastal areas of the Vale of Glamorgan. The contexts of these finds need to be more closely investigated, especially where there are concentrations.

RECOMMENDATIONS AND CONCLUSIONS

This discussion has demonstrated that over the last twenty-five years or so some significant advances have been made in our understanding of the archaeology of early medieval Wales, most notably in the identification and archaeological investigation of a handful of settlement sites, the recognition of a hierarchy of ecclesiastical sites and the excavation of around fifteen cemeteries. However, many of the most basic questions remain to be answered. This is because of the continuing invisibility of much of the archaeology, particularly a range of characteristic settlement types and the paucity of artefacts except on high status sites. It has also been shown that, with the exception of cemeteries, remarkably few discoveries have been made through rescue archaeology.

This discussion has therefore emphasised the need for increased data obtained through carefully developed research programmes of archaeological investigation, some of which will fall within the scope of multi-period projects. The importance of an interdisciplinary input at all stages should be emphasised.

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The following should be given priority:

- Identification of potential early medieval sites, particularly secular settlements, through collation and assessment of new and existing information sources.
- Confirmation of potential early medieval sites through fieldwork, trial excavation and the application of dating techniques.
- Full archaeological investigation and characterisation of a sample of identifiable early medieval sites, both secular and ecclesiastical, in different regions, through fieldwork and excavation, and an understanding of their location in the wider landscape, both physical and temporal.
- Detailed analysis of early medieval artefacts and their contexts and characterisation of site assemblages.
- Identification and analysis of environmental evidence from excavated samples and increased pollen sampling.
- Analysis of human remains for information on origins, demography, health, nutrition and transfer of pathogens.
- Improving understanding of the chronological framework for the period through the application of all available methods and increased use of radiocarbon dating, especially on multi-period sites.
- Engaging with relevant research on early medieval material culture elsewhere in Britain and Ireland thereby setting the evidence from Wales within a broader context.

With advances in these areas, there will be increased opportunities to address broader issues including:

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- Establishing a hierarchy of secular settlement types in a broader landscape, analysing regional and chronological differences and considering the implications for an increased understanding of early medieval society in Wales.
- Constructing a better understanding of the economy: organisation and exploitation of land and resources, the impact of climate and other changes on the landscape, craftworking and mechanisms of exchange and trade.
- Gaining insights into the chronology and process of Christian conversion, the evolution and changing functions of religious sites and the broader impact of these on the landscape and early medieval society in Wales.
- Building increased understanding of the changing relationships and mechanisms of contact between different parts of Wales with England, the Irish Sea zone and further afield, as well as the survival of Romano-British culture and the Viking impact.

Such recommendations necessarily raise important funding implications, not only for the investigation and excavation of the sites themselves, but also for dealing with conservation, post-excavation research and prompt publication of the results. Here it is envisaged that modest research funding to initiate projects of archaeological investigation, if successful, would then be able to attract funding from a wider range of sources which are likely to include partnerships (including those with heritage and tourism) and community participation.

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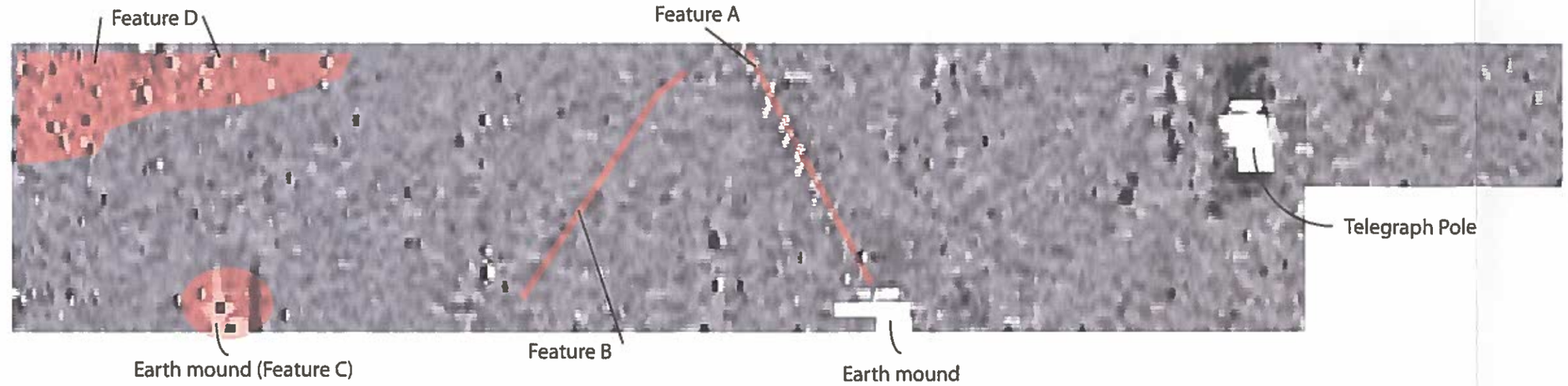
CAMBRIAN
ARCHAEOLOGICAL
PROJECTS

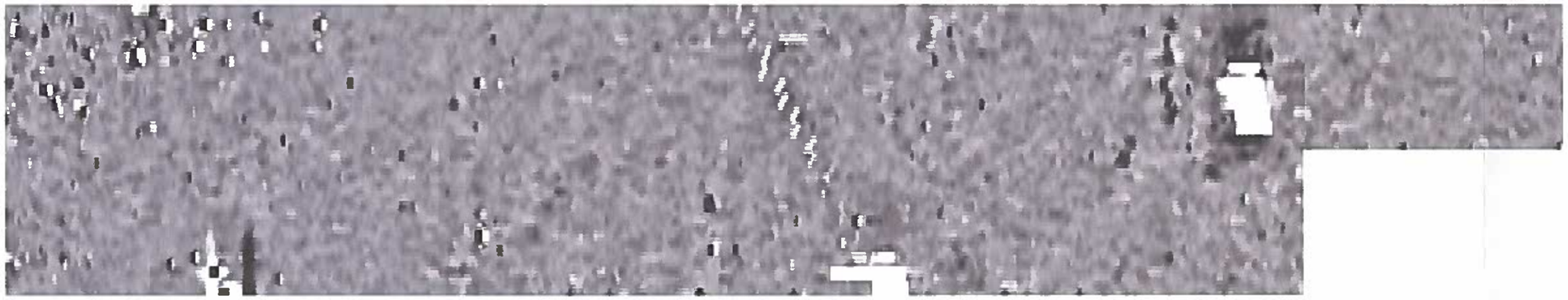
APPENDIX IV:
Archive Cover Sheet

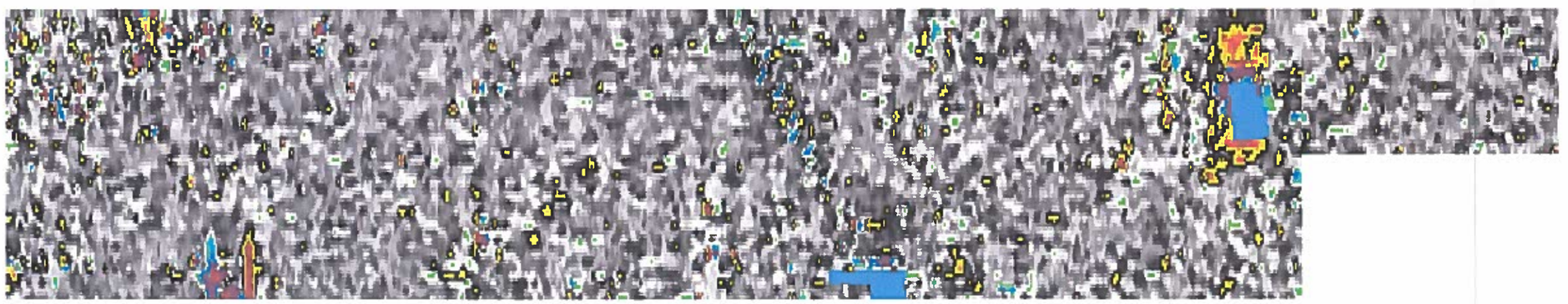
ARCHIVE COVER SHEET

Croesgoch, Pembrokeshire

Site Name:	Croesgoch, Pembrokeshire
Site Code:	TFC/09/DBA&GEO
PRN:	-
NPRN:	-
SAM:	-
Other Ref No:	-
NGR:	SM 82767 30384
Site Type:	Agricultural land
Project Type:	Desk based assessment and geophysical survey
Project Manager:	Chris E Smith
Project Dates:	September 2009
Categories Present:	N/A
Location of Original Archive:	CAPLtd
Location of duplicate Archives:	-
Number of Finds Boxes:	-
Location of Finds:	-
Museum Reference:	-
Copyright:	CAPLtd
Restrictions to access:	None







0 60m

Job Title:	Croesgoch, Pembs
Drawing Title:	Geophysics Plots
Date:	14/09/09
Drawn By:	CES
Scale:	See illustration
Figure 07:	

CAMBRIAN ARCHAEOLOGICAL PROJECTS