

PEN Y MAEN PROPOSED WIND ENERGY PROJECT

ARCHAEOLOGICAL ASSESSMENT PHASE 2

Project Record No. 41361

Report Prepared for:
DULAS LTD



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CAMBRIA ARCHAEOLOGY

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By

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SUMMARY

The second phase of an archaeological assessment was undertaken of the Pen y Maen proposed wind energy project near Tregaron in Ceredigion. The work was carried out by Cambria Archaeology in July and August 2000 on behalf of Dulas Ltd. The work involved the on-site examination of the proposed location of 36 wind turbines and associated access tracks. The direct physical impact of the proposed development on individual archaeological sites is considered minimal. A few minor adjustments to the location of some turbines and access tracks is suggested. The wider impact of the proposed wind energy project on the historic landscape is also considered.

INTRODUCTION

The following report details the results of a Phase 2 archaeological assessment for a proposed wind energy project at Pen y Maen near Tregaron in Ceredigion (centred on NGR SN760590). The assessment was undertaken by Cambria Archaeology in July and August 2000 and was commissioned by Dulas Ltd. The assessment conformed to a specification prepared by Cambria Archaeology in November 1999 (Appendix 4). Phase 1 of the assessment involved initial desk based research and consultation to identify sensitive archaeological areas (Jones and Murphy 2000). The results of the Phase 1 work have been incorporated into this report. The Phase 2 assessment included a field visit in order to provide full assessment of the impact of the proposed wind energy project.

Project objectives

To assess the character, extent, significance and vulnerability of any archaeological sites, features or deposits within the area of the proposed wind energy project.

To identify those sites, features or deposits that require further archaeological investigation.

To assess the wider impact of the proposed wind energy project on the historic environment.

The final preparation of a report fully representative of the information recovered, which places the archaeological resource of the survey area in its local, regional and national contexts.

The preparation of a project archive.

Methodology

Phase 1 - Documentary and cartographic research

A search was made of readily available primary historic documents held in county and national records repositories for archaeological information relevant to the assessment area. Cambria Archaeology had previously undertaken two major uplands surveys that covered the area of this project and beyond. These surveys provided the main source of information for Phase 1 of this assessment.

A search of secondary, published sources.

A search of available technical data (e.g. bore-hole logs and geological survey data) for information regarding the geological and geomorphological development of the assessment area.

An examination of aerial photographic coverage held in the SMR and by the RCAHMW, Aberystwyth.

Phase 2 - Field visits

A field visit was made to the assessment area following the receipt of all necessary permissions regarding access to all land along the route. The field visit was intended to:

Review the current state of archaeological sites, features and deposits identified during the Phase 1 documentary research.

Identify new archaeological sites, features and deposits, or areas that may contain them.

Carry out rapid recording of archaeological sites, features and deposits by photography, site notes and sketch plans.

Assess the vulnerability of archaeological sites, features and deposits.

Project archive

All the information gathered during the documentary research and field work has been collated into a project archive in accordance with the National Monuments Record's recommendations and procedures.

The project archive will be held by Cambria Archaeology and will be available for consultation following prior notification.

ABBREVIATIONS

The sites recorded on the Regional Sites and Monuments Record (SMR) will be identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Any new sites discovered during the course of the project were allocated a new PRN and identified by their NGR.

LOCATION AND TOPOGRAPHY

Location of proposed wind energy project

The area of the proposed wind energy project (the study area) covers approximately 8 square kilometres centred around Ordnance Survey grid reference SN 760590, and is situated 8km east of Tregaron within the parish of Caron-Uwch-Clawdd, Ceredigion (Figure 1). To the north and east of the study area are forestry plantations. The southern boundary is formed by the minor road from Tregaron to Abergwesyn, the farm track from the road to Nant-y-Maen farm, and the track-way (PRN 29849) westward from the farm. The western boundary is formed along north-south Ordnance Survey grid easting SN 74650 (Figure 2).

Geology

The local geology consists of hard shales, mudstones, silty flags, grits and conglomerates of the upper Llandovery series of the lower Silurian system. The rocks are well bedded, outcropping in near vertical strata in some places. The weathering of outcrops produces large slabs 50mm to 150mm thick, which were used extensively in the nineteenth century for walls, gateposts, flooring, troughs etc. They were also used in the Early Bronze Age in the construction of ritual cairns, being used for both kerbs and cists.

Topography

The northwestern part of the study area, to the south and southeast of Llyn Crugant (Figure 3), is high ground above 470m, but mainly relatively flat. It has large areas of peat bog, mostly covered in tussock forming grasses (mat-grass *Nardus stricta* and purple moor grass *Molinia caerulea*), with some sedges and mosses (notably *Sphagnum*, types not identified)(Philips 1980). Rising from the flatter areas are a series of small ridges running north-east to south-west, occasionally quite steep-sided. These ridges are formed by outcrops of the underlying bedrock and have areas of short cropped grass (mainly bent *Agrostis* and fescue *Festuca*), although there is still a considerable amount of mat-grass. Three streams begin within this area: Groes Fawr from Llyn Crugant, Camddwr, and Nant y Maen (Figure 3).

Further to the south the high ground slopes steeply down to the trackway (PRN 29849) on the north side of the valley, running from the west of Nant-y-Maen farm (Figure 3). Most of this steeply sloping hillside is covered with short cropped grass, with occasional stone outcrops.

From the northernmost area, the Nant y Maen stream runs south in a gully, with a small amount of level ground (former stream bed) in places within this gully. Above the west side of the gully and south to Nant-y-Maen farm the ground gently undulates and is nearly all peat bog covered with mat grass.

In the area east of the Nant y Maen stream to the new forestry track (Figure 3) the ground is mostly gently sloping and covered in mat-grass; however the end of a hill immediately to the south of the forestry area is steeper and covered in close cropped grass. The northeastern area is bordered on three sides by forestry plantation and is nearly all covered in mat grass, with a little bracken in a few places. The lower parts are extremely boggy.

A prominent ridge runs from southwest to northeast, to the east of the forestry track. Nearly all of this ridge is covered with closely cropped grass, with a number of stone outcrops. To the south of the ridge there is more level ground, covered in mat-grass with peat bog. The ground rises to a hill, Esgair Gelli with a considerable peat bog both on it and to the northeast; most of this is again covered in matgrass south to the road.

RESULTS OF ASSESSMENT

Phase 1 - desk based assessment

Introduction

The study area lies within a landscape (Ucheldir Ceredigion/Upland Ceredigion) which has been included on the Register of Landscapes of Outstanding Historic Interest in Wales (ICMOS UK/CADW/CCW 1988). A characterisation of this historic landscape was undertaken by Cambria Archaeology in 1999 (Murphy 1999). Parts of the study area also lie within the areas of two other historic landscape surveys undertaken by Cambria Archaeology (Muckle and Williams 1993 and Crane 1995). Further details of these three studies are provided below. Details of all the archaeological sites that lie within, or adjacent to, the study area are provided in Appendix 1.

The Register of Landscapes of Outstanding Historic Interest in Wales and landscape characterisation
The proposed wind energy project lies within Bryngwyn Bach character area of the Ucheldir Ceredigion/Upland Ceredigion (HLW (D) 2, t./p.14) Landscape of Outstanding Historic Interest. This character area was defined and described in 1999 (Murphy 1999). The following is the relevant character area extract:

13 BRYNGWYN BACH

GRID REFERENCE: SN 757574

AREA IN HECTARES: 3916

Historic Background

This extremely large historic landscape area crosses from Ceredigion into Carmarthenshire. It is entirely upland and included within it are parts of the Bishop of St David's Llanddewi Breifi estate and Strata Florida Abbey's Penardd Grange. It is likely that by the late Medieval Period both these holdings would have been divided into farms which were leased out and farmed on a commercial basis. The antiquity, however, of the upland farms contained within this area is uncertain, but it is likely that some originated in the Medieval Period, in the manner indicated above, while others may well have started as squatter settlements in the 18th- or early 19th-century. The 20th century has witnessed an abandonment of these farms, and only a handful are now occupied. The surviving chapel at Soar y Mynydd testifies to the once more populated nature of this area. The farms are clearly an important element in the landscape, but the vast majority of the land in this area is, and has been for at least the last few centuries, unenclosed, and would have been claimed by the Crown. Crossing the area are important trans-mountain natural route-ways linking the farming communities of Ceredigion with lands and towns to the east. These trans-mountain route-ways are celebrated for their use by drovers in the historical period, but they are likely to be of great antiquity, and not only provided communication across the Cambrian mountain chain, but allowed access onto the high moorland for the establishment of permanent or seasonal settlement, for the grazing of animals and for peat cutting.

Description and essential historic landscape components

This is a very large tract of unenclosed upland with an uneven and widely dispersed settlement pattern of upland farms. At the northern end unenclosed land runs down to as low as 200m, with heights of over 500m achieved in the central area. On average the height range is between 300 and 450m. The landscape is rarely craggy; wide stretches of undulating moor with blanket bog on higher levels and peaty hollows is the norm. There is abundant evidence of deserted settlements across this area, particularly along the route-ways. Occupied farms, of note is Nantymaen, are traditionally stone built, surrounded by a collection of modern farm buildings, and situated within a system of just a few fields. Older boundaries of these fields consist of earth banks, but wire fences now provide the stock-proof barriers. These fields now comprise improved pasture, and there are further blocks of unenclosed improved pasture close to the farms. Apart from a block of recent forestry, this is a treeless landscape.

The recorded archaeology of this area is rich and varied. Considerable time-depth to the landscape is provided by the numerous Bronze Age monuments that include single or groups of round barrows and cairns, standing stones and stone circle. No occupation sites of this

date are known, but the density of these ritual and funerary monuments surely indicates a settled landscape. Castell Rhyfel is an Iron Age site towards the border of the area, and Gwys-yr-Ychen Bannog a defensive or administrative linear earthwork. Numerous abandoned cottage and other settlement sites indicate a greater level of population across this area up to the 19th century. Agricultural features and evidence of peat cutting testify to this former occupation.

This is a very well-defined area, to the east and west lie very extensive forestry plantations. The north and northwestern boundary is mainly composed of lower-lying enclosed and settled land.

The 1993 and 1995 surveys

Cambria Archaeology has undertaken two extensive archaeological surveys and appraisals of the historic landscape of this area. These have provided the main source of information for the Phase 1 assessment. The far western edge of the study area lies at the eastern end of an area covered by an Archaeological Survey of the Groes Fawr Valley, Blaencaron, Caron - Is - Clawdd (Muckle and Williams 1993). This 1993 survey, which covered an area of 7.5 sq km, contained a number of very intensively surveyed zones and 333 sites were recorded. Most of the remaining part of the study area was covered by a second survey, Llyn Brienne, Upland Survey 1995 (Crane 1995). This study consisted of a rapid survey of a 9.5 sq. km area of upland during January and February 1995, the area corresponding almost exactly to that proposed by the proposed wind energy project.

The 1993 survey, covering part of the western area of the proposed wind energy project, involved a team walking transects as close as 10m, although this was later modified for practical reasons. An electronic distance measuring theodolite and prismatic compass were used to plot the sites found. No sites were recorded at that time in the area of the proposed wind energy project. However, this intensive survey area was never completed and the project was hindered by bad weather and impenetrable vegetation.

The 1995 survey initially consisted of members of the research team walking 30m wide transects, two at a time. However, due to the difficulty of the terrain (eg. boggy areas) this rigid approach was modified to one covering specific features of the landscape. The larger areas of boggy ground were walked around and any undulations or ridges noted and examined where possible. The survey did not record very modern features such as post-and-wire fences or modern farm tracks, although the position of the forestry track leading off the farm track from the road was plotted (Figure 3). It should be noted that the position of each site was established by the use of large scale Ordnance Survey maps, prismatic compass, aerial photographs and a Global Positioning System (GPS). Where it was impossible to plot an accurate position for a site within the landscape due to the lack of identifiable landscape features, the location accuracy should be considered to be within a tolerance of ± 50 m, the maximum achievable due to the degraded nature of the GPS signals available at that time. A total of 50 new sites were recorded and nine known sites were visited and recorded (historical references to areas of common land were also noted). Most significant of the new sites found were four cairns/barrows, nine long huts/hafods/buildings, and seven peat-cutting areas. Those sites that lie within or adjacent to the study area have been incorporated into Appendix 1

Cartographic and documentary evidence

The area of the proposed wind energy project is not covered by the Ordnance Survey, County 6" Series for Cardiganshire for either the First Edition (1887) or the Second (1904). However the area surrounding Nant-y-Maen Farm is represented on the Tithe Map for the parish of Caron, (Section E) 1839, which shows boundaries, cairns (which act as boundary markers) and other habitation sites such as Magwyr Ias (PRN 29805). Eighteenth and nineteenth century manuscript maps relating to Caron Is-Clawdd show farms only on the valley floor and on the lower slopes of the hills. Research at the National Library of Wales failed to locate any further manuscripts for the area of the proposed wind energy project.

Archaeological sites within the study area

The County Sites and Monuments Record holds information on 45 archaeological sites within or immediately outside the area of the proposed wind energy project (30 within and 15 sites lying close to or within 150m beyond the boundary). Appendix 1 contains brief descriptions of all these sites which are listed by their type and individual PRN.

Two distinct periods of activity are represented by the sites in the study area: prehistoric Bronze Age cairns and standing stone (or stones, if one possible site just outside the area is included), and post medieval deserted settlements (long huts). Peat digging may possibly be associated with the long huts. These two classes of monument are generally located in contrasting topographic locations. The cairns are usually situated on visibly prominent positions such as hill tops and ridge tops. The long huts and other post-medieval features are generally located in more sheltered positions. A more detailed consideration of the archaeological context for the deserted settlements within the study area is provided in Appendix 5.

Aerial photographs

Re-examination of aerial photographs used on the original survey, and those held at RCAHMW did not reveal any new unidentified possible sites within the project area.

Geotechnical work

Neither the client nor Cambria Archaeology are aware of any bore-hole logs or test pits undertaken for geological or environmental archaeological purposes prior to this project within the study area.

Palaeoenvironmental evidence

No palaeoenvironmental analysis has been undertaken on sites within the boundaries of the proposed wind farm. However, evidence from Tregaron bog, 8km to the west, and from analyses and synthetic studies from elsewhere in Wales is of help in reconstructing past environments and land use in the Pen y Maen area. Pollen analysis on the peat deposits at Tregaron bog is now a little dated and is not supported by radiocarbon dates (Turner 1964), but more recent studies (Caseldine 1990, Chambers 1988, and Moore 1998) across the Welsh uplands have generally supported Turner's conclusions. It is likely therefore that the broad-brush outline for environmental change across Wales provided below is applicable to Pen y Maen.

There is some evidence for very limited clearance of forestry that blanketed the Welsh uplands in the Mesolithic period, and there may have been some impact upon the forest in the Neolithic. In most locations, however, it would seem that severe impact on upland forests began in the Bronze Age, with moorland frequently replacing the forests. This change was almost entirely due to human activity. Forest clearance also created conditions in which blanket bog could develop; at several locations the onset of peat accumulation began in the Bronze Age. It is likely that conditions for agriculture and habitation in the uplands of Wales were at their most favourable in the Bronze Age in the period between forest clearance and moorland/blanket bog development. The many Bronze Age monuments at Pen y Maen and across the Welsh uplands in general testify to intensive land use at this time. At many locations these Bronze Age monuments are now partially covered by blanket bog, and burial cairns and other types of site have been found entirely buried by peat. It is entirely possible that the peats at Pen y Maen mask not just individual Bronze Age sites but entire Bronze Age landscapes. Moorland vegetation development has undergone considerable change since the Bronze Age, but the anthropogenic element has been slight in comparison with Bronze Age forestry clearance. Perhaps the greatest land-use change in the Welsh uplands since the Bronze Age has been the creation of the post Second World War coniferous plantations.

Scheduled Ancient Monuments

Following recommendations from the 1995 survey, the following has been designated a Scheduled Ancient Monument:

PRN 29805 Magwyr Ias long hut (SN 7533 5981). Reference No. SAM CD 177

Under consideration for scheduling are:

PRN 5551 Blaen Camddwr round barrow (SN 7516 5891)

PRN 5552 Cefncerrig round barrow (SN 7671 5833)
PRN 8524 Cefncerrig possible round barrow (SN 7647 5802).

Phase 2 site visit

Methodology

Fieldwork took place right at the end of July and the beginning of August 2000. The weather conditions were fair and it had been mostly dry for some time.

All of the locations of the 36 proposed turbines were visited (Figure 2). The turbine numbers supplied by Dulas Ltd have been retained, but have been converted to a three figure number i.e. No 14 is now 014 in the text. The grid references had been supplied by Dulas Ltd, who had also marked the position of each on the ground with a large numbered peg. Where there was a difference of c.30m on our (basic) GPS plot, alternative grid references have been suggested (see Appendix 2). However GPS coverage was poor at times.

At the location of each turbine (as defined by the peg, rather than the grid reference) an area of approximately 30m radius was observed for any visible features, artificial or natural. Also noted was the direction of open views of more than 1.5km and the land use and cover (see Appendix 2). Some general photographic views were taken from some turbine locations.

The route of all trackways for the installation of the proposed turbines were walked as closely as possible, except route 2a which proved to be impassable on foot.

All archaeological sites that lay within c.100m were visited to check their location and condition. Any changes to the specifications previously recorded are listed in Appendix 3, along with any recommendations regarding them and this project.

Two new archaeological sites were recorded (Appendix 3).

Results of the field visit

Detailed information relating to the topographic location and potential physical and other impact on archaeological sites of each individual turbine and access track are provided in Appendix 2. In general it was found that the sites most vulnerable were the prehistoric funerary and ritual sites because they tend to be located on hill or ridge tops. These are the types of location which are also suitable for wind turbines.

The proposed locations of turbines 026, 031, 035, 037 and 040 (SN 76796 58403 to SN 77709 59314) are on a ridge which is also the site of four cairns. These are, from southwest to northeast, PRN 8524 (SN 7647 5802), PRN 29830 (SN 7654 5804), PRN 5552 (SN 7671 5833), and PRN 29829 (SN 77323 58881). One of these cairns (PRN 29829) is located close to turbine 035 and close to the access between 035 and 037. No trace could be found of an additional cairn recorded on the SMR, PRN 9019, (SN 775 589). The recorded grid reference for this cairn is close to the proposed siting of turbine 037 and close to the route between this turbine and turbine 039. However, the failure to identify any trace of this feature suggests that it has been wrongly located. It seems likely that it is the same site as PRN 29829,

The proposed locations of turbines 007, 012, 014, 018, 024 (SN 75340 59156 to SN 76094 60223) is on a ridge which also has two cairns, PRN 29812 (SN 75452 59342) and PRN 29813 (SN 7552 59275). These are on the southwestern end of the ridge between turbines 007 and 012: Both grid references for these cairns have been improved from the 1995 survey. Cairn PRN 29812 is situated on the northwest side of the ridge and cairn PRN 29813 is further over to the southeast but still on the ridge top. Neither of these cairns are well defined. It is possible that cairn PRN 29812 is not a Bronze Age funerary monument.

Elsewhere within the area of the proposed wind energy project there does not appear to be a close proximity to known prehistoric monuments of either the turbines or the routes between them.

By contrast, as noted above, post medieval long huts are normally situated in sheltered locations and only one of these is close to a turbine position. No routes pass close to any long huts. Turbine 008 (SN 74857 60355) is close to long hut PRN 41362 (SN 74890 60362) which is approximately 40m to the northeast. However, the long hut is well below the end of the ridge and is partly dug into the lower steep face. This is a newly recorded site (Photo 1) and lay just outside the 1995 survey area and in an uncompleted part of the 1993 survey. The long hut is named as Magwyr Llyrtai on the 1839 tithe map (Figure 4, on far west).

The probable post medieval peat digging areas are not fully recorded. Although the location of the more obvious diggings are recorded, their extents have not been accurately plotted, and there are likely to be others in more boggy areas that were unapproachable during the 1995 survey. Some of the edges of these cuttings have most certainly eroded back. Other features which appear to be natural peat shrinkage and erosion could have originated as peat cuttings but remain unrecorded. To record all of these peat features, natural and otherwise, would be a considerable undertaking and outside the scope of this project.

Peat cutting area PRN 29825 (SN 7582659205) lies on, or close to, the routes between turbines 013, 017, 022 and 027. The southern edge of a possible peat cutting area PRN 41363 (SN 77528 58676 runs c. southwest to northeast and is 10m to 50m wide) is only 10m north of turbine 039. However, this apparent area of activity could be of natural origin.

IMPACT OF THE PROPOSED WIND ENERGY PROJECT ON THE HISTORIC ENVIRONMENT

It is relatively straightforward to quantify the potential, direct, physical impact of the turbines and access routes on specific archaeological sites and features. These are considered in more detail in the recommendations section below and in Appendix 2. The wider, visual impact of the turbines on the historic environment in general is more difficult to assess. A qualitative attempt is made to do so in the context of changing land-use patterns within the study area over the past three to four millennia.

Palaeoenvironmental evidence suggests that some limited clearance of the forests that once covered the Welsh uplands took place during the Mesolithic and Neolithic periods. However, the major periods of forest clearance appear to have begun in the Bronze Age. The cairns and standing stones that are located within or adjacent to the study area probably date to this period of land-use change during the Early Bronze Age (approximately 2100 BC - 1500 BC). The majority of these funerary and ritual monuments are located in prominent, highly visible locations on ridge or hill tops. It seems highly likely that the builders of the monuments either meant these sites to be visible from a wide area or that they intended the views from the monuments themselves to be very extensive. It has been suggested that they may have acted as territorial markers or boundaries or perhaps served as political memorials of some kind (Lynch 1993). In other words they were not simply funerary monuments. They also carried a message for the living. More recently, there have been attempts to understand the complex relationships between different monuments and the way in which monuments interact with the surrounding landscape (Thomas 1993, Tilley 1994, 1996 and Bradley 1998). Much of this research is based on intervisibility studies focusing on the 'views in' and the 'views out' from individual sites (Fisher *et al* 1997 and Exon *et al* forthcoming). The proposed wind turbines will, to some extent, compromise the integrity of these complex visual relationships. However, it could be argued that our current archaeological knowledge of these factors is very limited and that the turbines themselves will have a lifespan which is very limited in the context of these suggested concerns. It is also unlikely that the turbines will compromise any future spatial analysis or visibility research on the prehistoric monuments in the study area.

The palaeoenvironmental evidence, documentary evidence, cartographic evidence and archaeological evidence all indicate that the predominant land-use in the study area since the Bronze Age has been open moorland with pockets of low intensity agriculture although parts of neighbouring areas have been converted to coniferous forestry over the past half century. This is in sharp contrast with lower lying land in Ceredigion which has experienced enormous changes in all forms of land-use over the same

period. The introduction of the wind energy project will be the first major change of landuse since the Bronze Age. One effect will be to reduce the remoteness of the area. The new tracks will potentially provide access for other land-users during the lifetime of the project or long after the turbines have been decommissioned. These users could potentially have a profound and long-lasting effect on the historic pattern of land-use.

RECOMMENDATIONS

By minor adjustment of the routes between some of the turbines and possibly moving turbine 035 (SN 777282 58832) slightly to the east, all physical intrusions, other than those into the peat cutting and peat bog areas, will avoid all known archaeological sites.

Detailed recommendations are included in Appendix 2 and are summarised below:

The cable trench and access track between turbines 026, 031, 035, 037 and 040 (SN 76796 58403 to SN 77709 59314) should, as much as possible, avoid the crest of the ridge. This should limit any potential damage to any unknown cairns or associated features. The cable trench should be kept at least 20m away from cairn PRN 29829. It might also be prudent to consider moving turbine 035 (SN 77282 58832) perhaps 10m or 20m further to the southwest away from cairn PRN 29829. This cairn should be flagged during construction to avoid accidental damage.

Route between 007 and 024 (SN 75340 59156 and SN 75527 59500) should be moved to the southeast and pass between cairns PRN 29812 (SN 75452 59342) and PRN 29813 (SN 7552 59275). These cairns should be flagged during construction work to avoid accidental damage. It may be necessary for an archaeologist to point out these sites as they are not obvious on the ground.

The routes between 015, 019 and 024 (SN 75709 60401, SN 75900 60211 and SN 76094 60223) should follow the existing farm tracks and pass through the fence gate if possible to minimise visual impact and general disturbance. The position of 019 is suspect, as pegged-out location appears further north than supplied grid reference. Route 2a from 024 is not recommended as it crosses a very soft boggy area and is likely to damage peat deposits.

Consideration should be given to moving turbine 008 (SN 74857 260355) a little to the west to be less visually intrusive to the long hut PRN 41362 below the east side of the ridge.

LIST OF SOURCES CONSULTED

Databases

Regional Sites and Monuments Record held by *Cambria Archaeology*, Shire Hall, 8 Carmarthen Street, Llandeilo, Carmarthenshire.

Manuscript maps

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Murphy K *et al* 1999 'Upland Ceredigion: Historic landscape characterisation', copy with the Regional Sites and Monuments Record

Jones, R and Murphy, K, 2000 'Pen-y-Maen Windfarm Phase 1'

APPENDIX 1

This section contains detailed descriptions of archaeological sites and features within the proposed project area, and descriptions of sites and features immediately beyond the corridor that may be relevant to the study. Included are the two new sites, but not any changes to the existing records made as a result of this project, which are in Appendix 3.

Terminology

Form/Condition: This term refers to the form and the present condition of a site, which is designated a letter to signify condition A,B,C,D,E,R,M,U.

A	Intact
B	Substantially intact (slight damage, some erosion)
C	Damaged (e.g. in the case of an enclosure, interior ploughed)
D	Substantially destroyed
E	Destroyed
R	Reconstructed or Restored
M	Moved
U	Unknown

Sites within the proposed project area

PRN 5552 - NGR SN 7671 5833 - CEFN CERRIG

Site type ROUND BARROW

Period Bronze Age

Site Status

Form/Condition Earthwork/C

Altitude 480

Descriptive Type Cairn-circular

Description Cairn partly constructed on outcrop on top of ridge. Cairn has suffered damage on south side recently; the stone removed has been used to place a small walkers cairn of 1.2m high on top of cairn to lay out disc of stones to the south-east and a line of stones resembling a wall. There is possibly other modern construction around this cairn. There is a little quartz or quartz covered stone in construction. Cairn diameter 7.5m+ and approx. 1.3 high. Damage to cairn pre-1992 as appears on AP7792267.

PRN 5553 - NGR SN7617 5830 - NANT-Y-MAEN

Site type STANDING STONE

Period Bronze Age

Site Status

Form/Condition O.Struct/U

Altitude 412

Descriptive Type Monolith

Description Inclined standing stone; a little animal disturbance around the base.

PRN 8516 - NGR SN 7476 5929 - ESGAIR PERFEDD

Site type ROUND BARROW

Period Bronze Age

Site Status

Form/Condition Earthwork/D

Altitude 427

Descriptive Type Cairn-circular

Description

PRN 8524 - NGR SN 7647 5802 - CEFN CERRIG

Site type ROUND BARROW
Period Bronze Age
Site Status
Form/Condition Earthwork/D
Altitude 442
Descriptive Type Cairn-circular
Description Cairn which has suffered further damage since recorded in 1980. Now no standing walls of shooting hut within cairn but one probable face does remain on south east side. North east side of cairn is now mostly covered with grass. Some quartz or quartz covered stones in cairn construction. Cairn diameter approx. 20m and general height 0.5m.

PRN 9018 - NGR SN 755 600 - GROES FAWR

Site type DWELLING?
Period Mediaeval?;Post Med?
Site Status
Form/Condition Building/D
Altitude 480
Descriptive Type Building
Description Probably recorded in the wrong position. No site found at that grid ref. but probably now re-recorded as PRN 29805.

PRN 9019 - NGR SN 775 589 - CEFN CNUC

Site type ROUND BARROW
Period Bronze Age
Site Status
Form/Condition Earthwork/D
Altitude 526
Descriptive Type Cairn-oval
Description Probably recorded in the wrong position. No site found at that location but probably now re-recorded as PRN 29829.

PRN 9285 - NGR SN 7641 5945 - NANT WEN

Site type HAFOD?
Period Mediaeval?;Post Med?
Site Status
Form/Condition Building/C
Altitude 465
Descriptive Type Building
Description

PRN 29803 - NGR SN 7512 6052 - None

Site type ENCLOSURE; SHEEP DIP; DAM
Period Post Med?;Modern?
Site Status
Form/Condition O.Struct/B
Altitude 485
Descriptive Type Enclosure-triangular
Description GPS Grid reference SN75062 60428 probably better fix than from map. Fenced enclosure posts only remain. Compound approx. E-W narrowing to east where stone step abutting stream with signs of former dam just to south. Approx. position on AP. may have earlier element than pre-fence with wire.

PRN 29804 - NGR SN 7528 5978 - None

Site type OUTBUILDING
Period Mediaeval;Post Med
Site Status
Form/Condition Building/U
Altitude 450
Descriptive Type Building-Rectangular

Description GPS Grid reference 75291 59798 good position quite accurate. Short stone built hut aligned NW-SE 2.2m X 4m X 1m high cut into hillside. Possible outbuilding for PRN 29805 approx. 35m to the east. There is a possible outbuilding adjacent on north side.

PRN 29805 - NGR SN 7533 5981 - MAGWYN IAS

Site type LONG HUT;DWELLING

Period Mediaeval;Post Med

Site Status SAM CD 177

Form/Condition Building/C

Altitude 455

Descriptive Type Building-Rectangular

Description GPS Grid reference SN75331 59805 good. Long hut aligned NE-SW 8.8m X 5.2m X 0.6m high. Probable entrance in SE side. Drystone with stones laid flat. Possible extension lean-to on NE end approx. 5m of earth bank only. Probably recorded as PRN 9018 which would have been given the wrong grid reference. Marked on the map as Magwyr Ias - Enclosure green.

PRN 29808 - NGR SN 7545 6021 - None

Site type CAIRN

Period Bronze Age

Site Status

Form/Condition Earthwork/C

Altitude 485

Descriptive Type Cairn-Circular

Description Grid position only by GPS but good fix. GPS grid ref. SN7545060210. Possible cairn with cist. Constructed on top end of small sub promontory. A few stones with one long flat stone with adjacent hollow (cist?). Suggestions of barrow outline. Diameter 3.5m. Length of cist 0.7m x 0.5m. Aligned N-S.

PRN 29812 - NGR SN75475934 - None

Site type CAIRN?

Period Bronze Age

Site Status

Form/Condition Earthwork/D

Altitude 495

Descriptive Type Cairn-Circular

Description Grid ref. from GPS only a fair fix. GPS grid ref. SN75468 59341. Possible remains of cairn of 9 stones mainly flat stone size 0.3-0.6m. Approx. diameter 1.5m.

PRN 29813 - NGR SN 7550 5927 - None

Site type CAIRN

Period Bronze Age

Site Status

Form/Condition Earthwork/D

Altitude 490

Descriptive Type Cairn-Circular

Description Position plot poor and by GPS only. GPS grid ref. SN75490 59275 SN75500 59264 SN75561 59274. Cairn with central N-S cist and signs of ring ditch. Cairn max. height 0.4m diameter 4.5m. Cist 1m long width approx. 0.5m.

PRN 29816 - NGR SN 7628 6014 - None

Site type LONG HUT

Period Mediaeval;Post Med

Site Status

Form/Condition Building/D

Altitude 480

Descriptive Type Building-Rectangular
Description GPS grid ref. fair fixes SN76265 60142 SN76290 60135. Accurate on AP 76 92 009. Long hut slight banks but looks to be complete plan. Aligned NNE-SSW. Total length 12.5m width 6.8m height max. 0.5m. constructed on slight ridge and slightly sheltered from highest bit of ridge to the south. Stone showing through grass with the odd bit of probable well face at north end. Only one course seen. Probable entrance on east side about 3/4 from south end. Northern end not so clear. Possibly associated with probable quarry PRN 29817 approx. 100m to the south west.

PRN 29817 - NGR SN 7619 6008 - None

Site type QUARRY?
Period Mediaeval;Post Med
Site Status
Form/Condition Earthwork/C
Altitude 485

Descriptive Type Hollow-Triangular

Description GPS grid ref. good fix SN 76192 60076 accurate on AP 76 92 009. Possible quarry on east side of natural outcrop with line of stones 2 to 3m to the east. Length of possible quarry 7m approx. line of quarry NNE-SSW. Possibly associated with long hut PRN 29818.

PRN 29821 - NGR SN 7615 5770 - None

Site type ENCLOSURE
Period Mediaeval;Post Med
Site Status
Form/Condition O.Struct/C
Altitude 370

Descriptive Type Enclosure-Sub-rectangular

Description Probable sheep fold and also likely to be post med and associated with farm PRN 9108 to south Enclosure utilising natural east west rock face on north side. This rock face has been enhanced with stones layered in parts to form a wall. Compound aligned approx. E-W with stream at eastern end. Internal size 30.5m long by 6.0m wide.

PRN 29825 - NGR SN 7595 5909 - None

Site type PEAT CUTTING AREA
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 483
Descriptive Type Depression-00

Description Full extent not recorded but could be quite extensive. Plotted from GPS grid ref. only all fixes good. NW corner SN 75900 59103 NE corner SN 75950 59090 SE corner SN 759265 9053. Depth 30-40cm with straight edges in places.

PRN 29826 - NGR SN 7627 5921 - None

Site type TRACKWAY?;PEAT CUTTING AREA?
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 455

Descriptive Type Depression-Linear

Description Position from GPS grid ref. good fix SN 76274 59210 and from AP. Probable trackway approx. 3m wide by 0.8m deep. Aligned NNW-SSE and length 70m. Note 2m ranging rod can almost be completely pushed into the peat bog in the bottom of this feature. No plan of photos due to precipitation.

PRN 29827 - NGR SN 7627 5899 - None

Site type PEAT CUTTING AREA
Period Post Med

Site Status**Form/Condition** Earthwork/B**Altitude** 445**Descriptive Type** Depression-"L" Shaped**Description** Peat cutting area "L" shaped depth approx. 0.5m. There may be more evidence of peat cutting in this low lying area but it has been the wettest summer since 1948 in Britain and the wettest recorded in Cardiff.**PRN 29828 - NGR SN 7725 5966 - None****Site type** BOUNDARY DITCH**Period** Post Med;Modern**Site Status****Form/Condition** Earthwork/B**Altitude** 520**Descriptive Type** Ditch-'L' Shaped**Description** GPS grid ref. SW corner SN7703959264 north end on forestry fence SN 772485 9659 fair fix. Linear boundary with corner. Possible boundary marked by large "plough" and almost certainly modern. Disappears where it runs into forestry area. Probably marking out for forestry area.**PRN 29829 - NGR SN 7732 5887- None****Site type** CAIRN**Period** Bronze Age**Site Status****Form/Condition** Earthwork/D**Altitude** 527**Descriptive Type** Cairn-Circular**Description** Positioned from GPS plots and marked on ridge which is evident on map. GPS grid ref. fair fixes SN 77300 58860. Slight remains of very probable cairn. External diameter 4.0m with internal hollow possibly excavated or robbed 1.5m diameter height of bank 0.3m. Only very little stone showing through grass. Probably the same as PRN 9019 which is plotted in the wrong position.**PRN 29830 - NGR SN 7654 5804 - None****Site type** CAIRN**Period** Bronze Age**Site Status****Form/Condition** Earthwork/D**Altitude** 448**Descriptive Type** Cairn-Circular**Description** Very slight cairn 65m to ENE of cairn PRN 8524. Construction of medium sized stone some quartz these just showing through grass. Diameter approx. 5.5m length 0.40.5m.**PRN 29832 - NGR SN 7756 5821 - None****Site type** DRAINAGE DITCH**Period** Post Med**Site Status****Form/Condition** Earthwork/B**Altitude** 470**Descriptive Type** Ditch-Circular;Bank-Circular**Description** Long drainage ditch positioned at the base of slope of hill and just onto the peat bog which it may have been trying to drain. Drains from north to east. East end of ditch curves across bog towards stream. Very little sign of bank but if any on the south side. Ditch 1.2m wide 0.6m deep 500m long. Suspect could have been peat cutting in bog north but no clear evidence.**PRN 29834 - NGR SN 7644 5908 - None****Site type** LONG HUT**Period** Mediaeval;Post Med**Site Status****Form/Condition** Building/C

Altitude 440
Descriptive Type Building-Rectangular
Description GPS grid ref. good fixes SN7 64625 9087 SN 764225 9080. Accurate plot on AP. Long hut which appears to have associated features location 15m north of stream bend and construction on old stream bed. Tumble stone walls of main structure with some evidence of faces. 6.2m long and aligned NE-SW 5.0m wide. Another wall approx. 1.8m to the north of main structure. Possible annexe or platform extending 4m to the south. Probable mound (midden?) 4.0m to the north west. Indicated on 1839 tithe map.

PRN 29835 - NGR SN 7652 5872 - None

Site type ENCLOSURE
Period Mediaeval;Post Med
Site Status
Form/Condition O.Struct/B
Altitude 415
Descriptive Type Enclosure-Polygonal
Description Drystone walled enclosure. Construction of walls in relatively small to middle sized stones. South east side against stream now missing.

PRN 29837 - NGR SN 7620 5805 - None

Site type DRAINAGE DITCH;FIELD
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 390
Descriptive Type Bank-Linear; Ditch-Linear
Description Bank and ditch still just active. Ditch approx. 1m wide 0.4m deep. Bank approx. 1.5m wide 0.4m high. Bank not well defined in places but appears to be on the north side. Ditch runs down from east to west down towards stream. Eastern end probably destroyed by farm or forestry track.

PRN 29838 - NGR SN 7643 5843 - None

Site type DRAINAGE DITCH
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 405
Descriptive Type Bank-Curvilinear;Ditch-Cu
Description Bank and ditch still partly active but north east end has now been covered by peat. SW end drains towards stream. Bank on north west side. This feature does not appear to be a field boundary.

PRN 29848 - NGR SN 7616 5845 - NANT-Y-MAEN

Site type FARMSTEAD
Period Post Med;Modern
Site Status
Form/Condition Building/A
Altitude 405
Descriptive Type Building-00
Description Farmhouse exterior appears modernised with at least seven outbuildings, some modern. Detailed report not undertaken as farm extensively in use and probable lambing season.

PRN 29849 - NGR SN 7500 5932 - None

Site type TRACKWAY
Period Mediaeval?;Post Med;Modern
Site Status
Form/Condition Earthwork/A
Altitude 420
Descriptive Type Trackway-Curvilinear

Description Trackway basically follows contours. Probably pre-post medieval, may even have prehistoric element as it passes several cairns. Trackway runs eastwards from Nant-y Maen farm and is still in use.

PRN 41362 - NGR SN 74890 60362 - None

Site type LONG HUT
Period Mediaeval?;Post Med;
Site Status
Form/Condition Building/C
Altitude

Descriptive Type Building, two cell

Description Indicated on tithe map as Magwyr Llyrtai. The hut is aligned almost exactly EW with the western end cut into the bottom edge of a ridge, offering great protection against the prevailing wind. The rest of the structure lies on part of a level (natural) platform. The southern side of this platform may have been a garden area, but there is no boundary wall. This hut is a typical two cell structure with the inner (W) end being smaller. It was constructed of random rubble with no evidence of dirt between the stones. The rubble of the walls was quite spread in places and the walls would appear to stand to over 0.75 from the probable level of the floor. Part of the south wall at the west end is now a grassed over bank. No entrances were observed as probably covered by rubble. Under the rubble spread this hut is probably well preserved. Suspected date post-medieval. Also of note is that Long hut PRN 29805, Magwyr Ias (SN 7533 5981) is now a Scheduled Ancient Monument and probably forms a contemporaneous and spatial relationship with this site.

PRN 41363 - NGR SN 77525 58700 - None

Site type PEAT CUTTING AREA?
Period Mediaeval?;Post Med;
Site Status
Form/Condition Earthwork/C
Altitude

Descriptive Type Depression-00

Description Possible peat cutting on dip in ridge. Runs SW-N from 10m to 50m wide. Could be natural.

Relevant sites immediately beyond the proposed project area

PRN 5550 - NGR SN 7444 5952 - BRYN COSYN I

Site type ROUND BARROW
Period Bronze Age
Site type ROUND BARROW
Period Bronze Age
Site Status

Form/Condition Earthwork/C
Altitude 427

Descriptive Type Cairn-circular

Description Cairn in poor condition central stone cist showing. Cist aligned north-south length 1.25m x 0.50m 0.30m deep.

PRN 5551 - NGR SN 7516 5891 - BLAEN CAMDDWR

Site type Round Barrow
Period Bronze Age
Site Status
Form/Condition Earthwork/D
Altitude 427

Descriptive Type Cairn

Description Cairn in poor condition central stone cist showing. Cist aligned north-south length 1.25m x 0.50m, 0.30m deep.

PRN 8551 - NGR SN 773 601 - ESGAIR LLYN DU

Site type STANDING STONE?
Period Bronze Age
Site Status
Form/Condition O.Struct/E
Altitude 510
Descriptive Type Monolith
Description

PRN 9281 - NGR SN 7516 5859 - BLAEN CAMDDWR

Site type HAFOD?
Period Mediaeval?;Post Med?
Site Status
Form/Condition Building/C
Altitude 395
Descriptive Type Building
Description Sub-rectangular sheep pen? Hafod. Possibly used as pen at later date. Drystone wall with stones laid flat max. height 0.75m complete in plan and in fair condition. Entrance on middle of west side. Constructed on level ground close to stream. Appears to be indicated on tithe map.

PRN 29801 - NGR SN 7480 5867 - None

Site type LONG HUT
Period Mediaeval?;Post Med?
Site Status
Form/Condition Building/D
Altitude 438
Descriptive Type Building-Rectangular
Description Long Hut aligned approx. NW-SE 5.4m long 1.7m wide max. height of walls 0.65-1.0m. Poor condition. Possible entrances in both long opposite each other. Hollow interior with some rubble. Dry stone walls. Constructed in base of slope and out towards possible former stream. Could be associated with PRN 29802.

PRN 29802 - NGR SN 7485 5872 - None

Site type BUILDING?;BUILDING
Period Bronze Age?;Mediaeval?;Po
Site Status
Form/Condition platform?;cairn?Building/D
Altitude 425
Descriptive Type Stone Spread-Rectangular
Description GPS SN 74851 58722 (fair). Area of scattered stones roughly rectangular NE-SW 12.5m X NW-SE 11m. Could be destroyed cairn. With probing does appear to be more rectangular than round. Could be associated with PRN 29801.

PRN 29806 - NGR SN 7528 5862 - None

Site type LONG HUT
Period Mediaeval?;Post Med
Site Status
Form/Condition Building/D
Altitude 410
Descriptive Type Building-Rectangular
Description Long Hut in very poor condition. Aligned NW-SE 6.5m long 3.5m wide max. height 0.5m. Entrance in south corner. Constructed with long axis into bottom of slope and out onto flat land. Some stone remaining in SW end. Possibly associated with PRN 9281 some 50m away.

PRN 29809 - NGR SN 7530 5828 - None

Site type FIELD BOUNDARY
Period Post Med
Site Status
Form/Condition Earthwork/C

Altitude 460

Descriptive Type Bank-Circular;Ditch-Circular

Description GPS grid refs. SN 75237 58086 good SN 75906 58099 good disappears at this eastern point however the tithe map shows this boundary continuing to stream but has probably now been hidden by peat growth Bank approx. max. 0.75m high and 3.6m wide signs of ditch on south and west sides of bank. Ditch recorded as 1.2m wide. Bank has stone constituent which could have been former wall on bank. Ditch drains in two directions to the north and to the east.

PRN 29811 - NGR SN 7535 5870 - None

Site type LONG HUT?

Period Mediaeval;Post Med

Site Status

Form/Condition Building/D

Altitude 415

Descriptive Type Building-Sub-rectangular

Description GPS grid ref. SN75351 38698 good fix. Probably complete in plan. Long hut? Dug into side of hill at bottom of slope. Sub-rectangular of oval in shape. Building aligned E-W 6m long 4.8m wide 0.6m high. Stone construction but no walls remain in situ above surface.

PRN 29814 - NGR SN 7538 5862 - None

Site type LONG HUT?;QUARRY?;BUILDING?

Period Bronze Age

Site Status

Form/Condition Earthwork/C

Altitude 410

Descriptive Type Hollow-'L'Shaped

Description GPS grid ref. SN 75380 38620 good fix. "L" shaped in plan with hollow interior and exterior banks except where cut into side of hill. Probably associated with PRN 29810 as out building or quarry and possibly with track way PRN 29815. May have remains of wall? or floor? in lower interior lot of stone left over for a quarry which it probably is or it may be a structure either incomplete or destroyed. Banks approx. 1m high. Arms aligned NNE-SSW length 8m and ENE-SSW length 8m.

PRN 29815 - NGR SN 7540 5860 - None

Site type TRACKWAY

Period Mediaeval;Post Med

Site Status

Form/Condition Earthwork/B

Altitude 410

Descriptive Type Trackway-Linear

Description GPS grid ref. SN 75400 58540 fair SN 75470 58650 fair. Probable trackway aligned approx. NE-SW probably also aligned with and associated with PRN 2980 and may be associated with possible quarry or outbuilding PRN 29814. This feature could be a peat digging but thought unlikely. Shows well on AP. Abrupt termination at northern end of trackway. Length 96m width 5m depth approx. 0.5m. Now in tussock grass. Probably connected long hut to trackway PRN 29849 still used on north side of valley.

PRN 29820 - NGR SN760579 - None

Site type DRAINAGE SYSTEM

Period Post Med

Site Status

Form/Condition Earthwork/B

Altitude 390

Descriptive Type Bank-Linear;Ditch-Linear

Description Drainage system banks as seen would be too small for a field boundary. There are three ditches enclosing a sub-triangular area but with the upper part of two of the ditches extending higher up. The ditch on the north-west side is later in date. Most of these ditches are still active although the upper part of north east ditch is obscured and was not traced. Ditches approx. 0.75 wide 0.5m deep. Banks approx. 1m wide 0.3m high. Accurately plotted on AP 77 92 265.

PRN 29822 - NGR SN 7590 5833 - None

Site type FIELD BOUNDARY
Period Post Med
Site Status
Form/Condition Earthwork/D
Altitude 400
Descriptive Type Bank-Linear; Ditch-Linear
Description Wide bank slight sign of ditch on north and west sides. Approx. height 0.5m and 1.5m wide bank. Accurate on AP.

PRN 29823 - NGR SN 7584 5840 - None

Site type DRAINAGE DITCH
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 400
Descriptive Type Ditch-Linear
Description Ditch aligned NE-SW approx. 0.5m wide dug into slope of hillside. Butts PRN 29824.

PRN 29824 - NGR SN 7542 5838 - None

Site type DRAINAGE DITCH
Period Post Med
Site Status
Form/Condition Earthwork/C
Altitude 400
Descriptive Type Ditch-Linear
Description Drainage ditch and not field boundary. Accurate plot on AP 77 92 265. Ditch aligned NE-SW approx. 0.5m wide dug into slope of hillside. Butts PRN 29823.

PRN 29836 - NGR SN 7625 5808 - None

Site type DRAINAGE DITCH;FIELD
Period Post Med
Site Status BOUNDARY
Form/Condition Earthwork/C
Altitude 390
Descriptive Type Bank-Curvilinear; Ditch-Cu
Description Bank and ditch still partly active. Ditch approx. 1m wide 0.6m deep. Bank approx. 1.5m wide 0.5m high. Bank on north side. Ditch runs down from the north side where it probably has been disturbed by the farm track before ditch curves to a linear E-W line down to a stream.

APPENDIX 2

Turbine number (increased to three figures). OS grid reference. Topographic location. Visible features within c.30m. Open views. Land use. Any recommendations on location or adjacent routes

002. SN 74797 60661. Below break of slope and above raised valley. No visible features. Open views from NW backward to SE. Rough pasture, grazed.

003. SN 75049 60580. On top of undulation on ridge running NE-SW. Some stone outcrops. Open views except to NE. Rough pasture, grazed.

005. SN 75263 60971. On natural mound. No visible features. Open views to SW, and S backward to E. Rough pasture, grazed.

006. SN 75235 60404. On top of SW end of SW-NE ridge. No visible features. Open views except to NE. Rough pasture, ungrazed.

007. SN 75340 59156. On end of ridge above valley junction. No visible features. Rough pasture, grazed but some long. **Recommendation: cable and access route to 012 should pass SE of Cairn PRN 29812 but keep well away from PRN 29813.**

008. SN 74857 60355. On top of SW end of ridge. Some stone outcrops and Long hut PRN 41362 c.45m to the E but well below level of top of ridge.

009. SN 75384 60639. On top of SW end of undulating ridge. No visible features. Open views all round. Rough pasture, grazed.

011. SN 75516 60829. Possibly c.20m out of given position, our GPS ref. SN 75535 60845. On top of east side of SW-NE ridge. No visible features. Open views NE and W backward to SE. Rough pasture, grazed.

012. SN 75527 59500. On rising ridge and on western edge, below crest to NE and on small area of flat ground. No visible features. Open views from N backward to E. Rough pasture, grazed. **Recommendation: cable and access route to 007 should pass SE of Cairn PRN 29812 but keep well away from PRN 29813.**

013. SN 75603 58968. On E end of small ridge on edge of plateau before drop to valley to S. No visible features. Open views from NNW backward to E. Rough pasture, some grazed and some long. **Recommendation: cable and access route should cause as little damage as possible to peat cutting area PRN 29835.**

014. SN 75704 25971. Possibly out of position given, but poor GPS coverage when on location: Average = SN 75745 39740
On top of crest of ridge. No visible features. Open views except to NE. Rough pasture, long.

015. SN 75709 60401. About 30m west of ridge crest on slope to high valley to west. No visible features. Open view to SW. Rough pasture, grazed. **Recommendation: see 019.**

016. SN 75643 61151. On flat top of ridge. No visible features. Open views except S and N. Rough pasture, long.

017. SN 75917 59371. Towards N end of gently sloping N-S ridge. No visible features. Full open view to the S, not open to N. Rough pasture, grazed. **Recommendation: see 013.**

018. 75814 59896. On NE end of raised ridge. No visible features. Open view except to NE.

019. SN 75384 60639. Possibly c.100m out of given position, GPS readings at location SN 75800 60170. On top of low ridge. No visible features. Open views SW and SE backward to N. Rough pasture, grazed. **Recommendation: Route 2b and that joining 019 and 015 uses existing farm tracks nearby as much as possible.**
020. SN 75789 58768. On top of break of slope above valley to south. Open views except to N. Rough pasture, short cropped.
021. SN 76046 59140. Possibly out of given position, but poor GPS coverage when on location: Average SN 75923 60678
On undulating ridge. No visible features. Open views except to SSW backward to SE. Rough pasture, grazed.
022. SN 76046 59140. On edge of break of slope of raised plateau. Adjacent stone outcrop. Open view except to NW. Rough pasture, grazed. **Recommendation: see 013.**
023. SN 77321 58522. On top of low ridge below top. No visible features. Open views except to N and NE. Long rough pasture, un-grazed.
024. SN 76094 60223. Possibly out of given position by c.0.12km, but poor GPS coverage when on location: Average = SN 76177 60317
Taken later SN 76175 60318
On flat ridge top near NE end. No visible features. Open views except to SSW. Rough pasture, un-grazed. (**Note: route 2a very boggy. Not recommended**)
025. SN 76174 60880. Towards NE end of undulating ridge on end of rise. No visible features. Open views at N, SW and S backward to SE. Rough pasture, long.
026. SN 76796 58403. On dip in crest of ridge. Some stone outcrops to SE and Cairn PRN 5552 c.60m to SE (Cairn PRN 5552 was recorded in 1995 survey as having suffered damage by 1992). Rough pasture, grazed. **Recommendation: If possible the cable should not be routed along the ridge crest..**
027. SN 75647 59242. On slight raised ridge above plateau. No visible features. Open view except to N. Rough pasture, grazed. **Recommendation: see 013.**
028. SN 76796 58069. On end of ridge below top to E. Stone outcrop of linear stones on edge. Open view from N backward to S. Rough pasture, grazed.
029. SN 76830 59131. On top of SW end of ridge. No visible features. Open views except to N. Rough pasture, grazed.
031. SN 77011 58594. On crest of ridge. No visible features. Open views except to E. Rough pasture, grazed. **Recommendation: If possible the cable should not be routed along the ridge crest..**
032. SN 77076 57692. Possibly out of position; actual reading SN 77092 57659. No visible features. On end of slope of broad ridge. Open view from N backward to S. Long rough pasture.
033. SN 77171 59045. On top of flat ridge (not central). No visible features. Open view except to N backward to W. Rough pasture, grazed.
034. SN 77348 57952. North and below break of slope to south. No visible features. Open views from N backward to W. Long rough pasture, un-grazed.
035. SN 77282 58832. On crest of ridge Cairn PRN 29829 c.40m to NE. Open views. Long rough pasture, grazed. **Recommendation: be very careful of Cairn possibly move a further 20m to SW. If possible the cable should not be routed along the ridge crest and it should be kept well away from the cairn.**

036. SN 77338 59577. On top south edge of ridge. No visible features. Open view except to N backward to W. Rough pasture, grazed.

037. SN 77451 58977. On slight rise on undulating plateau. Location of Cairn PRN 29227 just visible c.160m to SW, no other features visible nearby. Open views except to SW. The location of PRN 9019 was examined again but nothing was visible and this appears to confirm that PRN 9019 was recorded in the wrong place and is the same as PRN 29829. Long rough pasture, un-grazed. **Recommendation: If possible the cable should not be routed along the ridge crest.**

038. SN 77529 58149. On end of lower ridge or break of slope. No visible features. Open views to SE and NW. Long rough pasture.

039. SN 77528 58686. On edge of ridge below skyline. Possible peat digging NEW PRN 41363 to north along plateau, runs c. SW to NE from 10 to 50m wide, but could be natural. Open views to all except north. Long rough pasture, un-grazed.

040. SN 77709 59314. On lower lying ridge, probably below sky line. No visible features. Open view to SE. Long rough pasture, un-grazed.

APPENDIX 3

Archaeological sites: changes and additions

PRN 29812. Cairn Improved GPS? Poor coverage

SN 75449 59335 Average = SN 75452 59342

Recommendation: Move trackway to SE of Cairn

PRN 29813. Cairn. New improved grid ref. SN 7551959275

PRN 29825. Peat cutting. New grid refs. by GPS on north side NW end = SN 7582659205 then runs SE for c.150m at least to SN 7599259201.

PRN 29829. Cairn SN 77323 58881 probable better fix than recorded in 1995. It is located on top of ridge **Recommendation: Pass to North and be very careful of this important Bronze Age feature**

PRN 41362. SN 74890 60362. Long hut. Indicated on tithe map as Magwyr Llyrtai. The hut is aligned almost exactly E-W with the western end cut into the bottom edge of a ridge, offering great protection against the prevailing wind. The rest of the structure lies on part of a level (natural) platform. The southern side of this platform may have been a garden area, but there is no boundary wall. This hut is a typical two cell structure with the inner (W) end being smaller. It was constructed of random rubble with no evidence of dirt between the stones. The rubble of the walls was quite spread in places and the walls would appear to stand to over 0.75 from the probable level of the floor. Part of the south wall at the west end is now a grassed over bank. No entrances were observed as probably covered by rubble. Under the rubble spread this hut is probably well preserved. Suspected date post-medieval. Also of note is that Long hut PRN 29805, Magwyr Ias (SN 7533 5981) is now a Scheduled Ancient Monument and probably forms a contemporaneous and spatial relationship with this site.

PRN 41363. SN 77525 58700. Peat cutting area. Possible peat cutting on dip in ridge. Runs SW-N from 10m to 50m wide. Could be natural.

APPENDIX 4

Copy of the specification

APPENDIX 5

The archaeological context for the deserted settlements within area of the proposed wind energy project

The deserted rural settlement sites of upland Ceredigion are both numerous and of great significance to the archaeology and history of the county. They represent the homes of farmers, agricultural labourers, shepherds, peat cutters and lead miners. It is evident that there are very few corners of the county which have not been settled at some time; even on the highest reaches of Pumlumon the ruined huts of 18th- and 19th-century shepherds can still be found.

Although there has been a tendency to discuss deserted rural settlements in a medieval context, most deserted settlements in upland Ceredigion are demonstrably post-medieval in date (i.e. 16th century or later). Some specific sites are identifiable in early documentary sources, which enable us to confirm that they were occupied in the 16th- or 17th- century. Many more sites appear on estate maps, tithe maps or Ordnance Survey maps from the mid 18th-century onwards. Through these sources, we can chart their latter stages of occupation and, sometimes, their period of abandonment- we know little of their origins.

Deserted settlement sites survive in the landscape mostly as much ruined and eroded drystone or earthwork structures. They are characteristically rectilinear in shape, many being single compartment structures, but often they are sub-divided into two or three compartments and may have any number or form of extensions added to the original structure. It is usual for the dwelling to be associated with ancillary buildings and garden enclosures or field systems of varying size and complexity. Some deserted settlements now consist of empty building platforms cut into the hillslope, probably the foundations for timber structures.

A common type of deserted settlement of the Ceredigion uplands are the *lluestau*, once occupied by shepherds who stayed on the commons throughout the year with their flocks. The *lluestau* are mostly situated on level, natural terraces, close to the streams of the sheltered valleys which run off the mountains. A typical *lluest* consists of the dry-stone or earthwork wall-bases of the dwelling, to which is appended a small enclosure, defined by an earthwork bank and often showing signs of cultivation. This small-scale cultivation made the *lluestau* into oases of green in the otherwise drab upland landscape. Ancillary structures can often be found around the dwelling, probably representing animal or fowl pens, or storage structures.

Farmsteads are in many respects comparable with the *lluestau* in terms of physical remains, but on a larger scale with their field systems making a more substantial impact on the landscape. Like the *lluestau*, upland farmsteads can often be found in remote and isolated locations, with enclosed pasture and arable lands being carved out of the extensive mountain wastes. With a true upland farmstead, the amount of enclosed land might appear relatively small, but the true extent of the farm would be measured in its sheepwalk, which would often be between 500 and 1,000 acres of unenclosed moorland on which the farm enjoyed sole grazing rights. Although originally unenclosed, the 19th and 20th-century have seen these extensive grazing areas defined and sub-divided by wire-fencing.

It is evident that many of the platform sites of the district are located on higher, often more exposed, ground. The significance of this observation is unclear, but it is possible that there are both chronological and functional differences between the settlements of the sheltered valleys and the platforms found on the higher ground. It is tempting to think of the platforms as representing the sites of medieval *hafotai* or dairying-stations, only occupied during the summer months and therefore not so dependent on shelter from the prevailing winds.

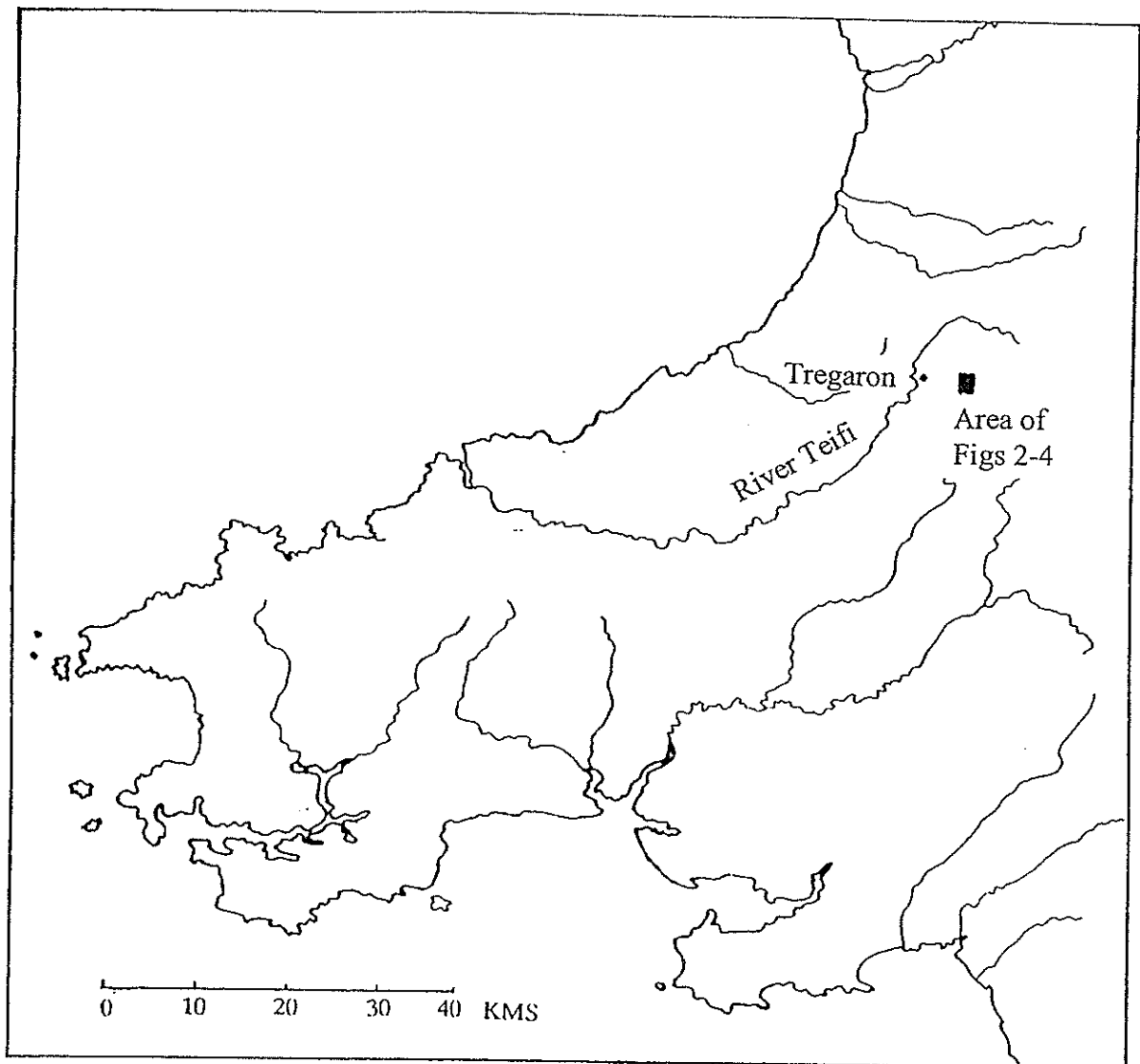
There are a number of place-name elements which can act as pointers to the location and possible function of deserted settlement sites in the Ceredigion uplands. Occasionally, terms such as *astai hirion* (long houses) or *hen dy* (old house) will be encountered. But the most commonly encountered terms are *Hafod*, *Lluest* and *Magwyr*, place-name elements which are important to our understanding of the landscape and its development and worthy of further explanation.

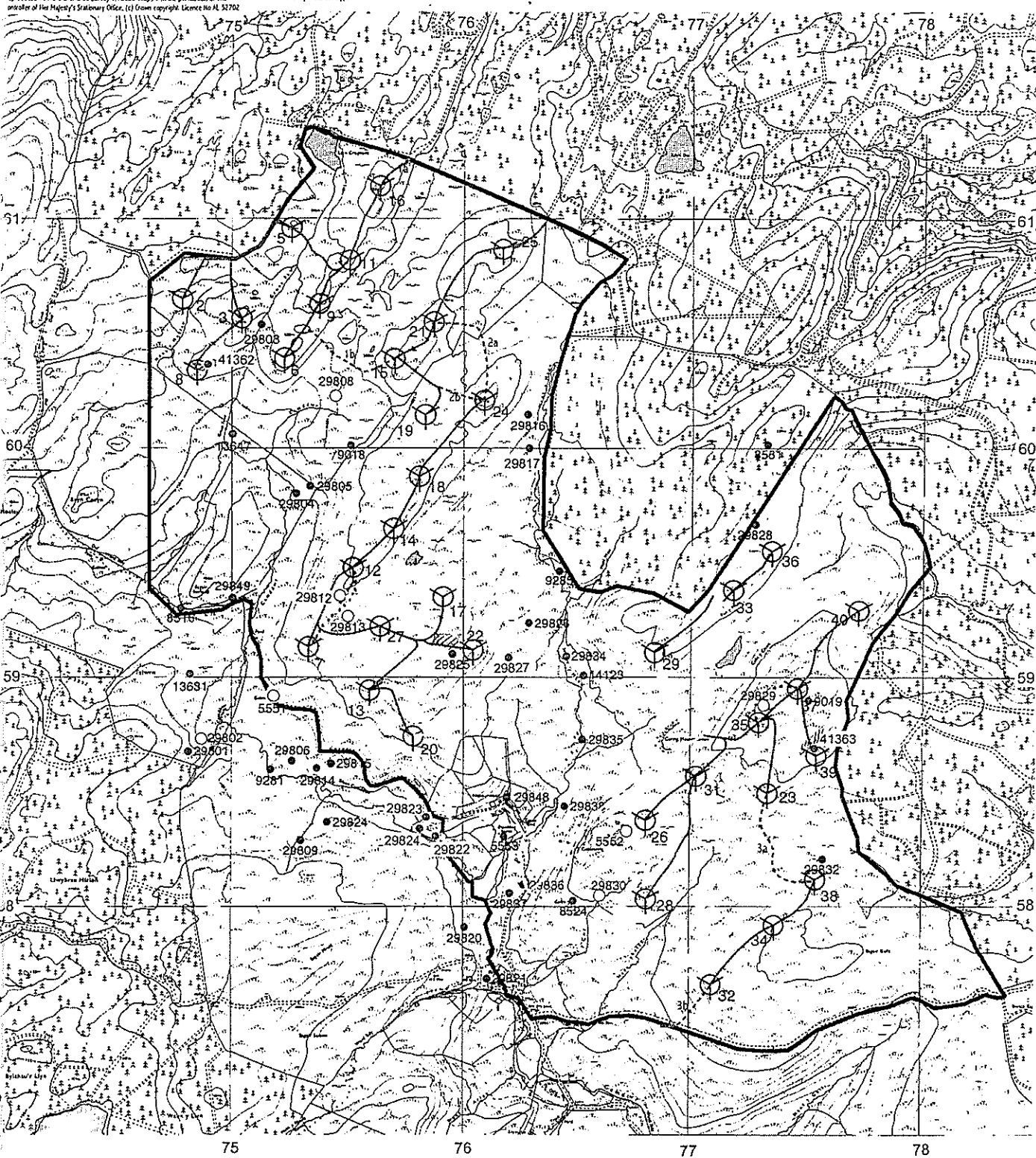
Hafod (plural *hafodydd*) is an ancient term, used in medieval law texts, which refers to upland summer pastures on the commons and wastes. It literally means 'summerplace' and was traditionally

associated with the summer grazing of dairy cattle, but its application has broadened during recent centuries with the decline of dairying in the upland areas of Wales. The dwelling was known as the *hafoty* (plural *hafotai*). The term *cadw hafod* (keeping a hafod) has been used up to present times and refers to any form of transhumant activity which involved human settlement in an upland environment. Hafod is a relatively uncommon place-name element in the Ceredigion uplands, although examples where the name applies to potentially early deserted settlements are found at Hafod Frith and Hafod Eidos, east of Strata Florida (areas 15, 117). Both sites may have been associated with the abbey of Strata Florida during medieval times. Another use of the term in relation to the properties of the abbey comes from the former monastic grange of Cwmystwyth, which was divided into four *hafodydd* in medieval times.

Lluest (plural *lluestau*) is also an ancient term used in medieval Welsh lawbooks. It originally referred to a temporary camp or settlement, not necessarily associated with agriculture or animal husbandry. *Lluest* is a very common place-name element in Ceredigion, although by the end of the 19th century the term had often been dropped in speech in many place-names, only being recalled in documentary and cartographic sources. In the Ceredigion dialect, *lluest* means much more than a 'camp'. It can be applied either to a dwelling or to the land associated with the dwelling - particularly with reference to the old shepherding cottages of the uplands and their associated sleep-walks. Documentary research has shown that before the 19th century, the *lluest* was not necessarily only associated with shepherding. There are examples of Ceredigion *lluestau* being described by the Latin term *domus lactarius* (translated as 'dairy') in 16th- and 17th-century sources at the National Library of Wales, although whether it was sheep or cows that were milked at such places is not known. It seems that the *lluest* in Ceredigion was either a regional variation of the *hafod* system or perhaps a development of it. It is evident that the *lluestau* on the more remote hills were being abandoned in large numbers during the latter half of the 18th century. By the 19th century, the *lluest* was most certainly characterised by the cottages where shepherding families eked out a rather precarious existence on the mountain pastures.

Magwr, *Magwrn* (plural *Magwyr*) is a frequently encountered placename in documentary and cartographic sources and a term very much alive in the Ceredigion dialect. Its root is the verb *magu* (to raise, nurture), probably indicative of efforts to improve and nurture a piece of land, but the modern meaning of the word in an upland context applies to ruinous stone buildings or walls, usually an abandoned dwelling. The occurrence of the element *magwyr* in upland place-names is a fairly reliable indicator of human activity and settlement.





0 200m 400m 600m 800m 1km

Maps: SN 75 NW & NE, SN 76 SW & SE

Date: 21 December 1999

Prepared by: AR & RL
Dulas Ltd



Client:
National Wind Power



Site boundary



Archaeological sites



Bronze age Cairns



Proposed Access Track



Alternative Access Tracks



Suggested Re-routing due to Archaeology

Pen y Maen Wind Energy Project

Figure 2 Turbines and Archaeology

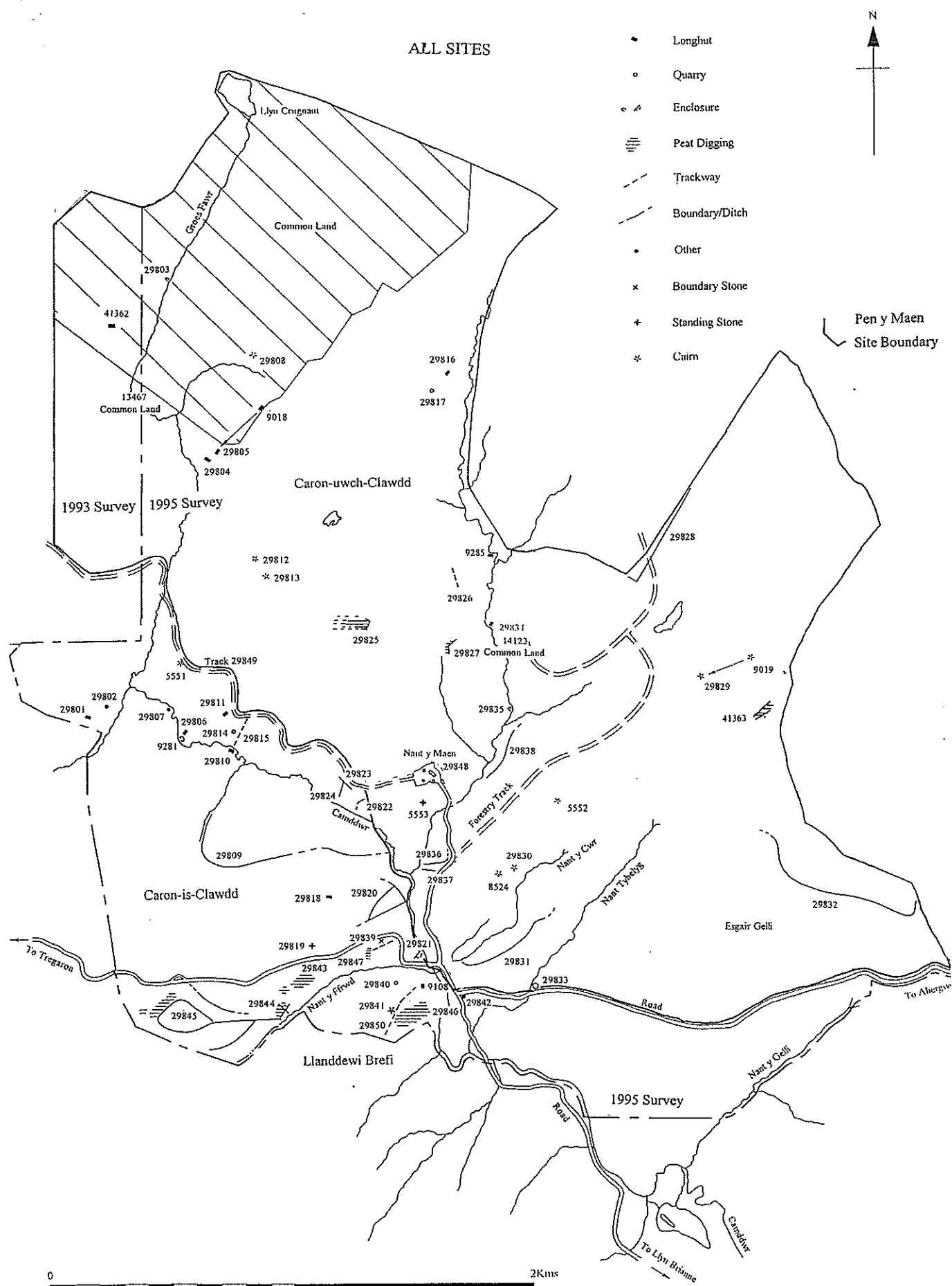


Figure 3

All archaeological sites

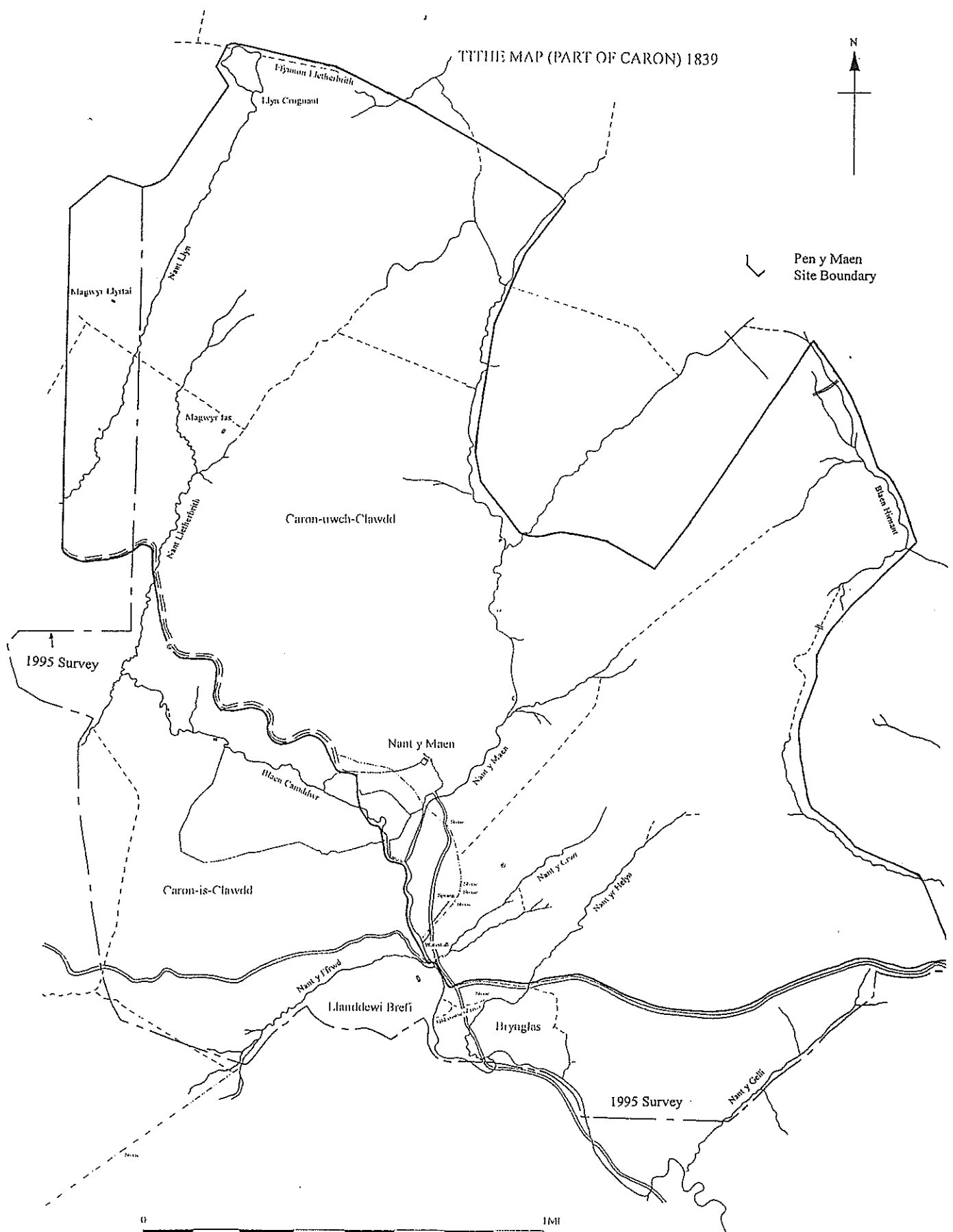


Figure 4

Tithe map (part of Caron) 1839

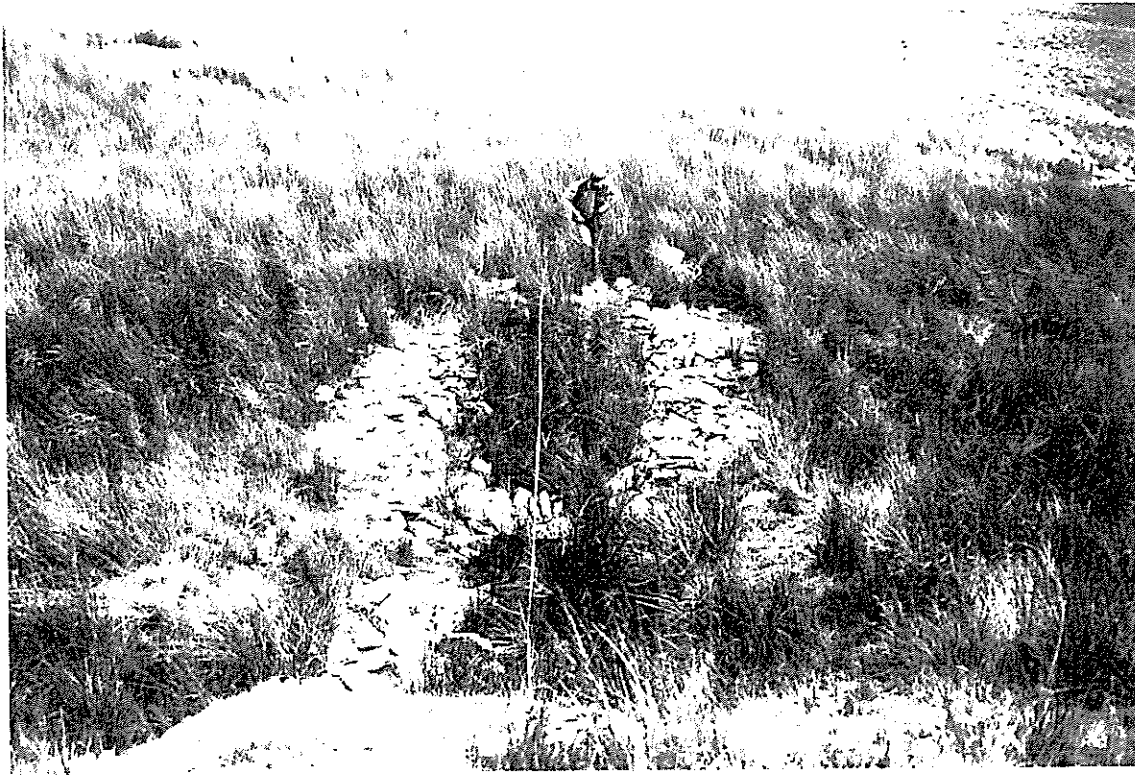


Photo 1: Long hut PRN 412362. View East

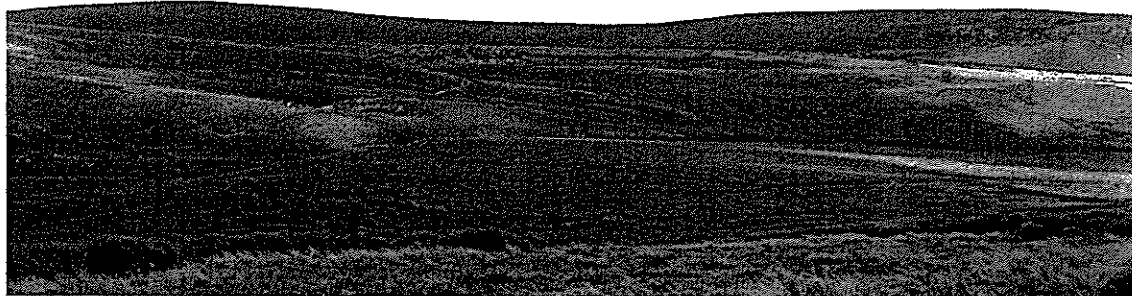


Photo 2: General view from Turbine 022 to ridge with 012, 014, 018 and 024. View South
Note: Forestry trackway below skyline

**PEN Y MAEN PROPOSED WIND ENERGY PROJECT
ARCHAEOLOGICAL ASSESSMENT PHASE 2**

PROJECT RECORD NUMBER 41361

AUGUST 2000


This report has been prepared by Pete Crane

Position Project manager

Signature Date

This report has been checked and approved by Gwilym Hughes on behalf of Cambria
Archaeology, Dyfed Archaeological Trust Ltd.

Position Director

Signature  Date.....23/8/00

As part of our desire to provide a quality service we would welcome any comments you may have
on the content or presentation of this report