THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Llangwyryfon Wind Farm re-powering scheme, Ceredigion

ARCHAEOLOGICAL WATCHING BRIEF

CPAT Report No 543

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May 2003

Report for Stephenson Halliday on behalf of Cumbria Wind Farms Ltd

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CPAT Report Record

Report and status

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CONTENTS

1 INTRODUCTION

1.1 In April 2003 the Contracts Section of the Clwyd-Powys Archaeological Trust (CPAT) was invited by Stephenson Halliday, acting on behalf of Cumbria Wind Farms Ltd, to prepare a specification and quotation for undertaking an archaeological watching brief during the re-powering scheme at the Llangwyryfon Wind Farm in North Ceredigion. The scheme consists of the removal of the existing twenty turbines and their replacement by eleven new turbines and was the subject of an archaeological assessment carried out by Headland Archaeology in October 2001 (Project Record No 43518). The watching brief was required to fulfil the conditions of the grant of planning permission by the local authority. Due to the short timescale involved prior to the commencement of work, it was agreed with Ms L Rowley-Williams of Cambria Archaeology, acting in her capacity as the archaeological curator for the region, that the CPAT specification would be submitted for approval in place of a curatorial design brief.

1.2 The CPAT specification was approved by Ms Rowley-Williams at the end of April, with the additional proviso that a group of known archaeological sites within the wind farm locality would be marked out prior to the start of groundwork. This was to ensure that the sites were not subjected to accidental damage during the implementation of the scheme, which also involves the landscaping of redundant infrastructure locations. The CPAT quotation was accepted by Cumbria Wind Farms Ltd and their representatives on 28th April 2003.

1.3 The archaeological sites in the vicinity of elements of the existing and proposed infrastructure were marked out on 2nd May 2003. The watching brief was subsequently undertaken on 7th May, with this report being compiled immediately thereafter.

2 LOCATION, TOPOGRAPHY AND GEOLOGY

2.1 The wind farm is situated 2km to the south-east of the village of Llangwyryfon, at SN 624694, and is approximately 11km to the south of Aberystwyth in northern Ceredigion. It occupies a raised plateau at the northern end of a broad, ill-defined ridge, the elevation of which varies from 280m OD to 340m OD. Southwards, within 5km of the wind farm, the ridge has largely merged with the surrounding countryside which has a general elevation of between 200m OD and 250m OD. The landscape of the plateau is dominated by a group of north-north-east/south-south-west aligned ridges, with some rock protruding through what is mainly improved grassland.

2.2 The solid geology of the area consists of Telychian greywackes, belonging to the Llandovery Series of rocks that form the earliest division of the Silurian period (British Geological Survey map, 1994). The soils of much of the plateau consist of loamy upland soils with a wet peaty surface horizon, belonging to the Hafren Soil Association, while the steep slopes which bound it are largely occupied by fine loamy and silty soils belonging to the Manod Soil Association (Soil Survey of England and Wales map, 1983).

3 ARCHAEOLOGICAL BACKGROUND

3.1 As noted above, the area of the wind farm was the subject of an archaeological assessment carried out by Headland Archaeology in October 2001, and this has provided most of the baseline data for a consideration of the archaeology of the site by period, which is detailed below.

3.2 *Prehistoric*

A group of Bronze Age burial cairns are present on Mynydd Bach, 1km to the south of the wind farm, but there are no confirmed sites of the period within the wind farm site. The only evidence which may relate to Bronze Age activity is the placename of Carn Fach (PRN 6134), in the vicinity of the proposed turbine 5, which suggests that a cairn may have existed in this area, although no physical remains of such a structure are apparent.

3.3 *Roman*
The line of the Roman road known as *Sarn Helen* passes approximately 3.5km to the east of the wind farm, but there are no associated features known within the wind farm area.

3.4 *Medieval*
The scheduled ancient monument at Banc Pwlldrainllwyn (PRN 25541; SAM Cd151) consists of a rectangular dwelling with associated earth-banked enclosures. Consideration of its form has led to a medieval attribution, and it seems to represent the survival of an isolated pastoral farmstead located within unenclosed ground. There is no surviving evidence of more widespread medieval enclosure, although it could, in part, have been destroyed by the large-scale enclosure activity of the following period.

3.5 *Post-medieval*
Despite the presence of some small-scale medieval pastoral activity, it appears that the locality was largely open moorland prior to this period. However, during the post-medieval centuries significant changes in land-use occurred, entailing the enclosure of the land into discrete blocks and the construction of stone-built dwellings and farm buildings within them to form smallholdings (e.g. PRNs 25542, 28208 and 28209). The associated enclosure boundaries appear to be of a standard construction, primarily appearing as earth banks, often with stone facing visible on one or both sides. Discussions with one of the local landowners during the watching brief suggested that this enclosure and settlement was carried out in a single phase by a former landowner, perhaps near the end of the 18th century, and this is supported by the physical appearance of the surviving monuments.

3.6 *Modern*
The utilisation of the landscape for subsistence agriculture appears to have continued into the early part of the 20th century, but it is believed that all of the smallholdings were abandoned prior to the start of the Second World War, with the last tenant leaving in 1938 (information from the landowner as in para 3.5). The area has subsequently been used as upland grazing by neighbouring farms, with the drier ground being the subject of more recent land improvement.

4 WATCHING BRIEF

4.1 The initial phase of work consisted of the placement of markers around those identified archaeological sites which were considered to be potentially under threat from the activities of earthmoving machinery during the construction works. A combination of metal pegs and barrier tape or rope was used to define each site and its surrounding buffer zone.

4.2 The location of turbine 2 and the routing of its access road were discussed on-site with the representative of Cumbria Wind Farms, immediately prior to the initial groundworks which preceded their construction. The main focus of the discussions related to the avoidance of the scheduled area which contains the medieval settlement at Banc Pwlldrainllwyn (PRN 25541; SAM Cd151). In order to ensure that the scheduled area remained undisturbed, the access road had to be routed to the south of the line of a field bank which lies to the south of the scheduled area and forms part of the enclosures associated with the abandoned smallholding of Pant-yr-Ala (see Fig. 2). This approach led to the unavoidable disturbance of the field bank in two places, which were recorded in section (see Figs 3 and 4) and photographed once machining had been completed. No other archaeological features were encountered during the watching brief.

4.3 *Section A* (Fig. 3, located at SN 61826929)
Examination of the section cut through this field boundary by machine, revealed that at this point it consists of an upper layer of grey-brown silty loam (1), 0.2m thick, which extends eastward into the field where it forms a topsoil layer. The main body of the bank is composed of a dump of black peat (2), which is up to 0.3m high. The bank overlies a layer of mixed orange clay silt (4), which appears to form the natural subsoil, and itself overlies a raised ridge of bedrock (6). The bank thus formed is faced on the outside with slabs of local shale (3). On the outer side of the boundary, the bedrock was overlain by a layer of black peat (5), 0.04m in thickness.

4.4 *Section B* (Fig.4, located at SN 61896931)
This section was cut through the boundary at an angle of about 45 degrees, to facilitate the movement of vehicles transporting long loads to the site of turbine 2. The drawn section (Fig. 4) has been modified to compensate for this and provide a representative section through the boundary. At this point it consists of an upper layer of grey-brown silty loam (7), 0.15m thick, which extends eastward into the field to form a topsoil layer, as in the case of Section A. The main body of the bank is composed of a dump of redeposited material, up to 0.7m high, containing orange clay silt, dark grey-brown peat and gleyed grey clay (8), which overlies a layer of gleyed grey clay (11), that forms the upper part of the natural subsoil. The bank thus formed is faced on the outside with slabs of locally occurring rock (9). On the outer side of the boundary, the natural subsoil was overlain by a layer of dark grey-brown peat (10), 0.1m in thickness.

4.5 Although no datable finds were recovered during the excavations, the appearance and associations of the boundary bank suggest strongly that it belongs to the post-medieval period of enclosure, noted above in para 3.5. The boundary appears to have been constructed by forming a bank with soil gathered from its immediate locality, which was stabilised by the addition of a stone revetment on its external face. The soil within the enclosure formed by the boundary is then likely to have been improved by manuring during the post-medieval and modern periods, giving rise to the existing topsoil. The original surface soil horizon seems to have been of peat, and this survives outside the enclsoure.

5 CONCLUSIONS

5.1 The marking out of the known archaeological sites in the vicinity of elements of existing and proposed wind farm infrastructure should prevent any accidental damage during the implementation of the re-powering scheme.

5.2 The scheduled area containing the medieval farmstead at Banc Pwlldrainllwyn (SAM Cd151) has been avoided by the site road leading to turbine 2. A watching brief was carried out during the excavation of the course of the road and the base of turbine 2, during which the boundary of an enclosure associated with the abandoned smallholding of Pant-yr-Ala was unavoidably cut through in two places. The composition of the boundary at these points was recorded by drawn section (Figs 3 and 4).

5.3 No other archaeological features or finds were encountered during the watching brief.

6 ACKNOWLEDGEMENTS

6.1 The writer would like to thank the on-site staff of Cumbria Wind Farms for their assistance with the marking out of sites and co-operation during the watching brief.

7 SOURCES

7.1 *References*

Baker, L, 2001. *Llangwyryfon Wind Farm re-powering: Archaeological Assessment.* Headland Archaeology Ltd, Edinburgh. Project Record No 43518.

7.2 *Cartographic sources*

1983 Soil Survey of England and Wales map (Sheet 2 - Wales) and Legend (1:250,000 scale)

1994 British Geological Survey map of Wales (Solid edition at 1:250,000 scale)

APPENDIX 1

LLANGWYRYFON WIND FARM
SPECIFICATION FOR AN ARCHAEOLOGICAL WATCHING BRIEF
BY THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

1 Introduction

1.1 The Contracting Section of the Clwyd-Powys Archaeological Trust has been invited by Mr K Halliday, Stephenson Halliday, to provide a quotation and specification for undertaking an archaeological watching brief at the Llangwyryfon Wind Farm. Due to the short timescale involved, and following discussions with Lucy Rowley Williams, Cambria Archaeology, it has been agreed that the following specification of works should be submitted for approval in place of a curatorial design brief.

1.2 The watching brief is required during the construction of the access road to Turbine No 2, which passes close to a Scheduled Ancient Monument (SAM CD 151).

2 Objectives

2.1 The objectives of the watching brief are:

2.1.1 to monitor all relevant groundworks associated with the construction of the access road to Turbine No 2 to ensure preservation by record of any remains which may be revealed;

2.1.2 to prepare a report presenting the results of the watching brief.

3 Methods

3.1 The watching brief will be undertaken to monitor all relevant groundworks to inspect surfaces for archaeological features and deposits. Sufficient time should be allowed by the contractor to enable adequate recording of any remains which may be revealed.

3.2 Contexts will be recorded on individual record forms and be drawn and photographed as appropriate. All photography will be in 35mm format black and white print and colour slide. All features will be located as accurately as possible with respect to buildings and boundaries identified on modern Ordnance Survey maps and levels will be related to Ordnance Datum where possible.

3.3 Should any significant archaeological remains be revealed, the curator will be informed to determine an agreed programme of action.

3.4 All artefacts will be treated in a manner appropriate to their composition and will be processed by trained CPAT staff. Any environmental sampling will be conducted by CPAT following the advice of an appropriate specialist.

3.5 Following the on-site work an illustrated and bound report will be prepared in A4 format containing conventional sections on: Site location, Topography and Geology; Historic Background; Watching Brief; Conclusions and References, together with appropriate appendices on archives and finds.

3.6 The site archive will be prepared to specifications laid out in Appendix 3 in the Management of Archaeological Projects (English Heritage, 1991).

3.7 Arrangements will be made for the deposition of the site archive with an appropriate body, following discussions with Cambria Archaeology. An agreement will be reached with the client regarding any artefacts which may be recovered to ensure their deposition in an appropriate local or region museum.

3.8 A report on the findings will be prepared for *Archaeology in Wales.*

4 Resources and Programming

4.1 The watching brief will be undertaken by a skilled archaeologist under the overall supervision of Mr RJ Silvester, a senior member of CPAT's staff who is also a member of the Institute of Field Archaeologists. CPAT is also an IFA Registered Organisation.

4.2 All report preparation will be completed by or with the assistance of the same field archaeologist who conducted the evaluation.

4.3 It is anticipated that the archaeological watching brief will be completed within 2 days, although the duration will be entirely dependent on the contractor's programme of work. The report will be completed within 2 weeks of the completion of on-site works. A copy of the report will be deposited with the Regional SMR. The curator will be informed of the timetable in order to arrange for monitoring if required.

4.4 Requirements relating to Health and Safety regulations will be adhered to by CPAT and its staff.

4.5 CPAT is covered by appropriate Public and Employer's Liability insurance.

N.W. Jones
24 April 2003

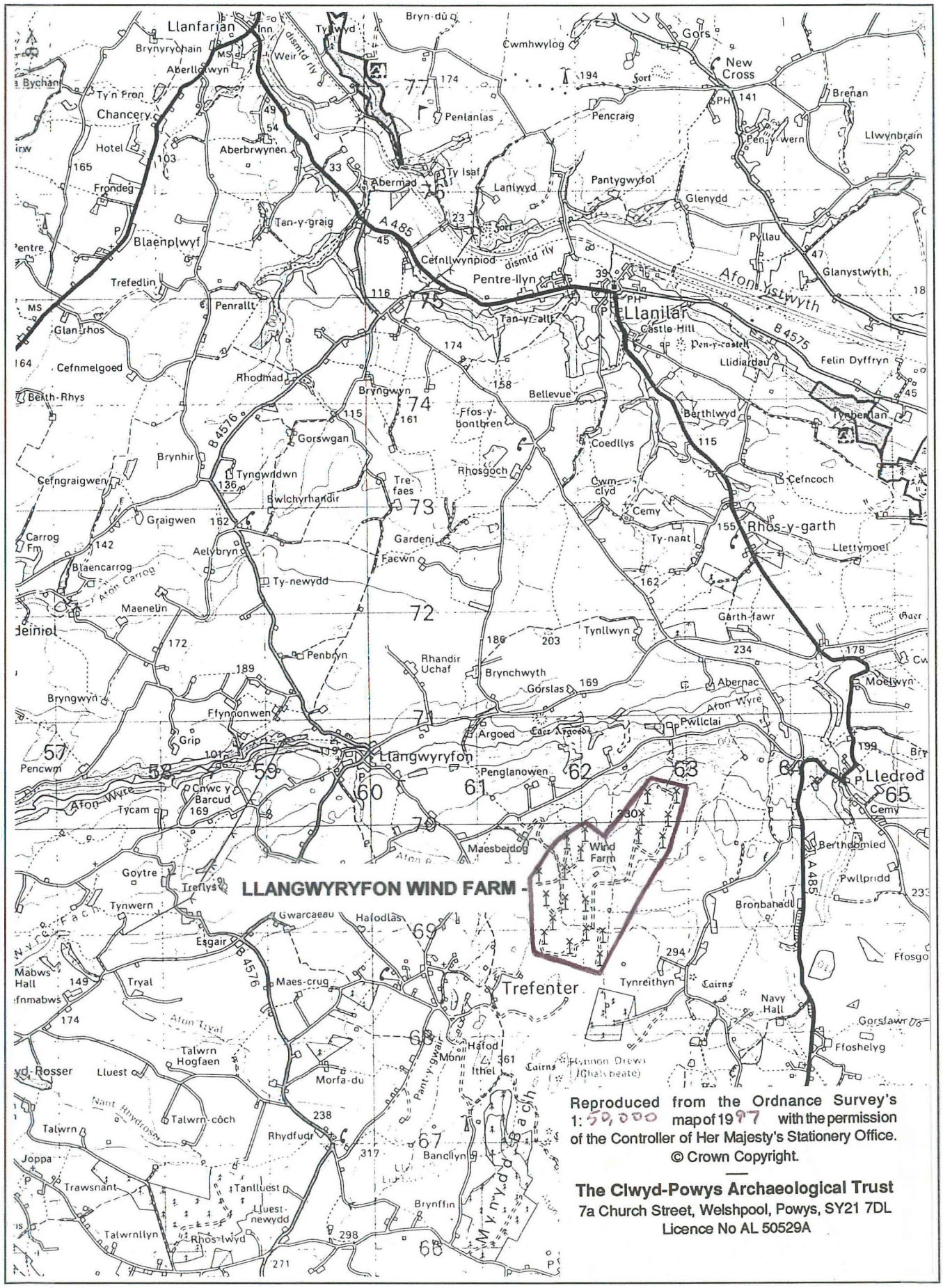

Fig. 1 Location of the Llangwyryfon Wind Farm

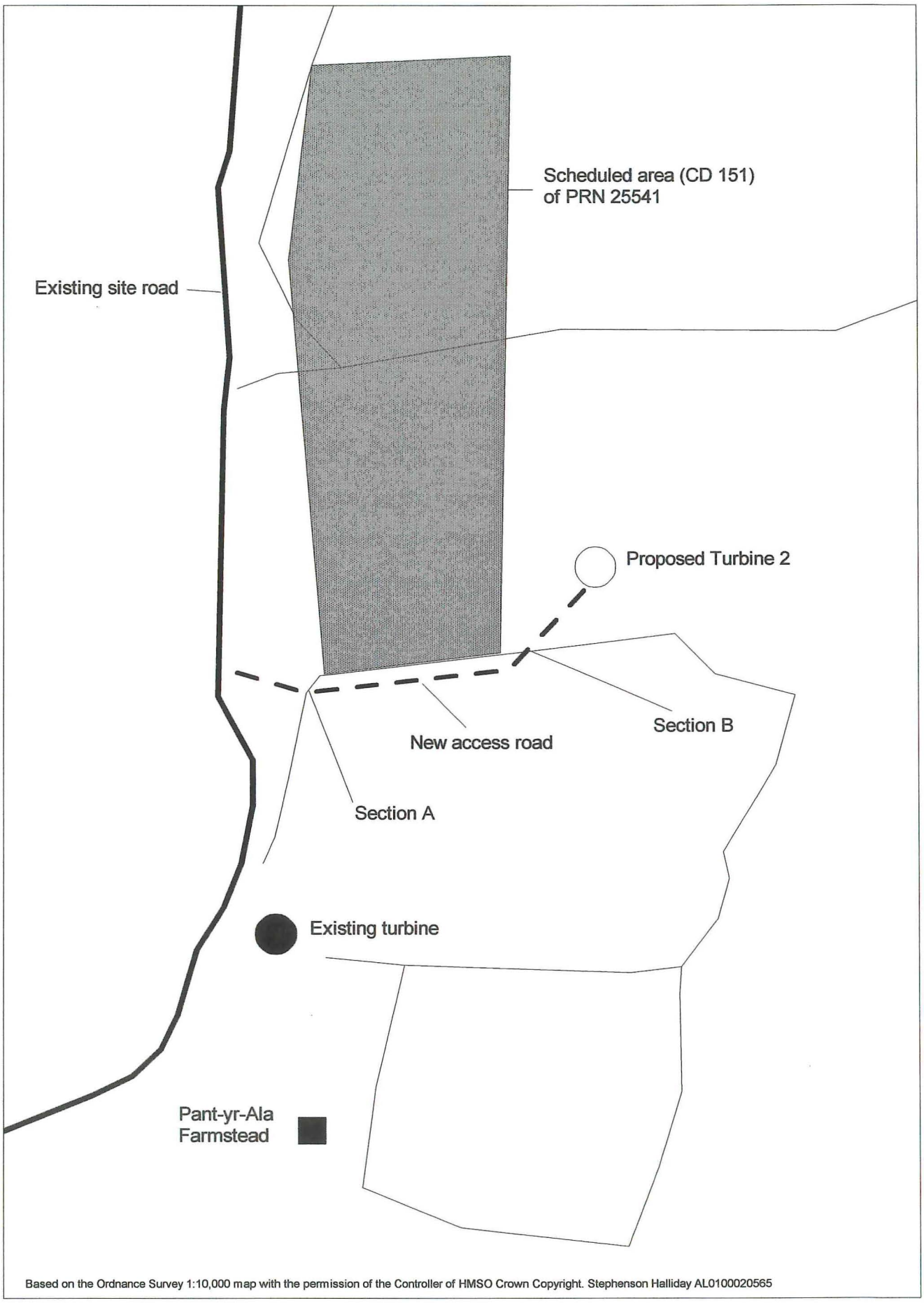

Fig. 2 Proposed Turbine 2 and access road

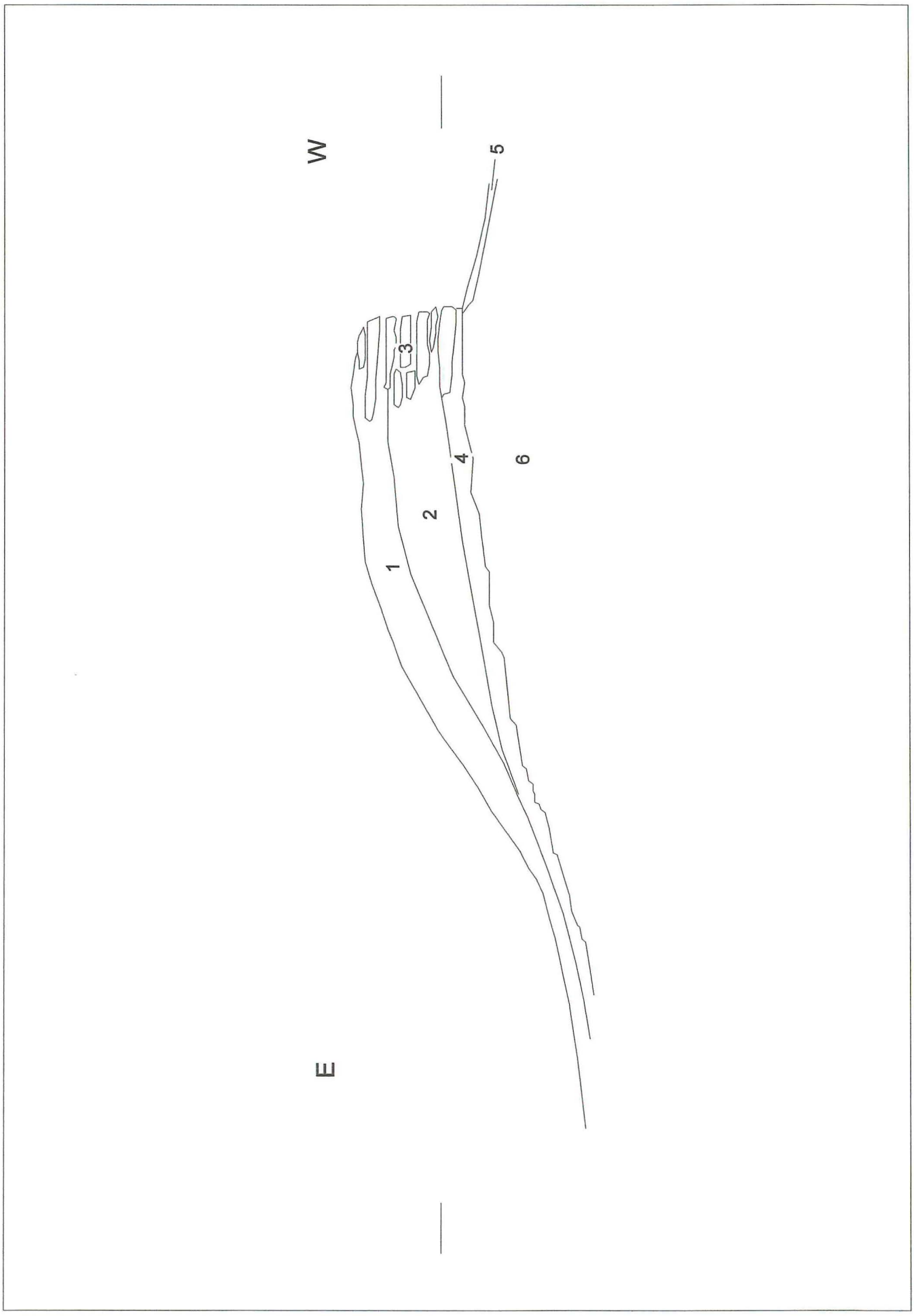

Fig. 3 Section (A) through the field bank N of Pant-yr-Ala (at SN 61826929) Scale 1:25

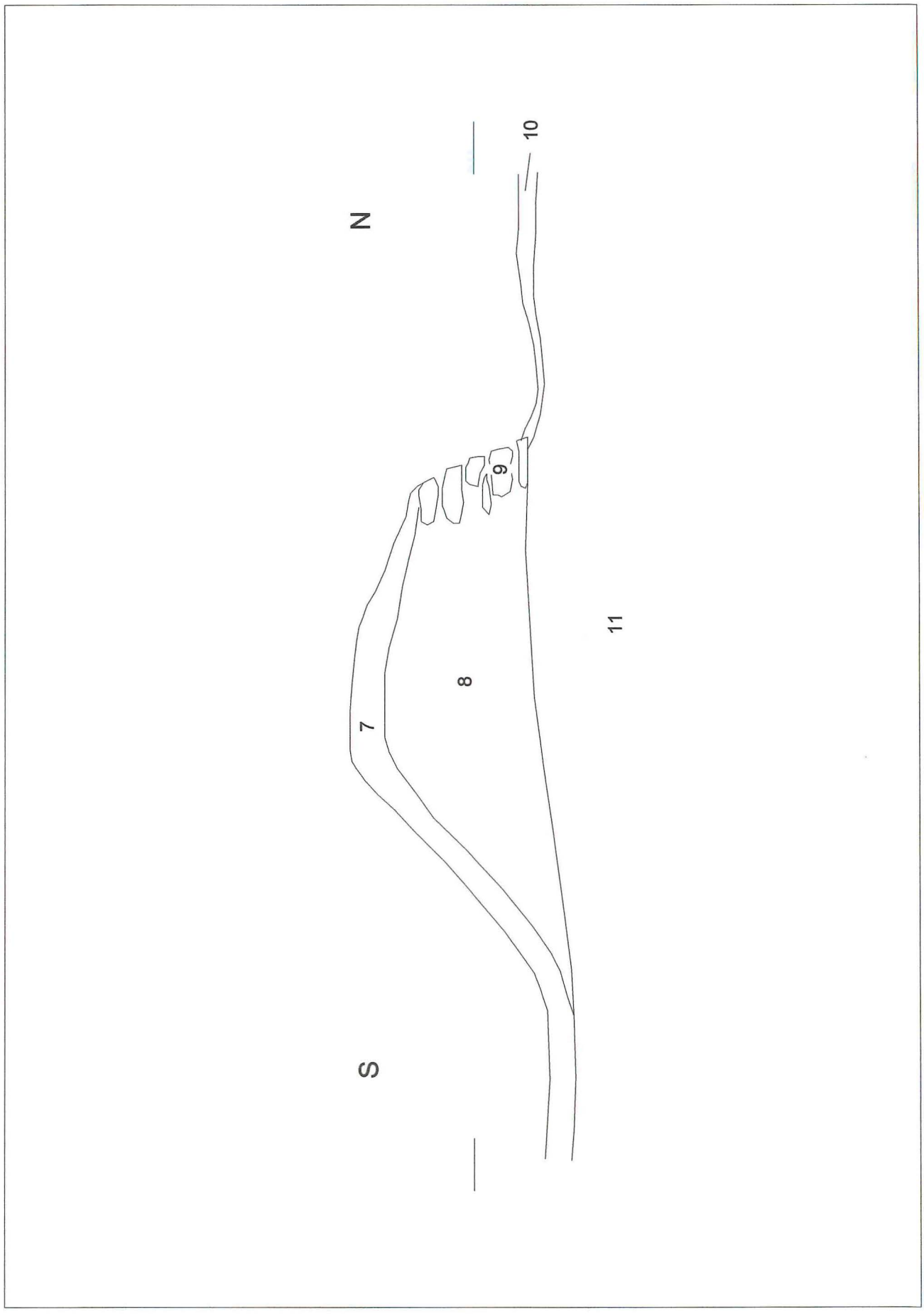

Fig. 4 Section (B) through the field bank N of Pant-yr-Ala (at SN 61896931) Scale 1:25