

**MYNYDD Y BETWS WIND FARM  
CARMARTHENSHIRE**

**ARCHAEOLOGICAL EVALUATION**

*For*

**ESBI ENGINEERING**

*on behalf of*

**CAMBRIAN RENEWABLE ENERGY LTD**


CA PROJECT: 3289  
CA REPORT: 11036

MARCH 2011

# MYNYDD Y BETWS WIND FARM CARMARTHENSHIRE

## ARCHAEOLOGICAL EVALUATION

CA PROJECT: 3289  
CA REPORT: 11036

|             |   |
|-------------|---|
| prepared by | Alistair Barber, Senior Project Officer   |
| date        | 4 March 2011  |
| checked by  | Cliff Bateman, Project Manager  |
| date        | 9 March 2011  |
| approved by | Simon Cox, Head of Fieldwork  |
| signed      |  |
| date        | 10 March 2011   |
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© Cotswold Archaeology  
Building 11, Kemble Enterprise Park, Kemble, Cirencester, Gloucestershire, GL7 6BQ  
Tel. 01285 771022 Fax. 01285 771033 E-mail: enquiries@cotswoldarch.org.uk

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## SUMMARY

|                             |                                       |
|-----------------------------|---------------------------------------|
| <b>Project Name:</b>        | Mynydd y Betws Wind Farm              |
| <b>Location:</b>            | Carmarthenshire                       |
| <b>NGR:</b>                 | Approximately centred at SN 2672 1070 |
| <b>Type:</b>                | Evaluation                            |
| <b>Date:</b>                | 22 November 2010 – 7 February 2011    |
| <b>Planning Reference:</b>  | E/10446                               |
| <b>Location of Archive:</b> | Carmarthenshire County Museum         |
| <b>Site Code:</b>           | MYD 10                                |

An archaeological evaluation was undertaken by Cotswold Archaeology between November 2010 and February 2011 at the request of ESBI Engineering, on behalf of Cambrian Renewable Energy Ltd, at Mynydd y Betws Wind Farm site, Carmarthenshire. Forty trenches were excavated.

A single, undated ditch and four extant pits, the latter probably shallow mine workings of modern date, were encountered.

## 1. INTRODUCTION

1.1 Between November 2010 and February 2011 Cotswold Archaeology (CA) carried out an archaeological evaluation for ESBI Engineering, on behalf of Cambrian Renewable Energy Ltd, at Mynydd y Betws Wind Farm site, Carmarthenshire (centred on NGR: SN 2672 1070: Fig. 1).

1.2 The wind farm has been given planning consent, with a condition placed on planning relating to archaeology (Carmarthenshire County Council Planning Application No. E/10446; date of decision 10 June 2009). The scheme proposed 16 wind turbine generators, an anemometer mast, electrical substation and control building, electrical connections, access roads, temporary construction compound, and borrow pits. The scheme has altered slightly from that originally proposed, as Turbine 12 has now been omitted from the scheme, and Turbines 14 and 16 have been moved to avoid known Scheduled Monuments. The condition placed on the planning consent stated

*No development shall take place within the site until a programme of archaeological work has been implemented in accordance with a written scheme of investigation approved by the Local Planning Authority in consultation with Cadw and in the event of any previously unidentified or undisclosed archaeological remains being identified during the course of development the works on Site which may affect the said remains will cease until a further programme of works in respect of the said remains has been agreed in writing between the local planning authority and the developer and that scheme shall thereafter be implemented.*

1.3 The evaluation was carried out in accordance with a *Written Scheme of Investigation for Archaeological Evaluation* prepared by Dyfed Archaeological Trust Field Services (2010) and with written CA variances to the WSI, that were submitted to and approved by Charles Hill, Planning Archaeologist, Dyfed Archaeological Trust Heritage Management, the archaeological advisors to Carmarthenshire County Council. The fieldwork also followed the *Standard and Guidance for Archaeological Field Evaluation* (IfA 2008), the *Management of Archaeological Projects* (English Heritage 1991), and the *Management of Research Projects in the Historic*

*Environment (MORPHE): Project Manager's Guide* (EH 2006). It was monitored by Mr Charles Hill, including site visits on 15 December 2010 and 23 February 2011.

### ***The site***

- 1.4 The proposed development is sited on Mynydd y Betws, an 800ha area of common land 5km east of Ammanford, at approximately 249m to 335m AOD (Fig. 2). Approximately 3.12 hectares of the site will be taken up on a long term but temporary (typically 25 years) basis by the wind farm.
- 1.5 The site includes areas of dry and wet heath, unimproved acid grassland, and blanket bog, together with several small stream courses and wet flushes.
- 1.6 The underlying solid geology of the area is mapped as including rocks of the Carboniferous Upper and Middle Coal Measures Series, which include rich seams of anthracite coals and some iron ore. Hard carboniferous Millstone Grits outcrop along the northern boundary of the area, with a band of carboniferous Limestone below (BGS 1977). The overlying soils are a mixture of Withnell 1, Gelligaer and Willcocks 1 Associations, which are typical upland soils, prone to waterlogging (Soil Survey of England and Wales 1983).

### ***Archaeological background***

- 1.7 An Environmental Statement was prepared for the proposed wind farm and submitted as part of Planning Application No. E/10446 to Carmarthenshire County Council. The Environmental Statement was prepared by Dulas Ltd on behalf of Cambrian Renewable Energy Ltd in 2005 (ESBI 2010). An archaeological assessment providing the historical and archaeological background to the site area was produced by Cambrian Archaeological Projects Ltd, on behalf of Dulas Ltd, which was included as Appendix 5 to the Environmental Statement. The chapter was revised in March 2006 to include newly Scheduled archaeological sites and to provide further assessment of the impact of the wind farm proposals on buried archaeological remains and reference should be made to that document for the detailed archaeological background.
- 1.8 The report stated that a total of 105 significant archaeological sites had been identified within the area of the proposed development. These largely comprised

known sites recorded on the Regional Historic Environment Record curated by Dyfed Archaeological Trust, by Cadw or the Royal Commission on the Archaeological and Historic Monuments of Wales. The report highlighted the richness of archaeological features within the general area of the proposed development, especially of Bronze Age activity (for full details see Appendix 5 of the Environmental Statement). During the development of the proposed layout of the wind farm, all known archaeological sites were avoided to prevent direct impact to these remains. As no archaeological fieldwork was undertaken during the preparation of the Environmental Statement, the potential for hitherto unknown archaeological deposits to be present was not explored or assessed in any detail.

- 1.9 A Ground Investigation Report, prepared by Ground Investigation Ltd, was also submitted as Appendix 6 of the Environmental Statement. This report provided information on the depths of buried soils and underlying natural deposits.
- 1.10 A Site Appraisal Report, undertaken in February 2010 by AGECE Ltd, identified deep mining activity within the site, approximately 100m to 650m below the ground surface, and also evidence of shallow mine workings on outcropping seams. Within the south-eastern part of the site these shallow coal seams lie beneath the proposed locations of turbines 8, 10, 14 and 16. Although the shallow seams beneath turbines 8 and 10 had not been worked, shallow open cast workings are believed to have taken place adjacent to turbine 10 by local residents during the General Strike in 1926. No physical evidence of mining were identified close to turbine 10, but the appraisal noted aerial photographic evidence suggestive of shallow adit workings, possibly representing seam prospecting, in the vicinity of turbines 14 to 16 visible from aerial photography (AGECE Ltd 2010).

### ***Archaeological objectives***

- 1.11 The objectives of the evaluation were to establish the character, quality, date and extent of any archaeological remains or deposits surviving within the site. This information will assist Carmarthenshire County Council in making an informed judgement on the significance of the archaeological resource, and the likely impact upon it of the proposed development. The information will be used to determine appropriate mitigation strategies for any archaeological remains within the area to be implemented prior to or during development.

## Methodology

- 1.12 The broad methodology for the archaeological works was based on the *Written Scheme of Investigation* prepared by Dyfed Archaeological Trust Field Services in August 2010, with subsequent minor variances detailed by CA (CA 2010). The scheme of archaeological works was separated into a number of phases of work, as detailed below (Stages 1 to 4).

### *Stages 1 and 2*

- 1.13 The initial evaluation works (Stages 1 and 2) were to be undertaken in advance of the geotechnical site investigation and included:

Stage 1: assessment of the character and extent of any surviving buried soils of archaeological or palaeo-environmental significance through an auger survey over those areas of the development site which were considered to have greatest potential for such deposits to exist.

Stage 2: machine and hand excavation of trial trenches across the development site in order to assess the date, character, condition, extent and significance of any archaeological features within the proposed development area.

Stage 2A: excavation and recording of any archaeologically significant buried soils and/or artefact scatters identified during Stages 1 and Stage 2 above, before geotechnical investigations, if they are proposed to be undertaken within the same area, or in advance of construction of roads, turbine bases, constructors' compounds, excavation of borrow pits, etc.

Stage 2B: excavation and recording of any significant buried archaeological remains identified during Stages 1 and Stage 2 above, before geo-technical investigations, if they are proposed to be undertaken within the same area, or in advance of construction of roads, turbine bases, constructors' compounds, excavation of borrow pits, etc.

- 1.14 As no archaeologically-significant buried soils, artefact scatters or buried archaeological remains were encountered during the evaluation trenching it was agreed, in consultation with the Client, Dyfed Archaeological Trust Heritage



Management, and Carmarthenshire County Council, that it would not be necessary to enact sub-phases 2a and 2b.

### *Stages 3 and 4*

- 1.15 Following completion of Stages 1 and 2 above, additional archaeological fieldwork (Stage 3) is currently underway during geotechnical investigations (trial pits), and will be reported on separately. Following discussions with the client, Dyfed Archaeological Trust Heritage Management and Carmarthenshire County Council a further stage of mitigation (Stage 4) may be required during subsequent construction works
- 1.16 Stage 3: archaeological observation during Geotechnical Works (Watching Brief). Archaeological observation is currently being undertaken during excavation of all geotechnical test pits where they fall in areas outside of those areas which have been previously archaeologically excavated in phases 1 and 2 above. The watching brief is being undertaken in order to obtain further archaeological information and to advise geo-technicians in order to avoid areas of known archaeological remains.
- 1.17 In the event that further archaeologically significant remains are revealed then a further programme of archaeological excavation and recording should be implemented in advance of the main construction programme. This would follow the same process as Stage 2 above.
- 1.18 Stage 4: Controlled soil strip and recording during road and turbine construction. This stage, if required, will further determine the presence or absence of archaeological features within the development areas where a higher archaeological potential has been demonstrated by the earlier phases of archaeological works, but where there has not been an opportunity to investigate them beforehand. Areas of high archaeological potential outside of those areas *previously* investigated in earlier stages, would be identified. These may have come to light following excavations in Stage 2, where it is considered likely, following results, that archaeology could extend into other areas. This stage would involve archaeological control and supervision of topsoil and subsoil removal, with mapping and recording of any archaeological deposits revealed. A contingency would be needed to undertake salvage excavation in any areas where archaeological remains are revealed. This

might involve certain areas being avoided by construction teams along the road lines or turbine areas etc, until the sites have been appropriately recorded.

### ***Detailed methodology***

#### Stage 2: Trial Trenching

- 1.19 The purpose of the trial trenching works was, following completion of the auger survey (ARCA 2011), to further assess the presence or absence of buried soils (decayed peats) and artefacts (flint scatters, etc). Trenching would allow an assessment of the potential for significant archaeological remains and determine what, if any, further archaeological works might be required as mitigation of the impact for the development.
- 1.20 A total of 40 trenches was excavated across the development site. The trenches were located to sample all areas of the proposed development site, other than those areas where existing roads are present (see Figures 3 to 6 inclusive for locations). The number of trenches was determined appropriate to provide a representative sample across the entire development area, including a trench within each of the proposed turbine bases, within the areas of the contractor's compound, mast, substation, borrow pit locations and new tracks.
- 1.21 Each trench measured 30m in length and 1.7m in width, with the exception of trench 43 which was 13.5m by 1.7m in size. Several trenches were, on ecological and health and safety grounds, not excavated at their proposed locations but instead, with the approval of Charles Hill, Dyfed Archaeological Trust Heritage Management, resited or replaced by intensive geo-archaeological assessment. Trenches 18 and 19 on the proposed line of an access road between Turbines 7 and 9, where initial hand augering revealed soft peat deposits up to 2.5m deep, were replaced by additional palaeo-environmental assessment and coring. Trench 22 at Turbine 9 could not be machined due to thick blanket bog and evaluation investigation at this location was instead achieved by more detailed auger survey, with transects of auger boreholes at 5m intervals across the turbine base location in a cross-shape. A thick peat deposit encountered throughout trench 29 at Turbine 8 required detailed geoarchaeological assessment and coring. Trenches 42 to 44, originally proposed at steeply-sloping locations along the access road towards the south-eastern extent of the site, were re-sited to examine areas of peat identified in the preceding auger

survey and several extant, surface, features between Turbines 14 and 16. Trenches were set out on OS National Grid (NGR) co-ordinates using a Leica 1200 series SmartRover GPS and surveyed in accordance with CA Technical Manual 4 Survey Manual (2009).

- 1.22 A contingency of 10 additional trenches was held in reserve in the event that further information on the extent, character and date of archaeological remains encountered was required. In consultation with the client, Dyfed Archaeological Trust Heritage Management and Carmarthenshire County Council these additional trenches were not required.
- 1.23 All trenches were excavated by mechanical excavator equipped with a toothless grading bucket. All machine excavation was undertaken under constant archaeological supervision to the top of the first significant archaeological horizon, buried soils of archaeological/palaeo-environmental interest or the natural substrate, whichever was encountered first. Where archaeological deposits were encountered they were excavated by hand in accordance with CA Technical Manual 1: *Fieldwork Recording Manual* (2007).
- 1.24 Following machine excavation and where peat horizons had been identified within Trenches 40, 41 and 42, a series of hand dug test pits were excavated through the exposed deposits onto undisturbed natural ground. These hand dug test pits measured 1m x 1m square in plan and were excavated at up to 10m intervals along the trench.
- 1.25 The test pits were cleaned by hand in order to determine the presence and extent of any archaeological deposits. No prehistoric finds (such as worked flint or pottery) were found within these hand dug test pits requiring locating 3-dimensionally. Following hand excavation the sections of the test pits were recorded and drawn (at least one side from every test pit). Following the hand excavation of the test pits, a rapid assessment of the results was made. As no significant buried soil deposits, or finds scatters, were revealed within the test pits, and following discussions with the client, Dyfed Archaeological Trust Heritage Management and Carmarthenshire County Council, no further stage of detailed excavation and recording was required and the remainder of any soil layers were removed by machine across the whole of the trench onto the top of undisturbed natural ground. Following machining, no

archaeological remains were encountered requiring hand cleaning or hand excavation.

- 1.26 All archaeological features revealed were planned and recorded in accordance with Technical Manual 1 *Fieldwork Recording Manual* (CA 2007). Each context was recorded on a pro-forma context sheet by written and measured description: principal deposits will be recorded by drawn plans (scale 1:20 or 1:50, or electronically using Leica 1200 series GPS or Total Station (TST) as appropriate) and drawn sections (scale 1:10 or 1:20 as appropriate). Where detailed feature planning was undertaken using GPS/TST this was carried out in accordance with Technical Manual 4 *Survey Manual* (CA 2009). Photographs (monochrome print and digital colour) were taken as appropriate. All finds were bagged separately and related to the context record. All artefacts were recovered and retained for processing and analysis in accordance with Technical Manual 3 *Treatment of Finds Immediately after Excavation* (CA 2010).
- 1.27 Sample excavation of archaeological deposits was limited to resolving questions identified in Section 3 above. At this stage there was no requirement to sample all archaeological features encountered
- 1.28 Deposits were assessed for their palaeo-environmental potential in accordance with CA Technical Manual 2: *The Taking and Processing of Environmental and Other Samples from Archaeological Sites* (2003). Relatively shallow peats identified within trenches 30, 31, 40, 41 and 42 were assessed by ARCA and monolith samples were taken from the soil sequence at trenches 40, 41 and 42 for assessment.
- 1.29 The archive and artefacts from the evaluation are currently held by CA at their offices in Kemble. Subject to the agreement of the legal landowner the archive will be deposited with Carmarthenshire County Museum.

## 2. RESULTS (FIGS 3 - 9)

- 2.1 This section provides an overview of the evaluation results: detailed summaries of the recorded contexts, finds and palaeo-environmental evidence (hand augering results) are to be found in Appendices A, B and C respectively.
- 2.2 No archaeological features were identified within trenches 1-21, 23-33 and 35-42.

### ***General Stratigraphy***

- 2.3 The natural geological substrate within all excavated trenches comprised glacial tills with occasional outcrops of sandstone. This was occasionally overlain by a thin subsoil, typically 0.1m in thickness, but more typically by a humic, root-affected, topsoil averaging 0.2-0.3m in thickness.

### ***Trench 34 (Figs 6 & 7)***

- 2.4 Natural geological substrate 3402, comprising clay and outcropping sandstone, was revealed 0.2m below present ground level (bpgl). It was cut by north/south-aligned ditch 3404, which measured 1.2m in width and 0.45m in depth, and had steeply-sloping sides and a flat base. It contained a primary silt-sand fill, 3405, a secondary sand-clay and sandstone deposit, 3406, that was steeply-angled against the western edge of the ditch (possibly representing slumping, or deliberate slighting, of an associated bank), and a tertiary silt-sand fill 3407. The latter was overlain by subsoil 3401, 0.25m thick, and topsoil 34000, typically 0.1m in thickness. No artefacts were present within the excavated fills, and the ditch currently remains undated.

### ***Trench 40 and 41 (Figs 6, 7, & 8 )***

- 2.5 Peats were identified immediately beneath the topsoil throughout both of these trenches, and were hand excavated within a series of test-pits. No artefactual material was recovered from within the peats, and upon completion of a programme of environmental sampling, the trenches were mechanical excavated to the top of the underlying natural sandy clay substrate (typically revealed at 0.9m bpgl) .

### **Trench 42 (Figs 5 & 8)**

- 2.6 At the north-western limit of the trench, a small area of peat, measuring at least 4m in length, was identified. No artefactual material was recovered from within these deposits, and upon completion of a programme of environmental sampling, the trenches were mechanically excavated to the top of the underlying natural clay substrate (typically revealed at 0.7m bpgl)

### **Trench 43 (Figs 5 & 9)**

- 2.7 The natural geological substrate 4302, encountered within the central part of the trench at approximately 0.75m bpgl, was overlain by a series of undated sand-clay and sand-silt dump deposits (4318, 4317, 4316, 4315, 4314, 4320, 4313 and 4312) that most probably upcast from mining activity.
- 2.8 Uppermost deposit 4312 was cut on its eastern side by a partially-exposed, steeply-sloping pit 4303. This feature, measured at least 1.4m in length and 0.9m in depth but not fully contained within the trench, and contained at least five sand-clay fills (4311, 4310, 4309, 4308 and 4307). Fill 4309 yielded abundant 20th-century artefacts including glass bottles, iron bucket handles, and a marmite jar (not retained). Pit 4306, only partially revealed within the trench, but at least 2.2m in length and in excess of 0.65m deep, also cut through upcast deposit 4312 and contained undated sand-clay fills 4327, 4340, 4341, 4342, and 4343.
- 2.9 Upcast deposit 4312 was cut through on its western side by a partially-revealed pit 4304, which measured at least 4.75m in length and 1m in depth. It contained at least seven sand-clay fills (4325, 4324, 4323, 4322, 4321, 4335, and 4336) which were devoid of artefacts where examined.
- 2.10 Pit 4304 also cut through a series of sand-clay deposits on its western side. Sand-clay layers 4326, 4328, 4329, 4330, 4331, 4332, 4334, and 4326 appear to represent fills within pit 4305 whose limits were only discernible at ground level beyond the limits of the trench.
- 2.11 Further excavation and recording within trench 43 was precluded, on health and safety grounds, by the discovery of two small fragments of corrugated asbestos-cement tile within the spoil heap adjacent to trench 43. The trench was rapidly

evacuated upon this discovery, and was backfilled before further excavation and recording could be undertaken.

- 2.12 The uppermost fills of pits 4303, 4304, 4305 and 4306 were overlain by modern topsoil 4301 approximately 0.2m in thickness.

### ***The Finds and Palaeoenvironmental Evidence***

- 2.13 A single deposit, fill 4309 within pit 4303, produced artefactual material consisting of modern glass, ceramics and metalwork (Appendix B). Among the finds are complete glass bottles/jars including products of HP, Heinz, Marmite and Shippam's brands, and therefore typical of the 20th century. None of the finds will be retained.
- 2.14 Following assessment by Dr Keith Wilkinson of ARCA a total of three monolith samples were taken from peat deposits within trenches 40, 41 and 42. The results from assessment of these monolith samples will be reported on separately. With those exceptions, no further deposits were encountered within the trial trenches that required sampling.

## **3. DISCUSSION**

- 3.1 Hand-augering and subsequent trial trenching has successfully evaluated areas of proposed development across Mynydd y Betws, revealing several areas of potential palaeo-environmental interest, but only limited archaeological features.

### *Prehistoric*

- 3.2 No archaeological features, artefact scatters, residual artefacts within subsoil or topsoil horizons, nor buried soils of prehistoric date were encountered during the initial auger survey or the subsequent trial trenching. Although numerous prehistoric funerary monuments on Mynydd y Betws are recorded within the preceding archaeological assessment (ESBI 2010), the absence of prehistoric settlement and funerary remains during the current evaluation trenching correlates with section 5.6 of the preceding assessment which predicted no impact on archaeological features from construction of Turbines 1 to 16 and the majority of connecting tracks.

- 3.3 In addition, no evidence was encountered within evaluation trenches at, or in the vicinity of, Turbines 14, 15, and 16 to indicate that the funerary monuments of *Llety'r-Crydd Cairns* (recorded as a Bronze Age barrow cemetery; PRN 555), *Banc Y Bryn Cairns* (recorded as a Bronze Age barrow cemetery; PRN 868, NPRN 304013) , *Plas-y-Coed* Bronze Age round barrow (PRN 871), and the Scheduled Monuments of *Banc y Bryn Cairns* (CM333) and nearby *Banc y Bryn Cairn Cemetery* (CM335) extend beyond their currently defined limits.

#### *Post-medieval and modern*

- 3.3 Despite the presence of several known post-medieval farmsteads on Mynydd y Betws (ESBI 2010) no evidence for further activity of this date was encountered during the current works.
- 3.4 Two broadly parallel lines of pits, visible from aerial photographic coverage of the site, were highlighted within a recent mining appraisal report (AGEC Ltd 2010). These are still clearly discernible on the ground as small oval and circular hollows, which appear to be focussed upon known coal measures north of Turbines 14 and 16. Trenching across four of these extant features suggests that they probably represent shallow mine workings, perhaps small-scale workings by local residents during the General Strike of 1926 (as detailed in section 1.10 above) or more organised prospection. Modern artefacts recovered from the upper fill of pit 4303 indicates that at least some of these features may be of twentieth-century date. However, it remains conceivable that these modern artefacts may represent episodes of dumping within earlier features, given that many other pits appear to have been only partially backfilled.

#### *Undated*

- 3.5 A single undated ditch, possibly a former boundary, has been identified in trench 34 at Turbine base 15.



#### 4. CA PROJECT TEAM

Fieldwork was undertaken by Alistair Barber with Jamie Wright and Diarmuid O Seaneachain, assisted by Laura Gadsby, Jonathan Henckert, Michael Keech, Mark Middleton, Phil Roberts, Iza Romanowska, Tom Weavill, Matt Weightman, and Jay Wood. The report was written by Alistair Barber. The illustrations were prepared by Jonathan Bennett. The archive has been compiled by Alistair Barber, and prepared for deposition by Kathryn Price. The project was managed for CA by Cliff Bateman.

#### 5. REFERENCES

AGEC Ltd 2010 *Site Appraisal Report, Mynydd Y Betws Wind Farm Site*

BGS (1977) *Solid and Drift Geology, 1/50,000 Sheet 230: Ammanford*. British Geological Survey, Keyworth.

ESBI 2010 Appendix E - Extract from Environmental Statement – Archaeology, in *Mynydd Y Betws Wind Farm. Enquiry Document for Archaeological Investigations*.

Dyfed Archaeological Trust 2010 *Mynydd Y Betws Wind Farm, Carmarthenshire. Archaeological Evaluation Investigations. Written Scheme Of Investigation*

Ground Investigation Ltd, Chapter 6. Ground Investigation Report in Environmental Statement

Soil Survey of England and Wales 1983).

**APPENDIX A: CONTEXT DESCRIPTIONS**

Trench 1 297.57m AOD (W) 300.66m AOD (E)

| No. | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|--|------------|-----------|-----------|-----------|
| 100 | Layer | Topsoil: dark brown-black silt-sand, peaty with frequent rooting.  |            |           | 0.34      |           |
| 101 | Layer | Subsoil: mid orange-grey clay-silt with moderate degraded sandstone inclusions, sub angular c. 50-150mm. |            |           | 0.08      |           |
| 102 | Layer | Natural: yellow-grey weathered sandstone and orange-brown clay-silt.                                     |            |           |           |           |

Trench 2 312.41m AOD (W) 314.62m AOD (E)

| No. | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|---|------------|-----------|-----------|-----------|
| 200 | Layer | Topsoil: dark brown-black silt-sand, peaty layer with frequent rooting and occasional degraded organic material.                  |            |           | 0.38      |           |
| 201 | Layer | Natural: degraded and weathered sub-angular sandstone within a grey-yellow clay matrix and frequent patches of orange-brown sand. |            |           |           |           |

Trench 3 319.22m AOD (W) 319.35m AOD (E)

| No. | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|---|------------|-----------|-----------|-----------|
| 300 | Layer | Topsoil: dark brown-black peaty layer with frequent rooting and decaying organic material.  |            |           | 0.25      |           |
| 301 | Layer | Subsoil: mid yellow-grey clay-silt with occasional grits, sparse rooting from the topsoil and some degraded sandstone.              |            |           | 0.1       |           |
| 302 | Layer | Natural: compact mid-brown-yellow mottled clay with occasional degraded angular large sandstones and patches of yellow-orange clay. |            |           |           |           |

Trench 4 322.05m AOD (S) 323.43m AOD (N)

| No. | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|---|------------|-----------|-----------|-----------|
| 400 | Layer | Topsoil: dark brown-black peaty layer with frequent rooting throughout and occasional decaying organic matter.                                |            |           | 0.24      |           |
| 401 | Layer | Subsoil: mid yellow-grey, moderately compact, clay-silt with infrequent patches of yellow degraded sandstone and occasional root disturbance. |            |           | 0.14      |           |
| 402 | Layer | Natural: mixed layer of weathered and broken sandstone, degraded orange-brown clay and grey-yellow sands.                                     |            |           |           |           |

Trench 5 322.89m AOD (S) 322.13m AOD (N)

| No. | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|---|------------|-----------|-----------|-----------|
| 500 | Layer | Topsoil: waterlogged very soft brown-black peat with frequent rooting |            |           | 0.32      |           |
| 501 | Layer | Subsoil: waterlogged and very soft mid orange-                        |            |           | 0.3       |           |

|     |       |  |  |  |  |  |
|-----|-------|--|--|--|--|--|
|     |       | brown silt-clay with sparse, very small, sub-rounded pebbles, 0-5mm.                                 |  |  |  |  |
| 502 | Layer | Natural: compact mid brown-yellow mottled clay with occasional angular sandstone inclusions, 0-10mm. |  |  |  |  |

## Trench 6                    313.05m AOD (S) 315.15m AOD (N)

| No. | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|---|------------|-----------|-----------|-----------|
| 600 | Layer | Topsoil: black peaty layer with frequent rooting.   |            |           | 0.24      |           |
| 601 | Layer | Subsoil: light brown-grey sand-clay   |            |           | 0.17      |           |
| 602 | Layer | Natural: light grey-yellow sand-clay mottled with occasional medium angular sandstone inclusions. |            |           | 0.25      |           |

## Trench 7                    331.19m AOD (NW) 329.16m AOD (SE)

| No. | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|--|------------|-----------|-----------|-----------|
| 700 | Layer | Topsoil: black peaty sand-clay with frequent rooting throughout.   |            |           | 0.26      |           |
| 701 | Layer | Natural: dark blue-yellow sand-clay deposit with moderate amounts of angular sandstone inclusions, 10-120mm. |            |           | 0.26      |           |

## Trench 8                    307.27m AOD (W) 308.42m AOD (E)

| No. | Type    | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|---------|--|------------|-----------|-----------|-----------|
| 800 | Layer   | Topsoil: heavily-rooted dark grey soft clay and peat.  |            |           | 0.2       |           |
| 801 | Layer   | Natural: mid orange-red silt-sand. Friable with frequent angular degraded sandstone inclusions.  |            |           |           |           |
| 802 | Cut     | Natural feature: rounded, 9.5m wide with steep sides and concave base.                           | 9.6        | >1.8      | 1         |           |
| 803 | Fill    | Stone infill within [802]: friable light grey silt-sand (40%) and brown sandstone (60%), 0-20mm. | 9.6        | >1.8      | 1         |           |
| 804 | Deposit | Natural: bedded sandstone.   |            |           |           |           |
| 805 | Deposit | Subsoil: mid grey sand-clay. Not visible throughout the trench.                                  |            |           |           |           |

## Trench 9                    322.45m AOD (N) 321.18m AOD (S)

| No. | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|-----|-------|--|------------|-----------|-----------|-----------|
| 900 | Layer | Topsoil: very dark brown silt-clay and peat.   |            |           | 0.05      |           |
| 901 | Layer | Subsoil: mid brown silt-clay, moderately rooted.   |            |           | 0.06      |           |
| 902 | Layer | Deposit: very dark brown-black buried peat and sandy clay with occasional rooting.                   |            |           | 0.1       |           |
| 903 | Layer | Natural: upper horizon of natural. Mid grey and yellow-orange mottled sand and occasional sandstone. |            |           |           |           |
| 904 | Layer | Natural: lower horizon of natural. Mid red-orange sand with frequent sandstone, 25mm-150mm.          |            |           |           |           |

## Trench 10 326.97m AOD (SW) 328.95m AOD (NE)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 1000 | Layer | Topsoil: blue-black peat with frequent rooting.  |            |           | 0.21      |           |
| 1001 | Layer | Subsoil: light grey silt-clay.   |            |           | 0.16      |           |
| 1002 | Layer | Natural: yellow-orange natural clay with frequent sandstone inclusions, occurring in bands of weathered dark blue grey sandy clay. |            |           |           |           |

## Trench 11 334.62m AOD (SW) 335.61m AOD (NE)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 1100 | Layer | Topsoil: dark blue-black peat with frequent rooting and occasional decaying organic matter.                          |            |           | 0.19      |           |
| 1101 | Layer | Subsoil: moderately compact and waterlogged grey-brown silt clay.  |            |           | 0.12      |           |
| 1102 | Layer | Natural: mid yellow-orange mottled sand-clay with frequent to dense sub-angular large degraded sandstone inclusions. |            |           |           |           |

## Trench 12 330.40m AOD (W) 329.36m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 1201 | Layer | Topsoil: mid brown-orange peat layer with frequent rooting and decaying organic matter.            |            |           | 0.2       |           |
| 1202 | Layer | Deposit: dark brown-black buried peat layer with occasional deep rooting.                          |            |           | 0.15      |           |
| 1203 | Layer | Natural: mid brown-grey silt-clay, compact with occasional angular weathered sandstone inclusions. |            |           |           |           |

## Trench 13 311.59m AOD (W) 310.05m AOD (E)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 1300 | Layer | Topsoil: dark brown-black silt-clay and peaty, heavily rooted.  |            |           | 0.15      |           |
| 1301 | Layer | Subsoil: mid yellow-grey sand-clay.   |            |           | 0.15      |           |
| 1302 | Layer | Natural: mid red-orange friable clay sand and mid grey silt-clay banded natural deposits with frequent brown sandstone, 50-100mm. |            |           |           |           |
| 1303 | Layer | Natural: Mid grey-brown silt-sand with frequent sub angular weathered sandstone.  |            |           |           |           |
| 1304 | Layer | Natural: Mid grey-brown silt-sand with frequent sub angular weathered sandstone.  |            |           |           |           |
| 1305 | Layer | Natural: Mid grey-brown silt-sand with frequent sub angular weathered sandstone.  |            |           |           |           |

## Trench 14 330.95m AOD (W) 329.48m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 1400 | Layer | Topsoil: dark brown peat-silt clay, heavily rooted.  |            |           | 0.1       |           |
| 1401 | Layer | Subsoil: mid grey-brown clay-silt, with frequent degraded sandstone inclusions, c. 150mm.  |            |           | 0.08      |           |
| 1402 | Layer | Natural: mid brown-orange sand-silt with moderate degraded sandstone inclusions, 50-250mm. |            |           |           |           |

## Trench 15 328.20m AOD (W) 327.83m AOD (E)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 1500 | Layer | Topsoil: mid brown peat, heavily rooted.                    |            |           | 0.08      |           |
| 1501 | Layer | Subsoil: dark brown silt-clay peat deposit, heavily rooted. |            |           | 0.17      |           |
| 1502 | Layer | Mid yellow-grey coarse sand and degraded sandstone.         |            |           | 0.05      |           |
| 1503 | Layer | Buried soil: dark grey-brown peat-clay.                     |            |           | 0.05      |           |
| 1504 | Layer | Natural: yellow-grey clay.                                  |            |           |           |           |

## Trench 16 316.68m AOD (NW) 316.11m AOD (SE)

| No.  | Type  | Description                                       | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 1600 | Layer | Topsoil: Dark brown peat with abundant roots.     |            |           | 0.10      |           |
| 1601 | Layer | Natural: dark orange sand-clay with grey mottles. |            |           |           |           |

## Trench 17 304.54 (W) 300.13 (E)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 1700 | Layer | Topsoil: dark brown peaty soil, heavily rooted.     |            |           | 0.05      |           |
| 1701 | Layer | Subsoil: orange-brown sand-clay.                    |            |           | 0.12      |           |
| 1702 | Layer | Natural: pale yellow-brown with degraded sandstone. |            |           |           |           |

Trench 18: not excavated, on ecological and health and safety grounds, due to presence of blanket bog. Replaced by additional geo-archaeological assessment/coring.

Trench 19: not excavated, on ecological and health and safety grounds, due to presence of blanket bog. Replaced by additional geo-archaeological assessment/coring.

## Trench 20 303.68m AOD (S) 303.25m AOD (N)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 2000 | Layer | Topsoil: black peat   |            |           | 0.13      |           |
| 2001 | Layer | Interface: very dark grey-brown sand-clay with some roots.                        |            |           | 0.05      |           |
| 2002 | Layer | Subsoil: pale grey sand-clay with some roots.                                     |            |           | 0.10      |           |
| 2003 | Layer | Natural: yellow, mottled blue-grey sand-clay with small/medium tabular sandstone. |            |           |           |           |

## Trench 21 302.00m AOD (W) 304.08m AOD (E)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 2100 | Layer | Topsoil: black peat with common large stones.         |            |           | 0.20      |           |
| 2101 | Layer | Subsoil: Pale blue-grey sand-clay.                    |            |           | 0.10-0.12 |           |
| 2102 | Layer | ?colluvium: yellow-brown clay with blue-grey mottles. |            |           | 0.15-0.18 |           |
| 2103 | Layer | Natural: mottled grey-blue/yellow sand-clay.          |            |           |           |           |

Trench 22: not excavated, on ecological and health and safety grounds, due to presence of deep peat deposit throughout trench. Replaced by additional geo-archaeological assessment/coring.

Trench 23 318.35m AOD (W) 319.25m AOD (E)

| No.  | Type  | Description                                  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2300 | Layer | Topsoil: black and humic peat                |            |           | 0.59      |           |
| 2301 | Layer | Subsoil: pale grey sand-clay.                |            |           | 0.09      |           |
| 2302 | Layer | Natural: yellow clay with some small stones. |            |           |           |           |

Trench 24 308.16m AOD (S) 305.81m AOD (N)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2400 | Layer | Topsoil: black organic peat.                               |            |           | 0.07      |           |
| 2401 | Layer | Subsoil: grey sand-silt.                                   |            |           | 0.10      |           |
| 2402 | Layer | Natural: yellow-brown sand-clay with sandstone inclusions. |            |           |           |           |

Trench 25 306.38m AOD (W) 303.07m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2500 | Layer | Topsoil: black organic peat.                             |            |           | 0.09      |           |
| 2501 | Layer | Subsoil: grey sand-silt.                                 |            |           | 0.08      |           |
| 2502 | Layer | Natural: yellow-brown sand-clay with frequent sandstone. |            |           |           |           |

Trench 26 297.63m AOD (N) 297.24m AOD (S)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2600 | Layer | Topsoil: black organic peat.                               |            |           | 0.10      |           |
| 2601 | Layer | Subsoil: red-brown sand-silt.                              |            |           | 0.10      |           |
| 2602 | Layer | Subsoil: dark red-brown sand-silt.                         |            |           | 0.15      |           |
| 2603 | Layer | Natural: yellow/orange sand-clay with frequent sandstones. |            |           |           |           |

Trench 27 292.07m AOD (W) 285.82m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2700 | Layer | Topsoil: black organic peat.   |            |           | 0.10      |           |
| 2701 | Layer | Subsoil: grey sand-silt.   |            |           | 0.08      |           |
| 2702 | Layer | Natural: orange-yellow sand-clay with frequent sandstone inclusions. |            |           |           |           |

Trench 28 299.74m AOD (W) 298.23m AOD (E)

| No.  | Type  | Description                                  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 2800 | Layer | Topsoil: Very dark grey-brown/black peat     |            |           | 0.25      |           |
| 2801 | Layer | Subsoil: pale grey sand-clay                 |            |           | 0.11      |           |
| 2802 | Layer | Natural: pale grey sand-clay with sandstone. |            |           |           |           |

## Trench 29 300.74m AOD (N) 299.24m AOD (S)

| No.  | Type  | Description                                       | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 2900 | Layer | Topsoil: very dark grey-brown/black peat          |            |           | 0.30      |           |
| 2901 | Layer | Peat layer: dark grey-brown peat with some roots. |            |           | 0.2       |           |
| 2902 | Layer | Natural: sandstone.                               |            |           |           |           |

## Trench 30 295.02m AOD (W) 295.07m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3000 | Layer | Topsoil: orange-brown clay-silt with dense rooting.                          |            |           | 0.12      |           |
| 3001 | Layer | Upper peat layer: dark grey-brown peat with some roots.                      |            |           | 0.17      |           |
| 3002 | Layer | Peat layer: orange-brown waterlogged peat with frequent roots.               |            |           | 0.16      |           |
| 3003 | Layer | Lower peat layer: dark orange-brown, waterlogged peat with occasional roots. |            |           | 0.15      |           |
| 3004 | Layer | Natural: orange silt-clay with frequent sandstone.                           |            |           |           |           |
| 3005 | Layer | Peat in hand-dug test pit: very dark grey-brown. ?Same as 3001.              |            |           | 0.38      |           |

## Trench 31 297.71m AOD (W) 299.49m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3100 | Layer | Topsoil: orange-brown silt-sand.                       |            |           | 0.10      |           |
| 3101 | Layer | Dark brown-black peat with rooting.                    |            |           | 0.10      |           |
| 3102 | Layer | Brown-grey silt-clay                                   |            |           | 0.15      |           |
| 3103 | Layer | Blue-black peat with decaying wood and roots           |            |           | 0.2       |           |
| 3104 | Layer | Orange-brown peat with abundant roots and decayed wood |            |           | 0.15      |           |
| 3105 | Layer | Dark blue-black peat                                   |            |           | 0.08      |           |
| 3106 | Layer | Natural: orange-grey clay with red clay patches.       |            |           |           |           |

## Trench 32 282.85m AOD (SW) 285.06m AOD (NE)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 3200 | Layer | Topsoil: dark brown/black humic peat.   |            |           | 0.25      |           |
| 3201 | Layer | Subsoil: grey silt-clay.  |            |           | 0.13      |           |
| 3202 | Layer | Natural: orange-yellow sand-clay with degraded sandstone and blue/grey mottles. |            |           |           |           |

## Trench 33 301.88m AOD (W) 302.60m AOD (E)

| No.  | Type  | Description                                | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3300 | Layer | Topsoil: Very dark brown/black humic soil. |            |           | 0.13      |           |
| 3301 | Layer | Subsoil: soft grey silt-clay.              |            |           | 0.12      |           |
| 3302 | Layer | Natural: orange/yellow sand-clay.          |            |           |           |           |

## Trench 34 299.65m AOD (W) 296.95m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3400 | Layer | Topsoil: dark brown/black humic soil.                                    |            |           | 0.08      |           |
| 3401 | Layer | Subsoil: orange-brown, with grey mottles, clay-sand.                     |            |           | 0.12      |           |
| 3402 | Layer | Natural: yellow-brown sand-clay.   |            |           |           |           |
| 3403 |       | Number not used.   |            |           |           |           |
| 3404 | Cut   | * aligned u-shaped ditch with flat base and steeply-sloping sides        |            | 1.35      | 0.55      |           |
| 3405 | Fill  | Red-brown sand-silt with tabular sandstone. Primary fill of 3404.        |            | 0.85      | 0.15      |           |
| 3406 | Fill  | Yellow-brown sand-clay with common large stones. Secondary fill of 3404. |            | 0.5       | 0.3       |           |
| 3407 | Fill  | Red-brown silt-sand with frequent medium stones. Tertiary fill of 3404.  |            | 1.1       | 0.3       |           |

## Trench 35 309.77m AOD (N) 315.51m AOD (S)

| No.  | Type  | Description                                 | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 3500 | Layer | Topsoil: Very dark brown/black peat.        |            |           | 0.04      |           |
| 3501 | Layer | Subsoil: grey-brown silt-clay.              |            |           | 0.08      |           |
| 3502 | Layer | Natural: orange/yellow clay with some sand. |            |           |           |           |

## Trench 36 318.89m AOD (W) 316.86m AOD (E)

| No.  | Type  | Description                                | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3600 | Layer | Topsoil: Very dark brown/black humic soil. |            |           | 0.12      |           |
| 3601 | Layer | Subsoil: pale grey sand-silt.              |            |           | 0.08      |           |
| 3602 | Layer | Natural: mottled orange-yellow sand-clay.  |            |           |           |           |

## Trench 37 306.59m AOD (W) 303.83m AOD (E)

| No.  | Type  | Description                                      | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3700 | Layer | Topsoil: black peaty soil.                       |            |           | 0.15      |           |
| 3701 | Layer | Subsoil: grey silt-sand with frequent stones.    |            |           | 0.12      |           |
| 3702 | Layer | Natural: orange/yellow sand-clay with sandstone. |            |           |           |           |

## Trench 38 306.96m AOD (N) 304.28m AOD (S)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 3800 | Layer | Topsoil: Very dark grey/black organic soil.                       |            |           | 0.14      |           |
| 3801 | Layer | Subsoil: dark grey sand-silt.                                     |            |           | 0.19      |           |
| 3802 | Layer | Natural: dark orange/yellow sand-clay, with sandstone inclusions. |            |           |           |           |

## Trench 39 286.80m AOD (N) 283.57m AOD (S)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 3900 | Layer | Topsoil: dark grey/black, very organic peaty soil. |            |           | 0.22      |           |
| 3901 | Layer | Subsoil: dark grey/black, similar to 3900, above.  |            |           | 0.11      |           |



|      |       |  |  |  |  |  |
|------|-------|--|--|--|--|--|
| 3902 | Layer | Natural: dark orange/yellow sand-clay with sandstone inclusions. |  |  |  |  |
|------|-------|--|--|--|--|--|

Trench 40 m 264.11m AOD (N) 265.92m AOD (S)

| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 4000 | Layer | Topsoil: dark grey/black, very organic peaty soil.              |            |           | 0.4       |           |
| 4001 | Layer | dark grey/black peat with occasional preserved wood inclusions. |            |           | 0.45      |           |
| 4002 | Layer | Natural: blue-grey clay-sand.                                   |            |           |           |           |

Trench 41 251.15m AOD (N) 249.57m AOD (S)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 4100 | Layer | Topsoil: dark grey/black, very organic peaty soil. |            |           | 0.3       |           |
| 4101 | Layer | red-brown peat.                                    |            |           | 0.05      |           |
| 4102 | Layer | Light blue-grey sand-clay.                         |            |           | 0.1       |           |
| 4103 | Layer | Yellow-grey sand-clay.                             |            |           | 0.15      |           |
| 4104 | Layer | Black organic peat.                                |            |           | 0.15      |           |
| 4105 | Layer | Light yellow-grey sand-clay.                       |            |           | 0.15      |           |
| 4106 | Layer | Yellow-grey sand-clay.                             |            |           | 0.1       |           |
| 4107 | Layer | Dark brown-grey sand-clay.                         |            |           | 0.2       |           |
| 4108 | Layer | Natural: blue-grey clay-sand.                      |            |           |           |           |

Trench 42 298.76m AOD (W) 298.75m AOD (E)

| No.  | Type  | Description  | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|--|------------|-----------|-----------|-----------|
| 4200 | Layer | Topsoil: dark grey/black, very organic peaty soil. |            |           | 0.45      |           |
| 4201 | Layer | Peat: black, organic, peat.                        |            |           | 0.1       |           |
| 4202 | Layer | Grey clay lens.                                    |            |           | 0.1       |           |
| 4203 | Layer | Dark brown peat                                    |            |           | 0.6       |           |
| 4204 | Layer | Natural: dark grey clay.                           |            |           | 0.4       |           |
| 4205 | Layer | Natural: dark grey degraded sandstone.             |            |           | 0.3       |           |
| 4206 | Layer | Natural: orange degraded sandstone.                |            |           |           |           |

Trench 43 322.23m AOD (W) 322.26m AOD (E)

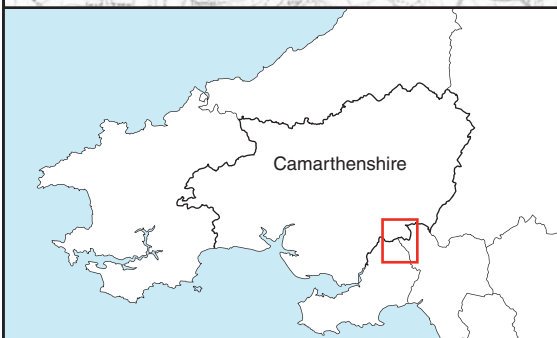
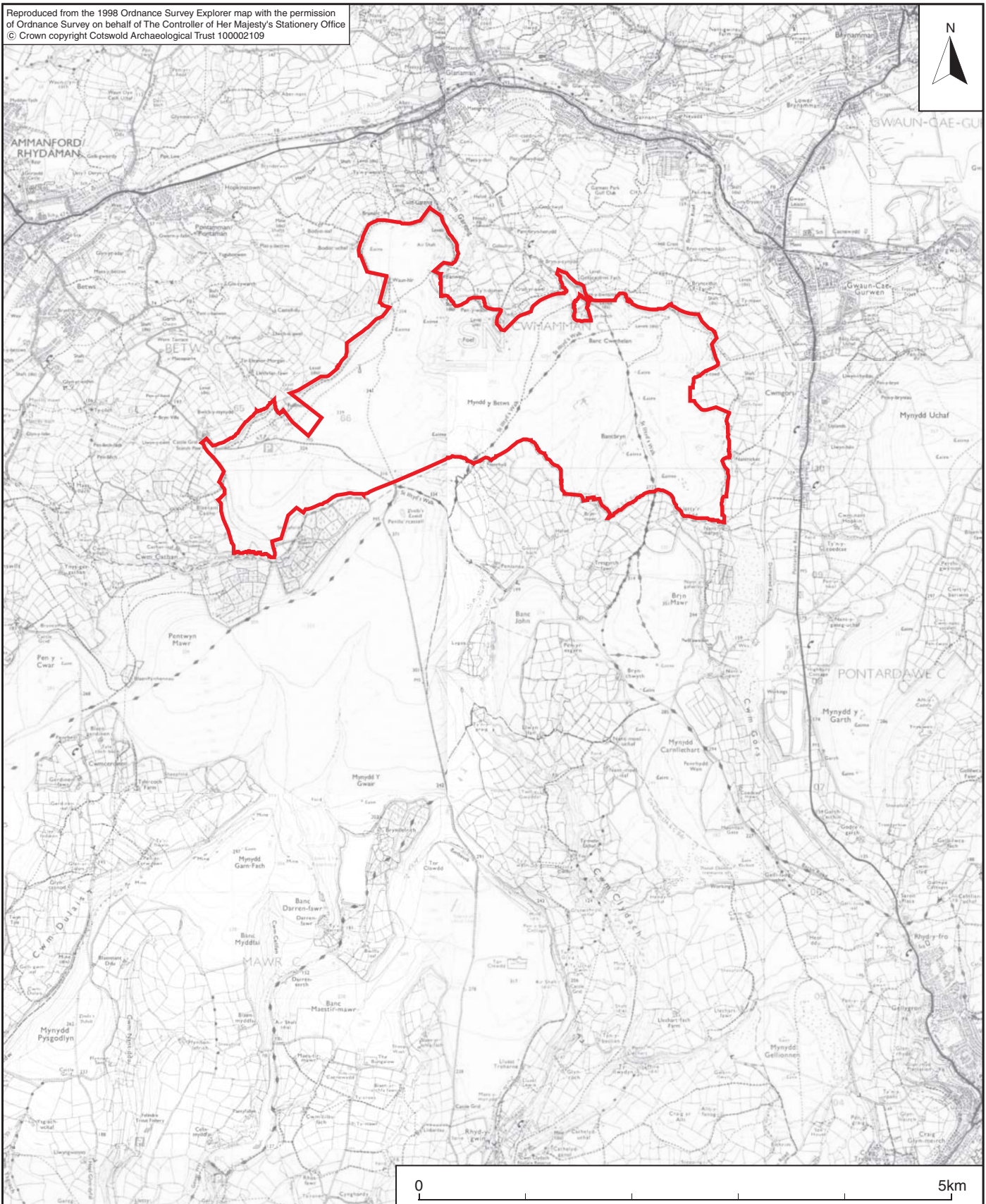
| No.  | Type  | Description   | Length (m) | Width (m) | Depth (m) | Spot-date |
|------|-------|---|------------|-----------|-----------|-----------|
| 4301 | Layer | Topsoil: dark grey/black sandy silt-clay.   |            |           | 0.1       |           |
| 4302 | Layer | Natural: bedded sandstone, varies from pale yellow-brown to brown with 10mm thick lenses of coal.   |            |           | 0.19      |           |
| 4303 | Cut   | Pit: circular with near vertical sides. Extended beyond the trench, and was visible as c. 1m deep hollow before machining. Not fully excavated. | 1.4        | 1.5       | >0.68     |           |
| 4304 | Cut   | Pit: circular, estimated 5m diameter, with near vertical sides. Visible pre-excavation, not fully excavated.                                    | 4.74       | 1.5       | >1.38     |           |
| 4305 | Cut   | Pit: very large and edges not exposed. Circular nature of fills and their slumping showed presence of pit.                                      | >5         | >5        | >1.1      |           |
| 4306 | Cut   | Pit: only exposed near edge of trench. Limited excavation suggested steep/vertical sides.   | >2.2       | >0.6      | >0.6      |           |
| 4307 | Layer | Uppermost fill of 4303. A grey-yellow sand-clay.  | 0.8        |           | 0.2       |           |

|      |       |  |      |  |       |     |
|------|-------|--|------|--|-------|-----|
| 4308 | Layer | Fill of 4303. Black sand-clay.   | 0.34 |  | 0.18  |     |
| 4309 | Layer | Fill of 4303. Yellow-brown clay containing modern iron, glass and pottery.                     | 1.18 |  | 0.1   | MOD |
| 4310 | Layer | Fill of 4303. Dark grey-brown silt-clay.   | 1.4  |  | 0.3   |     |
| 4311 | Layer | Fill of 4303. Grey-brown sand-clay with frequent small to medium sandstone fragments.          | 0.88 |  | 0.18  |     |
| 4312 | Layer | Dark grey silt-clay between pits 4303 and 4304, and cut by both.                               | 2.4  |  | 0.18  |     |
| 4313 | Layer | Yellow-brown sand-clay below 4312.   | 2.66 |  | 0.24  |     |
| 4314 | Layer | Grey sandy clay.   | 1.02 |  | 0.08  |     |
| 4315 | Layer | As 4314 but dirty yellow colour.   | 0.98 |  | 0.05  |     |
| 4316 | Layer | As 4314. Pale yellow-brown clay.   | 0.94 |  | 0.4   |     |
| 4317 | Layer | As 4313. Dark grey-brown silt-clay.  | 1.9  |  | 0.38  |     |
| 4318 | Layer | Yellow-brown sand-clay.  | 1    |  | >0.06 |     |
| 4319 |       | Number not used.   |      |  |       |     |
| 4320 | Layer | Dark grey sand-silt. Between pits 4303 and 4304, and cut by 4304.                              | 1.7  |  | 0.34  |     |
| 4321 | Layer | Uppermost fill of 4304. A dark grey sand with abundant large stones.                           | 4.78 |  | 0.4   |     |
| 4322 | Layer | A thin sandy clay fill of 4304, separating 4321 and 4323.                                      | 1.08 |  | 0.21  |     |
| 4323 | Layer | Fill of 4304. Similar to 4321; slightly browner matrix.  | 3.94 |  | 0.37  |     |
| 4324 | Layer | Fill of 4304, below 4323. A very dark grey fine sand-silt with many large stones.              | 4.06 |  | 0.37  |     |
| 4325 | Layer | Lowest exposed fill of 4304. A dark grey sand-silt with abundant large stone rubble.           | 0.94 |  | 0.38  |     |
| 4326 | Layer | Fill of 4305, the lowest seen to be cut by 4304. Grey-brown clay.                              | 5.18 |  | 0.44  |     |
| 4327 | Layer | Uppermost fill of 4306, cut by 4303. Dirty yellow clay.  | 2.14 |  | 0.14  |     |
| 4328 | Layer | Fill of 4305. Brown sand-clay.   | 3.05 |  | 0.3   |     |
| 4329 | Layer | Brown silt-sand.   | 6.36 |  | 0.44  |     |
| 4330 | Layer | Fill of 4305, a thin layer slumping from the W. A dark grey/black sand, possibly coal-derived. | 2    |  | 0.1   |     |
| 4331 | Layer | Fill of 4305. A reddish brown silt clay.   | 1.6  |  | 0.32  |     |
| 4332 | Layer | Fill of 4305. Very dark grey sand-clay, possibly coal derived.                                 | 1.52 |  | 0.4   |     |
| 4333 | Layer | Fill of 4305, lowest exposed. Black coal.  | 1.16 |  | 0.14  |     |
| 4334 | Layer | Fill of 4305 and not fully exposed. A yellow-brown sandy clay, possibly redeposited natural.   | 1.2  |  | 0.66  |     |

**APPENDIX B: THE FINDS**

| <b>Context</b> | <b>Description</b>  | <b>Count</b> | <b>Weight(g)</b> | <b>Date</b> |
|----------------|---|--------------|------------------|-------------|
| 4309           | Modern vessel glass: clear and brown-coloured<br>condiment, beer and processed food bottles | 7            | -                | Mid C20     |
|                | Modern pottery: refined whiteware 'Johnson Bros'  | 1            | 12               |             |
|                | Modern iron objects: bucket handle; binding strips;<br>machinery parts                      | 10           | -                |             |

Reproduced from the 1998 Ordnance Survey Explorer map with the permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office  
 © Crown copyright Cotswold Archaeological Trust 100002109

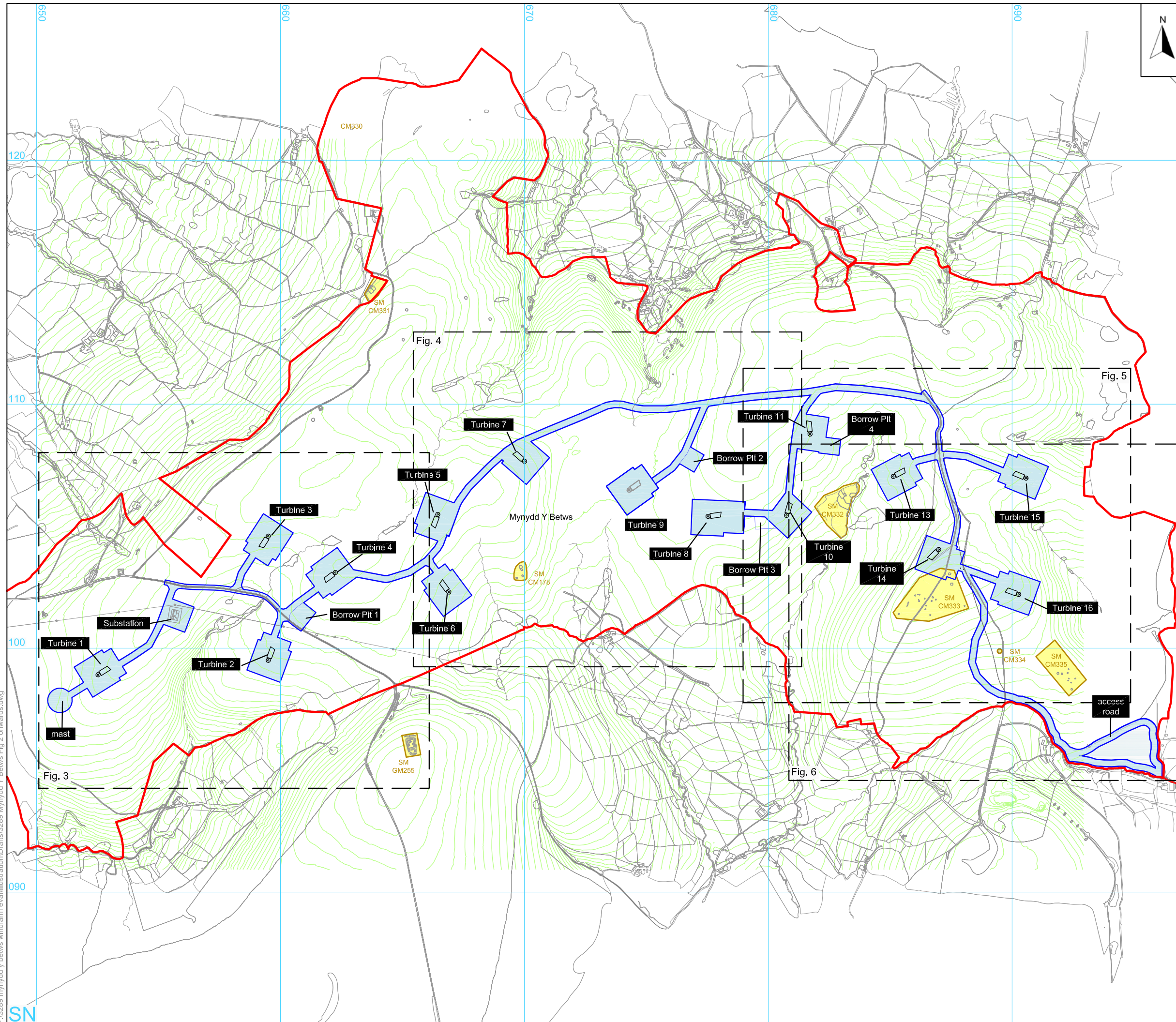


 **COTSWOLD ARCHAEOLOGY**

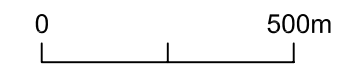
**PROJECT TITLE**  
 Mynydd Y Betws, Carmarthenshire  
 Wales

**FIGURE TITLE**  
 Site location plan

|                 |              |                    |                   |
|-----------------|--------------|--------------------|-------------------|
| <b>DRAWN BY</b> | <b>SCALE</b> | <b>PROJECT NO.</b> | <b>FIGURE NO.</b> |
| JB              | 1:50,000@A4  | 3289               | <b>1</b>          |



- site
- area of proposed works
- Scheduled Monument



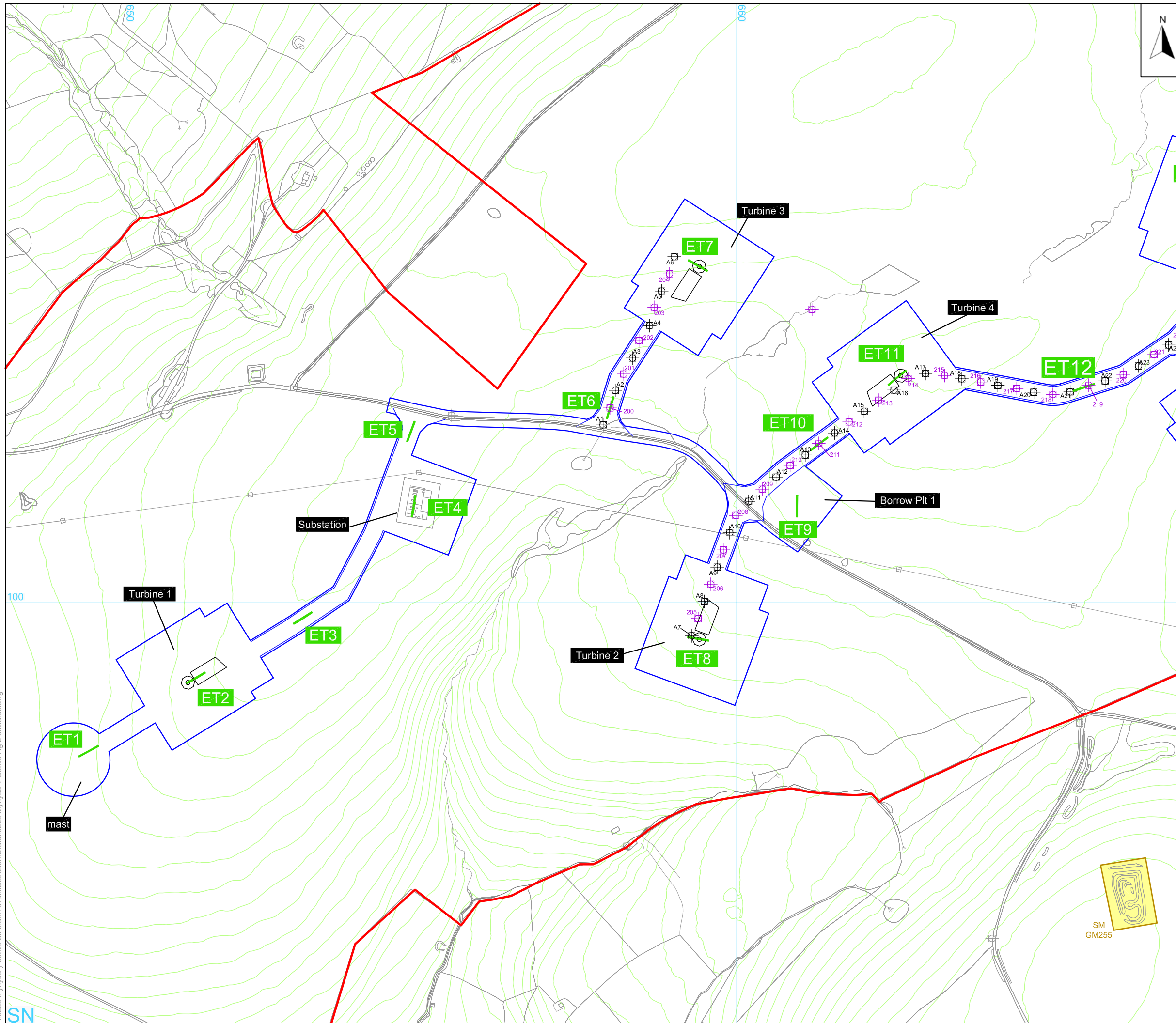
PROJECT TITLE  
**Mynydd Y Betws, Carmarthenshire  
Wales**

FIGURE TITLE  
**Site location plan showing proposed  
turbine bases and associated works**

| DRAWN BY | SCALE       | PROJECT NO. | FIGURE NO. |
|----------|-------------|-------------|------------|
| JB       | 1:15,000@A3 | 3289        | <b>2</b>   |

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SN



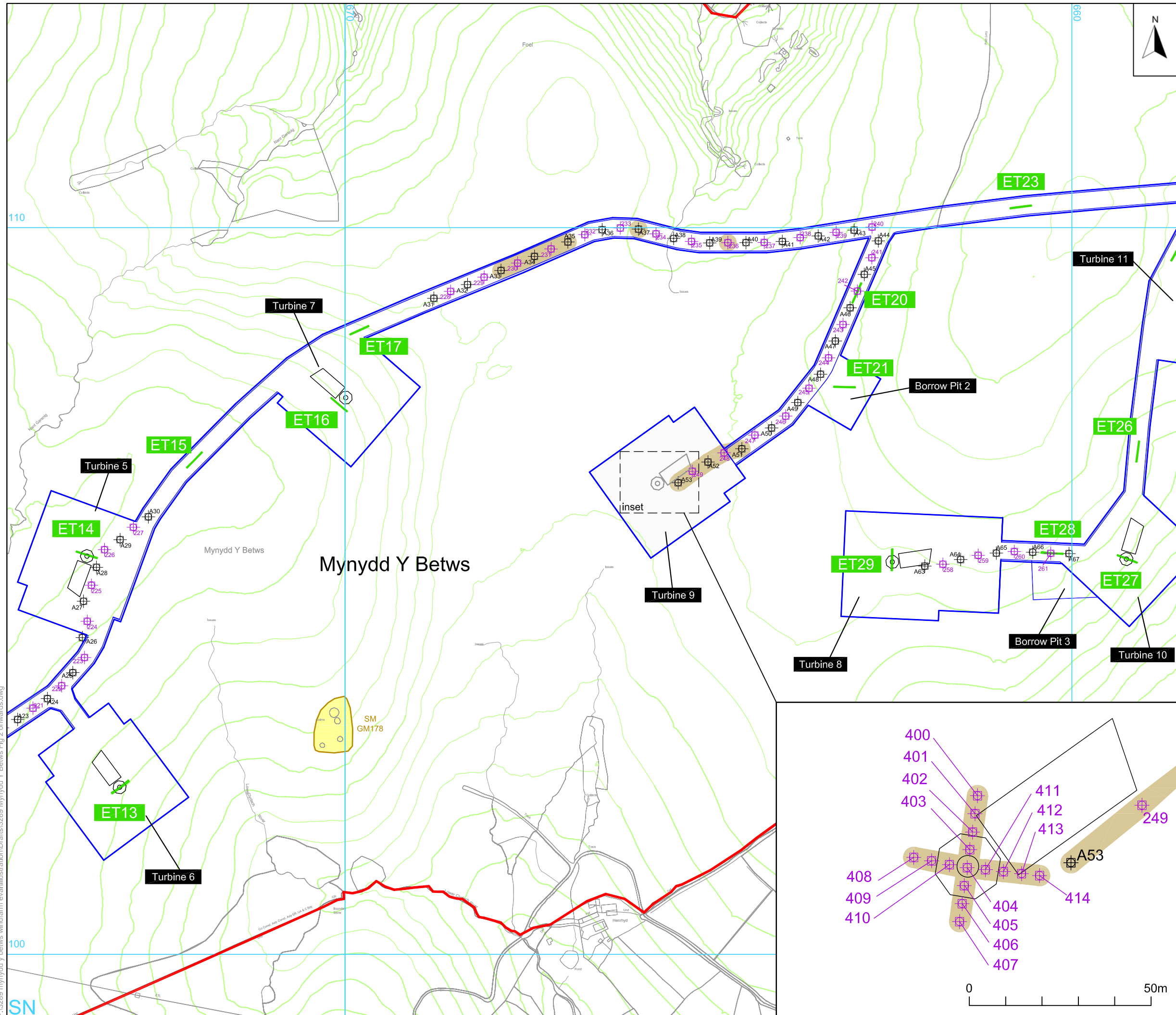
- site
- area of proposed works
- evaluation trench (ET)
- ⊕ Auger positions



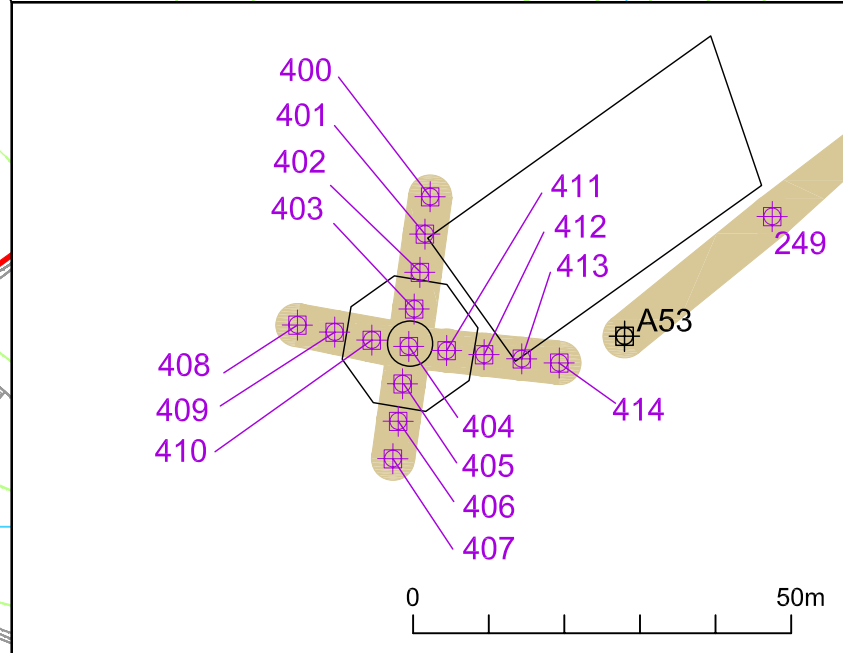
PROJECT TITLE  
**Mynydd Y Betws, Carmarthenshire  
 Wales**

FIGURE TITLE  
**Trench location plan showing auger  
 positions - western area**

| DRAWN BY | SCALE     | PROJECT NO. | FIGURE NO. |
|----------|-----------|-------------|------------|
| JB       | 1:5000@A3 | 3289        | <b>3</b>   |



- site
- area of proposed works
- evaluation trench (ET)
- Scheduled Monument
- ⊕ Auger positions
- Peat deposits observed during augering (ARCA 2011)



0 200m

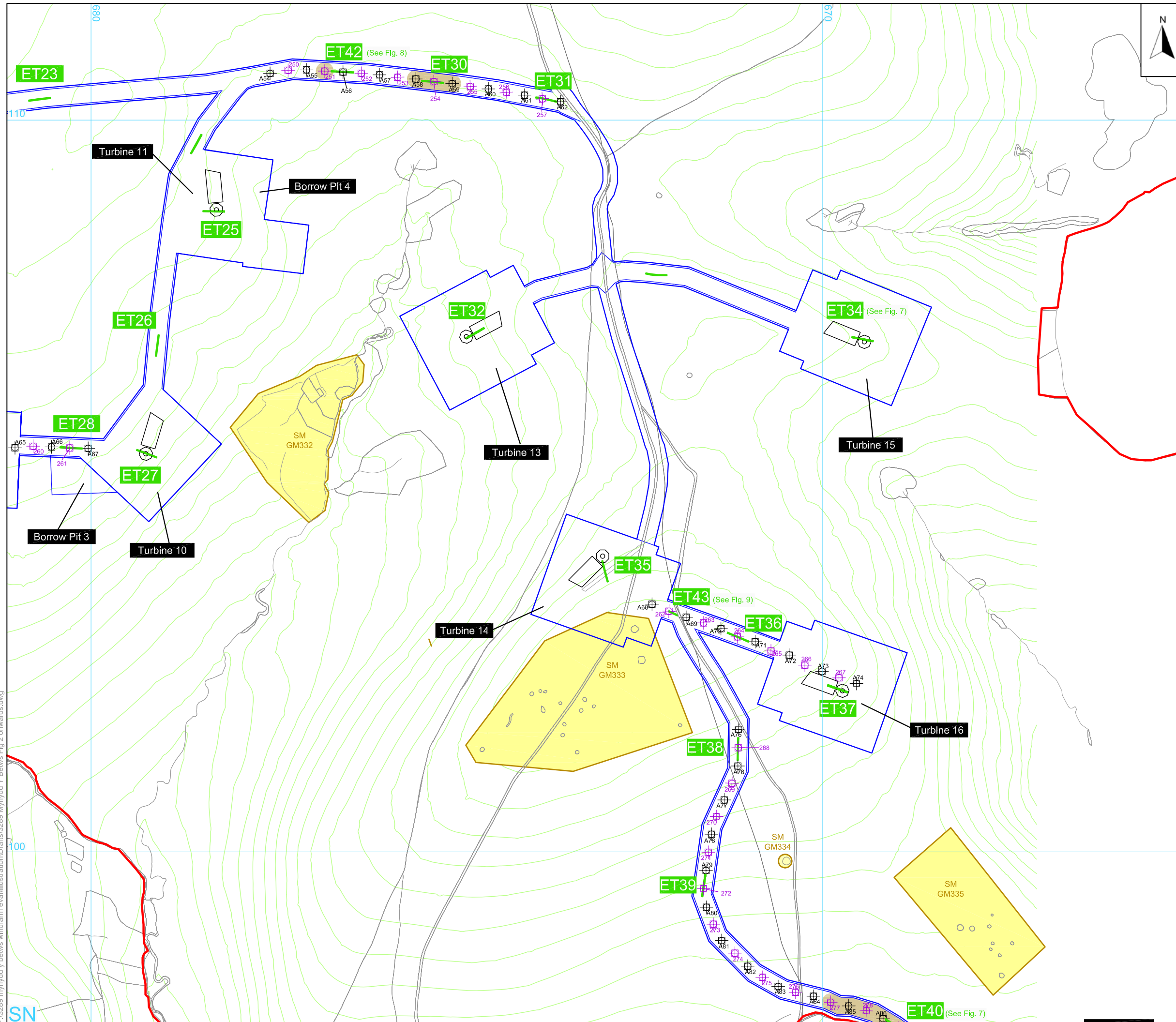


PROJECT TITLE  
**Mynydd Y Betws, Carmarthenshire  
 Wales**

FIGURE TITLE  
**Trench location plan showing Auger  
 positions - central area**

|          |           |             |            |
|----------|-----------|-------------|------------|
| DRAWN BY | SCALE     | PROJECT NO. | FIGURE NO. |
| JB       | 1:5000@A3 | 3289        | <b>4</b>   |

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- site
- area of proposed works
- evaluation trench (ET)
- Scheduled Ancient Monument
- ⊕ Auger positions
- Peat deposits observed during augering (ARCA 2011)



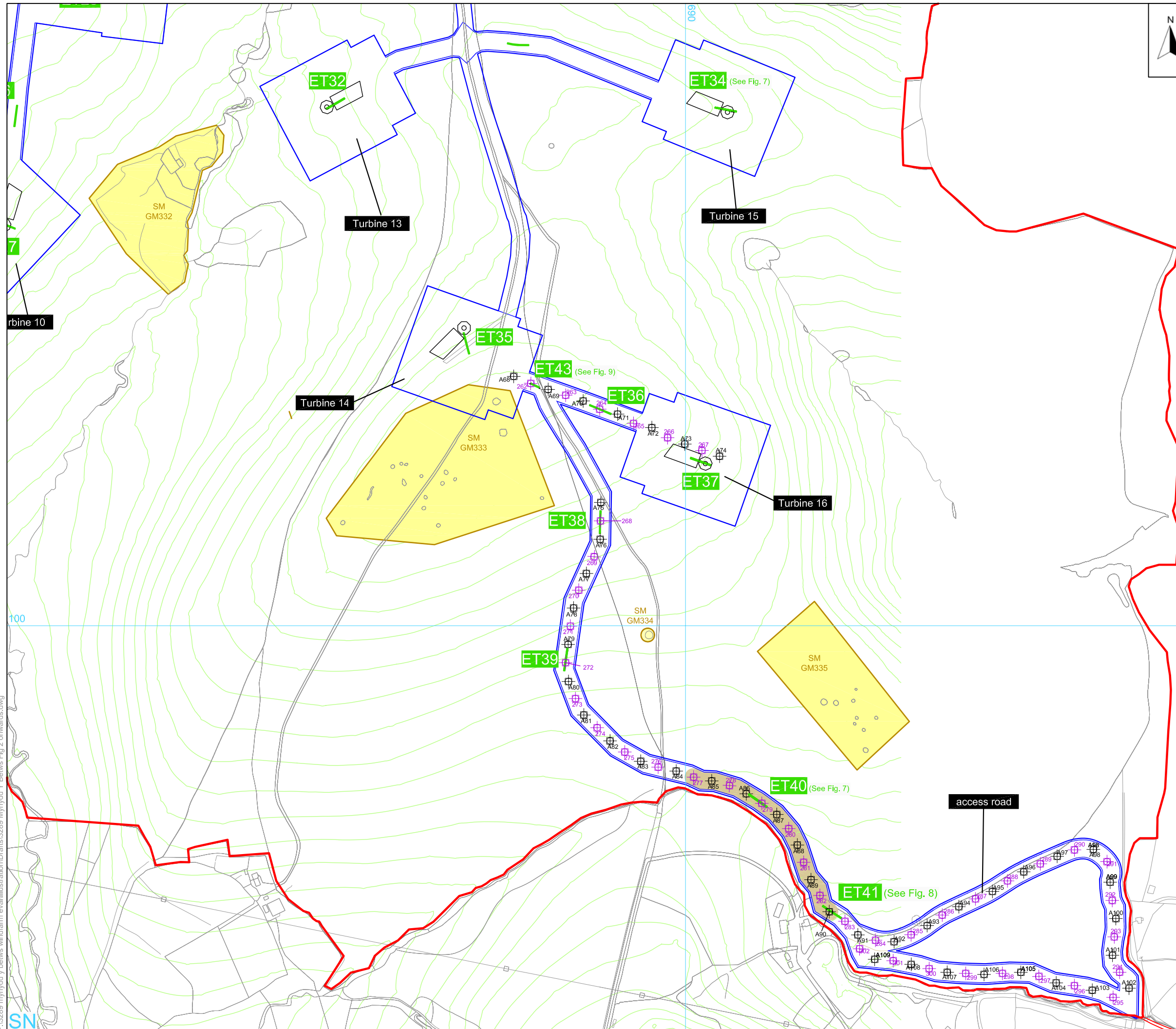
**COTSWOLD ARCHAEOLOGY**

PROJECT TITLE  
**Mynydd Y Betws, Carmarthenshire  
 Wales**

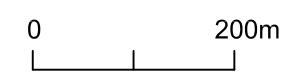
FIGURE TITLE  
**Trench location plan showing Auger  
 positions - eastern area**

| DRAWN BY | SCALE     | PROJECT NO. | FIGURE NO. |
|----------|-----------|-------------|------------|
| JB       | 1:5000@A3 | 3289        | <b>5</b>   |





- site
- area of proposed works
- evaluation trench (ET)
- Scheduled Monument
- ⊕ Auger positions
- Peat deposits observed during augering (ARCA 2011)



PROJECT TITLE  
**Mynydd Y Betws, Carmarthenshire  
 Wales**

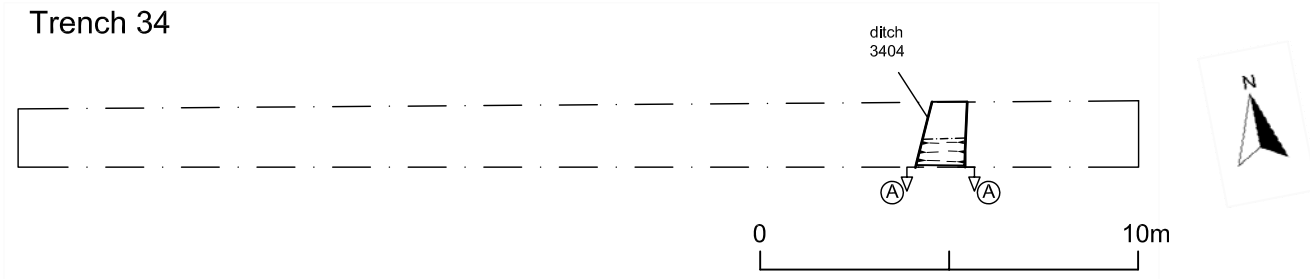
FIGURE TITLE  
**Trench location plan showing Auger  
 positions - south-eastern area**

| DRAWN BY | SCALE     | PROJECT NO. | FIGURE NO. |
|----------|-----------|-------------|------------|
| JB       | 1:5000@A3 | 3289        | <b>6</b>   |

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SN

Trench 34

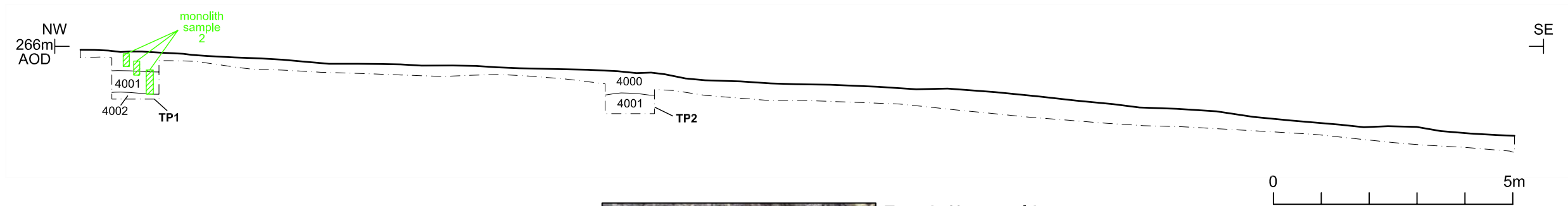


Section AA




Ditch 3404, looking south (1m scale)

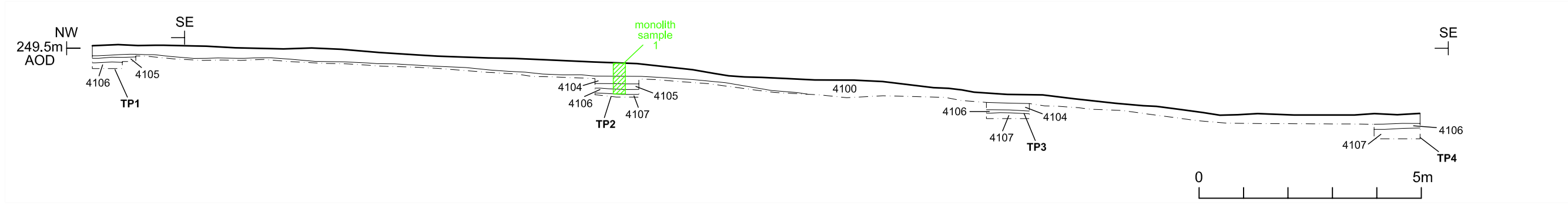
Trench 40; Section BB



Trench 40, monolith sample 2 through deposits 4000, 4001 and 4002, looking north-east (1.1m scale)

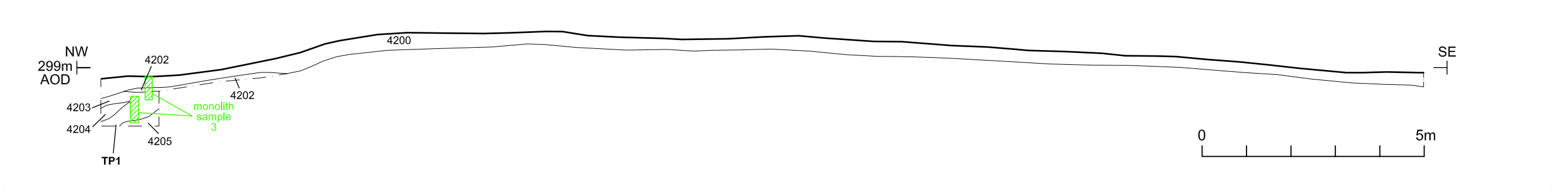
|   |                      |                            |                           |
|---|----------------------|----------------------------|---------------------------|
|  <b>COTSWOLD ARCHAEOLOGY</b> |                      |                            |                           |
| <small>PROJECT TITLE</small><br>Mynydd Y Betws, Carmarthenshire<br>Wales  |                      |                            |                           |
| <small>FIGURE TITLE</small><br>Trenches 34 and 40; plan, sections<br>and photographs                              |                      |                            |                           |
| <small>DRAWN BY</small>   | <small>SCALE</small> | <small>PROJECT NO.</small> | <small>FIGURE NO.</small> |
| JB  | as shown             | 3289                       | <b>7</b>                  |

Trench 41; Section CC




Trench 41, monolith sample 1 through deposits 4100, 4104, 4105, 4106 and 4107 (0.5m scale)

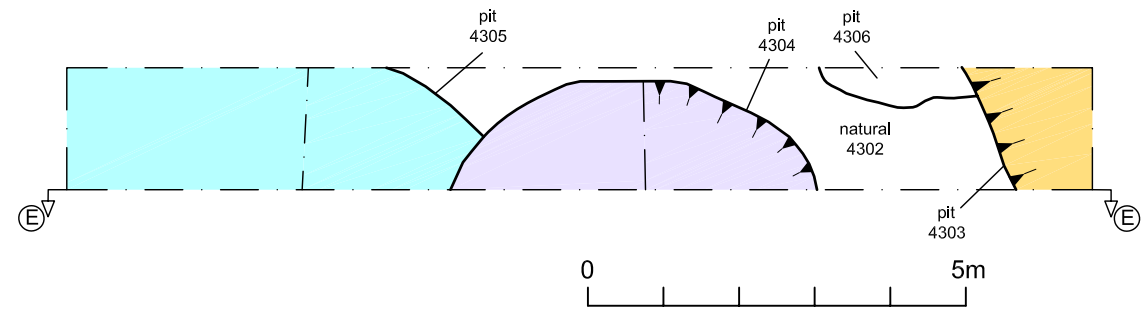
Trench 42; Section DD



Trench 42, monolith sample 3 through deposits 420, 4201, 4202, 4203, 4204 and 4205, looking north-east (1m scale)

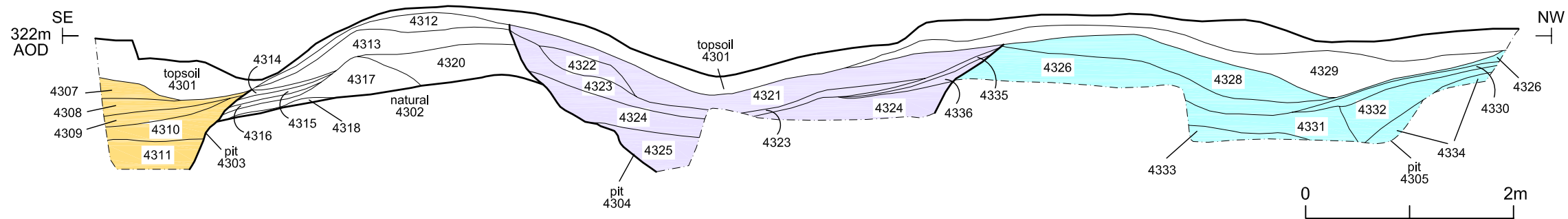
|   |                      |                            |                           |
|---|----------------------|----------------------------|---------------------------|
|  <b>COTSWOLD ARCHAEOLOGY</b> |                      |                            |                           |
| <small>PROJECT TITLE</small><br>Mynydd Y Betws, Carmarthenshire Wales   |                      |                            |                           |
| <small>FIGURE TITLE</small><br>Trenches 41 and 42; sections and photographs                                       |                      |                            |                           |
| <small>DRAWN BY</small>   | <small>SCALE</small> | <small>PROJECT NO.</small> | <small>FIGURE NO.</small> |
| JB  | as shown             | 3289                       | <b>8</b>                  |

Trench 43

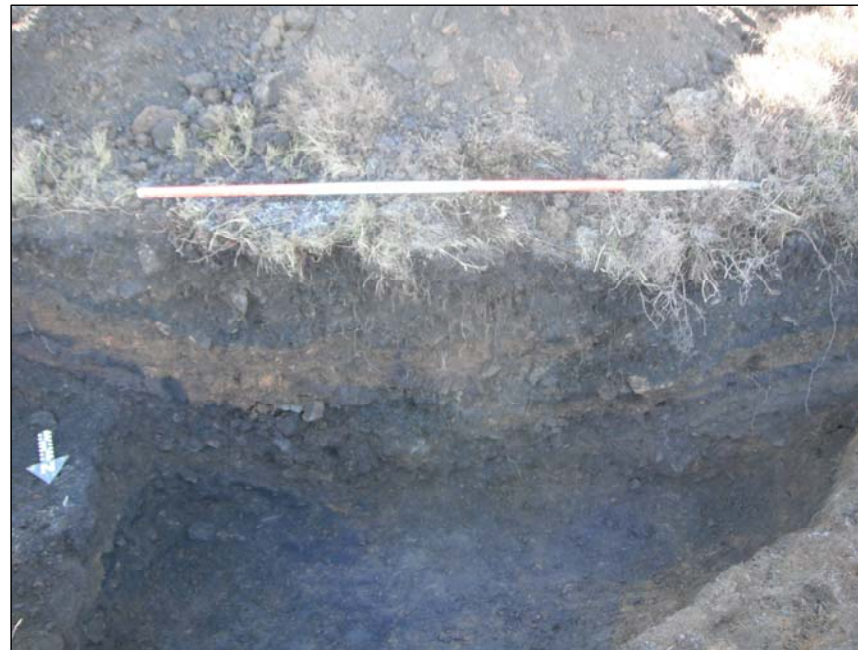


- pit 4303
- pit 4304
- pit 4305

Section EE



Trench 43, pits 4305, 4304 and 4303, looking south-east (2m scale)



Trench 43, pit 4305 part excavated showing coal-rich upper backfill deposits, looking south (1m scale)

|   |                   |                     |                 |
|---|-------------------|---------------------|-----------------|
|   |                   |                     |                 |
| PROJECT TITLE<br>Mynydd Y Betws, Carmarthenshire<br>Wales   |                   |                     |                 |
| FIGURE TITLE<br>Trench 43; plan, section and<br>photographs |                   |                     |                 |
| DRAWN BY<br>JB  | SCALE<br>as shown | PROJECT NO.<br>3289 | FIGURE NO.<br>9 |