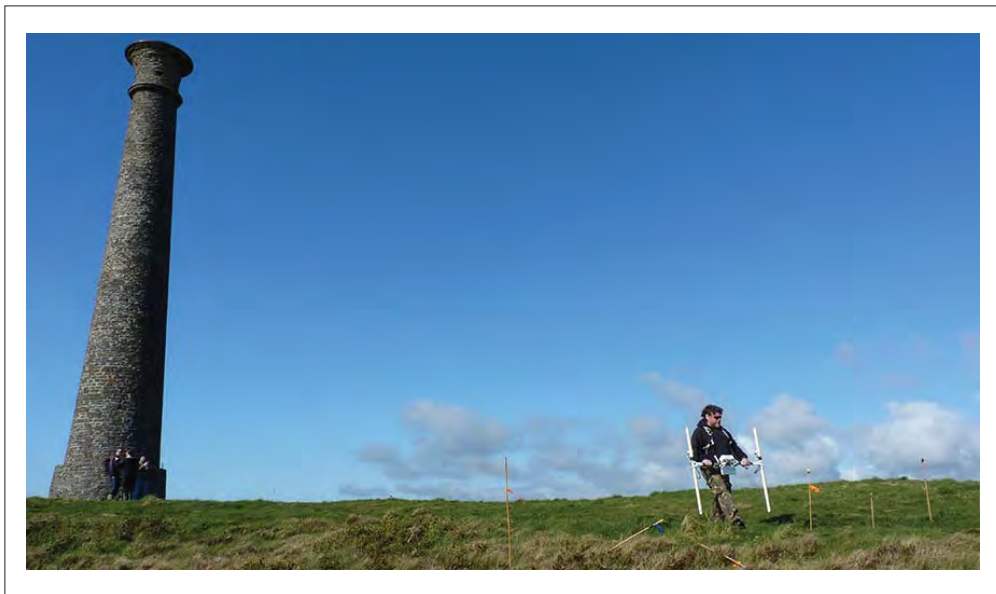


Archaeology Wales

Pen Dinas Hillfort, Penparcau, Aberystwyth

Geophysical Survey



By
Philip Poucher

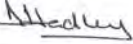
Report No. 1598


Archaeology Wales

Pen Dinas Hillfort, Penparcau, Aberystwyth

Geophysical Survey

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Report No. 1598

July 2017

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Non-Technical Summary

This report results from work carried out by Archaeology Wales Ltd (AW) for Penparcau Community Forum. It draws on the results of a geophysical survey undertaken on the 'south fort' of Pen Dinas Hillfort, Penparcau, Aberystwyth, SN 5845 8023. The work was carried out as part of a community based research programme. The site is a Scheduled Ancient Monument (CD007), and as such Section 42 Consent was obtained from Cadw prior to the survey commencing.

The aim of the geophysical survey was to determine the nature and extent of any buried archaeological features within the available site area. The work was undertaken using a Bartington Grad601 gradiometer.

The presence of a Bronze Age round barrow within the bounds of the later hillfort was largely confirmed. A number of curvilinear features were also identified throughout the survey area, suggesting areas of activity and potentially the remains of Iron Age round houses, although these results were ephemeral. Further possible hollows were identified on the sloping, and more sheltered, eastern slopes, which may represent quarrying activity, or potential terraced building platforms. A defensive bank and ditch around the eastern side of the site was also identified. Near-surface bedrock deposits meant survey results were difficult to interpret, and a number of post-survey processing techniques were required to illustrate the site.

The work was carried out to the Standard and Guidance set out by the Chartered Institute for Archaeologists for Archaeological Geophysical Survey (CIfA 2014) and completed in accordance with Geophysical Survey in Archaeological Field Evaluation (English Heritage 2008). The archiving of the geophysical data will follow guidance laid down in Geophysical Data in Archaeology: A Guide to Good Practice (Schmidt & Ernenwein 2002).

1 Introduction

1.1 Location and Scope of Work (Figures 1 & 2)

1.1.1 In April 2017, Archaeology Wales Ltd (AW) carried out a geophysical survey on the site of Pen Dinas, a large Iron Age hillfort and Scheduled Ancient Monument (CD007), occupying a prominent hilltop on the edge of Penparcau, to the south of Aberystwyth, Ceredigion (NGR SN 5845 8023). The work was carried out at the request of Penparcau Community Forum (henceforth the client), as part of a community based research programme into this site.

1.1.2 Pen Dinas hillfort comprises two enclosed hilltops **with a joining 'isthmus'**. The surveyed area comprises **available land within the 'South Fort'**.

1.1.3 As a Scheduled Ancient Monument, Section 42 Consent was obtained from Cadw prior to any work being undertaken on the site. A Written Scheme of Investigations (WSI) was also prepared by AW at the request of Penparcau Community Forum. It provided information on the methodology to be employed by AW during a geophysical survey of the site. The WSI (Appendix I) was submitted to, and approved by, Dyfed Archaeological Trust – Development Management, and a copy provided to Cadw, prior to the survey being undertaken.

1.1.4 The work was managed by Phil Poucher, Project Manager, and the site work was undertaken by Hywel Keen and Andrew Shobbrook. The AW Project Number is 2442 and the Site Code PDA/16/GEO. The project details are summarised on the Archive Cover Sheet (Appendix II).

1.2 Site Description and Geology (Photos 1-14)

1.2.1 Pen Dinas is the largest Iron Age hillfort in Ceredigion. It occupies a coastal hill near the village of Penparcau to the south of Aberystwyth. The hill lies at the end of a ridge at the confluence of the rivers Rheidol and Ystwyth, with precipitous slopes on its coastal (western) and southern sides, approached by more gradual slopes to the east and northeast. The hill has two summits, a lower broader summit to the north, and a higher narrower summit to the south. It is a prominent site from many miles around.

1.2.2 The site was partially excavated between 1933-7 by C Daryll Forde, who identified four main phases of development. The earliest fort appears to have been a simple defended site on the northern summit, enclosed by a rubble rampart and outer ditch. In perhaps around 400-300 BC, some years after the initial fort had been abandoned, a more complex fort was subsequently built on the southern summit,

including elaborate gates and a stone-walled rampart with external ditch. Parts of this fort then fell into ruin, and some parts appear to have been burnt. At a later date the south fort was reoccupied, with the old defences extensively repaired and new defences built. In its final phase (in the 1st century BC), additional ramparts were constructed across the ridge (the isthmus) connecting the two summits, and a new main gate was added.

- 1.2.3 Bedrock scoops or platforms indicate the sites of at least a dozen prehistoric round houses within the southern fort, with many clustered around the southern gateway. A variety of Iron Age finds were recovered from the excavations, including pottery, glass and stone beads, spindlewhorls, metallic items and a cache of possible slingstones. Other finds from the site include a Neolithic stone axe, Bronze Age palstave and arrowhead, an early 4th century Roman coin, as well as a spearhead and medieval coin.
- 1.2.4 The summit of the southern fort is now surmounted by the Wellington Monument. This is an 18m high stone column, taking the form of an upended cannon, erected in the mid to late 1850s. It is thought the column was intended to carry a statue at the top, but this was never installed. Nearby lies a low mound, approximately 9m in diameter and up to 0.5m high. This is believed to represent an early Bronze Age burial mound.
- 1.2.5 The underlying geology consists of sandstones and mudstones of the Aberystwyth Grits Group (British Geological Survey 2016).

2 Aims and Objectives

2.1 Geophysical Survey

2.1.1 The geophysical survey was undertaken in order to:

- Locate and describe archaeological features that may be present within the southern fort. The archaeological work was designed to elucidate the presence or absence of archaeological remains, and in particular its character, distribution, extent and relative significance.

3 Methodology

3.1 General

3.1.1 The work was carried out to the Standard and Guidance set out by the Chartered Institute for Archaeologists for Archaeological Geophysical Survey (CIfA 2014) and completed in accordance with Geophysical Survey in Archaeological Field Evaluation (English Heritage 2008). The archiving of the geophysical data will follow guidance laid down in Geophysical Data in Archaeology: A Guide to Good Practice (Schmidt & Ernenwein 2002).

3.1.2 All works were undertaken in accordance with current Health and Safety legislation.

3.2 Geophysical Survey

3.2.1 A Bartington Grad601 gradiometer was used to undertake the survey. Previous research has shown that fired, or cut and backfilled archaeological features such as kilns and hearths, ditches and pits often have an anomalously higher magnetic susceptibility than the surrounding subsoil due to burning and biological processes. Differences in magnetic susceptibility within the subsoil and archaeological features can be detected as changing magnetic flux by an instrument such as a gradiometer. Data from this may be mapped at closely spaced regular intervals to produce an image that may be interpreted to locate buried archaeological features (Clark 1997; Aspinall *et al*/2011).

3.2.2 The surveyed area included the summit of the southern fort (Figure 2). This area had been recently cleared of dense vegetation (largely bracken, some gorse) prior to the survey, across an area measuring approximately 120m by 70m. This area contained the Wellington monument. It became apparent during the survey that the ground surrounding the monument was disturbed and therefore the survey did not encompass the area near the monument. The surveyed area was enclosed to the north by dense vegetation that surrounded the significant earthworks of the northern gateway. Similarly to the south the surveyed area was enclosed by uneven ground and denser vegetation around the southern entrance and areas of previous excavation. To the west the area was enclosed by very steep slopes defining the western side of the hillfort. To the east the surveyed area was defined by steeper slopes leading to an inner ditch and banked enclosure. Exposures of bedrock indicated that topsoil deposits across the site could be relatively thin, with geological layers therefore producing strong signals on the survey results.

- 3.2.3 Detailed survey was carried out in grids of 20m x 20m along parallel traverses spaced at 1m intervals, recording data points spaced at 0.25m intervals to a maximum instrument sensitivity of 0.1nT in accordance with Historic England Guidelines. The survey mode was set to bi-directional (traverses walked alternately south-north/north-south). At regular intervals the data was downloaded in the field onto a laptop computer for storage and assessment. The location of the survey area was then surveyed using a GPS survey equipment, combined with measured triangulation related to the Wellington Monument.
- 3.2.4 Demonstrations of surveying techniques were provided to members of the local community during the survey, as organised by Penparcau Community Forum and Trysor. The survey work was undertaken over the course of two days on the 5th and 6th April 2017.

3.3 Data Processing and Presentation

- 3.3.1 Following the completion of the detailed survey, processing and analysis took place using the TerraSurveyor software package. After downloading, the results were plotted in 2D. The most typical method of visualising the data is as a greyscale image. In a greyscale, each data point is represented as a shade of grey, from black to white at either extreme of the data range. A number of standard operations (including destriping and despiking) were carried out to process the data. The mean level of each traverse of data was reduced to zero and all grids matched so that there were no differences between background levels. The data was then analysed using a variety of parameters and styles and the most useful of these were saved as *JPEG images and displayed using Adobe Illustrator software. Due to the presence of strong magnetic anomalies, the data displayed was clipped to a range of +/-3 nT to allow finer details to be discerned. The results of the survey were then overlaid onto a digital map of the study area. This was then used to produce interpretation figures.

4 Geophysical Survey Results

4.1 Limitations

4.1.1 The survey was undertaken during a period of dry weather, largely sunny but with cloudy periods.

4.1.2 The development site comprises a single unenclosed area of low vegetation (grass, cut bracken). The site is bounded by areas of dense vegetation and topographical features that were unsuitable for surveying. The main area of the survey was generally relatively level, but steeper slopes were present along the eastern side of the surveyed area.

4.1.3 Within the survey area lies the Wellington Monument, a tall masonry tower located on a mortared stone base approximately 4.5m in diameter. Survey work demonstrated that the area around this monument represented disturbed ground. This area was considered unsuitable for further survey, consequently the survey results stop short of the monument base.

4.1.4 The site is relatively open with no metal fencing, and other than the Wellington Monument the site is undeveloped. The occasional modern metallic object, such as drink cans, were noted across the site. The site does not appear to have been agriculturally improved, indeed the depth of topsoil was noted as being relatively thin, therefore bedrock deposits are likely to occur close to the ground surface and may effect survey results.

4.2 Results of the Survey (Figures 3-7)

4.2.1 *General*

The survey produced a large number of strong magnetic readings throughout the area. Such strong responses are likely to be associated with the underlying geology, which was clearly close to the surface across the survey area. The **occasional 'spike' in strong magnetic readings** could be associated with modern metallic items strewn across the surface of the site area, such as discarded aluminium drink cans.

As a result of these strong magnetic readings, the data required varying degrees of processing in order to identify any features of potential archaeological interest.

A number of features were positively identified, with additional potential features also indicated. A number of discrete magnetic responses are also highlighted.

4.2.2 *Possible Round Barrow*

Towards the southern end of the site lies a circular mound, visible on the surface as a circular spread approximately 0.3m to 0.5m high, and approximately 9m in diameter. Although lying in an area close to spoil tips from the excavations of the 1930s and near the Wellington monument, the regularity of the mound suggested it may represent the site of a Bronze Age round barrow (NPRN 421666).

This area was scanned in double-density, to gain as detailed survey results as possible. Although the magnetic responses were not very pronounced, the mound was visible as a distinct circular feature within the survey results. A curvilinear band of magnetically negative readings (lighter in colour), with a broken inner ring of magnetically positive readings (darker in colour), defines a circular area approximately 14m in diameter. Immediately to the west this feature is further defined by a curvilinear band of strong positive readings, with an outer band of negative readings extending around the northern edge of the circular feature. Within the circular area the readings are mixed.

The curvilinear bands would suggest the feature is defined by a circular bank and ditch. Encircling ditches are a common feature of Bronze Age round barrows. Internally, discrete areas of stronger magnetically positive readings could suggest pits within the mound material, although this appears less distinct on the more detailed survey results. Stronger readings along the western side of the feature may indicate an area of disturbed ground.

4.2.3 *Sub-circular Features*

Spread across the site, but largely clustered to the north and south, are a series of possible sub-circular features measuring between 5m to 12m in diameter. These features are largely defined by curvilinear bands of magnetically positive readings, responses that typically depict cut features. These readings are however largely indistinct, and no complete circular feature is identified; these readings are possibly natural in origin, but given the context of an Iron Age hillfort, it is possible that these readings could define construction ditches or drainage gullies around Iron Age round house sites or similar enclosures. At the southeast corner of the surveyed area a curvilinear arrangement of magnetically positive readings, with an internal area of magnetically negative readings, appear to define the location of a terraced round house platform, and one that may have been investigated during the excavations of the 1930s. Similar such features are still visible on the surface, and marked on current Ordnance Survey mapping immediately to the south. The internal area of negative readings are visible on

the ground surface as a slight uneven mound, similar in nature to the spoil heaps identified from the 1930s excavations.

4.2.4 *Quarry Hollows*

A distinct feature of the survey results across this site are a number of sub-oval areas of relatively strong magnetically positive readings, concentrated within the sloping ground along the eastern side of the site. These features appear to measure between about 5m to 7m long, with the readings suggesting they are cut features.

Given the shallow nature of overlying soil deposits on this site, features are likely to be cut into the underlying bedrock. Such feature therefore could represent quarrying hollows to extract stone. Excavations have shown that the hillfort was in part defended by stone-built gateways and stone-revetted embankments, which given the nature of the local shale would also likely have required regular repair. Local stone extraction may therefore be directly associated with the hillfort. The archaeological excavations also recorded a number of house platforms terraced in to the sloping ground around the main entranceway. It is possible therefore that rock-cut hollows as suggested here may represent areas of such terracing, particularly on the more sheltered eastern slopes.

4.2.5 *Eastern Defences*

The eastern half of the site begins to slope away, before the innermost line of defences marking the eastern edge of the site. Beyond this defensive line lies a series of large eastern terraces and further bank and ditch defences. The surveyed area extended as far as the top of the innermost line of defences, which appears to be defined along its upper edge by magnetically positive readings, suggesting cut features. This is likely to represent the artificial quarrying of the slope to create the inner defensive ditch and terrace beyond. A general linear arrangement of magnetically negative readings along the inner edge of the line would suggest remnants of bank material along the top of the slope, indicating that the hillfort was surrounded by embanked defences along its inner line (at least on the eastern side). Towards the northern end of the bank there is an indication of a further internal ditch. Aerial photographic evidence of the site provided by the RCAHMW indicates that this is likely to be associated with the more elaborate defensive arrangements around the northern gateway.

4.2.6 *Other Features*

Curvilinear features, identified by magnetically negative readings, are suggested at the northern and southern edge of the surveyed area. The function of these features is uncertain. The northernmost feature appears to partly coincide with the current footpath that traverses the hillfort from the northern gateway to the Wellington Monument, as is clearly visible on the Lidar data. It is possible therefore that this represents evidence of a footpath, although other evidence of the footpath (visible on the Lidar data) is not evidenced in the survey results and *vice versa*.

The southernmost feature is somewhat indistinct, and may well be natural in origin.

4.2.7 *Modern Features*

A number of 'spikes' are noted throughout the survey area, where magnetic readings are particularly strong and often bipolar, giving both strong positive and negative readings. These can be identified on the greyscale survey results as strong black spots with adjacent strong white spots. Such strong readings often originate from modern ferrous objects; some of these could be associated with drinks cans identified during the survey. Such strong readings also often identify areas of modern disturbance, which is suggested on the western edge of the round barrow site. A similar collection of strong readings at the southern edge of the site is visibly associated with a spoil heap from the 1930s excavations. A line of strong readings around the Wellington Monument appears also to define an area of cleared or disturbed ground that surrounds the monument, and is likely associated with its construction in the 19th century.

5 Interpretation and Discussion

- 5.1.1 The prevalence of strong magnetic readings throughout the survey area, likely to originate from the underlying geology, is problematic, as strong readings have the potential to mask the presence of archaeological features. However, more subtle features are discernible after standard processing techniques have been used to examine the data.
- 5.1.2 The survey appears to confirm the presence of a Bronze Age round barrow on the site. The readings are not prominent, but distinct enough to suggest a circular feature approximately 14m in diameter, surrounded by a ditch and possible bank. Some disturbance is noted on the western side of the feature that may be modern in origin.
- 5.1.3 Possible round houses are also suggested by the survey results, clustered both to the south and to the north. These readings are however indistinct, and may be more suggestive of general areas of activity rather than the positive identification of round houses, particularly given that those readings to the north lie in a relatively exposed part of the site. A series of possible quarry hollows on the sloping ground to the east may represent further potential house platforms on the more sheltered eastern slopes, but intrusive archaeology would be required to establish the provenance of all these features.
- 5.1.4 Further evidence of the defensive bank and ditch has been identified enclosing the eastern edge of the site.
- 5.1.5 The area available for geophysical surveying was constrained by areas of dense vegetation, particularly around the north and south entrances, upper western slopes, and on sloping ground and terraces to the east. All these areas are likely to contain further, and perhaps more intensive, evidence of archaeological activity that may be identified through geophysical survey. The North Fort and Isthmus lie on private farmland and were therefore not considered for surveying during the current project. However, the grazed pasture of these sites make them ideal candidates for geophysical survey should the opportunity arise. Therefore there remains a significant potential for geophysical surveying to reveal further archaeological evidence at this site.
- 5.1.6 Final copies of this report will be sent to the client for further distribution, and copies will also be sent to Cadw. A copy of the report will also be deposited in the regional Historic Environment Record, held and maintained by Dyfed Archaeological Trust, Llandeilo.

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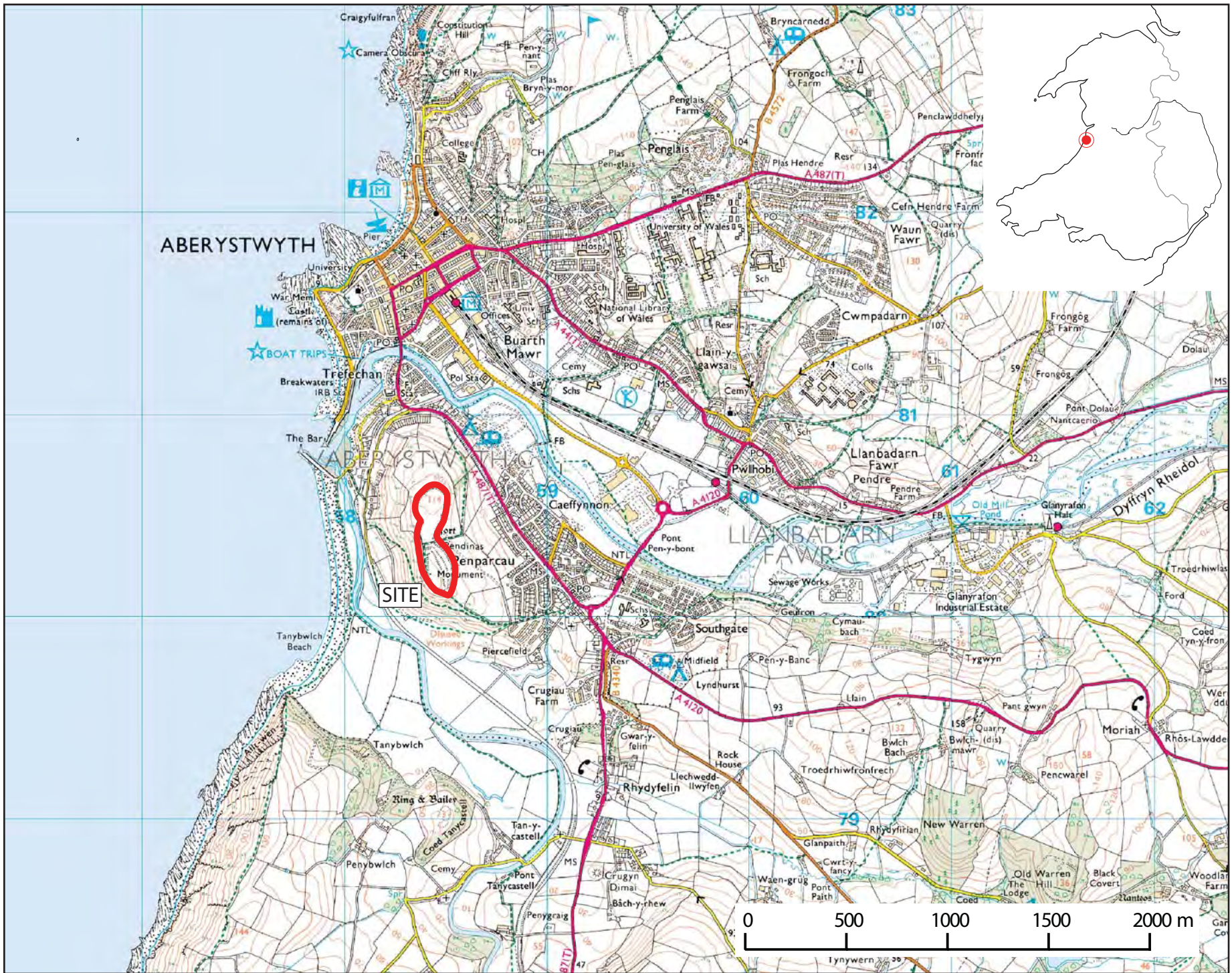
Schmidt, A. & Ernenwein, E. 2002, *Geophysical Data in Archaeology: A Guide to Good Practice, 2nd edition*.

Websites

British Geological Society online map resource (BGS Viewer)
(<http://mapapps.bgs.ac.uk/geologyofbritain/home.html>)

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Figures



ABERYSTWYTH

SITE

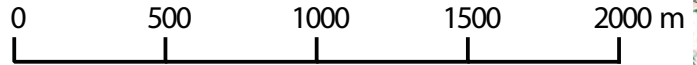


Figure 1: Location map, 1:25,000 @ A4

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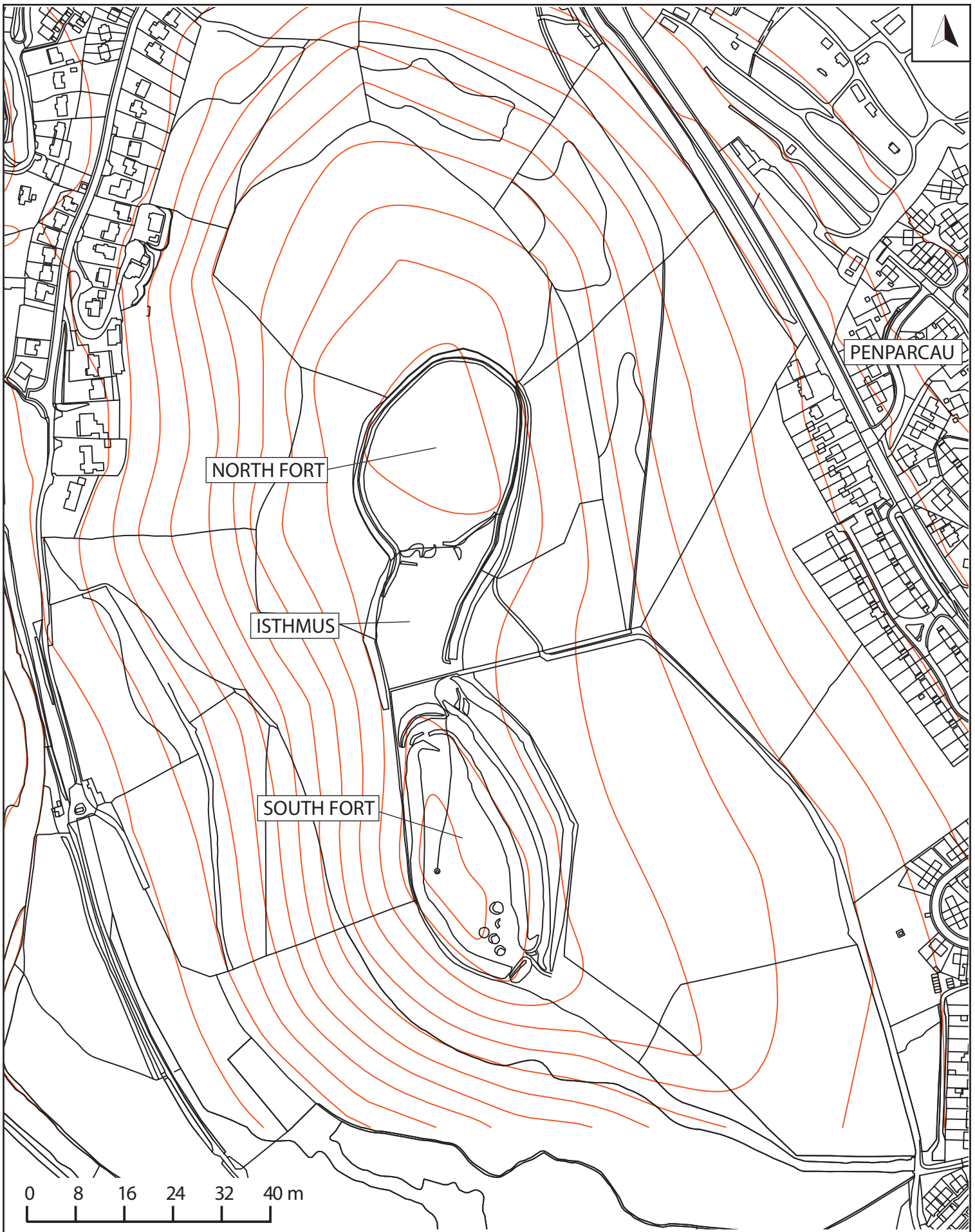


Figure 2: Site plan
1:4000 @ A4

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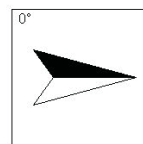
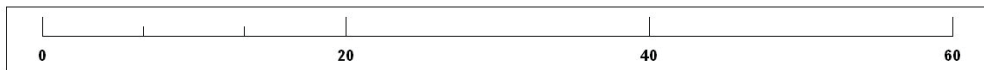
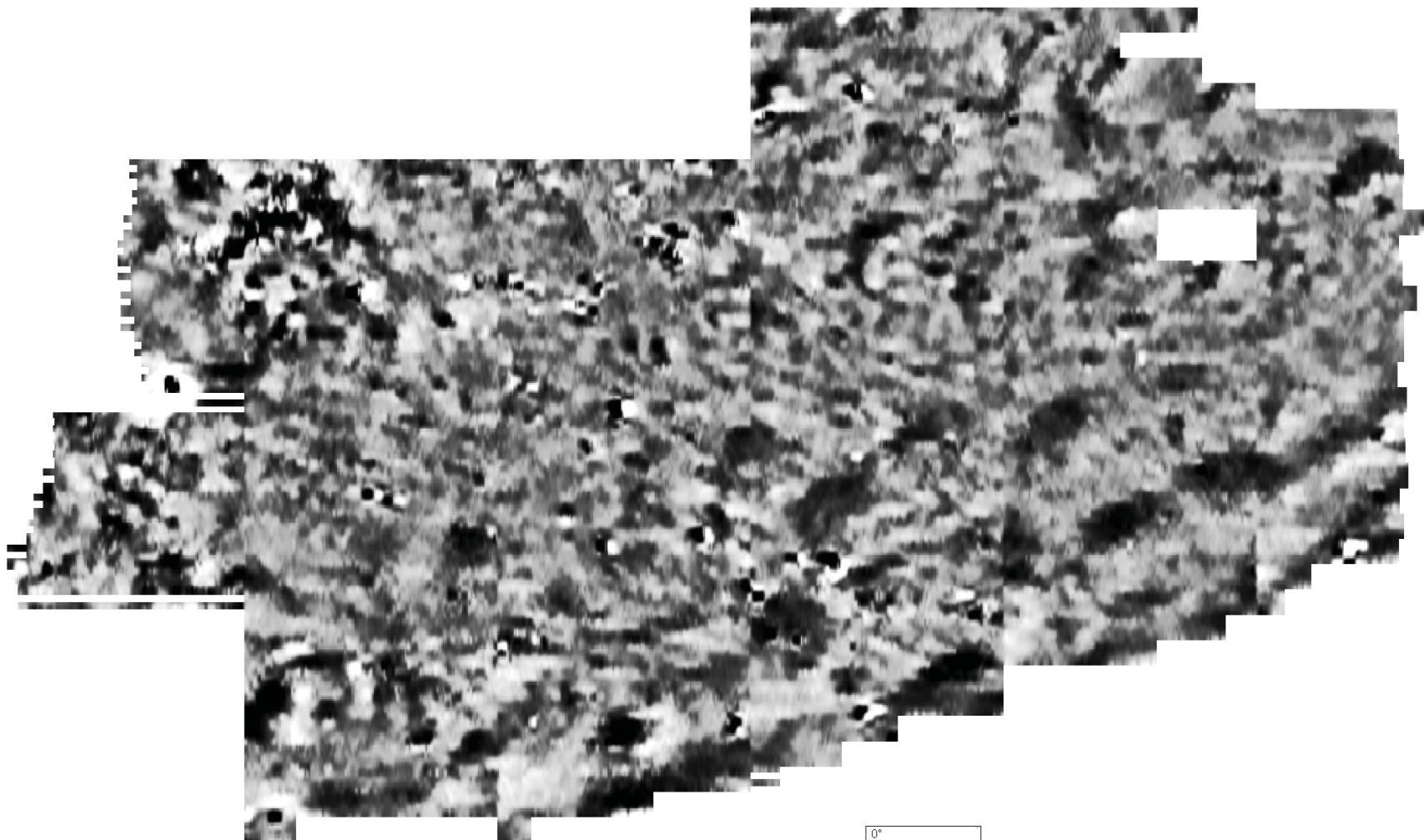


Figure 3. Geophysical survey results presented in greyscale, clipped to a range of $\pm 5nT$. Measurements given in metres.



Figure 4: Geophysical survey results overlaid with local topographical detail.

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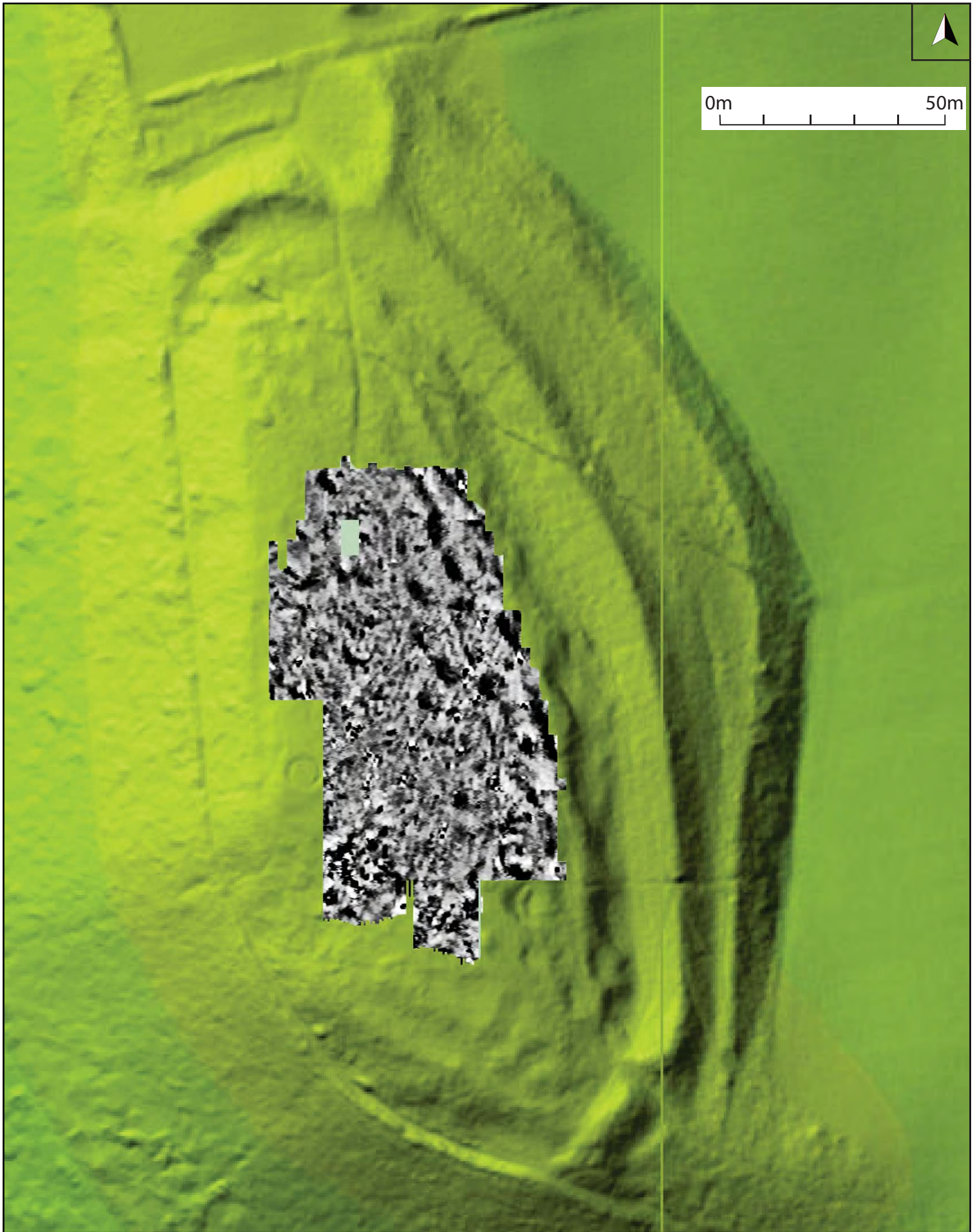


Figure 5: Geophysical survey results superimposed on Lidar 50cm DTM.

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Figure 6: Geophysical survey results superimposed on satellite imagery.

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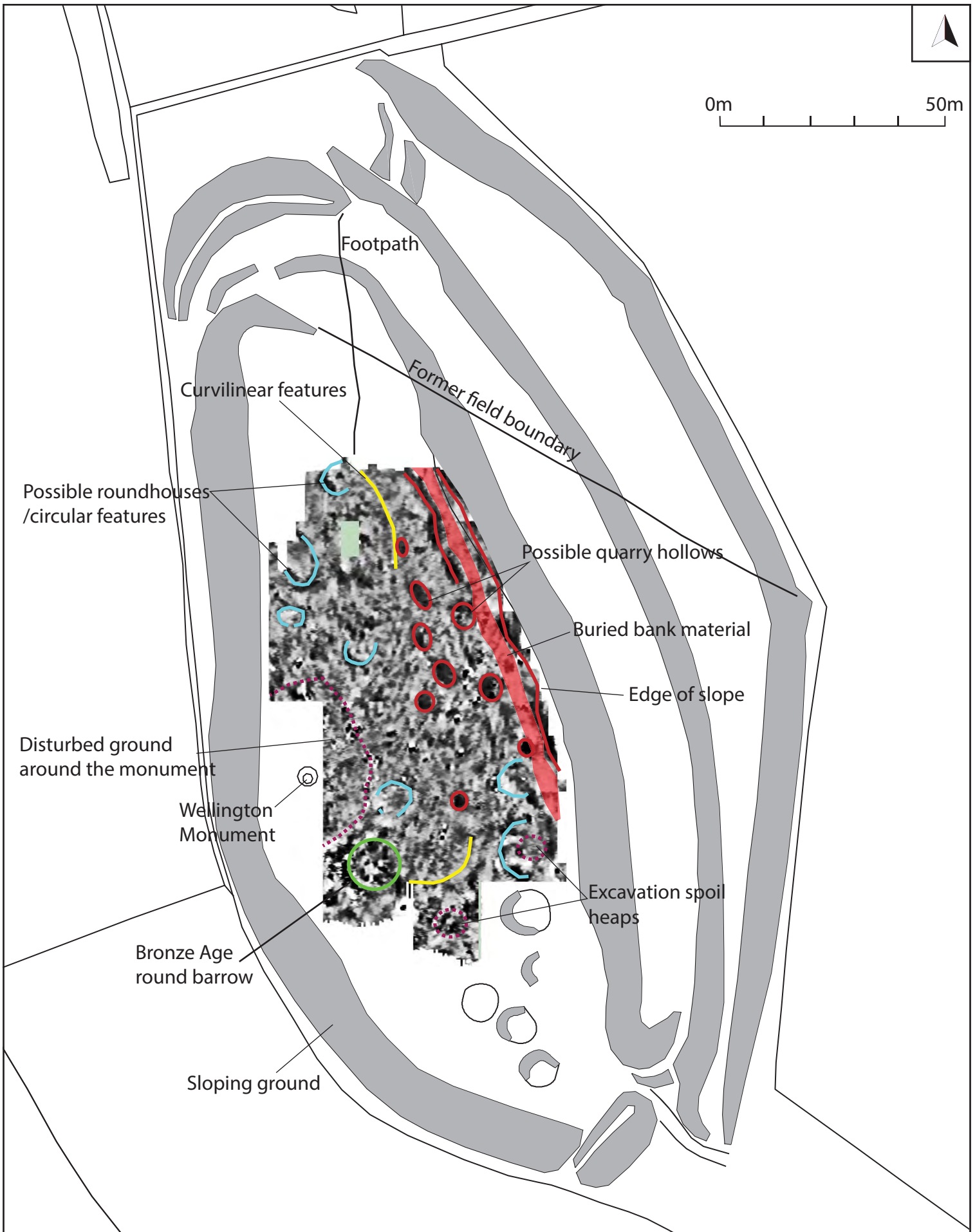


Figure 7: Interpretation layer, as referenced in the main text, overlaid on the geophysical survey results.



Photo 1: Pen Dinas Hillfort, as viewed from the farm track to the east.



Photo 2: The 'North Fort' and central 'Isthmus', as viewed from the northern gateway of the 'South Fort', looking north.



Photo 3: The main area of the 'South Fort' prior to vegetation clearance, looking south.



Photo 4: Survey work across the Bronze Age round barrow, visible as a low mound just left of centre. Looking east.



Photo 5: The base of the Wellington Monument, looking west. Shows the scalped area and likely disturbed ground surrounding the base of the monument.



Photo 6: One of the excavated house platforms and spoil heaps just beyond the surveyed area. Looking southeast.



Photo 7: The eastern slopes within the surveyed area, looking north. This area contained indications of quarry hollows.



Photo 8: General view northwards across the survey area, encompassing the 'North Fort' in the background.



Photo 9: General view northwards showing the steeper western seaward slopes.



Photo 10: General view southwest from the edge of the hillfort along the coast and mouth of the Ystwyth valley.



Photo 11: General view south-southeast from the edge of the hillfort along the Ystwyth valley.



Photo 12: General view from within the hillfort looking east up the Rheidol valley and across the surrounding hills.



Photo 13: General view from within the hillfort looking northeast across Penparcau and Llanbadarn Fawr.



Photo 14: Part of the community involvement in the scheme, with Aberystwyth in the background.

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Appendix I

Written Scheme of Investigations

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Written Scheme of Investigation
For a Geophysical Survey at Pen Dinas Hillfort,
Aberystwyth, Ceredigion

Prepared for:
Penparcau Community Forum

Project No: 2442

Date: June 2016

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NON TECHNICAL SUMMARY

This Written Scheme of Investigation details a proposal for a geophysical survey of part of the Pen Dinas hillfort, Aberystwyth, Ceredigion, designed as part of a community-based archaeological research programme. It has been prepared by Archaeology Wales Ltd for Penparcau Community Forum.

1. Introduction

Pen Dinas is a large Iron Age hillfort and Scheduled Ancient Monument (CD007) occupying a prominent hilltop to the south of Aberystwyth, Ceredigion. Penparcau Community Forum have commissioned a geophysical survey as part of a community based research programme into this important site. The focus of the survey will be on the 'South fort' area, located at SN 5845 8023 (Figures 1 & 2).

This Specification has been prepared by Philip Poucher, Project Manager, Archaeology Wales Ltd (Henceforth – AW) at the request of Penparcau Community Forum. It provides information on the methodology which will be employed by AW during the proposed geophysical survey. As the site is a Scheduled Ancient Monument, Section 42 Consent will be required from Cadw to undertake work within the area designated for survey. No work will be undertaken within the Scheduled Area prior to Consent being granted.

AW is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA). The proposed work will be managed by Philip Poucher, all field-work will be undertaken by suitably qualified staff and in accordance with the standards and guidelines of the CIfA.

2 Site description

Pen Dinas is the largest Iron Age hillfort in Ceredigion. It occupies a coastal hill near the village of Penparcau to the south of Aberystwyth. The hill lies at the end of a ridge at the confluence of the rivers Rheidol and Ystwyth, with precipitous slopes on its coastal (western) and southern sides, approached by more gradual slopes to the east and northeast. The hill has two summits, a lower broader summit to the north, and a higher narrower summit to the south. It is a prominent site from many miles around.

The site was partially excavated between 1933-7 by C Daryll Forde, who identified four main phases of development. The earliest fort appears to have been a simple defended site on the northern summit, enclosed by a rubble rampart and outer ditch. In perhaps around 400-300 BC, some years after the initial fort had been abandoned, a more complex fort was subsequently built on the southern summit, including elaborate gates and a stone-walled rampart with external ditch. Parts of this fort then fell into ruin, and some parts appear to have been burnt. At a later date the south fort was reoccupied, with the old defences extensively repaired and new defences built. In its final phase (in the 1st century BC), additional ramparts were constructed across the ridge (the isthmus) connecting the two summits, and a new main gate was added.

Bedrock scoops or platforms indicate the sites of at least a dozen prehistoric round houses within the southern fort, with many clustered around the southern gateway. A variety of Iron Age finds were recovered from the excavations, including pottery, glass

and stone beads, spindlewhorls, metallic items and a cache of possible slingstones. Other finds from the site include a Neolithic stone axe, Bronze Age palstave and arrowhead, an early 4th century Roman coin, as well as a spearhead and medieval coin.

The summit of the southern fort is now surmounted by the Wellington Monument. This is an 18m high stone column, taking the form of an upended cannon, erected in the mid to late 1850s. It is thought the column was intended to carry a statue at the top, but this was never installed. Nearby lies a low mound, approximately 9m in diameter and up to 0.5m high. This is believed to represent an early Bronze Age burial mound.

The underlying geology consists of sandstones and mudstones of the Aberystwyth Grits Group (BGS 2016).

3 Site specific objectives

The primary objectives of the work will be to locate and describe, by means of geophysical survey, archaeological features that may be present within the southern fort. The proposed archaeological work will attempt to elucidate the presence or absence of archaeological material, in particular its character, distribution, extent and relative significance.

A report will be produced that will provide sufficiently detailed and clear information to document the findings of the survey, and distribute these findings to the local community, as well as Cadw, the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) and regional Historic Environment Record (HER) for wider dissemination.

4 Methodology

The area to be surveyed will include the summit of the southern fort (area 2 on the attached plan, Figure 2). It is anticipated that an area measuring approximately 200m by 60m will be surveyed, although this will be dependent upon the state of vegetation cover across this area. Time permitting transects will also be undertaken across the isthmus (area 1 on the attached plan) in order to gain a better understanding of the archaeology and potential within that area.

The local landowner, Ceredigion County Council, will be consulted prior to the survey work being undertaken.

The survey work will be undertaken in association with members of the local community and Trysor heritage consultants.

The site and all survey points will be located by Topcon GTS725 or similar total station and plotted onto an O.S. base map.

The on-site survey will be undertaken in a single phase lasting approximately two days. This will be followed by report production.

The survey will be carried out using a Bartington Grad601 Magnetometer. Each survey area will be divided into 20m or 30m square grids along a common alignment.

Within each grid, parallel traverses 1m apart will be walked at rapid pace along the same orientation. Instrument readings will be logged at 0.25m intervals, with an average cycle of 4 using an ST1 internal sample trigger. Incomplete survey lines resulting from irregular area boundaries or obstacles will be completed using the "dummy log" key.

Further survey information will be completed on the relevant pro-forma sheet. All data will be downloaded in the field into a laptop computer. The location of the grid corners will be recorded using a total station or similar survey equipment so that results can be accurately placed onto an OS map.

A composite of each detailed survey area will be created and processed using the software package *Terrasurveyor v.3*. A variety of processing tools will be used to enhance any potential archaeology. The final results will be presented at an appropriate scale tied to the Ordnance Survey National Grid.

5 Monitoring

Subsequent to discussions with Ceredigion County Council (CCC) and acquiring Section 42 Consent from Cadw, both CCC and Cadw will be informed of the start date, and contacted subsequently once the work is underway.

Cadw inspectors will be given access to the site so that they can monitor the progress of the work, they will be kept regularly informed about developments, both during the site works and subsequently during the post-fieldwork programme.

6 Stage 4 - Archiving and Reporting

Site archive

An ordered and integrated project archive will be prepared in accordance with the National Monuments Record agreed structure and be deposited within an appropriate body upon completion of the work.

Final reporting

The client report will contain, as a minimum, the following elements:

- Concise non-technical summary of the results
- Detailed plans of the site and survey results
- Site illustrations, related to Ordnance Datum
- Written description
- Statement of local and regional context
- Conclusions as appropriate
- Bibliography
- A copy of the AW Specification

Copies of the report will be sent Penparcau Community Forum, Cadw, RCAHMW and the regional Historic Environment Record. Digital copies will be provided in pdf format if required.

A summary report of the work will be submitted for publication to a national journal no later than one year after the completion of the work.

7 Resources and timetable

Standards

The field evaluation will be undertaken by AW staff using current best practice.

AW is an CIfA Registered Archaeological Organisation and all work will be undertaken to the standards and guidelines of the CIfA.

Staff

The project will be undertaken by suitably qualified AW staff, supervised by Hywel Keen. Overall management of the project will be undertaken by Philip Poucher.

Equipment

The project will use a Bartington Grad601 set to standard specifications.

Timetable of archaeological works

The work will be undertaken at the convenience of the client. No start date has yet been agreed. It is anticipated that the fieldwork element could take in the region of two days.

Insurance

AW holds Public Liability Insurance through Aviva Insurance Ltd, with a £5,000,000 Limit of Indemnity (expires 05/12/16), Employers Liability Insurance through Aviva Insurance Ltd, with a £10,000,000 Limit of Indemnity (expires 05/12/16) and Professional Indemnity Insurance through Hiscox Insurance Company Ltd, with a £1,000,000 Limit of Indemnity (expires 05/12/16).

Arbitration

In the event of any dispute arising out of this Agreement (including those considered as such by only one of the parties) either party may forthwith give to the other notice in writing of such a dispute or difference and the same shall be and is hereby referred for decision in accordance with the Rules of the Chartered Institute of **Arbitrators' Arbitration scheme for the Institute for Archaeologists applying at the date of this Agreement.**

Health and safety

All members of staff will adhere to the requirements of the *Health & Safety at Work Act, 1974*, and the Health and Safety Policy Statement of AW.

Archaeology
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APPENDIX II:
Archive Cover Sheet

ARCHIVE COVER SHEET

Pen Dinas Hillfort, Penparcau, Aberystwyth

Site Name:	Pen Dinas Hillfort
Site Code:	PDA/16/GEO
PRN:	Pen Dinas PRN 3993
NPRN:	Pendinas Hillfort NPRN 92236
SAM:	Pen Dinas Camp CD007
Other Ref No:	-
NGR:	NGR SN 5845 8023
Site Type:	Hillfort
Project Type:	Geophysical Survey
Project Manager:	Philip Poucher
Project Dates:	April - July 2017
Categories Present:	Survey data, report
Location of Original Archive:	AW
Location of duplicate Archives:	RCAHMW, Aberystwyth
Number of Finds Boxes:	-
Location of Finds:	N/A
Museum Reference:	N/A
Copyright:	AW
Restrictions to access:	None

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