



Lower Bodiniel Solar Farm, Bodmin, Cornwall: archaeological evaluation



Historic Environment Projects

Lower Bodiniel Solar Farm, Bodmin, Cornwall archaeological evaluation

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The Project Manager was Adam Sharpe.

The excavation team comprised James Gossip (Project Officer) and Francis Shepherd.

Thanks to Pat Harris for the help and co-operation during the topsoil stripping.

The views and recommendations expressed in this report are those of Historic Environment Projects and are presented in good faith on the basis of professional judgement and on information currently available.

Freedom of Information Act

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.



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Cover illustration a view over the area of archaeological evaluation at Lower Bodiniel

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Fig 4 Linear feature (103), trench A

Abbreviations

CRO Cornwall County Record Office

EH English Heritage

HER Cornwall and the Isles of Scilly Historic Environment Record

HE Historic Environment, Cornwall Council

NGR National Grid Reference

OS Ordnance Survey

PRN Primary Record Number in Cornwall HER

RIC Royal Institution of Cornwall

1 Summary

An archaeological evaluation was carried out at Lower Bodiniel farm, Bodmin, targeting anomalies revealed by geophysical survey. Of greatest interest on this survey were both curvilinear and linear anomalies which appeared to represent late prehistoric settlement and associated fields. The evaluation trenching undertaken in October 2011 showed that archaeological deposits were scarce, although there was a suggestion that there had been some activity in the vicinity during the late prehistoric period. It is thought that the complex geophysical anomalies represented on the survey may have largely been the result of unusual geological trends across the proposed solar farm site.

2 Introduction

2.1 Project background

During October 2011 Cornwall Council's Historic Environment (HE) Projects team undertook a programme of archaeological evaluation at Lower Bodiniel Farm, Bodmin, Cornwall (centred on NGR SX 0581 6838; Fig 1). The work was guided by a written scheme of investigation prepared by HE (Section 8; Sharpe 2011) which had been guided by a brief written by Phil Copleston (Historic Environment Planning Advice Officer, Cornwall Council) which set out the requirements for archaeological recording to discharge condition 17 of planning application PA11/01747 placed on the development. Previous assessment of the site had included a Desk Based archaeological and historical assessment and geophysical survey commissioned by Wardell Armstrong International acting on behalf of the Solar Securities Group (CgMs Consulting Ltd 2010). An associated geophysical survey carried out by Stratascan in 2011 had identified a number of anomalies including curvilinear and linear features suggestive of late prehistoric settlements and their associated fields within the field labelled D by the archaeological assessment (CgMs Consulting Ltd 2010).

The archaeological evaluation undertaken in October 2011 by Historic Environment Projects had been commissioned by Mr Clive Richardson on behalf of Solar Securities Group in order to fulfil the planning condition. The excavation was funded by Solar Securities Group.

2.2 Aims

The purpose of the archaeological evaluation was to determine the presence, character and significance of below ground archaeology. The aims of the excavation were:

2.2.1

- To guide further discussion on the requirement for archaeological mitigation.
- To identify and describe any archaeological features.
- To record in detail any stratigraphical relationships.
- To recover artefacts from all archaeological deposits and features.
- To retrieve environmental and scientific dating evidence from all archaeological deposits and features.
- To increase our understanding of prehistoric settlement in north Cornwall.
- To record archaeological features in such a way to enable specialist analysis, interpretation, reconstruction and ultimately publication in an appropriate academic journal.

2.2.2 Research Objectives

The primary objective was to provide evidence for the character, potential and significance of the archaeological resource.

2.2.3 Objectives of this report

This report presents the results of the evaluation trenching and a statement of significance.

2.3 Methods

2.3.1 Fieldwork

All deposits were recorded in accordance with Historic Environment guidelines and in accordance with the Institute for Archaeologists' Standards and Code of Conduct (see below). Plans were drawn of all archaeological significant deposits.

Recording - general

- The topsoil was stripped to the level of the natural subsoil (the level at which archaeological deposits could be expect to survive) by mechanical excavator fitted with a toothless grading bucket, and then hand cleaned.
- The locations of the trenches were surveyed by Total Station EDM. Their positions were linked to a scaled base map (tied to the National Grid).
- All features were accurately located at an appropriate scale.
- All archaeological contexts were described to a standard format linked to a continuous numbering sequence.
- Finds were collected in sealable plastic bags labelled with the context number or other identifier.
- Photography: digital photography was used for record, illustrative and presentation purposes.

Allocation of numbers

- Context numbers from 100-105 were allocated to deposits in trench A
- Context numbers from 200-201 were allocated to deposits in trench B
- Context numbers from 300-301 were allocated to deposits in trench C
- Context numbers from 400-402 were allocated to deposits in trench D
- Context numbers from 500-501 were allocated to deposits in trench E

Treatment of finds

- In addition to the exposed natural subsoil and features all spoil heaps were inspected for unstratified artefacts and a metal detector was used to scan for metal objects.
- All finds in significant stratified contexts predating 1800 AD were retrieved and recorded by context. Some post-1800 material was collected in order to illustrate the density of the background scatter within the ploughsoil; this material was later discarded on site.

A single retained pottery sherd from deposit (402) is currently stored at the HE offices in Truro.

2.3.2 Archiving

An ordered and cross-referenced site archive has been produced. Site plans, photographs and other records have been completed and indexed, and the single sherd has been washed and catalogued.

2.3.3 Archive Report

Copies of this report will be distributed to the Client, the Historic Environment library and the local and main archaeological record libraries. Copies will be made available to any specialists undertaking work on the assessment and analysis of the site archive. A PDF copy of the report has been produced.

3 Location and setting

The proposed solar farm site is situated close to Lower Bodiniel Farm just to the north of Bodmin on a gentle south-facing slope which overlooks the town. To the north the land falls away sharply to the river Camel and has views towards Dunmere Wood and the Iron Age hillfort known as Dunmere Camp. The fields within which the evaluation trenches were sited have been characterised as 'Anciently Enclosed Land' (Cornwall County Council 1996). 'Anciently Enclosed Land' is made up of land associated with farming settlements documented before the seventeenth century AD and can contain field patterns of prehistoric or medieval origin. Investigations across Cornwall have demonstrated that this Historic Landscape Character (HLC) Type has a high potential to contain buried archaeology dating to the prehistoric and Romano-British periods (Cole and Jones 2002-3; Jones and Taylor 2004). A field boundary previously dividing the field containing trenches A, B, D and E was part of a medieval strip-field system still extant to the south and was visible on historic mapping. The c 1840 Tithe Map for the parish of Bodmin and First Edition 25 inch to the mile scale Ordnance survey (1880) record a well-preserved pattern of medieval fields.

The conclusion of the archaeological assessment was that the study area was situated within an important late prehistoric and medieval landscape (CgMs Consulting Ltd 2010). The geophysical survey revealed anomalies thought to represent various linear and curvilinear features, including enclosures which were reminiscent of late prehistoric settlements ('rounds') and stock enclosures.

4 Archaeological results

4.1 Trench A

(Figs 2 and 3)

Trench A was 40m in length, aligned east-north-east west-south-west and located in order to evaluate curvilinear anomalies thought to form the western side of a round near the centre of the site. The western end of the trench was intended to evaluate part of a linear group of possible pit-type features.

Topsoil (100) was removed by toothless bucket to reveal natural subsoil (101) at a depth of 0.35m. This comprised weathered shillet (shale) in a reddish brown clay matrix, in places broken bedrock laminating at surface (104). Close to the middle of the trench was [102], a concave linear cut 0.7m wide terminating in the centre of the trench. The edges of the feature were well-defined, cut into the natural bedrock to a depth of 0.25m. Fill (105) was a homogenous light greyish brown silty clay within which were a large number of quartzite nodules up to 0.2m across. No artefacts were recovered from this deposit. This feature coincides with a curvilinear anomaly within the suspected anomalies which apparently made up the round interpreted from geophysical survey. Near the western end of the trench was a 0.6m wide linear band of reddish brown clay (103). This had a very irregular profile 0.15m deep and was almost certainly a geological feature. No geophysical anomalies were detected in this location.

Elsewhere quartz nodules were recorded within the exposed bedrock, these apparently being part of the natural geology.

4.2 Trench B

(Figs 2 and 3)

Trench B was 20m long and aligned north-east south-west in order to locate the ends of two linear anomalies to the north-east of the possible round, apparently defining an entrance into an attached enclosure. Topsoil (200) was removed to a depth of 0.4m at the south-western end and 0.5m at the north-eastern end, revealing weathered shillet bedrock within a reddish brown clay matrix (201). An irregular linear spread of clay at the north-eastern end of the trench was found to be of geological origin. A sherd of post-medieval glazed stoneware and a fragment of bottle glass were recovered from

the spoil at the north-eastern end of the trench. Quartzite nodules were present within the shillet bedrock where this was less weathered. No evidence was found for any features of archaeological origin.

4.3 Trench C

(Figs 2 and 3)

Trench C was 20m long aligned north-west south-east and positioned to evaluate a possible curvilinear anomaly. Topsoil (300) was removed to a depth of 0.35m onto subsoil comprising weathered shillet bedrock within a reddish – orange brown clay matrix (301). No features were recorded and no artefacts recovered.

A spread of quartzite was recorded in the south-western end of the trench within the natural shillet, but no features of archaeological origin were revealed.

4.4 Trench D

(Figs 2 and 3)

Trench D was 20m long, aligned north-south and located to intersect two linear anomalies to the south-west of the possible round and to evaluate their form and relationships. Topsoil (400) was removed to a depth of between 0.35m – 0.55m to reveal natural subsoil (401) comprising weathered shillet in a reddish brown clay matrix at the northern end turning to orange mottled clay midway along the trench. Within a 0.25m deep dip in the natural bedrock 10m from the southern end of the trench. Deposit (402) was recorded sealed beneath topsoil (400). This comprised mid orange-brown friable silty clay with frequent pieces of shillet, and may have caused the linear anomaly thought to have been the northern arm of a stock enclosure. No features of archaeological origin were detected.

4.5 Trench E

(Figs 2 and 3)

Trench E was 25m long and designed to intersect the two ends of linear anomalies to the south of the possible round. Topsoil (500) was removed to reveal natural subsoil (501) at a depth of 0.35m (northern end) and 0.5m (southern end). This comprised weathered shillet bedrock in a reddish brown silty clay at the northern end, intermixed with areas of mottled orange clay throughout the remainder of the trench. A narrow vein of crushed shillet ran north-east – south-west close to the northern end of the trench and was thought to be a geological feature. No features of archaeological origin were recorded.

5 Conclusion

Although the geophysical survey interpretation plan suggested numerous curvilinear and linear subsurface features, none of these were identified during the archaeological evaluation. The possible cut [102], quartzite-filled with a rounded terminal in trench A could be related to human activity, but remains undated. This feature corresponds approximately with the innermost curvilinear anomaly. The linear geological feature at the south-western end of the trench is not reflected by any geophysical anomalies. The linear feature (402) in trench D corresponds with the northern linear anomaly interpreted on the Stratascan geophysical survey plot as part of a stock enclosure, but this appeared to be caused by a natural change in topography, where a buried soil deposit had been preserved beneath the later ploughsoil. The abraded prehistoric pottery sherd from this deposit suggests that some early activity had taken place within the area, although there was no direct evidence for settlement.

Natural weathered bedrock was close to surface throughout, whilst the thin topsoil contained large quantities of shillet. Quartzite blocks were also abundant within the natural geology, and it is possible that these factors created misleading geophysical

anomalies. The overall conclusion was that, with the possible exception of [102] and (402), the geophysical anomalies were not the result of buried archaeological features and instead derived from geological features.

6 References

6.1 Documents

- CgMs Consulting Ltd 2010. *Appendix 7.1 Archaeology, Lower Bodiniel Solar Farm environmental impact assessment*
- Cornwall County Council, 1996. *Cornwall Landscape Assessment 1994*, Report prepared by CAU and Landscape Design Associates. Cornwall County Council, Truro
- Cole, D and Jones, A M, 2002-3. Journeys to the rock; archaeological investigations at Tregarrick Farm, Roche, *Cornish Archaeol*, **41-2**, 107-143
- Jones, A M, and Taylor, S R, 2004. *What lies beneath . . . St Newlyn East and Mitchell, archaeological investigations 2001*, Truro (Cornwall County Council)
- Sharpe, A, 2011. *Lower Bodiniel solar farm, Bodmin: Written Scheme of Investigation for archaeological watching brief*
- Stratascan, 2011. *Bodiniel, Cornwall, Geophysical Survey Report*, for CGMS Consulting Ltd

7 Project archive

The HE project number is **2010090**

The project's documentary, photographic and drawn archive is housed at the offices of Historic Environment, Cornwall Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. Electronic drawings stored in the directory ..\CAD ARCHIVE\Sites L\ Lower Bodiniel evaluation 2011090
3. Digital photographs stored in the directory ..\Images\ Sites I-L\Lower Bodiniel evaluation 2011090
4. English Heritage/ADS OASIS online reference: cornwall2-113177
5. This report text is held in digital form as: G:\CAU\HE Projects\Sites L\ Lower Bodiniel evaluation 2011090

8 Lower Bodiniel solar farm, Bodmin: Written Scheme of Investigation for archaeological watching brief

Adam Sharpe

8.1 Site history

The proposed Lower Bodiniel solar farm is located at OS NGR SX 0581 6838 adjacent to the hamlet of Bodiniel, just to the north of Bodmin on the southern edge of the Camel Valley. The site, which consists of five contiguous fields, is bounded to the north and west by East Wood, which occupies the slopes of the valley formed by the River Camel. The southern edge of the site flanks open farmland falling towards Bodiniel and Bodmin. The site is recorded as Anciently Enclosed Land – Farmland Medieval.

The underlying geology is a mixture of the Trevoze slate formation and the Rosenum Formation (slate and siltstone) in the northern part of the site and sandstone, siltstone and mudstone of the Bedruthan Formation in the southern part of the site.

An archaeological assessment has been produced for this site (CgMs Consulting Ltd 2010), this having been incorporated into the Wardell Armstrong International impact assessment for their development proposal. The CgMs DBA revealed Lower Bodiniel to be the site of a fossilised medieval field system, whilst geophysical survey undertaken by Stratascan revealed a circular ditched feature together with further concentric ditches near the centre of the site. This has been interpreted as a late prehistoric or early historic Round or defended farm. The geophysical survey also revealed further elements of the former medieval strip field system, as well as other undated field boundaries and an extensive scatter of small pits.

8.2 Project background

Discussions with the HEPAO established the minimum requirements for archaeological recording at Lower Bodiniel, Bodmin, Cornwall. This work is required to discharge condition 17 of planning application PA11/01747 placed on the development.

Planning application PA11/01747 for *'The development of a 5 MW solar photovoltaic farm on land close to Bodiniel, Bodmin, Cornwall along with attendant equipment and infrastructure'* was conditionally approved on 7 June 2011, subject to 19 conditions. Condition 17 states:

"No development shall take place within the site until the applicant has secured and implemented a programme of archaeological work in accordance with a written scheme of investigation to be submitted to the LPA for approval in writing. The scheme shall include the following:

a) through the process of evaluation trenching, an assessment of the heritage assets identified by the Stratascan Ltd geophysical survey (arch 2011, Job Ref. J2831) on features located in field D, in particular.

Depending on the findings of this evaluation, the solar arrays may need to avoid these features entirely;

b) the undertaking of an archaeological 'watching brief' on those areas affected by the placement of the inverter building, service trenching or other infrastructure requiring below ground excavation works in the area of Fields A, B, C, D and E, as necessary. A similar archaeological 'watching brief' may be necessary during the construction phase to ensure that solar array footings and ground anchors avoid the most sensitive areas. Prior to the commencement of development these identified areas shall be pegged out on site in accordance with details to be agreed in writing with the LPA and maintained in situ until the construction of the development is completed.

The scheme shall be amended where necessary to take account of any finds.

Reason: to avoid the impact of the scheme on significant archaeological sites identified by geophysical survey whilst delivering similar climate change mitigation in accordance with PPS5 Policy HE1.2.

The Historic Environment Planning Advice Officer is Phil Copleston, Historic Environment Advisor (Archaeology), Room 82, Luxetowe House, Liskeard, Cornwall PL14 3DZ, 01579 341406. The Local Planning Authority Officer is Steve Jefferson.

8.3 Project extent

The site consists of four adjacent fields at Lower Bodiniel. The evaluation trenching will be centred on features of potential significance identified through geophysical survey, whilst the watching brief will be limited to the archaeological monitoring of those areas which are to be subjected to ground disturbance during the development of the solar farm (excepting areas disturbed by cable trenching and the installation of ground anchors) where buried archaeological remains may be disturbed. The areas to be

monitored are likely to include any temporary compound areas and platforms for permanent plant such as inverters and transformers.

8.4 Aims and objectives

As set out in the discussions with the HEPAO, the aims of the evaluation and watching brief are to:

- Establish the presence/absence of archaeological remains within the areas to be developed
- determine the extent, condition, nature, character, date and significance of any archaeological remains encountered
- establish the nature of the activity on the site
- identify and retrieve any artefacts relating to the occupation or use of the site
- Advise developers and planners on areas of the site which should be excluded from the development
- provide further information on the archaeology of Lower Bodiniel from any archaeological remains encountered

The objectives are to obtain an archaeological record within areas of the site to be subjected to disturbance and to use the findings of evaluative investigations to guide the sensitive development of the solar farm and safeguard any significant archaeology on the site.

8.5 Working methods

All recording work will be undertaken according to the Institute for Archaeologists *Standards and Guidance for Archaeological Investigation and Recording*. Staff will follow the *IfA Code of Conduct* and *Code of Approved Practice for the Regulation of Contractual Arrangements in Archaeology*. The Institute for Archaeologists is the professional body for archaeologists working in the UK.

8.5.1 Desk-based assessment

A desk-based assessment, walk-over survey and geophysical survey have been carried out and reported on (CgMs Consulting Ltd 2010 and Stratascan 2011).

8.5.2 Fieldwork: evaluation trenching (see attached figure for proposed trench locations)

As well as evidence for removed elements of the medieval strip fields, the Stratascan survey also revealed a sub-oval enclosure averaging 25m in diameter near the centre of the site. This is enclosed to the south by two sub-parallel ditches (the complex being marked as feature B in the Stratascan survey report). To the south-west of this are a number of east-west aligned linear anomalies which may be contemporary with it. To the north-east of the probable round (in the south-western corner of the north-eastern field) the geophysical survey indicated an arc-shaped ditched feature which may represent part of a contemporary round house. The area covered by the geophysics is also characterised by a scatter of pit-type anomalies, some apparently being in discrete groups.

The information from the Stratascan geophysical survey will be used to guide a programme of evaluation trenching, which will test the results of the survey. Specific features will be targeted to ascertain their character, and preservation. Five 1.5m wide trenches will be excavated across the site, their lengths being dependant on the features to be investigated

- Trench A (40m long) will be aligned east-north-east west-south-west in order to investigate the inner and two outer curving ditch features forming the western side of the probable round near the centre of the site to examine the form and nature of

this feature shown on the geophysical survey. The western end of the trench is intended to evaluate part of a linear group of possible pit-type features.

- Trench B (20m long) will be aligned north-east south-west to pick up the ends of two linear features to the north-east of the 'round' which appear to define an entrance into an enclosure attached to it.
- Trench C (20m long) will be aligned north-west south-east and located over a possible round house to the north-east of the 'round' in order to determine the nature of this feature.
- Trench D (20m long) is designed to intersect two of the linear anomalies to the south-west of the round and to determine their form and relationships.
- Trench E (25m long) is designed to intersect the two ends of the possible stock handling earthwork ditches, the northernmost pair of which are to be sampled in Trench D.

In advance of the evaluation trenching HE Projects will discuss with the client:

- Working methods and programme.
- Health and Safety arrangements.
- Treatment of artefacts.

Recording - general

- Site drawings (plans, sections, locations of finds) will be made by pencil (4H) on drafting film; all plans will be linked to the Ordnance Survey (electronic) mapping; all drawings will include standard information: site details, personnel, date, scale, north-point. A site grid and site bench mark (TBM) will be set up and features and finds will be recorded in relation to these. The site grid and TBM will be located relative to the National Grid through measured survey from the nearest OS bench mark.
- The trenches will be excavated down to the level of the archaeology or the top of the natural subsoil by mechanical excavator/swing shovel, which has been fitted with a toothless bucket, and then hand cleaned.
- Excavation of features will be restricted to the minimum necessary to assess their likely potential.
- All features and finds will be accurately located at an appropriate scale. Sections will normally be drawn at 1:10 and plans at 1:20.
- All archaeological contexts will be described to a standard format linked to a continuous numbering sequence.
- Finds will be collected in sealable plastic bags, which will be labelled immediately with the context number or other identifier.
- Scaled monochrome photography will be used as the main recording medium, with digital photography used for illustrative purposes.
- Any human remains which are encountered will initially be left *in situ* and reported to the HEPAO and the appropriate authorities (the Coroner), where appropriate. If removal is necessary this must comply with the relevant Government regulations. If burials are encountered their legal status must be ascertained and recording and/or removal must comply with the legal guidelines. If human remains are not to be removed their physical security will be ensured by back filling as soon as possible after recording. If human remains are to be removed this will be done with due reverence and in accordance to current best practice and legal requirements. The site will be adequately screened from public view. Once excavated, human remains will not be exposed to public view

- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features (ditches and pits, etc) may be sampled for environmental evidence and dating material. In the event that no further work takes place processing of these samples may be undertaken.

8.5.3 Treatment of finds

The fieldwork is likely to produce artefactual material.

- All finds in significant stratified contexts predating 1800 AD (e.g., settlement features) should be plotted on a scaled base plan and described. Post medieval or modern finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.
- All finds predating 1800 AD will be collected in sealable plastic bags which will be labelled immediately with the context number or other identifier.

Identification of sensitive areas

Following the evaluation trenching and discussions with the HEPAO, areas of the site deemed to contain significant below-ground archaeology which should be excluded from development will be defined by pegs driven into the ground surface, as required by section b of Planning Condition 17.

8.5.4 Fieldwork: watching brief

The site archaeologist will be present during all ground works associated with the development, unless circumstances dictate a different approach. A toothless ditching bucket will be used for the removal of any overburden until the first archaeological horizon is exposed. This will then be hand cleaned as appropriate.

Machines will not run over the stripped area until the archaeological works are complete. The area will then be inspected by an archaeologist and any archaeological features or layers exposed in the stripped area will be carefully excavated by hand and archaeologically recorded by written description, plan and section and photographic record as appropriate by an HE Projects archaeologist.

During the archaeological recording the archaeologist will identify and record any archaeological features that are revealed in the stripped area; the level of recording will be appropriate to the character/importance of the archaeological remains.

If complex and/or significant archaeological deposits are encountered then the archaeological requirements should be reviewed by the client, the Historic Environment Planning Advice Officer and HE Projects. **In the event that remains cannot be preserved *in situ* then full-scale excavation may be required.** A contingency should be allowed to record any significant archaeological remains which are uncovered during the stripping. The significance of the remains should be agreed between the client, the Historic Environment Planning Advice Officer and HE Projects.

Where necessary the detailed archaeological recording may include:

- Excavation of archaeological features exposed in the stripped area and plotting them onto a base map.
- Production of plans and section drawings of the excavated features and recording of features using a continuous numbering system.
- Retrieval of artefacts.

Recording: general

Site drawings (plans, sections, locations of finds) will be made by pencil (4H) on drafting film; all plans will be linked to the Ordnance Survey Landline (electronic) map; all drawings will include standard information: site details, personnel, date, scale, north-point. A site grid and site bench mark (TBM) will be set up and features and finds

will be recorded in relation to these. The site grid and TBM will be located relative to the National Grid through measured survey from the nearest OS bench mark.

- All features and finds will be accurately located at an appropriate scale. Sections will normally be drawn at 1:10 and plans at 1:20.
- All archaeological contexts will be described to a standard format linked to a continuous numbering sequence.
- Photography: scaled monochrome photography will be used as the main record medium, with colour digital images used more selectively and for illustrative purposes. This will include both general and site specific photographs. Photographs should have a scale and detailed ones should include a north arrow.
- Drawings and photographs will be recorded in a register giving details of feature number and location.
- Sealed/undisturbed archaeological contexts in the form of buried soils, layers or deposits within significant archaeological features (ditches and pits, etc) will be sampled for environmental evidence and dating material. In the event that significant organic remains are encountered, advice may be needed from Vanessa Straker (Regional Advisor for Archaeological Science). Any necessary environmental sampling will be guided by *Environmental Archaeology* (English Heritage Centre for Archaeological Guidelines. 2001/02).

8.5.5 Treatment of finds

The archaeological fieldwork may produce artefactual material.

- All finds in significant stratified contexts predating 1800 AD (e.g., settlement features) should be collected by context and described. Post medieval or modern finds may be disposed of at the cataloguing stage. This process will be reviewed ahead of its implementation.
- All finds will be collected in sealable plastic bags which will be labelled immediately with the context number or other identifier.

Human remains

Any human remains which are encountered will initially be left *in situ* and reported to the HEPAO and the appropriate authorities (the Coroner), where appropriate. If removal is necessary this must comply with the relevant Government regulations. If burials are encountered their legal status must be ascertained and recording and/or removal must comply with the legal guidelines. If human remains are not to be removed their physical security will be ensured by back filling as soon as possible after recording. If human remains are to be removed this will be done with due reverence and in accordance to current best practice and legal requirements. The site will be adequately screened from public view. Once excavated, human remains will not be exposed to public view.

8.5.6 Fieldwork: photographic recording

The photographic record shall consist of prints in both black and white and colour together with the negatives. Digital photography will be used for report illustration. For both general and specific photographs, a photographic scale shall be included. In the case of detailed photographs it may be appropriate to include a north arrow. The photographic record shall be accompanied by a photographic register detailing as a minimum, feature number, location and direction of shot.

The photo record will comprise:

- general views
- examples of significant detail

Methodology for the archive standard photography is set out as follows:

- Photographs of details will be taken with lenses of appropriate focal length
- A tripod will be used to take advantage of natural light and slower exposures
- Difficulties of back-lighting will be dealt with where necessary by balancing the lighting by the use of flash
- A metric scale will be included in all views, except where health and safety considerations make this impractical

8.5.7 Archiving

Following review with the HE Project Manager the results from the fieldwork will be collated as an archive in accordance with: *Management of Research Projects in the Historic Environment (MoRPHE) English Heritage 2006* upon completion of the project.

This will involve washing and cataloguing of finds, the indexing and cross-referencing of photographs, drawings and context records.

All finds, etc will be stored in a proper manner (being clearly labelled and marked and stored according to HE guidelines). All finds work will be to accepted professional standards and will adhere to the Institute for Archaeologists *Guidelines for Finds Work*.

All records (context sheets, photographs, etc) will be ordered, catalogued and stored in an appropriate manner (according to HE guidelines).

The site archive and finds will initially be stored at HE premises. The archive including a copy of the written report shall be deposited with the Royal Cornwall Museum within two months of the completion of the full report and confirmed in writing with the HEPAO. The RCM will be notified of the commencement of the project and included in discussions for sampling and disposal as appropriate.

The full report including all specialist assessments of artefact assemblages shall be submitted within a length of time (but not exceeding six months) to be agreed between the applicant and the archaeological contractor, Cornwall Council Historic Environment Service and the Royal Cornwall Museum. A further digital copy shall be supplied on CD-ROM preferably in 'Adobe Acrobat' PDF format. This report will be held by the Cornwall and Scilly Historic Environment Record (HER) and made available for public consultation. A copy of the report will be supplied to the National Monuments Record (NMR) in Swindon, to the Courtney Library of the Royal Cornwall Museum and to the Cornish Studies Library.

In the event that there are no finds or they are retained by the owner, the documentary archive in due course shall be deposited with the Cornwall Record Office, but in the medium term will be stored at Pound and Co. All digital records will be filed on the Cornwall Council network.

8.5.8 Archive report

The results from the fieldwork will be presented in a concise report. Copies of the report will be distributed to the Client, the Cornwall and Scilly HER and the local and main archaeological record libraries. A PDF copy of the report will be produced.

This will involve:

- producing a descriptive text;
- producing maps and line drawings;
- selecting photographs;
- report design;
- report editing;
- dissemination of the finished report;
- deposition of archive and finds in the Royal Cornwall Museum, Truro.

The report will have the following contents:

- Summary
- Project background
- Aims and objectives
- Methodology
- Location and setting
- Designations
- Site history
- Archaeological results
- Chronology/dating evidence
- Significance
- Mitigation measures
- Conclusions
- References
- Project archive index
- Supporting illustrations: location map, plans, elevations/sections, photographs

An English Heritage/ADS online access to the index of archaeological investigations (OASIS) record will be made.

8.5.9 Assessment/analysis / publication

The structural and stratigraphic data and artefactual material will be assessed to establish any requirement for further analyses and reporting. The outline of the final report, and the work required to produce it will be determined in an updated project design.

In the event of significant remains being recovered (e.g. prehistoric or medieval artefacts) it may be appropriate to:

- Consult with the Historic Environment Planning Advice Officer over the requirements for assessment, analysis and reporting.
- Liaise with specialists (e.g. artefacts) to arrange for assessment of the potential for further analysis and reporting.
- Arrange for specialist analyses, where appropriate.
- Produce a final report, for example for publication in an academic journal such as *Cornish Archaeology*.

8.6 Timetable

The study is anticipated to be commenced during Summer 2011. HE will require at least three weeks notice before commencement of work, in order to allow the allocation of field staff time and arrange other logistics.

The archive report will be completed within 3 months of the end of the fieldwork. The deposition of the archive will be completed within 3 months of the completion of the archive report.

8.7 Monitoring and Signing Off Condition

Monitoring of the project will be carried out by Phil Copleston, Historic Environment Planning Advice Officer. The HEPAO will be regularly kept informed of progress.

Notification of the start of work shall be given in writing to the HEPAO at least one week in advance of its commencement. Any variations to the WSI shall be agreed with the HEPAO, preferably in writing, prior to them being carried out.

Monitoring points during the study will include:

- Approval of the WSI
- Completion of fieldwork
- Completion of archive report
- Deposition of the archive

Where the Historic Environment Planning Advice Officer is satisfied with the archive report and the deposition of the archive written discharge of the planning condition will be expected from the local planning authority (LPA).

8.8 Historic Environment Projects

Historic Environment Projects is the contracting arm of Historic Environment, Cornwall Council (HE). HE employs some 20 project staff with a broad range of expertise, undertaking around 80 projects each year.

HE is committed to conserving and enhancing the distinctiveness of the historic environment and heritage of Cornwall and the Isles of Scilly by providing clients with a number of services including:

- Conservation works to sites and monuments
- Conservation surveys and management plans
- Historic landscape characterisation
- Town surveys for conservation and regeneration
- Historic building surveys and analysis
- Maritime and coastal zone assessments
- Air photo mapping
- Excavations and watching briefs
- Assessments and evaluations
- Post-excavation analysis and publication
- Outreach: exhibitions, publication, presentations

8.9 Standards



HE is a Registered Organisation with the Institute for Archaeologists and follows their Standards and Code of Conduct.

As part of Cornwall Council, HE has certification in BS9001 (Quality Management), BS14001 (Environmental Management), OHSAS18001 (Health, Safety and Welfare), Investors in People and Charter Mark.

8.10 Terms and conditions

8.10.1 Contract

The HE projects team is part of Historic Environment, Cornwall Council. If accepted, the contract for this work will be between the client and Cornwall Council.

The views and recommendations expressed will be those of the HE projects team and will be presented in good faith on the basis of professional judgement and on information currently available.

8.10.2 Project staff

An experienced archaeologist employed by HE will carry out the archaeological fieldwork.

The report will be compiled by experienced archaeologist(s) employed by HE.

Relevant experienced and qualified specialists will be employed to undertake appropriate tasks during the assessment and analysis stages of the project.

The project will be managed by a nominated Senior Archaeologist (Adam Sharpe BA MifA) who will:

- Discuss and agree the detailed objectives and programme of each stage of the project with the client and the field officers, including arrangements for health and safety.
- Monitor progress and results for each stage.
- Edit the project report.
- Liaise with the client regarding the budget and related issues.

Work will be carried out by HE field staff, with assistance from qualified specialists and sub-contractors where appropriate.

8.10.3 Report distribution

Paper copies of the report will be distributed to the client, to local archives and national archaeological record centres.

A digital copy of the report, illustrations and any other files will be held in the Cornwall HER and also supplied to the client on CD or other suitable media.

8.10.4 Copyright

Copyright of all material gathered as a result of the project will be reserved to the Historic Environment, Cornwall Council. Existing copyrights of external sources will be acknowledged where required.

Use of the material will be granted to the client.

8.10.5 Freedom of Information Act

As Cornwall Council is a public authority it is subject to the terms of the Freedom of Information Act 2000, which came into effect from 1st January 2005.

HE will ensure that all information arising from the project shall be held in strict confidence to the extent permitted under the Act. However, the Act permits information to be released under a public right of access (a "Request"). If such a Request is received HE may need to disclose any information it holds, unless it is excluded from disclosure under the Act.

8.10.6 Health and safety statement

HE follows the Council's *Statement of Safety Policy*. For more specific policy and guidelines HE uses the manual *Health and Safety in Field Archaeology* (2002) endorsed by the Standing Conference of Archaeological Unit Managers.

Prior to carrying out on-site work HE will carry out a Risk Assessment.

8.10.7 Insurance

As part of Cornwall Council, HE is covered by Public and Employers Liability Insurance.

8.10.8 Standards

The HE follows the Institute for Archaeologists' Standards and Code of Conduct and is a Registered Archaeological Organization.

As part of Environment, Planning and Economy Directorate of Cornwall Council, the HE projects team has certification in BS9001 (Quality Management), BS14001 (Environmental Management), OHSAS18001 (Health, Safety and Welfare), Investors in People and Charter Mark.

8.11 Notes

- It is assumed that the client will supply the mechanical excavator and welfare facilities. These costs are not included in the project estimate.
- The client will be responsible for the Health and Safety arrangements on site.
- In the event that human remains are uncovered the client will ensure that appropriate screening is put in place.
- The post excavation programme (assessment, analysis and reporting) will need to be reviewed in the light of the fieldwork.

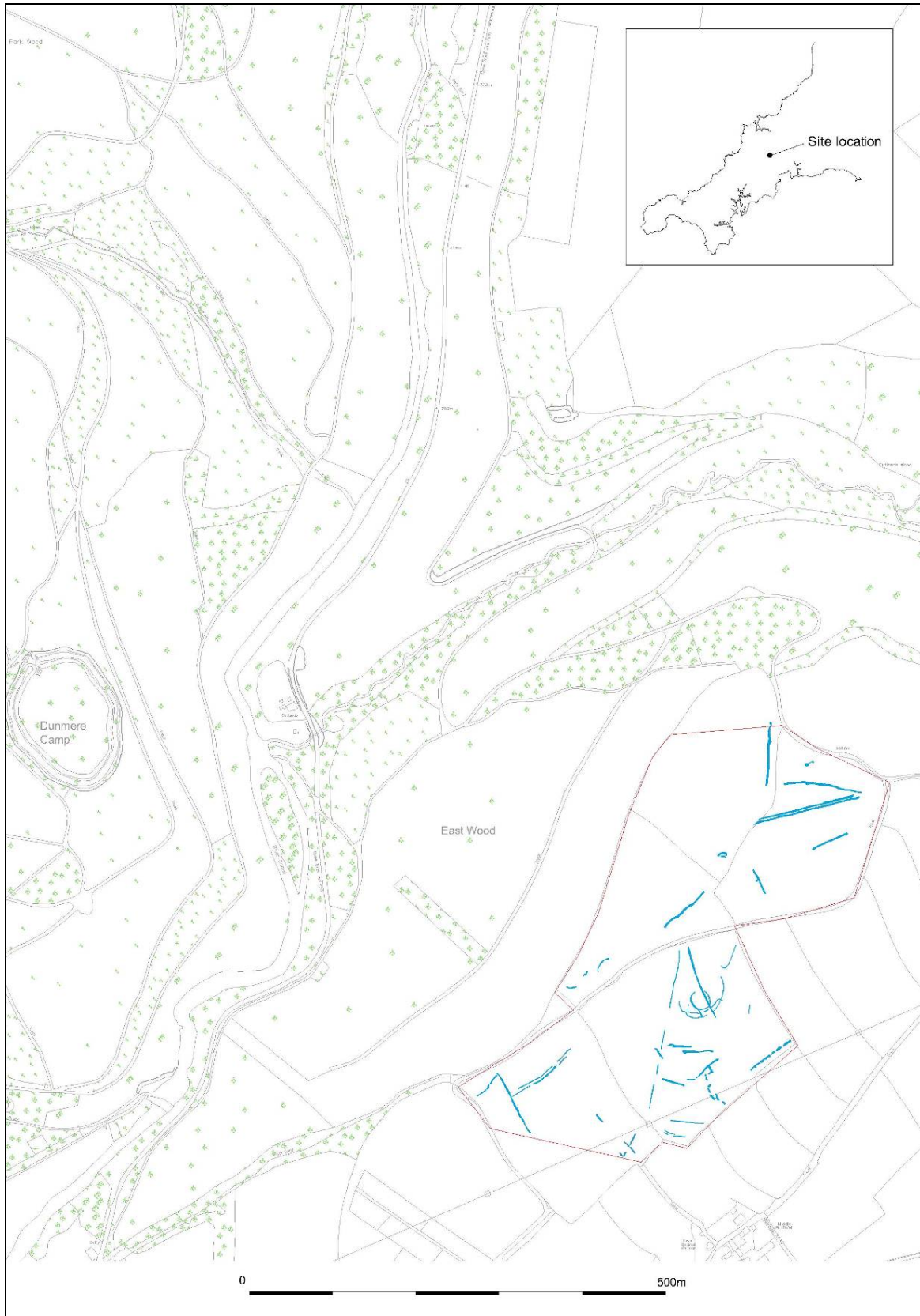


Fig 1 Location of Lower Bodiniel proposed solar farm development (outlined in red) and principal geophysical anomalies (blue).

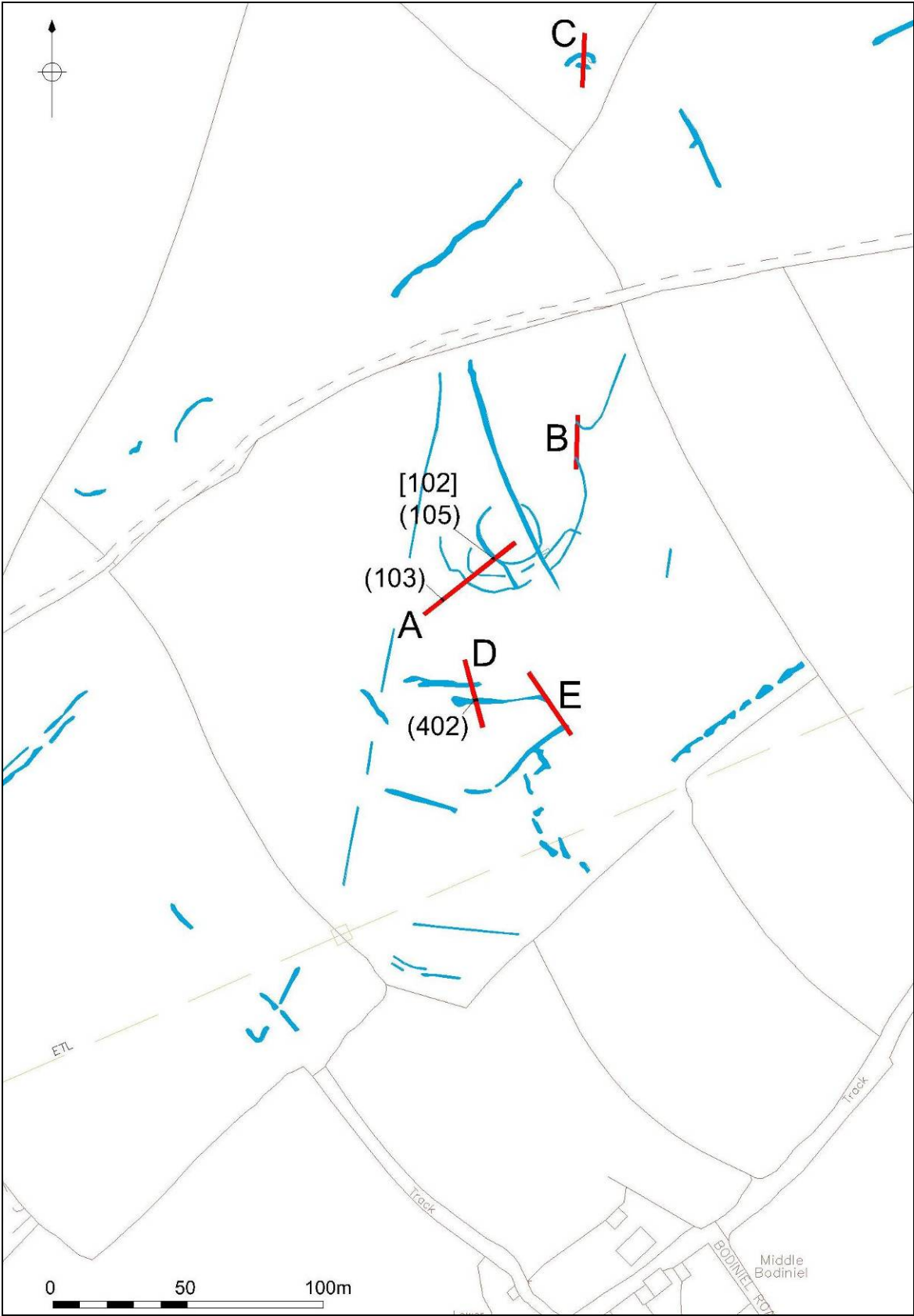


Fig 2 The Lower Bodiniel solar farm project area, showing principal geophysical anomalies (blue), trench layout (red) and recorded features.

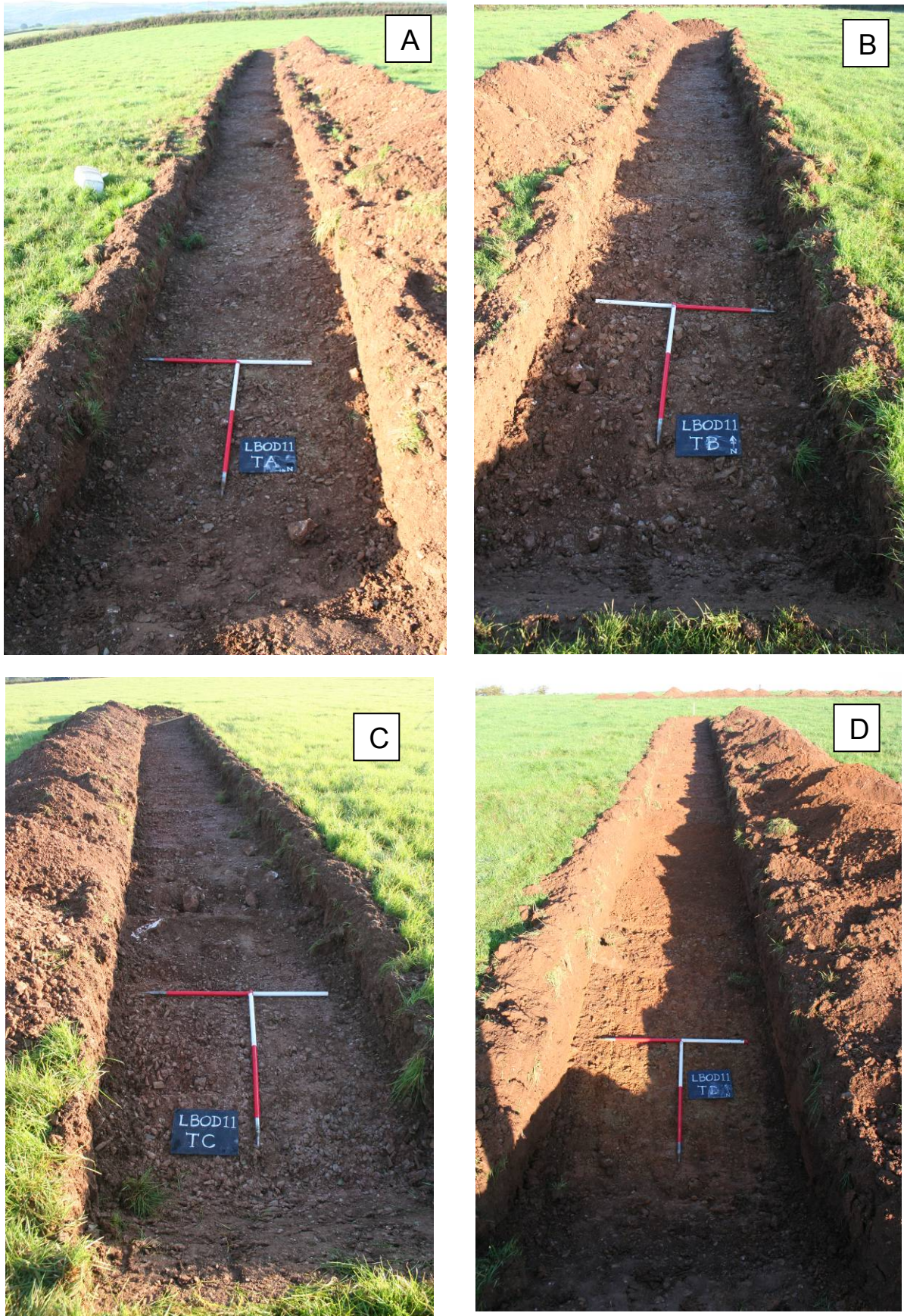


Fig 3 Site Trenches A-D



Fig 4 Trench E

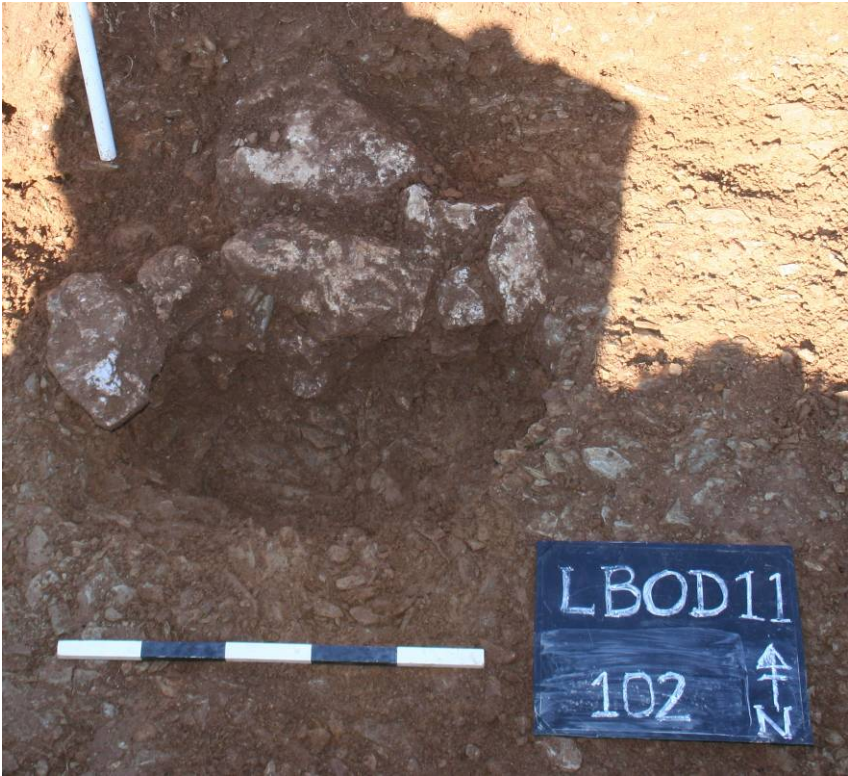


Fig 5 Pit [102], trench A with quartzite stone fill (105)



Fig 4 Pit [102], trench A, fully excavated



Fig 4 Excavation of linear feature (103), trench A