



Pencoose Farm Stithians Cornwall

Archaeological Watching Brief



for RALOS New Energy

CA Project: 5239 CA Report: 15104

April 2015



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SUMMARY

Project Name: Pencoose Farm

Location: Stithians Cornwall

NGR: SK 73130 38250

Type: Watching Brief

Date: 16 February-6 March 2015

Planning Reference: PA14/07019

Site Code: PCF 15

An archaeological watching brief was undertaken by Cotswold Archaeology during groundworks associated with the development of a solar farm situated at Pencoose Farm, Stithians, Cornwall.

During monitoring of the groundworks within the solar array site four features were discovered. Three of these related to boundary ditches that correlate to those found during the initial geophysical survey (Strata Scan 2014). The fourth feature comprised of a narrow linear drainage ditch/boundary that appeared in the eastern edge of field 5.

The external groundworks for the mains electricity cable route undertaken outside of the solar array fields revealed one possible pit, one stoney deposit and one possible boundary ditch.

1. INTRODUCTION

- 1.1 In February and March 2015 Cotswold Archaeology (CA) carried out an archaeological watching brief for RALOS New Energy UK Ltd at Pencoose Farm, Stithians, Cornwall (centred on NGR: SK 73130 38250; Fig. 1). The watching brief was undertaken to fulfil a condition attached to a planning consent for the installation of a solar farm, associated equipment and works (Planning ref: PA14/07019).
- 1.2 The watching brief was carried out in accordance with condition requested by Grüne Energien Solar GmbH prepared by the archaeological advisors to Cornwall County Council and with a subsequent detailed *Written Scheme of Investigation* (WSI) produced by CA (2015) and approved by the Cornwall County Council. The fieldwork also followed *Standard and guidance: Archaeological watching brief* (CIfA 2014), the county standards (if applicable) and the *Management of Archaeological Projects* 2 (English Heritage 1991), the *Management of Research Projects in the Historic Environment (MORPHE): Project Manager's Guide* (EH 2006).

The site

- 1.3 The site is located approximately 1km to the north of the village of Stithians situated between Redruth, c. 5km to the north-west and Falmouth, c. 8km to the southeast. (Fig. 2, 3). It is situated within an undulating landscape of small hills and valleys to the north of the River Kennell, which is located approximately 200m to the south and occupies a minor hilltop and south-and east-facing hill slopes. The eastern part of the site is relatively level, and occupies the summit of a small hill at an elevation of 153m above Ordnance Datum (AOD), from which the land slopes slightly to the south and east to c.145m AOD. The western part of the site occupies an undulating landscape of south-, south-east and south-west-facing slopes, with elevations falling from c.155m AOD in the north to c. 150m in the south.
- 1.4 The site within the solar array comprises of four arable fields c.13.5ha. It is bounded to the north, west and south by farmland and to the east by an unnamed road running northwards from Stithians.
- 1.5 The underlying bedrock geology within the site comprised of Granite of the Carnmenellis Instrusion, an igneous bedrock formed approximately 251-359 million years ago in the Permian and Carboniferous Periods. In addition, a band of felsites,

igneous bedrock formed in the Permian Period (251-299 million years ago), crosses the central and western part of the site (British Geological Survey).

2. ARCHAEOLOGICAL BACKGROUND

- 2.1 A heritage desk-based assessment (CA 2014) and geophysical survey (Strata Scan 2014) of the site had been undertaken in order to inform the planning application. A brief summary of the findings are presented below.
- 2.2 There was no evidence for Palaeolithic and Mesolithic activity within the vicinity of the site
- 2.3 The Neolithic period was characterised by the introduction of farming communities, more settled lifestyles, and the advent of large-scale funerary and ritual monuments, such as cairns, stone circles and chambered tombs, used for communal burials. The Bronze Age saw the introduction of metalworking and the replacement of communal tombs by individual inhumation and cremation burials under round barrows. The prehistoric megalithic landscape also included standing stones, thought to have been associated with Early Bronze Age funerary and ritual activities. Documentary sources record a number of field- and place-names within the vicinity of the site, which are considered to indicate the former location of standing stones, potentially of prehistoric origin. In addition, the ploughed-out remains of a probable Bronze Age round barrow was observed on aerial photographs, in a location approximately 330m to the south of the site.
- 2.4 In Cornwall, the characteristic settlements are known as Rounds, which were in use from the beginning of the Later Iron Age to at least the end of the Romano-British period. Rounds were comprised as settlements enclosed by a single bank and ditch. They were often embedded within field systems, and are therefore considered to have represented farms.
- 2.5 A round to the south-west of Trebowland designated as Scheduled Monument, is located approximately 370m to the north of the site. Crop marks identified c. 890m to the south-west of the site have been interpreted as the probable ploughed-out remains of another prehistoric/Romano-British round.

- 2.6 There was limited evidence for early medieval activity within the vicinity of the site, and no settlements within the surroundings of the site were mentioned in the Doomsday Survey of 1086. The medieval agrarian landscape of west Cornwall comprised dispersed hamlet settlements, connected by networks of deeply-cut winding lanes, and field patterns which were either irregular or re-organised into extensive strip field systems. The archaeological evidence within the vicinity of the site indicated that this was an accurate description of the medieval landscape within the surroundings of the site.
- 2.7 There were 21 settlements of medieval origin recorded within the vicinity of the site many of which were first mentioned in the 13th and 14th centuries. Associated with these settlements would have been field systems and ditches which formed the agricultural landscape. In addition to the extant field boundaries, a number of former boundaries associated with the medieval enclosures, had been subsequently removed as a result of modern agricultural practices. The site was located within the agricultural landscape established in the medieval period. The field boundaries both along the edges and within the site comprised of Cornish hedges (earth banks) which were overgrown with vegetation.
- 2.8 The post-medieval development within the vicinity of the site appeared to reflect the settlement and field patterns established in the medieval period, comprising hamlets and farmsteads scattered within the rural landscape of enclosed fields. The fieldscape within the site and its environs had seen the removal of a number of field boundaries since the Tithe Map of 1840 and saw little alteration during the early 20th century. During the 20th century, however, additional field boundaries within the site were removed to create its current layout. With the exception of the field boundary changes, there was little evidence in terms of modern development within the site other than the construction of the overhead power-line which crosses the eastern part of the site.
- 2.9 In the wider landscape, post-medieval and modern activity is largely associated with industrial development and mining. As tin-stream sources became exhausted, exploitation of the parent lodes commenced, initially from near-surface outcrops and, from the 15th century onwards, from excavated shafts. The most significant period in metalliferous mining in Cornwall and West Devon was between 1700 and 1914. During that time, former stream workings were replaced by underground lode mining, and coal-fuelled smelting was introduced. The introduction of steam-

powered pumping marked the beginning of the Industrial Revolution in the region. During the 18th century, the exploitation of copper ores predominated, and by 1750 the metal mined in Cornwall and West Devon dominated the world's markets. This rapid industrial development was followed by population growth, the establishment of new settlements and expansion of local estates. The 20th century witnessed a slow decline in the mining industry in Cornwall, and the last working mines were closed in 1998.

- 2.10 Gwenapp Mining District lies, approximately 600m to the north-east of the site. This rural mining district produced a significant amount of copper during the 18th and the first half of the 19th centuries. The Kennall Valley area is, located c. 1.2km to the south-east of the site, with important mining-related industrial monuments, including an exceptionally well preserved example of a gunpowder works.
- 2.11 Although the site and its environs were predominantly agricultural in character throughout the post-medieval period, there is evidence for minor industrial activity, including extraction pits, a horse engine, a wheel pit and a fulling mill. A quarry pit to the north of the site is illustrated on the 1880 Ordnance Survey map. It is feasible that the mounds observed within the site, to the south and south-east of the quarry pit, could be associated with quarrying or mining of post-medieval origin, as might the presence of stone debris observed by the farmer at this location.

Geophysical Survey

2.12 A geophysical survey of the site had been undertaken previously (SS 2014). The survey (Appendix C) was able to identify a number of anomalies of probable and possible archaeological origin. Former enclosures in the west of the site may be related to the prehistoric and Romano-British activity identified in the surrounding area by the desk-based assessment. A large number of former field boundaries and footpaths across the site were indicative of the site's agricultural past. A number of possible archaeological anomalies had been identified across the site; however it was not possible to determine their origin with any degree of confidence. The remaining anomalies were of modern or natural origin. The modern anomalies related to agricultural activity, scattered magnetic debris, ferrous objects and fencing.

3. AIMS AND OBJECTIVES

- 3.1 The objectives of the archaeological works were:
 - To monitor groundworks, and to identify, investigate and record all significant buried archaeological deposits revealed on the site during the course of the development groundworks;
 - To identify where possible anomalies indicated in the geophysical survey and where possible to establish their nature and date.
 - At the conclusion of the project, to produce an integrated archive for the project work and a report setting out the results of the project and the archaeological conclusions that can be drawn from the recorded data.

3.2 Research aims of the archaeological works:

- Establish whether enclosures and other features indicated as anomalies in the geophysical survey can be dated to the Iron Age to Romano-British periods, which would extend the known extent of this activity from the surrounding area into the site.
- Is it possible from the archaeological resource to determine what type of activities e.g. agricultural, domestic settlement, industrial were present or had been undertaken at the site, and to what period those belonged.
- Given the rich mining history of this part of Cornwall can any evidence of such
 activity be seen to be present within the site and to determine from the
 archaeological resource to which period such activity belonged.
- Establish whether there was any evidence of archaeological features and/or deposits that may have given an indication of earlier prehistoric activity from the DBA that had been shown to be lacking within the vicinity of the site.

4. METHODOLOGY

- 4.1 The fieldwork followed the methodology set out within the WSI (CA 2014). An archaeologist was present during all intrusive groundworks including the excavation of cable trenches, inverter and substations, access roads and compounds that could have an impact on buried archaeological remains (Fig.2).
- 4.2 Monitoring was conducted within the boundary of the main solar array site and to monitor the excavation of the cable route externally to the main site for the connection of the solar farm into the mains supply. Each field was numbered (1a-6) for ease of description. Field 1a -2 lay outside of the solar farm array within which the excavation for the mains supply cable route were undertaken. Fields 3 -6 lay within the internal solar farm fields (Fig 2).
- 4.3 Where archaeological deposits were encountered written, graphic and photographic records were compiled in accordance with CA Technical Manual 1: Fieldwork Recording Manual.
- 4.4 The archive and artefacts from the evaluation are currently held by CA at their offices in Andover. A summary of information from this project, set out within Appendix B, will be entered onto the OASIS online database of archaeological projects in Britain.

RESULTS (FIGS 3-9)

- 5.1 The natural geological substrate (101) consisting of a light orangey-yellow gravelly silty-clays was revealed across the site at an average depth of 0.55-70m below present ground level. This was overlain by subsoil averaging 0.30m in thickness, which was in turn sealed by topsoil up to 0.40m deep.
- 5.2 Each field was numbered (1a-6) for ease of description. Field 1a -2 lay outside of the solar farm array within which the excavation for the mains supply cable route was undertaken. Fields 3 -6 lay within the internal solar farm array site (Fig. 2).
- 5.3 Three features were revealed during the monitoring of the external cable trench. In field 1a, a possible boundary or drainage ditch (114) was recorded running NNW-

SSE across the trench (Fig. 3), this measured approx. 1.80m across and had a depth of 0.40m. The boggy nature of the field may suggest its use as drainage. Its fill (113) comprised of a rich dark brown peaty silty-clay with a moderate amount of granite stones on the base.

- 5.4 The second feature in field 1 consisted of a stoney granite spread (111) (Fig. 4) at the south-western end of the trench. This may be the remains of a former hedge boundary or left over mining workings. The spread spanned the width of the trench (c. 2m) and had a maximum depth of 0.20m.
- 5.5 A possible pit (104) was recorded in field 2 near the far south-western end of the field (Fig. 5). This consisted of a roughly circular shaped pit (104), filled with a compacted light brownish-grey ashy layer (102) with occasional charcoal flecks, maximum depth 0.20m and a stoney basal fill (103), which consisted of a dark brown / black silt with frequent small angular granite (unburnt) stones, maximum depth 0.16m (Fig. 5).
- 5.6 All of the features revealed yielded no finds so the approximate age of the features cannot be determined. The boundary ditch (114) in field 1a does not appear in any of the OS historic mapping so may pre-date 1840.
- 5.7 Within the main solar farm array site, four features were discovered. Three of these, (106), (117) and (123) correspond to anomalies indicated on the geophysical survey (SS 2014) while a fourth feature (121) was found on the eastern edge of field 5 (Fig. 2).
- 5.8 In field 5 two features were revealed. On the western half is a ditch (106), which probably relates to anomaly 5 on the geophysical survey (SS 2014). A section was recorded through the trench running east-west on the northern perimeter of field 5. The shallow ditch (106) was orientated roughly north-south had concave sides with a flattish base. The maximum depth was recorded at c.0.46m. This was filled with a single deposit (105) which was a mid yellowish-brown silty-clay with occasional charcoal flecks and occasional small granite stones.
- 5.9 The second feature recorded in field 5 was found at the eastern edge, in a trench (c10m x 5.70m) cleaned in preparation for an inverter building. Here a narrow linear feature (121) was recorded running approximately NE-SW (Fig. 6). This was filled

with (120), a firm yet friable, mid yellowish-brown silty-clay with occasional charcoal flecks and fragments. The max depth of the linear was c.0.26m. No artefacts were found.

- 5.10 In field 6 two probable linear ditches were discovered which each related to anomalies 6 and 20 on the geophysical survey. Ditch (117) was a shallow ditch c.0.26m in maximum depth, filled with (116) (Fig. 7). This was a mid yellowish-brown silty clay deposit with occasional flecks of charcoal. This ditch probably relates to anomaly 6 on the geophysical survey and is most likely a former field boundary. No finds were revealed.
- 5.11 Ditch (123) most likely relates to anomaly 20. While the eastern part of this ditch was recorded, its opposite end was not revealed during the trenching works on the western end of field 6. This is more than likely because of modern disturbance associated with a water pipe leading to a cow trough here. The ditch (123) (Fig. 8) runs east-west through the trenching works. It measured 1.20m in width with a maximum depth of 0.27m. It was filled with a single fill (122), which consisted of a mid to dark brown silty-clay with occasional charcoal flecks and fragments. No artefacts were discovered.
- 5.12 No other archaeological features were observed or recorded in the remainder of the site during the monitoring of the groundworks.

6. FINDS AND ENVIRONMENTAL

- 6.1 No artefacts were recovered during the course of the watching brief
- 6.2 No deposits suitable for environmental sampling were identified during the course of the watching brief.

7. DISCUSSION

7.1 The three features (114), (104) and (111) revealed during the external cable route ground works are difficult to date due to a lack of finds. However, there is a boundary wall existing on the 1842 Stithians Tithe Map in field 1, and the stoney deposit (111) may relate to this now collapsed former boundary hedge that existed

north of the Ford on the map. The possible pit (104) had no other associated features within the trench.

- 7.2 Three of the four features discovered in field 5 and field 6, ditches (106), (117) and (123) can be related to anomalies 5, 6 and 20 respectively on the geophysical survey (SS 2014). The narrow linear ditch (121) does not show up on any previous historical mapping and may have been used as a drainage ditch, former boundary pre-dating 1840. The ditch (123) that corresponds to anomaly 20 on the geophysical survey also existed on the 1888 OS First Edition map (CA 2014).
- 7.3 Despite the archaeological potential of the application area in field 3 the watching brief identified no archaeological remains within the area of observed groundworks during the substation and related road clearing works. The absence of archaeological deposits may indicate that structural remains associated with the possible round anomaly 1 on the geophysical survey (SS 2014), either do not extend into the development or were not exposed by the groundworks.

CA PROJECT TEAM

The fieldwork and report were undertaken by Emma Mossop. The illustrations were prepared by Leo Heatley. The archive has been compiled by Adam Howard and prepared for deposition by Hazel O'Neill. The project was managed for CA by Damian De Rosa

REFERENCES

BGS (British Geological Survey) 2015 Geology of Britain Viewer http://maps.bqs.ac.uk/qeology-viewer-qooqle/qooqleviewer.html Accessed 5 March 2015

CA (Cotswold Archaeology) 2014 Pencoose Farm, Stithians, Cornwall: Written Scheme of Investigation for an Archaeological Watching Brief

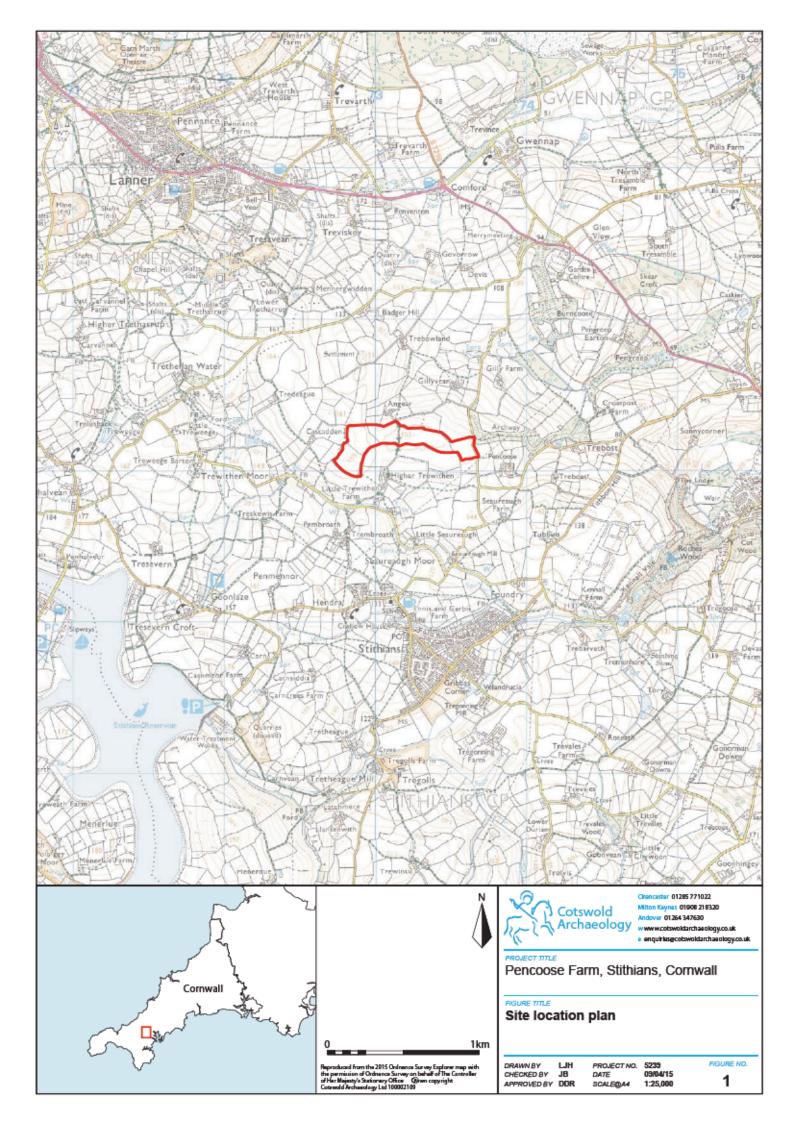
CA (Cotswold Archaeology) 2014 Pencoose Farm, Stithians, Cornwall: Heritage Desk-Based Assessment

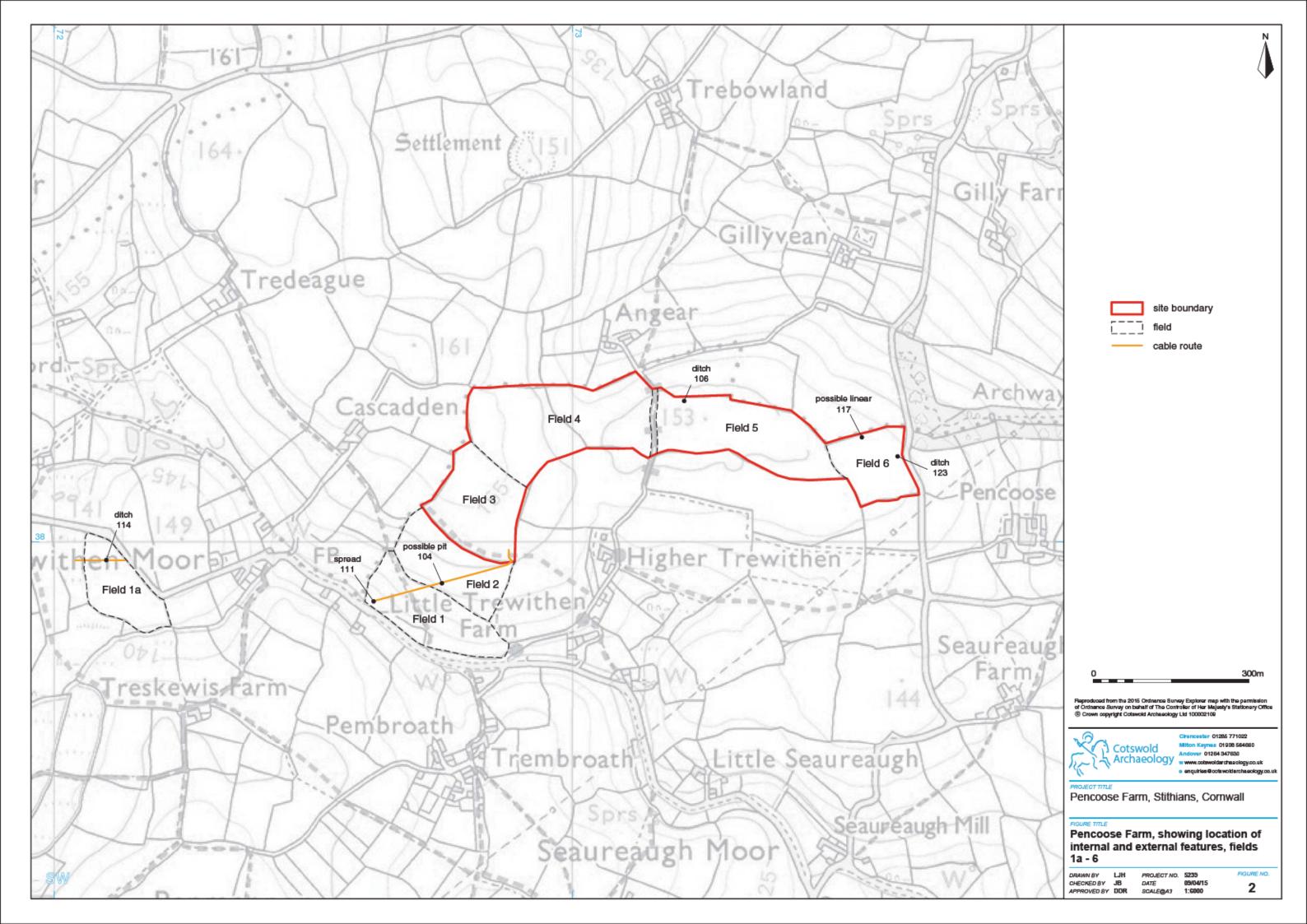
APPENDIX A: CONTEXT DESCRIPTIONS

Context	Field	Туре	Fill of	Context	Description	L	W	Depth
No.	No.			interpretation		(m)	(m)	/thick ness
								(m)
100	across site	D	-	topsoil	Mid orangey brown silty clays	-	-	0.70
101	across site	D	-	natural	light orangey-yellow gravelly silty clays	-	-	-
102	2	D	104	deposit	light brownish-grey silty-clay (ash layer)	0.8	0.8	0.2
103	2	D	104	basal deposit	dark brown/black silt with frequent granite angular stones	0.8	0.8	0.16
104	2	С	-	pit	Oval shaped pit with concave sides and base	0.8	0.8	0.26
105	5	D	106	deposit	Mid yellowish brown silty-clay with occ. charcoal flecks and stones	-	1.2	0.46
106	5	D	-	ditch	Linear ditch with concave sides and base	-	1.2	0.46
107	5	D	-	topsoil	Topsoil across field 5	-	-	0.5
108	5	D	-	natural	Natural across field 5	-	-	-
109	1	D	-	topsoil	Topsoil across field 1	-	-	0.55
110	1	D	-	natural	Natural across field 1	-	-	-
111	1	D	-	layer	Mid greyish brown silty-clay with frequent moderate granite stones	-	2.0	0.2
112	1a	D	-	topsoil	Topsoil across field 1a	-	-	0.5
113	1a	D	114	deposit	Rich, dark brown peaty, silty-clay with occ. Charcoal flecks	-	1.8	0.4
114	1a	С	-	ditch	Linear ditch with concave sides and base, runs NNW-SSE		1.8	0.4
115	1a	D	-	natural	Light orangey-yellow gravelly silty-clay	-	-	-
116	6	D	117	deposit	Mid yellowish-brown silty-clay with occ. charcoal flecks and frags	-	0.9	0.26
117	6	С	-	ditch	Shallow linear ditch with concave sides and base	-	0.9	0.26
118	6	D	-	topsoil	Dark brown silty-clay	-	-	0.4
119	6	D	-	natural	Light orangey gravelly clayey-silt	-	-	-
120	5	D	121	deposit	Mid yellowish-brown silty-clay with occ. charcoal flecks and occ. angular granite stones	-	1.0	0.26
121	5	С	-	ditch	Shallow linear ditch with concave sides and base, runs N-S	-	1.0	0.26
122	6	D	123	deposit	Mid to dark brown silty-clay with occ. charcoal frags and flecks	-	1.2	0.27
123	6	С	-	ditch	Shallow linear ditch with shallow concave sides and base	-	1.2	0.27

APPENDIX B: OASIS REPORT FORM

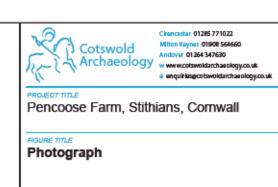
Project Name	Pencoose Farm			
Short description (250 words maximum)	An archaeological watching brief was undertaken by Cotswok Archaeology during groundworks associated with the development of a solar farm situated at Pencoose Farm, Stithians, Cornwall.			
	During monitoring of the groundworks within the solar array site four features were discovered. Three of these related to boundary ditches that correlate to those found during the initial geophysical survey (Strata Scan 2014). The fourth feature comprised of a narrow linear drainage ditch/boundary that appeared in the eastern edge of field 5.			
	The external groundworks for the mains electricity cable route undertaken outside of the solar array fields revealed one possible pit, one stoney deposit and one possible boundary ditch			
Project dates	February 16 – March 4 2015			
Project type (e.g. desk-based, field evaluation etc)	Watching Brief. Previous works include a			
Previous work (reference to organisation or SMR numbers etc)	Desk-Based Assessment (CA 2014) and Geophysical Survey (Strata Scan 2014)			
Future work	None			
PROJECT LOCATION				
Site Location	Pencoose Farm, Stithians			
Study area (M²/ha)	13.5ha			
Site co-ordinates (8 Fig Grid Reference)	SK 73130 38250			
PROJECT CREATORS				
Name of organisation	Cotswold Archaeology			
Project Brief originator				
Project Design (WSI) originator	Cotswold Archaeology			
Project Manager	Damian De Rosa			
Project Supervisor	Emma Mossop			
MONUMENT TYPE	none			
SIGNIFICANT FINDS	none			
PROJECT ARCHIVES				
Physical		None		
Paper		Context sheets, Plans		
Digital		Digital photos		
BIBLIOGRAPHY				
CA (Cotswold Archaeology) 2015 Pencoo typescript report 15104. Project No. 5239.	ı se Farm, Stithians, Cornwall. Archaeolo	gical Watching Brief. C		







3 Ditch 114 in field 1a, east-facing section (1m scale)

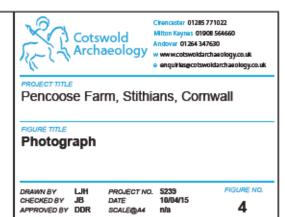


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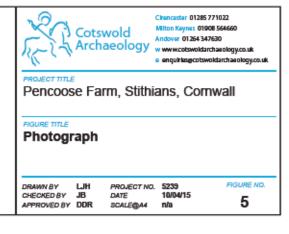


4 Spread 111 in field 1, looking north-west (1m scale)



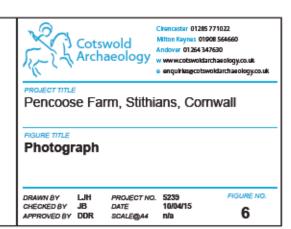


5 Possible pit 104 in field 2, south-facing section (1m scale)





6 Narrow linear ditch 121 in field 5, looking north-east (1m scale)









- Ditch 117 in field 6, south-west facing section (1m scale) 7
- Ditch 123 in field 6, east-facing section (1m scale) 8



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Pencoose Farm, Stithians, Cornwall

Photographs

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