

GWFS15/02

GARTH WIND FARM, NORTH YELL, SHETLAND

Report on archaeological watching brief

Planning Ref No.: 2009/151/PCD

Client: Garth Wind Limited

January 2017

GWFS15 -02 summary sheet

Client:	Garth Wind Limited
National Grid Reference:	HU 540 998
Address:	NA
Parish:	Yell
Council	Shetland Islands
Planning Application No	2009/151/PCD
NMRS No	None
SMR No	None
OASIS No	headland1-271956
Project Manager	Edward Bailey
Text	Magnar Dalland
Illustrations	
Fieldwork	Steve Cox, Magnar Dalland, Samantha Dennis, Sally Evans, Sue McGalliard, Steven Roe, Anthony Taylor
Schedule:	
Fieldwork	29 th August – 16 th December 2016
Report	January 2017

Summary

A watching brief was carried out during the construction of Garth Wind Farm. The peat depths recorded during the fieldwork largely corresponded to the depths recorded during the peat probing survey carried out in advance of the construction. No archaeological features were recorded during the watching brief.

INTRODUCTION

The Garth Wind Farm is located on the Ward of Grimsetter some 1.5km to the north-west of the Gutcher ferry terminal on the north-east side of Yell, Shetland. The scheme comprises five turbines located near the summit with a 1.1km long access road leading up to the turbines from the A968 to the south (Illus 1). The Development Area (DA) covers some 200 hectares and consists primarily of rough grazing land.

Planning permission had been granted for the construction of the wind farm, subject to a number of conditions (Planning Ref. 2009/151/PCD). Condition 12 relates to archaeological issues and states that *'the development shall not commence until a scheme identifying a programme and implementation of archaeological works shall be submitted to, and approved in writing, by the Planning Authority'*.

A Written Scheme of Investigation (WSI) for the scheme was prepared in consultation with Val Turner of Shetland Amenity Trust, archaeological advisor to Shetland Islands Council. The purpose of the WSI was to define a programme of works that would mitigate the impacts of the Garth Wind Farm development on the cultural heritage resources within the Development Area (DA) that would meet, in full, the terms of the archaeological condition.

The WSI lists two possible adverse impacts on the cultural heritage resource:

- Direct impacts on unrecorded sites
- Accidental damage of known sites of cultural heritage interest during construction works

Direct impacts on unrecorded sites was mitigated primarily through a staged programme of archaeological works. The initial stage (Phase 1) focussed on an assessment of the archaeological as well as palaeoenvironmental potential and comprised a walkover and peat probing survey, carried out at the beginning of April 2016. The second phase, reported on here, comprised a watching brief of ground breaking works during the construction phase. This work was carried out between 29th August and 16th December 2016.

SITE LOCATION AND DESCRIPTION

The five turbines were located in a single row extending some 900m along the ridge towards the south-southeast, from the summit of the Ward of Grimsetter (Illus 2). The turbines are situated between 75m and 88m OD on ground covered in peat generally 1.5m to 3m deep. The ground is covered in heather and tussocky grass. The access road runs southwards down the west side of the ridge and crosses the Burn of Gutcher before climbing up a gentle slope up to the A968 to the south (Illus 3).

The stone used in the construction came from an existing quarry just north of the Gutcher ferry terminal. The bulk of the peat excavated during the construction phase had to be removed off site. The peat was being deposited in an area just to the north-west of this quarry. To create access to the peat depot a new access road was built on the west side of the quarry (Illus 1, 4).

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The Royal Commission on Ancient and Historic Monuments (RCAHMS) does not list any known archaeological sites within the development area footprint. The lack of sites was confirmed by a walkover survey in advance of the development following a desk based assessment of the site (Moore & Wilson, 2006). Although a low mound of unknown date was identified on top of the Ward of Grimsetter, just to the east of the development.

There is a find spot of a carved stone (NMRS No. HU59NW 1) close to the south-west of the development. The stone was found around the middle of the 19th century but has since been lost. It was of unknown date and measures four foot by three foot. The stone was carved with figures and decorations on both sides.

To the east of the development area lie a number of sites of post medieval date including a farmstead and head dyke at North Garth (NMRS No. HP50SW 44) and a horizontal mill at Gutcher (NMRS No. HU 59 NW12). At Gutcher itself, to the south-east of the development area are recorded the remains of a township, head dyke, chapel, pier and capstan (NMRS No HU59NW 2, 9, 10, and 30).

OBJECTIVES AND STRATEGY

The archaeological watching brief was maintained on all ground breaking works during the construction phase. This included ground breaking associated with turbine construction, new access tracks, and any associated infrastructure.

If significant remains were identified during the watching brief, it may have been possible to preserve such remains through micro-siting and avoidance; alternatively, through excavation and preservation by record.

METHODOLOGY

Watching brief

The principal contractor, EMN Plant Ltd, undertook all ground breaking works. The peat was removed using a flat bladed ditching bucket. All ground breaking works was monitored by an archaeologist. The majority of the construction work involved the removal of the peat down to the sub-peat ground surface. However, there were some sections of the access road that were floated on top of the peat by putting down a geo-textile membrane on top of the peat. The road was then built on top with a 0.8m thick layer of hard core (Illus 5).

In addition to the construction of the wind farm itself, ground breaking was monitored during the construction of the peat deposit access road outside the DA to the east.

To speed up the construction progress the principal contractor started working 16 hours shifts, 0600 to 2200, seven days a week, from the beginning of October until mid-November. To cover the long days the monitoring was carried out in two eight hour shifts.

Recording

Digital photography was used. A full photographic record can be found in Appendix 1 at the end of this report.

RESULTS

No archaeological features were recorded during the watching brief. The peat depths recorded during the fieldwork largely corresponded to the depths recorded during the peat probing survey. The peat stratigraphy generally comprised of three layers (Illus 6):

- A) Upper peat
The upper layer was an orange brown fibrous peat with high water retention. This layer was up to 1.5m thick.
- B) Middle peat
This was a darker brown peat, more compact and somewhat decomposed. This layer was up to 1.5m thick.
- C) Basal peat
This was a black peat layer, highly decomposed, and located on top of the mineral soil. It was much thinner than the layers above; normally 0.1m to 0.2m thick.

The mineral soil beneath the peat comprised largely of weathered laminated bedrock set vertically and generally aligned north to south. Some pockets of deep sandy clay was exposed in the area just north of the A968 at the south end of the DA. The sub-peat surface was generally very smooth with hardly any loose boulders sitting on the old ground surface.

The access road leading up to the peat deposit area was some 200m long. The peat depth varied from 0.3m up to 1m deep. No archaeological features were uncovered.

DISCUSSION

Numerous archaeological sites have been uncovered in Shetland over the last centuries as the peat has been cut away to be used as a source of fuel for heating and cooking. The sub-peat remains are often well preserved as they have been protected from agricultural activity during the last millennia under a blanket of peat.

Traditional peat cutting is carried out by hand and have therefore little impact on the sub-peat features. However, modern construction projects rely on heavy machinery for the removal of peat which can destroy sub-peat archaeology in minutes. Recent discoveries at Hill of Crooksetter shows that prehistoric buildings and cairns can be completely buried beneath peat. This is the context for the watching brief at Garth Wind Farm.

The nature of the watching brief means that smaller cut archaeological features may not be detected. Due to Health and Safety regulations the monitoring is carried out from a distance and it can be therefore difficult to notice small features, especially in badly lit conditions after dark (Illus 7). However, we can be confident that no significant stone-built upstanding features were located within the areas subjected to ground breaking. As noted above, very few boulders were located within the stripped areas and any stone built structure would have been clearly noticeable.

REFERENCES

AOC Archaeology Group 2013 *Garth Wind Farm, Yell, Shetland: Geophysical Survey. Written Scheme of Investigation.* Unpublished client report.

Dalland, M 2016 *Garth Wind Farm, North Yell, Shetland. Peat probing and auger survey.* Unpublished client report.

Headland Archaeology 2016 *Garth Wind Farm, North Yell, Shetland. Written Scheme of Investigation for a programme of archaeological works.* Unpublished client report.

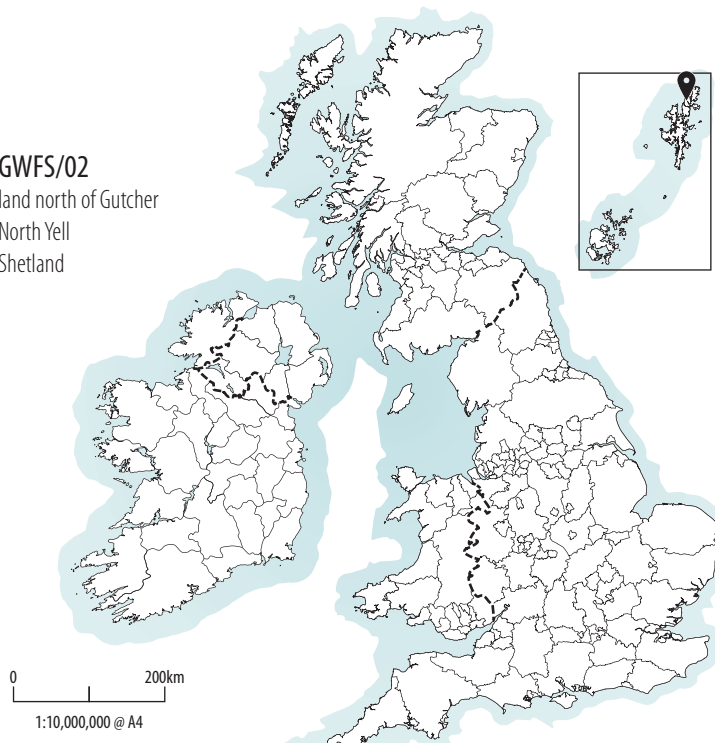
Moore, H & Wilson, G 2006 *Garth Wind Farm, North Yell, Shetland (Yell Parish), Archaeological survey.* Unpublished client report.

Scottish National Record of the Historic Environment HU47NW 31
<http://canmore.org.uk/site/315153>

Appendix 2: Discovery and Excavation in Scotland Entry

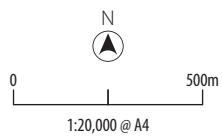
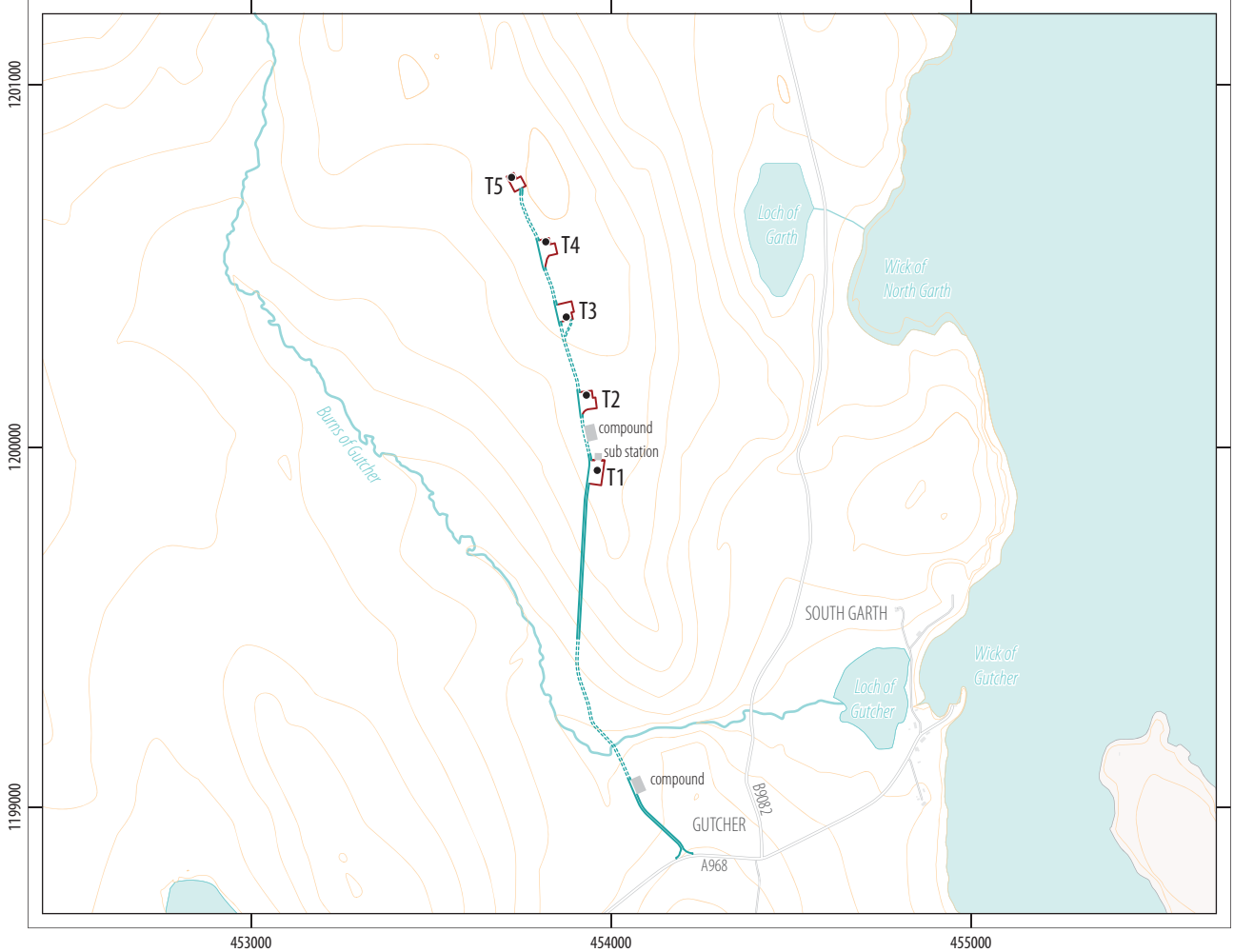
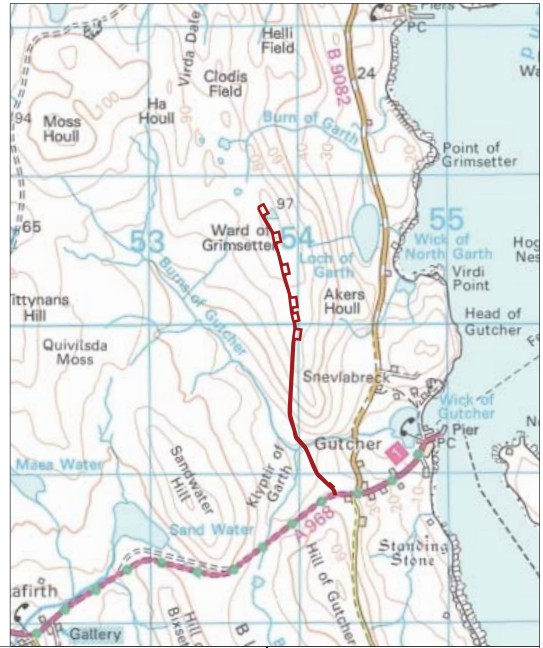
LOCAL AUTHORITY:	Shetland Islands
PROJECT TITLE/SITE NAME:	Garth Wind Farm
PROJECT CODE:	GWFS15 - 02
PARISH:	Yell
NAME OF CONTRIBUTOR:	Magnar Dalland
NAME OF ORGANISATION:	Headland Archaeology
TYPE(S) OF PROJECT:	Watching brief
NMRS NO(S):	None
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 8 or 10 figures)	HU 540 998
START DATE (this season)	29-08-2016
END DATE (this season)	16-12-2016
PREVIOUS WORK (incl. <i>DES</i> ref.)	GWFS15 - 01
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A watching brief was carried out during the construction of Garth Wind Farm. The peat depths recorded during the fieldwork largely corresponded to the depths recorded during the peat probing survey carried out in advance of the construction. No archaeological features were recorded during the watching brief.
PROPOSED FUTURE WORK:	No
CAPTION(S) FOR ILLUSTRS:	
SPONSOR OR FUNDING BODY:	Garth Wind Limited
ADDRESS OF MAIN CONTRIBUTOR:	13 Jane Street, Edinburgh
EMAIL ADDRESS:	Magnar.dalland@headlandarchaeology.com
ARCHIVE LOCATION (intended/deposited)	NMRS

GWFS/02
land north of Gutcher
North Yell
Shetland



0 200km
1:10,000,000 @ A4

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- KEY
- turbine
 - ▭ laydown area
 - ▭ cut road
 - ▭ floating road
 - ▭ buildings

HEADLAND
ARCHAEOLOGY

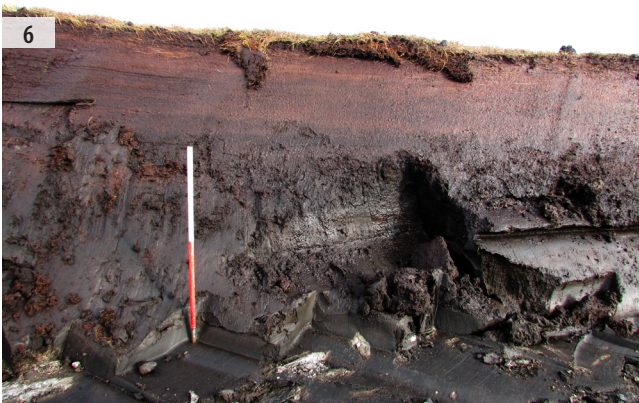
SCOTLAND

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ILLUS 1 Site location



ILLUS 2 View towards Turbines 1–4 from the north **ILLUS 3** View facing south along floating road towards the south compound **ILLUS 4** View towards quarry and stripped road-line facing north



ILLUS 5 View along floating road between Turbines 4 and 5. Facing north-west
being stripped in Turbine 1 area at night

ILLUS 6 West facing section through peat in cutting for Turbine 2

ILLUS 7 Peat