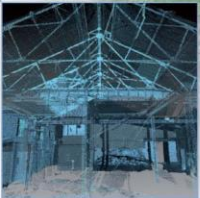
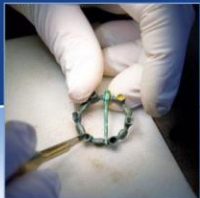


Tormywheel Wind Farm, Fauldhouse, West Lothian Archaeological Watching Brief Data Structure Report

AOC Project 23109

8th July 2016



ARCHAEOLOGY

HERITAGE

CONSERVATION

Tormywheel Wind Farm, Fauldhouse, West Lothian

Archaeological Watching Brief Report

On Behalf of: Muirhall Energy Ltd

National Grid Reference (NGR): NS 945572

AOC Project No: 23109

OASIS No: aocarcha1-258237

Prepared by: Jessica Lumb

Date of Fieldwork: November 2015, and April to June 2016

Date of Report: 8th July 2016

This document has been prepared in accordance with AOC standard operating procedures.

Author: Jessica Lumb

Date: 8th July 2016

Approved by: Ross Murray

Date: 20th July 2016

Draft/Final Report Stage: Draft

Date: 20th July 2016

Enquiries to: AOC Archaeology Group
Edgefield Industrial Estate
Edgefield Road
Loanhead
EH20 9SY

Tel. 0131 440 3593
Fax. 0131 440 3422
e-mail. admin@aocarchaeology.com



Contents

	Page
List of illustrations	3
List of plates	3
List of appendices	3
Non-technical Summary	4
1 INTRODUCTION	5
1.1 Planning Background	5
1.2 Location	5
1.3 Archaeological background	5
2 OBJECTIVES	6
3 METHODOLOGY	7
4 RESULTS	7
5 CONCLUSION	9
6 BIBLIOGRAPHY	9
APPENDIX 1: Photographic Record	11
APPENDIX 2: Context Register	12
APPENDIX 3: ‘Discovery and Excavation in Scotland’ Report	13

List of illustrations

Figure 1 Site Location

List of plates

Plate 1 Post-ex building foundations [102]
Plate 2 Post-ex trackway [103]
Plate 3 Culvert [104]
Plate 4 Excerpt from 1864 OS Map showing building [102] and trackway [103]

List of appendices

Appendix 1 Site Investigation Test Descriptions
Appendix 2 Photographic Record
Appendix 3 '*Discovery and Excavation in Scotland*' Report

Non-technical Summary

This report presents the results of an archaeological watching brief undertaken at Tormywheel Wind Farm, Fauldhouse, West Lothian, on behalf of Muirhall Energy. The watching brief involved the monitoring of all ground breaking works undertaken during the construction of the wind farm.

The remains of a small post-medieval building, track-way and culvert, associated with the historic mining activity within the development area, were recorded. No other significant archaeological remains or artefacts were present.

1 INTRODUCTION

1.1 Planning Background

1.1.1 A programme of archaeological works comprising a watching brief was required by Muirhall Energy Ltd. with respect to initial site investigation works at Tormywheel Wind Farm, Fauldhouse, West Lothian (Planning Ref: 0193/FUL/14; Figure 1).

1.1.2 The proposed development lies within the administrative area of West Lothian Council, which is advised on archaeological matters by West of Scotland Archaeology Service (WoSAS). The programme of archaeological works described in the *Written Scheme of Investigation (2012)* had been specified by WoSAS and is in keeping with the policies outlined in *Scottish Planning Policy (Scottish Government, February 2010)* and *Planning And Archaeology 2/2011 (Scottish Government 2011)*, in order to record the extent and significance of any archaeological remains which may be present within the development area.

1.2 Location

1.2.1 The development area comprises predominately low-lying ground in the form of elongated glacial hills. The altitude on the proposed wind farm site itself generally increases from 275 m in the north towards two small peaks in the south-west (Leven Seat, 356 m), and the south-east (Tormywheel, 341 m).

The solid geology beneath the development area consists of a plateau of carboniferous sedimentary rocks including shales, sandstones and limestones. The assessment area is located within the Midland Valley area and coal measures are common within the locale. The drift geology predominately comprises Boulder Clay and Morainic Drift, overlain in places by patches of peat.

Kiln Burn flows northwards through the north-west corner of the development area, and five other small, un-named tributaries emerge in the southern part of the site between Leven Seat and Tormywheel, draining southwards. One other small tributary emerges towards the eastern edge of the site and drains eastwards into Paddy's River beyond the wind farm site.

The area appears to have been occupied by heathland until tree plantations encroached in the late 1800s. The land use currently comprises upland grasses with disused quarry workings. The A706 road, and part of the A704 where it joins the A706, traverse the site.

1.3 Archaeological background 1.31 Introduction

A full archaeological background is presented in the 'Environmental Impact Assessment' heritage section (as prepared by AOC in 2005) a summary is provided here.

1.3.2 *Prehistoric and Roman remains (pre-AD 410)*

There is little known Prehistoric or Roman activity in the area. Only one site of possible prehistoric origin is known in the development area, the remains of a possible cairn, situated beneath the OS triangulation station on Leven Seat, measuring c.6.5m in diameter and 0.5m in height.

1.3.3 *Medieval remains (AD 410-1600)*

Little is known of the area during this period. The land within the development area seems to have been low, poorly drained moorland with small-scale farming and sheep herding being the dominant

land-use. Rig and furrow cultivation remains recorded primarily from aerial photographs indicate some areas of ground which were cultivated in the Medieval period. There are extensive areas of rig remains in the north of the development area. There is also some evidence of pre-improvement farming in the same area at Rashiehill Muir and West Handaxwood, probably dating from the late 17th/early 18th century..

1.3.4 *Post-Medieval remains (AD 1600-1850)*

In the 1700s the land within the development area underwent large-scale industrial development involving quarrying and coal mining. The majority of sites in the development area are associated with these. Map evidence shows the development of the area through this period. Thomson's 1820 map shows that a network of roads and trackways had developed across the area, probably in association with mining and quarrying activity.

Remains of the sheep farming industry, which seems to have co-existed with the industrial activity in the area, is also evident throughout the development area in the form of sheepfolds. Such enclosures are difficult to date but most are depicted on the first edition Ordnance survey maps suggesting that they date from at least the mid-1800s, although some had become disused by that time.

1.3.5 *Modern remains (post-AD 1850)*

A complex of quarries and related features cover the entire study area. There are quarry pits, some of which are associated with features such as spoil tips, building remains, and lime-burning works. The Leven Seat Quarry, west of the proposed wind farm site, has also been advancing southwards on a large-scale since the early 1900s. There are also extensive mining remains including coal pits/shafts, miners' rows, spoil tips, a horse-engine platform and a deserted mining village.

Ordnance Survey maps from 1898-1904 show several tramways and railways in use, leading to some of the quarries and coal pits in the area, linked to the Edinburgh to Glasgow railway line.

Several of the sites in the assessment area are covered by woodland and their state of preservation may have deteriorated due to root penetration.

2 OBJECTIVES

2.1 The objectives of the archaeological watching brief were:

- i) to monitor ground-breaking works associated with the development such as site investigation works, service trenches, creation of access tracks, crane pads, turbine bases, site compounds, substations and excavation of borrow pits and therefore to prevent the destruction of significant archaeological features prior to their recording;
- iii) given the discovery of significant archaeological material in quantity that that will suffer an adverse impact from the groundworks associated with the redevelopment (ie where preservation *in situ* is impractical), the recording of all archaeological features by means of a mitigation strategy to be formulated with WoSAS.

3 METHODOLOGY

- 3.1 Excavation was undertaken using a 360° tracked excavator fitted with a 2 m wide flat-bladed bucket. All machine excavation was supervised by an experienced field archaeologist and conducted according to AOC Archaeology Group's standard operating procedures, and as per the methodology within the *Written Scheme of Investigation* (AOC 2012).

4 RESULTS

- 4.1 The archaeological watching brief consisted of two main phases of fieldwork; the first in November 2015 for a period of three days and the second from the 20th April until the 28th June 2016.
- 4.2 The peat depth across the development area ranged from 2.1m to 0.15m and the glacial substratum consisted of a grey/yellow boulder clay with inclusions of large sandstone boulders.
- 4.3 The watching brief uncovered archaeological remains in one area the crane pad and turbine base for Turbine 12. These comprised building foundations and associated rubble [102] (Plate 1), a trackway (Plate 2) [103] and a slate-covered culvert [104] (Plate 3)
- 4.4 The building foundations [102] survived as demolition rubble consisting of mortar and some sandstone and brick fragments up to 0.15m thick. Some of the sandstone fragments were visible above the level of the grass. This building is visible on the 1854 OS map (Plate 4) and remains extant until at least 1956, the last year it appears on Ordnance Survey mapping. The trackway consisted of dark grey black clayey silt, with the old tram/railway seemingly removed historically. The trackway is also present on the 1864 and subsequent OS Maps and is still visible in the landscape (Plate 4).



Plate 1: Post-ex Building foundations [102]



Plate 2: Post excavation view of Turbine 12 area, showing trackway [103]



Plate 3: Slate-capped culvert [104]



Plate 4: 1864 OS Map showing building [102] and trackway [103]

5 CONCLUSION

- 5.1 The remains of building foundations, a trackway and a culvert were encountered during the watching brief in the area of Turbine 12. These are associated with the previously identified site 62 (AOC 2005). No further significant archaeological were present within the areas monitored during the watching brief and no further work is recommended. This will need ratification from WoSAS.

6 BIBLIOGRAPHY

AOC 2005 'Environmental Impact Assessment' Unpublished AOC Report

AOC 2015 'Tormywheel Windfarm, Written Scheme of Investigation' Unpublished AOC report

Scottish Government 2010 *Scottish Planning Policy*, February 2010.

Scottish Government 2011 *Planning And Archaeology 2/2011*.

Ordnance Survey 1864 *Edinburghshire, Sheet 15*

**Tormywheel Wind Farm, Fauldhouse,
West Lothian,
Archaeological Watching Brief**

Section 2: Appendices

APPENDIX 1: Photographic Record

Digital Photographs November 2015

Frame	Description	From
1-2	Pre Ex Shot of Area	SW
3-4	Start of Track from existing road	NW
6-5	Stripping for road	NW
7	General Shot	SW
8	Exposed Natural	SW
9	Exposed Natural	S
10	Working shot	SW
11	Working Shot	SW
12	Section NW Facing	SE
13	Section SE facing	NW
14-15	General Working Shot	VAR

Digital Photographs 2016

Frame	Description	From
1-2	Pre excavation of compound	VAR
3	Starting excavation	NE
4-5	End day 1	VAR
6	End day 2 working shot	NE
7	Post ex road in compound	SW
8-9	End Day 3	VAR
10	Working shot Compound	N
11	Start work at J1	W
12-13	Working shots compound	VAR
14	Post ex J1	W
15	Working shot compound	N
16-18	Post ex turbine base 8 and crane pad	VAR
19-20	Post ex road to turbine 8	VAR
21	Crane base and turbine 11	S
22	Turbine base 15	W
23-24	View to Turbine 11	N
25-27	Turbine 11 Working shot	N
28-29	Turbine 11 Working shot	N
30-44	Substation ground works	VAR
45-46	Access track to Turbine 2	E
47	Access track to turbine 5	S
48-50	Access track to Turbine 3	W

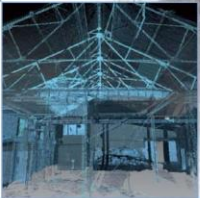
51-52	Crane Base turbine 3	W
53	Access track from Turbine 3	W
54-55	Turbine 12 Pre ex	VAR
56-62	Turbine 12 Pre ex	VAR
63-64	Turbine 12 view along tramway	S
65-68	Turbine 12 working shot	VAR
69-72	Turbine 12 Earthwork Pre ex	VAR
73-86	Turbine 12 Earthwork Pre ex	VAR
87	Turbine 12 Buried Wall and building platform (A)	W
88-89	Turbine 12 Building (A)	SE
90	Turbine 12 Earthwork Platform (C)	SE
91	Turbine 12 Earthwork Platform (C)	SE
92	Turbine 12 building platform (D)	S
93	Turbine Mound (G)	S
94-95	Turbine 12 Turbine base excavation	N
96-97	Turbine 12 Culvert (H)	N
98	Turbine 12 Culvert (H)	E
99	Turbine 12 building platform D excavation	SE
100	Turbine 12 building platform D excavation	S
101	Turbine 12 Groundwork	E
102	Turbine 12 Groundwork	N
103	Turbine 12 Culvert	S
104	Turbine 12 ground track J	N
105	Turbine 12 Culvert H	N
106-112	Turbine 12 groundwork	NW
113-117	Turbine 13 Post Ex	VAR
118-125	Sheepfold [101]	VAR
126-130	Turbine 4 Post Ex	VAR
131-132	Turbine 9 Post Ex	VAR

APPENDIX 2: Context Register

Context No.	Description and Interpretation
001	Circular stone structure, approximately 14m in diameter, 1.2m opening to the south with 4m of wall tailing out from the east of the opening. Survives to a height of six or seven courses, 1.3m high. Constructed of grey roughly square / sub angular stone of highly varying sizes Sheepfold
102	Spread of mortar, brick and sandstone up to 0.15m thick, approximately 5m x 5m Building foundation
103	Dark grey clayey silt, remains of old tram/railway Trackway
104	Large slabs of flat angular edged slate measuring 2m x 0.5m Remains of culvert

APPENDIX 3: 'Discovery and Excavation in Scotland' Report

LOCAL AUTHORITY:	West Lothian Council
PROJECT TITLE/SITE NAME	Tormywheel Wind Farm, Fauldhouse
PROJECT CODE:	AOC 23109
PARISH:	Fauldhouse
NAME OF CONTRIBUTOR:	Jessica Lumb
NAME OF ORGANISATION:	AOC Archaeology Group
TYPE(S) OF PROJECT:	Archaeological Watching Brief
NMRS NO(S)	N/A
SITE/MONUMENT TYPE(S):	None
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NS 956 585
START DATE (this season)	April 2016
END DATE (this season)	28 th June 2016
PREVIOUS WORK (incl. DES ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>An archaeological watching brief was undertaken by AOC Archaeology Group at Tormywheel Wind Farm, Fauldhouse, West Lothian, on behalf of Muirhall Energy. The watching brief involved the monitoring of all ground breaking works undertaken during the construction of the wind farm..</p> <p>The remains of a small post-medieval building, track-way and culvert, associated with the historic mining activity within the development area, were recorded. No other significant archaeological remains or artefacts were present.</p>
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	---
SPONSOR OR FUNDING BODY:	Muirhall Energy
ADDRESS OF MAIN CONTRIBUTOR:	Edgefield Road Industrial Estate, Loanhead, Midlothian, EH20 9SY
EMAIL ADDRESS:	Jessica.lumb@aocarchaeology.com
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS



AOC Archaeology Group, Edgefield Industrial Estate, Edgefield Road, Loanhead EH20 9SY
tel: 0131 440 3593 | fax: 0131 440 3422 | e-mail: admin@aocarchaeology.com

www.aocarchaeology.com