

Archaeological Monitoring
Binn Eco Park Wind Farm
Glenfarg
Perth and Kinross
GF05
Amended 27/11/2020



GF05: general excavation at turbine 03, for SSE compound, view SW



GF05: Location of 'fire pit' Ctx 326, View N

Alder Archaeology Ltd
55 SOUTH METHVEN STREET
PERTH PH1 5NX
Tel: 01738 622393
Director@AlderArchaeology.co.uk

**ARCHAEOLOGICAL MONITORING
BINN ECO PARK WIND FARM
GLENFARG
PERTH AND KINROSS
GF05
AMENDED 27/11/2020**

1	<i>Background</i>	1
2	<i>Details of Work</i>	2
3	<i>Results of Investigations</i>	4
4	<i>Conclusions and Recommendations</i>	13
5	<i>References</i>	14
Appendix 1	<i>Context Register</i>	15
Appendix 2	<i>Photographic Register</i>	18
Appendix 3	<i>Drawing Register</i>	27
Appendix 4	<i>Discovery & Excavation in Scotland Entry</i>	28

Frontispiece: Turbine 03, SSE compound: location of 'fire pit'

Illustration 1: Site Location Binn Eco Park, plan

Illustration 2: Detail of Site Layout, plan

Illustration 3: Forming site entrance, view SE

Illustration 4: Forming site compound and access, view SW

Illustration 5: Stripping topsoil for turbine base 01, view NW

Illustration 6: Turbine base 02, S end boundary strip complete, view W

Illustration 7: General stripping base 03, view W

Illustration 8: Base 03, field drain ctx 312, view SW

Illustration 9: 'Fire Pit' plan and section

Illustration 10: Location of 'fire pit' view S

Illustration 11: 'Fire pit' pre excavation view NNE

Illustration 12: 'Fire pit' post excavation, view NNW

Illustration 13: Narrow cable track view SW

Illustration 14: General stripping turbine base 04, field drain 0404, view SW

Author Ray Cachart
Illustrator Ray Cachart
Editor David P Bowler BA (Hons), M Phil, FSA Scot, MCIfA

ABSTRACT

Green Cat Renewables Ltd commissioned Alder Archaeology to undertake archaeological monitoring in the form of a watching brief on the sites of four new wind turbines to be constructed at Binn Eco Park Windfarm, Glenfarg approximately 2.7 km southwest of Abernethy in Perth and Kinross. The development is located at Binn Hill and in total covers an area of approximately 25 ha of mixed upland pasture and agricultural land centred on NGR NO 1766 1337. The programme of archaeological works was designed to satisfy the outstanding archaeological condition on the planning consent for this development, as noted by Perth and Kinross Heritage Trust in the Terms of Reference to Planning Applications 14/01970/FLL and 15/01737/FLL, dated 07th Nov 2017

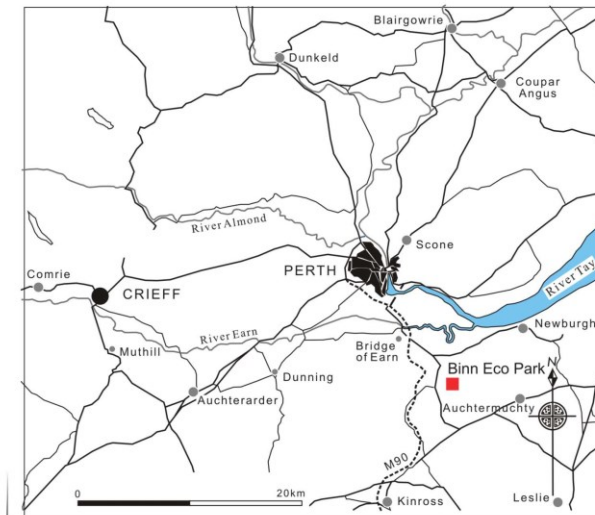
The work (site code GF05) was undertaken, mainly in good weather conditions, on various dates during the period 17th Aug 2018 - 2nd Sept 2019. The requirement was to monitor groundworks needed for four wind turbines and associated infrastructure such as roads, cable trenches and site compounds. Special attention was to be paid to the possibility of finding and recording buried scattered remains of prehistoric settlement and agriculture, based on evidence from the surrounding upland landscape.

A significant archaeological feature was encountered close to the S end of a cable track at NGR NO 17493 13334 in the form of an ovoid feature 0.90m in length and 0.60m wide cut into the subsoil. This feature appeared to be a 'fire pit' containing a fill (326) of black silt or burnt material with a lens of orange burning. The 'fire pit' feature was considered to be potentially prehistoric and was half sectioned and sampled. The cut for fire pit (332) had a maximum depth of 0.08m with moderately sloping sides with a flattish bottom. No finds were recovered from the excavated fill. A further black deposit, context (329), elongated in shape but less defined than fill (326) was located c7m NE of fire pit (326). This deposit was not excavated.

The archaeological monitoring of the ground works for the construction of the four turbine bases and the required ancillary infrastructure established the character and depth of the topsoil and the nature of subsoil/natural. Many stone field drains were uncovered showing that the land had undergone substantial early modern or modern improvements to sustain arable and pastoral activity within this upland/marginal area. Only one significant archaeological feature was found, a 'fire pit' that was considered to possibly represent buried scattered remains of prehistoric activity. Alder recommends that the sample from the 'fire pit' should be processed and that any suitable material recovered should be submitted for C14 dating.

Illus 1 Location

Binn Eco Park



© Crown copyright. All rights reserved.
Licence number AL 100049514

2020 Alder Archaeology Ltd

GF05

1 Background

1.1 Introduction

Green Cat Renewables Ltd commissioned Alder Archaeology to undertake archaeological monitoring in the form of a watching brief on the sites of four new wind turbines to be constructed at Binn Eco Park Windfarm, Glenfarg, approximately 2.7 km southwest of Abernethy in Perth and Kinross. The development is located at Binn Hill and covers an area of approximately 25 ha of mixed upland pasture and agricultural land centred on NGR NO 1766 1337. The work (site code GF05) was undertaken, mainly in good weather conditions, on various dates during the period 17th Aug 2018 - 2nd Sept 19. The requirement was to monitor groundworks needed for four wind turbines and associated infrastructure. Special attention was to be paid to the possibility of finding and recording buried scattered remains of prehistoric settlement and agriculture, based on evidence from the surrounding upland landscape.

The programme of archaeological works was designed to satisfy the outstanding archaeological condition on the planning consent for this development, as noted by Perth and Kinross Heritage Trust in the Terms of Reference to Planning Applications 14/01970/FLL and 15/01737/FLL, dated 07th November 2017. It should be noted, however, that if further work and/or mitigation is required, these archaeological works may not be sufficient to satisfy the relevant conditions on their own.

1.2 Aims and Objectives

The main aim of this investigation was to establish the presence/absence, date, character and quality of any archaeological remains surviving within the development area. The results of this investigation will be used to inform future mitigation strategies for the proposed development.

1.3 Reporting

The present document has been prepared as the final report on this watching brief. Copies will be sent to the client, Historic Environment Scotland and Perth and Kinross Historic Environment Record.

1.4 Planning and Curatorial Issues

This programme of archaeological monitoring (Watching Brief) was designed to satisfy the outstanding archaeological condition on the planning consent for this development, as noted by Perth and Kinross Heritage Trust in the Terms of Reference to Planning Applications 14/01970/FLL and 15/01737/FLL, dated 07th November 2017. Alder prepared a Written Scheme of Investigation (WSI) for archaeological monitoring requested by Perth and Kinross Heritage Trust in response to the archaeological implications of developing this site.

1.5 Acknowledgements

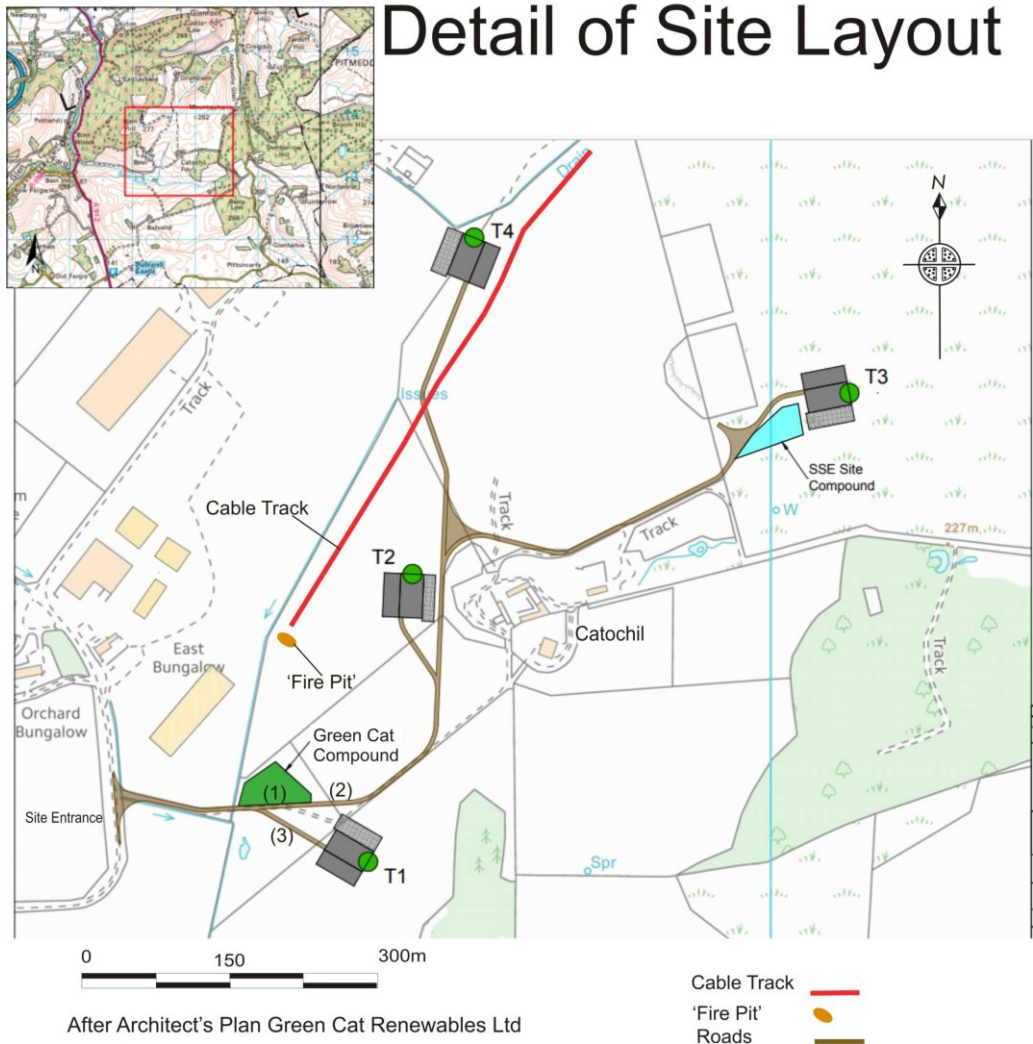
We wish to thank David Strachan, Sarah Winlow, Clare Henderson and Sophie Nicol of PKHT for their assistance and guidance throughout this project. Thanks also for the advice and timetabling provided by Harry McGurnaghan, Construction Manager, Green Cat Contracting Ltd. The archaeological monitoring was fully funded by Green Cat Renewables Ltd.

2 Details of Work

2.1 The Site (Illus 1 & 2)

The proposed development covered an area of approximately 25 ha of mixed undulating upland pasture and agricultural centred on NGR NO 1766 1337. Within this area the sites of four wind turbines and ancillary services (cable trenches, roads etc.) were archaeologically monitored as they were machine stripped and excavated.

Illus 2 Binn Eco Park



After Architect's Plan Green Cat Renewables Ltd

© Crown copyright. All rights reserved.
Licence number AL 100049514

2020 Alder Archaeology Ltd

GF05

2.2 Archaeological Potential

A previous desktop study and walkover by ARCHAS Cultural Heritage Ltd was conducted in April 2013, and summarised in the Atmos report of November 2014, Chapter 10 (pp 332 – 350). This found no specific evidence of archaeological remains within the development area, but indicated a possibility of undocumented, buried scattered remains of prehistoric settlement and agriculture, based on evidence from the surrounding upland landscape (p 341). This could include remains of features such as boundaries, trackways, houses and other buildings. Parts of the development area have been extensively disturbed by more recent activity such as quarrying, agriculture and waste disposal. It was considered that archaeological remains may have survived in areas which had not been disturbed in this way, and could be revealed in the course of monitoring the development.

2.3 Archaeological Method

Archaeological monitoring in the form of a watching brief was carried out on all relevant ground breaking operations associated with the construction of four wind turbine bases (Turbine Bases 01 – 04) and associated infrastructure such as roads, compounds and cable trenches.

All machine excavation and topsoil stripping of previously undisturbed areas was carried out under continuous archaeological supervision, using a toothless straight-edge bucket. This included excavations and stripping for turbine bases, crane hard standings, cable trenches, access tracks, works compounds and storage areas, all of which required removal of topsoil and levelling. Archaeological monitoring was not required in areas that were previously disturbed, for example by quarrying, agricultural works and hard standings.

Areas monitored were identified in discussion with the contractors on site, and adjusted in the light of evidence as the work proceeded.

Close contact was maintained with the client and PKHT for the purposes of managing the project. Important or unexpected discoveries were communicated to the client and the PKHT.

3 Results of Investigations

3.1 Forming site entrance, 15th Aug 2018

Groundworks at this location required the formation of a new site entrance from the existing tarmac road. A BT cable in disturbed ground was re-positioned, which revealed topsoil containing some modern rubbish and rubble over light brown sandy silt subsoil. Scraping and general topsoiling onto subsoil revealed nothing of archaeological significance.



Illus 3: Forming site entrance, view SE

3.2 Forming site compound and access, 7th May 2019

The watching brief here observed the machine stripping of a Green Cat Renewables Ltd works compound required for the windfarm work along with an associated access track and a track to a spoilheap. It was carried out by one person, weather conditions were cold and overcast.



Illus 4: Forming site compound and access, view SW

3.2.1 Proposed works compound (1)

Turf and brown topsoil (0100) was stripped to a depth of 0.40m, generally this overlay a mixed orange brown silty clay and yellow sand with frequent stone (0101). At the southern end of the stripped area natural bedrock (0102) was revealed at a depth of 0.10m. At formation level a linear feature (0103) was identified running from E to W across the stripped area, this was filled with yellow sand and brown silty clay (104) and was not excavated. Nothing of archaeological interest was located and the only finds were a small group of animal bone which had been buried in a plastic bag in soil layer 101. The bone was recorded photographically but not retrieved.

3.2.2 *Track to spoilheap (2)*

This track was 3.9m wide and 26m long and lead up to a previously existing spoilheap. Turf and brown topsoil (0200) was stripped to a depth of 0.20m. A compacted layer of demolition material with occasional brick was exposed (0201), there were no finds.

3.2.3 *New access road from compound (3)*

This new 5m wide roadway was machine dug from the South East of the works compound to provide access to the proposed site of a crane pad and turbine base. At its southern most end it was dug through a cultivated field, it then ran across an existing fence line and down the slope to the works compound. In the cultivated field 0.40m of brown plough soil (0300) was excavated off a brown silty clay subsoil (0301) and natural bedrock (0302). A single large fairly flat stone (0304) was found at formation level and left in situ. Beyond the fence line and down the slope 0.40m of turf and topsoil (303) was excavated off a brown silty clay (0301) and natural bed rock (0302). Nothing of archaeological interest was located.

3.2.4 *Discussion*

The three areas stripped exposed subsoil deposits of mixed brown clays, yellow sand and occasional bedrock. A single linear feature in compound 1 (0103) although not excavated probably represents a field drain, a single large stone at formation level in the strip for new access road 3 (0304) was recorded due to it being the only example in the strip. As a precautionary measure the contractors were advised not to go any deeper at this location in case it represented a Prehistoric feature (cist). Generally nothing of archaeological interest was located in the three stripped areas.

3.3 **Turbine Base 01, 20th May 2019**

3.3.1 *Turbine base 01*

At the site of the turbine base centred on NGR NO 1757 1311 stripped topsoil in an arable field comprised a dark reddish-brown silty loam with the shoots of a cereal crop. Here the topsoil was 0.1 m deep and contained occasional fragments of C19th pottery. The total depth of topsoil was about 0.25 – 0.3 m. Below topsoil was a pink-grey silt subsoil (102) with abundant stone fragments. The subsoil changed to yellow brown silt (104) with stone. Occasional modern plough marks (105), aligned E – W could be seen in the subsoil. An outcrop of weathered bedrock (103) in the middle of the first stripped area re-appeared at the NW end of the trench in the second and subsequent strips. A test excavation in SE corner of area revealed dark brown silty loam topsoil (108), 0.3 m deep, over a subsoil (109) of brown-yellow silt with stones. The subsoil under (108) became redder to the N, with rocky outcrops appearing. Nothing of archaeological significance was found at the site of turbine base 01.



Illus 5: Stripping topsoil for turbine base 01, view NW

3.4 Turbine Base 02, 11 June 2019

3.4.1 Turbine 02 access track

Topsoil along the 6m wide access track comprised grey-brown loam 0.30-0.40m in depth, with shoots of barley growing. Sub soil was tan silty loam. The track crossed two stone field drains (203 and 204). Rocky outcrops appeared at the track N end. The track also crossed a fence line towards its N end on the SE side of the turbine base. Nothing of archaeological significance was found.

3.4.2 Turbine base 02

The turbine base was centred on NGR NO 1763 1339. At W edge of the laydown pad topsoil (208) contained Brussels sprouts or turnip shoots. Below topsoil was a tan silt in the SE area which reverted to rock in the SE corner. A major outcrop of rock occurred in the centre of the turbine base which had to be reduced for a level surface. No features of archaeological significance were encountered.



Illus 6: Turbine base 02, S end boundary strip complete, view W

3.4.3 Access track from turbine base 02 to 04 and 03

Working N from turbine base 02 towards the site of turbine base 04 was a light tan loam topsoil (401) with rough vegetation. Subsoil here was yellow brown loamy silt with occasional rock outcrops showing through. Slightly further N a boundary fence was encountered, marked by a hawthorn tree. The track then turned to NNE to form the start of the spur road running eastwards to link up to turbine base 03. A rubble field drain (407) was encountered at the start of the turning head to the site of turbine base 03. No further features of archaeological interest were encountered.

3.5 Turbine Base 03, 22nd July 2019

3.5.1 Turbine base 03

Turbine base 03 was centred on NGR NO 1811 1350. It was located in an area of rough pasture in sloping undulating terrain. Post and wire fencing (305-306) forming a pen or compound was removed on the north western part of the site. Topsoil (301) mainly comprised brown silty loam 0.40-0.60m in depth over a subsoil of brown stony clayey silt over rock. There was a rock outcrop on the site E side. Five rubble field drains mainly aligned SSE-SSW were recorded (307), (309), (310), (312) and (314). General stripping, for SSE (Scottish and Southern Electricity) compound on W side of turbine base was also carried out. Topsoil here was 0.45-0.80m thick over silty clay subsoil with natural rock showing through at the base and with very occasional small boulders revealed at E edge. Apart from field drains no features of archaeological significance were found on the site of turbine base 03 and the SSE compound.



Illus 7: General stripping base 03, view W



Illus 8: Base 03, field drain ctx 312, view SW

3.6 Cable Track, 24th July 2019

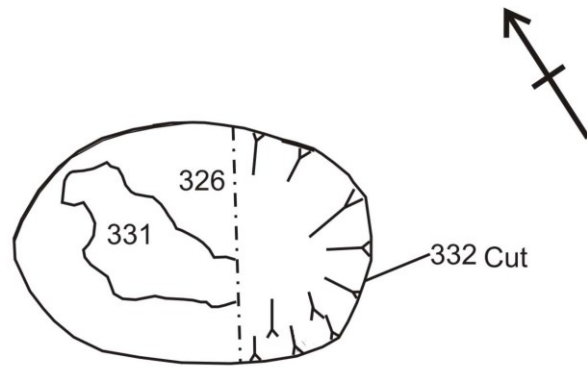
3.6.1 Cable track

The S end of a 9m wide cable track was started at NGR NO 17491 13326, heading NE on the E side of a post and wire fence along the edge of a S flowing narrow, open ditch. Also on the E side of this cable track was a line of poles for an overhead 33Kv electricity line which was to be buried. The E side of the cut was fairly steep and here the underlying natural rock (330) was exposed. Brown silty loam topsoil (326), was 0.30 -0.40m in depth but deeper at bottom of slope to the W, towards the ditch. Two cobble field drains 6m apart were noted, which drained down the hillslope on the E side of the cable track to the open ditch on the W side of the track.

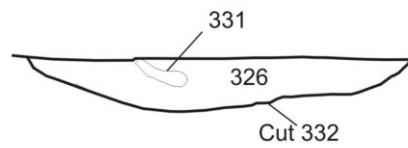
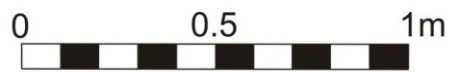
3.6.2 Archaeological 'fire pit'

Close to the S end of the cable track at NGR NO 17493 13334 an ovoid feature was revealed 0.90m in length and 0.60m wide cut into the subsoil. This feature appeared to be a 'fire pit' containing a fill (326) of black silt or burnt material with a lens of orange burning. The feature was considered to be potentially prehistoric and was half sectioned and sampled. The cut for fire pit (332) had a maximum depth of 0.08m with moderately sloping sides with a flattish bottom. No finds were recovered from the excavated fill. Alder recommends that the sample from the 'fire pit' should be processed and that any suitable material recovered should be submitted for C14 dating. A further black deposit, context (329), elongated in shape but less defined than fill (326) was located c 7m NE of fire pit (326). This deposit was not excavated.

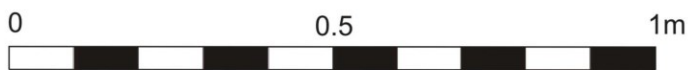
Illus 9 'Fire Pit' plan and section



'Fire Pit' half sectioned



SE Facing Section





Illus 10: Location of 'fire pit' view S



Illus 11: 'Fire pit' pre excavation view NNE



Illus 12: 'Fire pit' post excavation, view NNW

3.6.3 Narrow Cable track, 29th August 2019

A narrow cable trench 1m wide had been dug on the E side of the wide cable track. This narrow track ran uphill from NGR NO 17509 13352 to approximately NGR NO 17750 13750 beyond the site of turbine base 04. It had been partially backfilled with a depth of 0.60m that was unfilled which revealed the subsoil. Nothing of archaeological significance was identified in this cable trench.



Illus 13: Narrow cable track view SW

3.7 Turbine Base 04, 29th August- 2nd September 2019

Turbine base 04 was centred on NGR NO 17725 13731 within a grassy area on a moderate south-west down slope. A NE-SW aligned post and wire fence ran through the centre of the site. Topsoil (0402) was generally 0.30-0.60m in depth over stony brown silt subsoil (0403) with natural rock showing below subsoil especially in the NE part of the site. A rubble field drain (0404) 0.40m wide was recorded within the NE corner of the site running down slope in a NE-SW direction. A modern black poly pipe foul water drain buried in the sub soil ran through the centre of the site on an NE-SW alignment. Nothing of archaeological significance was identified on the site of turbine base 04.



Illus 14: General stripping turbine base 04, showing field drain 0404, view SW

4 Conclusions and Recommendations

4.1 Conclusions

4.1.1 General

The archaeological monitoring of the ground works for the construction of the four turbine bases and the required ancillary infrastructure established the character and depth of the topsoil and the nature of subsoil/natural. Many stone field drains were uncovered showing that the land had undergone substantial improvements to sustain arable and pastoral activity within this upland/marginal area. Also revealed was some dumped modern animal bone and small areas with modern rubble make-up/infill.

4.1.2 Specific ('Fire Pit')

A significant archaeological feature was encountered close to the S end of a cable track at NGR NO 17493 13334 in the form of an ovoid feature 0.90m in length and 0.60m

wide cut into the subsoil. This feature appeared to be a 'fire pit' containing a fill (326) of black silt or burnt material with a lens of orange burning. The 'fire pit' feature was considered to be potentially prehistoric and was half sectioned and a sample collected for processing and hopefully to obtain a C14 date. No other significant archaeological features were found during the monitoring.

4.2 Recommendations for Further Work

The ground works for this development are now concluded and no further archaeological work is required for this development. However, Alder recommends that the sample from the 'fire pit' should be processed and that any suitable material recovered should be submitted for C14 dating. The final decision regarding any further work ultimately rest with Perth and Kinross Heritage Trust.

5 References

Alder Archaeology Ltd 2018, Binn Eco Park Wind Farm Archaeological Monitoring, Written Scheme of Investigation.

Atmos Consulting Ltd 2014, Binn Eco Park Environmental Statement. Volume 2: Report and Technical Appendices. Edinburgh

Winlow, S 2017 Terms of Reference for Archaeological Monitoring, Binn Eco Park Wind Farm. Perth and Kinross Heritage Trust, Perth

Appendix 1 Context Register

<i>Ctx No:</i>	<i>Description</i>
	DPB, 17 Aug 2018 Entrance Splay from Binn Farm road.
001	Grey-brown sandy topsoil, 0.2 m deep, exposed at access junction splay. Some modern rubbish and rubble. Appears disturbed.
002	Light brown sandy silt subsoil, under 01.
	DWH, 7 May 2019 Site Compound and access
	Compound (1)
0100	Turf and topsoil
0101	Orange brown silty clay and yellow sand
0102	Bedrock
0103	Linear cut feature
0104	Fill of cut 103, yellow sand and brown silty clay
	Track to Spoilheap (2)
0200	Turf and topsoil
0201	Mixed rubble and brick
	New Access Road (3)
0300	Ploughsoil
0301	Brown Silty Clay
0302	Bedrock
0303	Turf and Topsoil
0304	Large stone
	DPB, 20 May 2019 Turbine 01 base
101	Topsoil and shoots of cereal crop. 0.1 m deep. Dark reddish-brown silty loam, occasional fragments of C19th pot. Total depth about 0.25 – 0.3 m.
102	Pink-grey silt with abundant stone fragments. Subsoil.

103	Outcrop of weathered bedrock in middle of strip, re-appears at NW end of trench.
104	N of 103, subsoil changes to yellow brown silt with stone
105	Occasional plough marks in subsoil, aligned E – W, 245°
106	Outcrop similar to 103, re-appears at NW end of trench in second and subsequent strips.
107	Subsoil more brown and sandy in third strip.
108	Start of test excavation in SE corner of area. Dark brown silty loam topsoil, 0.3 m deep, in SE corner of area.
109	Brown-yellow silt with stones, subsoil under 108. Becomes redder to N, with rocky outcrops.
	DPB, 10 June 2019 Turbine 02 access track
201	Grey-brown loam. Topsoil with shoots of barley. 0.3 m deep, progresses to 0.4 m deep.
202	Tan subsoil. Silty loam.
203	Stone drain.
204	Second stone drain. Aligned 345 degrees.
205	N of 204, subsoil changes. Mottled with grey.
206	N of 205, rocky outcrop. Topsoil now only 0.2 m deep. Rock gives way to silt
207	Tan stony silt below which is 3 rd rock outcrop.
	DPB, 11 June 2019 Turbine 02
208	Topsoil with Brussels Sprouts or Turnip shoots.
209	Bedrock
210	Tan silt in SE.
	DPB 8 July 2019 advancing towards site of turbine 04
401	Rough vegetation on light tan silty loam
402	Not used
403	Yellow brown loamy silt subsoil
404	Bedrock
405	Subsoil reddish and stony
406	Field drain outfall with cement and geotextile. Runoff drains for wood chip pile to N of work area
407	Rubble drain exposed at start of turning head
	RC 22 July 2019 Turbine base 03

301	Topsoil in area of pasture, 0.40-0.60m deep, brown silty loam over weathered rock ctx 302
302	Weathered rock
303	Stripping uphill subsoil brown stony clayey silt ctx 303 over rock
304	Stripping for road, up hill onto rock base subsoil brown silty loam ctx 304
305-306	Post and wire fence contexts 305 and 306 of former sheep or cattle compound
307	Rubble field drain
308	Sandy silt clay cut by field drain 307
309	Another rubble field drain to E of field drain 307
310	Rubble field drain ctx 310 at SE corner of turbine base
311	Subsoil yellow orange silty with some wet patches
312	Rubble field drain ctx 312, 0.42m wide
313	Stripping continues exposing sub soil brown silty clay
314	Rubble field drain ctx 314 N-S aligned in stripped area on site S side, 14m to W of field drain 309
315	Field boundary wall W of turbine base 03, comprising quarry stone, roughly built wall with post and wire fence on W side
316	General stripping, orange silty clay sub soil, W side of base
317	General stripping, for SSE compound on S side of compound, W side of turbine base 02, topsoil here is 0.45-0.80m thick, onto silty clay sub soil with natural rock showing through, very occasional small boulders at E edge
	RC 24 July 2019 roadway between turbine base 02 and 03
318	Start of roadway west end, up slope, post and wire field boundary fence ctx, removed
319	Natural friable rock that forms base of roadway
320	Soil and modern demo rubble makeup, ctx 320, on N side of existing farm track, below ctx 320 is mid brown silt former topsoil ctx 321
321	Former topsoil remaining below makeup 320
322	Mid brown natural clay ctx 322 below ctx 321
323	Natural rock base below ctx 321 at finish of WB on Turbine 02 site
	RC 24 July 2019; 9m wide cable track W side of Turbine 02, archaeological 'fire pit'
324	Start of machining for cable track, brown silty loam top soil at start of cable track
325	Subsoil below ctx 324, light brown orange sandy silt, moderately to slightly stony. Detail of burning, possible ovoid fire pit 326 fill, cut into subsoil ctx 325

326	Fill of ovoid fire pit, close to the S end of the cable track at NGR NO 17498 13352, 0.90m in length, 0.60m wide, with a maximum depth of 0.08m. Cut 328. Samples taken
327	Burst cobble field drain ctx 327 cut into sub soil 325, curving to NW
328	Cobble field drain 6 m to the N of field drain 327
329	Black deposit, not excavated possible burning, context 329 was c 7m NE of fire pit 236
330	Natural rock, friable orange grey, appearing on sloping E edge of trench
331	Part of fill 326 for fire pit, reddish orange
332	Cut for 'fire pit' fill 326, 0.90m in length, 0.60m wide, with a maximum depth of 0.08m, moderately sloping sides flattish bottom, dish shaped
	RC 29 Aug 20 cable track narrow
0401	Field boundary wall, stone work collapsed 1m wide and 0.90m high with post and wire fence on top
	RC 30 Aug and 2 Sept 2020 Turbine base 04
0402	Topsoil brown sandy loam, grass, 0.30-0.60m deep
0403	Subsoil light brown silt, stony on the N side of excavated area
0404	Field drain rubble, SW-NE, 0.30m wide
0405	Post and wire fence in centre of stripped area
0406	Modern poly pipe sewer aligned NS running through centre of site

Appendix 2 Photographic Register

<i>ImageNo</i>	<i>Con- text</i>	<i>Description</i>	<i>View</i>	<i>Mag</i>
		DPB 17 August 2018		
01		General Start-up. Junction as existing	N	
02		Binn sign adjacent to work area, just N of junction.	E	
03		Work to re-position grey BT cable in disturbed ground, to be covered by new turning splay.	S	
04	02	Detail of new cable track, dug in topsoil 01, exposes subsoil ctx 02.	S	
05		New cable track starts 22.5 m S of junction, works northwards.	S	
06		Cable track continues N to junction as simple surface scrape, to be buried by clean soil.	S	

07		General stripping of topsoil to prepare junction.	S	
08		General stripping of topsoil to prepare junction.	N	
09		General stripping of topsoil to prepare junction.	SW	
10		General stripping of topsoil to prepare junction, complete.	S	
11		Final tidying of surface.	N	
12		Final tidying of surface.	NE	
13		S end of cleared area, to show S extent of work.	E	
14		Final tidying of surface.	SE	
15		Tidying complete, ~ 2:00 pm.	S	
1120988 - 1130027		DWH, 07 May 2019 Site Compound and access		
1120988		Number board GF05		
1120989		General view of site for compound pre stripping	NE	
1120990		As above looking E	E	
1120991		As above looking W	W	
1120992		As above	W	
1120993		As above looking NW	NW	
1120994		Track to spoilheap (2) being stripped looking S	S	
1120995		As above	S	
1120996	0201	Detail of mixed rubble and brick (0201) at formation level of track (2)		
1120997		Track to spoilheap (2) being stripped looking S	S	
1120998		General view of site looking W	W	
1120999		General view of stripped track (2) looking N	N	
1130001		Beginning of strip for compound (1) looking S	S	
1130002	0100	Detail view of E side of compound (1) showing depth of topsoil 0100		
1130003		General view of compound strip (1) looking SW	SW	

1130004	0102	Detail view of compound strip (1) showing bedrock (0102) below machine		
1130005	0103	Linear feature (0103) in compound strip looking W	W	
1130006		Stripping of compound (1) looking NW	NW	
1130007		As above		
1130008		As above more general view		
1130009		As above looking N, eco park in background	N	
1130010		General view of stripped compound looking N	N	
1130011		As above		
1130012		Group of animal bone from 0101 found in plastic bag with fastener		
1130013		Detail of piece of animal bone from 0101		
1130014		General view of stripped compound (1) looking E	E	
1130015		General view of N side of compound (1)		
1130016		General view of stripped compound looking SE	SE	
1130017		As above looking SW	SW	
1130018		Beginning of stripping of new access road (3) looking W	W	
1130019		As above		
1130020	0304	Large stone (0304) visible at formation level for (3)		
1130021	0304	Location shot of large stone (0304) looking W	W	
1130022		As above looking W	W	
1130023		Access road (3) as stripped through ploughed field looking W	W	
1130024		As above		
1130025		Access road (3) stripped downhill to compound (1) looking W	W	
1130026		General view of access road (3) looking W	W	
1130027		General view of access road (3) looking E	E	
DPB, 20 May 2019. Turbine Base 01				
101	101	Start of first strip, along SW edge of area. Topsoil 101 Stripping SE – NW.	NW	300
102-3	102	Second pass on first strip. Subsoil 102	NW	

104	103	Outcrop 103 of weathered bedrock in middle of strip.	NW	
105		Continuing stripping.	NW	
106		Orientation to masts on Binn Hill.		335
107	103	Outcrop 103 of weathered bedrock in middle of strip.		300
108	104	N of outcrop 103, subsoil 104.		300
109	105	Occasional plough marks 105 in subsoil 104, aligned E – W, 245 ⁰		300
110	106	Outcrop 106 at NW end of trench.		300
111		Start of second strip.		300
112	103	Continuing to first outcrop 103.		300
113		End of second strip.		300
114-15		Detail of outcrop 106.		360
116		Start of third strip.		320
117	107	Subsoil 107, more brown and sandy.		320
118		End of third strip.		320
119		Start of test excavation in SE corner of area. Dark brown silty loam topsoil 108, 0.3 m.	NW	
120	109	Subsoil 109 in test excavation.	NW	
121	109	Subsoil 109 becomes redder to N, with rocky outcrops.		
122		End of test excavation.		
123-4		Start of fourth strip.	NW	
125-6		Starting second band of test excavation in NE.	NW	
127		Second band of test excavation in NE. Triple width.	NW	
128-9	106	Continuing fourth strip. Outcrop 106	NW	
130		Pause in test excavation	NW	
131-2		Continuing fourth strip	NW	
133-4		Continuing test excavation	NW	
135-7		End of fourth strip	NW	
138-9		Start of third band of test excavation. Entering turbine base proper	NW	
140-2		Start of fifth strip	NW	

143-4		Continuing fifth strip	NW	
145-7		Near end of fifth strip	NW	
148		View from SW corner to Binn Hill. Note bucket is 2.1m wide	NW	
149		End of day. 4:40 pm. Leave 4:45 pm.	NW	
		DPB, 21 May 2019. Continuing Turbine 01, opposite site compound		
150-1		Continuing third band of test excavation.	NW	
152-5		Start of sixth strip. Turbine centre post.	NW	
156		Start of seventh strip.	NW	
157-9		Starting D-shaped 'apse' of turbine base.	NE	47
160-2		Natural rock outcrop in D-shaped 'apse' of turbine base.		
163-4		Taking out centre strip	NW	320
		DPB, 10 June 2019. Turbine 02 access track.		
201-2		SW from Catochil Farm to start point A.	SW	230
203		Starting point A	NNE	25
204	203	Stone drain.		40
205		Proceeding.	NNE	25
206		Proceeding. New road is 6 m wide.	NNE	25
207	204	Second stone drain. Aligned 345 degrees.	NNE	25
208	204	Drain 204. Binn Hill in background.	NNW	345
209	205	N of 204, subsoil changes. Mottled with grey.	NNE	25
210	206	N of 205, rocky outcrop. Topsoil now only 0.2 m deep.	NNE	25
211	206	Approaching bend to L (W) in new track. Location B.	NNE	25
212	206	Track turns, heading N. Rock 206 gives way to tan stony silt and a third rock outcrop	N	05
213		Third rock outcrop.	N	05
214		Crossing the fence line, location C. Low BT cable above.	N	05
215-16		Working back from fence.	S	175
217		End of day, from location C. Top of access track.	S	175
		DPB, 11 June 2019. Turbine 02		

218-19		Defining and stripping W edge of Laydown pad.	N	07
220		First pass along W edge of Laydown pad done.	N	07
221-2		Digging S end of pad, from SW corner.	E	90
223	210	Tan silt in SE.	E	90
224		Reverts to bedrock towards SE corner.	E	90
225		S end boundary strip complete.	E	90
226		S end boundary strip complete.	W	270
227		Detail. Ben Vorlich in far distance.	W	270
228		Second pass Eastward along S end.	E	90
229		Second pass E dug up to rock outcrop.	E	90
230		Start third pass.	E	90
231		Convert to Second Northward pass.	N	07
232-3		End of Second Northward pass.	N	07
		DPB, 12 June 2019. Turbine 02		
234		Starting third pass Northward.	N	07
235		End of third pass Northward.	N	07
236		Cleaning major rock outcrop in centre of area.	N	07
237		Exposing rock along to boundary.	N	07
238		E side of area cleared to centre.	N	07
239		E side of area cleared to centre.	S	175
240		General to Binn Hill from SE corner.	NW	315
241		Area cleared to central rock. From SE corner.	NE	60
242		N end of Crane Base and location of Turbine 02.	W	270
243-4		Turbine Base 02 dug.	W	270
245-6		Turbine Base 02 dug.	N	07
247-8		Central dump being reduced. End of day.	NE	60
		DPB, 8 July 2019 advancing towards site of turbine 04		
401	401, 403, 404	Stripping access track N from Turbine 02 towards Turbine 04	N	

402	404	Bedrock	N	
403	405	Subsoil now reddish and stony	N	
404		Detail of hawthorn tree at boundary fence	NNE	
405		Arriving at boundary fence	N	
406-7		Turbine 02 base as dug	E	
408		Turbine 02 base as dug	NE	
409		Fixing bolts for turbine 02 base. Await instillation.	N	
410		Restarting at the fence line	N	2
411		Detail of hawthorn tree at boundary fence	NNE	
412	406	Modern field drain outfall with cement and geotextile. Runnoff drains for wood chip pile to N of work area	N	
413		Track now turned right (NNE), running parallel to overhead cables	NNE	25
414		Start of spur road E, from turbine 02 to turbine 03	E	95
415		Start digging turning head at start of spur road	E	95
416	407	Rubble drain exposed at start of turning head	NE	
		RC 22 July 2019 Turbine base 03		
301		Looking back at construction taking place at turbine base 02	SW	220
302	301-302	Start of stripping of turbine base 03, area in pasture, top soil 0.40-0.60m deep, brown silty loam topsoil over weathered rock ctx 302	E	
303	303	Stripping uphill subsoil brown stony clayey silt ctx 303 over rock	NNE	
304-305	304	Stripping for road, up hill onto rock base subsoil brown silty loam ctx 304	NNE	
306	305-306	Removing post and wire fence contexts 305 and 306 of former sheep or cattle pen	NW	
307-308	307-308	Rubble field drain ctx 308 cut into sandy silt clay ctx307	SSE	
309-310	309	Another rubble field drain, 309 to E of field drain ctx 308	SSE	
311		Machine stripping continuing to the SE	SE	
312		Machine stripping edge of sloping ground	SE	
313		Continuing with stripping. Catochil farm in background	SW	
314	310	Rubble field drain ctx 310 at SE corner of turbine base	S	

315	310	General for field drain ctx 310, at SE corner of turbine base	S	
316		General of site, mounding up topsoil in the centre, Catochil farm in background	W	
317	312	Rubble field drain ctx 312	SSW	
318	313	Stripping continues exposing sub soil brown silty clay ctx 313	N	
319	314	Rubble field drain ctx 314 N-S aligned in stripped area on site S side, 14m to W of field drain 309	S	
320-021	315	Field boundary wall W of turbine base 03, comprising quarry stone, roughly built wall with post and wire fence on W side		
		RC 23 July 2019 general stripping for Turbine 03		
322	316	General stripping, orange silty clay sub soil, W side of base	N	
323	316	General stripping, orange silty clay sub soil, W side of base	N	
324		General stripping, W side of base		
325	317	General stripping, for SSE compound on S side of compound, W side of turbine base 02, topsoil here is 0.45-0.80m thick, onto silty clay sub soil with natural rock showing through, very occasional small boulders at E edge	SW	
326	317	Finishing off stripping SSE compound	SW	
		RC 24 July 2019 roadway between turbine base 02 and 03		
327	318	Start of roadway west end, up slope, post and wire fence ctx 318 being removed	E	
328	319	Cutting through natural friable rock ctx 319 that will form base of roadway	NW	
329	320-321	Cutting through soil and modern demo rubble makeup, ctx 320, on N side of existing farm track, below ctx 320 is mid brown silt former topsoil ctx 321	NW	
330	322	Showing mid brown natural clay ctx 322 below ctx 321	NW	
331	323	Natural rock base below ctx 321-finish WB on Turbine 02 site	NW	
		RC 24 July 2019; 9m wide cable track W side of Turbine 02, archaeological 'fire pit'		
332	324	Start of machining for cable track, brown silty loam top soil at start of cable track	SW	
333	325-326	Subsoil below ctx 324, light brown orange sandy silt, moderately to slightly stony. Detail of burning, possible ovoid fire pit 326 cut into subsoil ctx 325	NE	
334	326	General of 'fire pit' ctx 326	NE	

335	326	General of ctx fill 326 and S end of cable track	SSW	
336	327	Burst cobble field drain ctx 327 cut into sub soil 325, curving to NW	NW	
337	329	Black deposit possible burning, context 329, c 7m NE of fire pit 236	N	
338	329	Black deposit possible burning, context 329, c 7m NE of fire pit 236	S	
339	330	Natural rock, friable orange grey, appearing on sloping E edge of trench	N	
340	326	'fire pit' half sectioned	NW	
		RC 29 Aug – 2 Sept 2019 Turbine 04		
420-421		Cable track partly backfilled up to Turbine 04	SW	
422-423		Cable track partly backfilled up to Turbine 04, mid section	SW	
424		Cable track partly backfilled up to Turbine 04, mid section	SW	
425	0401	Collapsed historic boundary wall, NE of Turbine 02	E	
426-427	0402-0403	Excavation start on Turbine 04 topsoil 402 sub soil 403	SW	
428	0404	Rubble field drain 404 aligned E-W	SW	
429		Mounding topsoil on Turbine 04	SW	
430		Excavation on Turbine 04	W	
431		Excavation on Turbine 04	SW	
432	0405	Excavation on Turbine 04, post and wire fence running along W side of area of stripping	SW	
433		Excavation on Turbine 04	SW	
434-435	0406	Buried modern foul water black poly pipe, aligne N-S crossing area of Turbine 04	S	
436		Excavation on Turbine 04	SW	
437-438		Excavation on Turbine 04 high bank and large stone	SW	
439		Finishing excavation on turbine 04 and end of GF05 monitoring	NE	

Appendix 3 Drawing Register

<i>Sheet No.</i>	<i>Description</i>	<i>Scale</i>
1	Permatrace sheet general descriptions of contexts on various dates with plan and section drawing of 'fire pit' fill 326 and cut 332	

Appendix 4 Discovery & Excavation in Scotland Entry

LOCAL AUTHORITY:	Perth and Kinross Council
PROJECT TITLE/SITE NAME:	Binn Farm Eco Park, Glenfarg
PROJECT CODE:	GF05
PARISH:	Abernethy
NAME OF CONTRIBUTOR:	Ray Cachart
NAME OF ORGANISATION:	Alder Archaeology Ltd
TYPE(S) OF PROJECT:	Monitoring, Watching Brief
NMRS NO(S):	N/A
SITE/MONUMENT TYPE(S):	Upland, agricultural and pasture
SIGNIFICANT FINDS:	'fire pit' possibly prehistoric
NGR (2 letters, 8 or 10 figures)	NGR NO 1766 1337
START DATE (this season)	17 th Aug 2018
END DATE (this season)	2 nd Sept 2019
PREVIOUS WORK (incl. DES ref.)	None on this site
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>Green Cat Renewables Ltd commissioned Alder Archaeology to undertake archaeological monitoring in the form of a watching brief on the sites of four new wind turbines to be constructed at Binn Eco Park Windfarm, Glenfarg approximately 2.7 km southwest of Abernethy in Perth and Kinross. The development is located at Binn Hill and in total covers an area of approximately 25 ha of mixed upland pasture and agricultural centred on NGR NO 1766 1337.</p> <p>The work (site code GF05) was undertaken, mainly in good weather conditions, on various dates during the period 17th Aug 2018 - 2nd Sept 2020. The requirement was to monitor groundworks needed for four wind turbines and associated infrastructure such as roads, cable trenches and site compounds. Special attention was to be paid to the possibility of finding and recording buried scattered remains of prehistoric settlement and agriculture, based on evidence from the surrounding upland landscape.</p> <p>A significant archaeological feature was encountered close to the S end of a cable track at NGR NO 17493 13334 in the form of an ovoid feature 0.90m in length and 0.60m wide cut into the subsoil. This feature appeared to be a 'fire pit' containing a fill (326) of black silt or burnt material with a lens of orange burning. The 'fire pit' feature was considered to be potentially prehistoric and was half sectioned and sampled. The cut for fire pit (332) had a maximum depth of 0.08m with moderately sloping sides with a flattish bottom. No finds were recovered from the excavated fill. Alder recommends that the sample from the 'fire pit' should be processed and that any suitable material recovered should be submitted for C14 dating. A further black deposit, context (329), elongated in shape but less defined than fill (326) was located c7m NE of fire pit (326). This deposit was not excavated.</p> <p>The archaeological monitoring of the ground works for the construction of the four turbine bases and the required ancillary infrastructure established the</p>

	character and depth of the topsoil and the nature of subsoil/natural. Many stone field drains were uncovered showing that the land had undergone substantial early modern or modern improvements to sustain arable and pastoral activity within this upland/marginal area. Only one significant archaeological feature was found, a 'fire pit' that was considered to possibly represent buried scattered remains of prehistoric activity.
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Green Cat Renewables Ltd
ADDRESS OF MAIN CONTRIBUTOR:	Alder Archaeology Ltd, 55 South Methven Street, Perth PH1 5NX
EMAIL ADDRESS:	director@alderarchaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	HES (intended)