

Dersalloch Wind Farm, South Ayrshire

Archaeological Mitigation Works

Report No. 3367







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1. INTRODUCTION

1.1 General

This report presents the results of a programme of archaeological mitigation works carried out by CFA Archaeology Ltd (CFA) during the construction of twenty-three turbines and associated infrastructure at Dersalloch Wind Farm (Fig. 1) (NGR: NS 42057 03962). The work was carried out between April 2015 and October 2015 and was commissioned by Scottish Power Renewables (UK) Ltd (Scottish Power).

A Written Scheme of Investigation (WSI) dated 23 September 2014 was produced by CFA on behalf of Scottish Power. The WSI was designed to meet the requirements of the West of Scotland Archaeology Service (WoSAS), archaeological advisors to South Ayrshire Council. It was produced to satisfy Planning Conditions 42 and 43 and commitments made within the Dersalloch Wind Farm Environmental Statement (ES) and ES Addendums.

1.2 Background

The wind farm is centred on Dersalloch Hill and Black Hill at an altitude of c.300-350m. It lies within ground which is predominantly upland moorland, but which contains a number of pockets of improved grazing. Numerous drainage ditches visible across the landscape indicate that efforts at land improvement have been undertaken in the recent past.

The development layout for the wind farm was designed in order to avoid cultural heritage features where possible, and as such the layout contained mitigation by design. Despite this, six cultural heritage sites within the wind farm site were predicted to receive direct physical effects as a result of the construction of the wind farm and required archaeological mitigation. Other sites required demarcation to preserve them in situ and a watching brief was undertaken during topsoil stripping operations in targeted locations.

This report contains reference numbers which refer to gazetteer entries in the Cultural Heritage chapter of the Environmental Statement (ES) for the wind farm. This report should be read in conjunction with that ES.

1.3 Objectives

The objectives were:

- To fence off sites 4, 101,102, 105, 106, 120 and 122.
- To carry out targeted sample evaluations at sites 101, 106, 120 and 126.
- To provide a targeted watching brief during construction work at sites 101 and 102
- To provide a watching brief during construction work on additional areas identified as archaeologically sensitive from work undertaken in previous phases.
- To conduct toolbox talks to the contractors and provide guidance documents.

2. WORKING METHODS

2.1 General

All work complied with the requirements of WoSAS. CFA follows the Chartered Institute for Archaeologists' Code of Conduct, Standards and Guidelines as appropriate.

2.2 Fencing-off Sites

It was established during a site visit that the parts of Sites 101 and 102 (Fig. 1A) within close proximity to the wind-farm development simply consisted of large areas of improved ground with no evidence of upstanding archaeological features and consequently no fencing off was required. There was also no fencing off required in relation to Sites 106, 120 and 122 as the proposed borrow pits within close proximity to these sites were not used, and T24 in close proximity to Site 106 was relocated 20m to the south-west (Fig. 1A). No upstanding remains were identified in relation to Site 4 (Fig. 1B), but the location of this site was fenced off anyway in order to protect any potential sub-surface features, while Site 105 was recorded in section where it was cut by the access track, and the remainder fenced off to protect it from further damage.

2.3 Targeted Sample Evaluations

It was decided in consultation with WoSAS that none of the targeted sample evaluations were required. Site 101 within close proximity to the construction works proved to simply be an area of improved ground containing no archaeological features, Sites 106 and 120 were avoided by the construction works, and the access road was floated across Site 126 leaving it preserved in situ.

2.4 Targeted Watching Brief

Targeted watching briefs were undertaken in relation to Sites 101 and 102 as specified within the WSI and the requirement for a further watching brief was identified in relation to Site 105 where it was to be cut by the access track. Topsoil was removed using a mechanical excavator equipped with a flat bladed ditching bucket. All groundbreaking work was carried out under constant archaeological supervision.

3. ARCHAEOLOGICAL RESULTS

3.1 General

Soil stripping for the wind farm access roads was only undertaken in relation to the initial enabling works between the B741 and T17. The remainder of the access roads were floated, ensuring that any potential sub-surface features were preserved in situ and no watching brief was required.

Targeted watching briefs were carried out in relation to sites 101, 102 and 105. This included monitoring groundbreaking works related to the access road, construction compound, control building, and selected turbine bases/hardstanding (Fig. 1A).

Sites 4 and 105 were fenced-off, but the proposed fencing off of sites 101, 102, 106, 120 and 122 was not required (see Section 2.2 above). Similarly, none of the intended target evaluations were required (see Section 2.3 above).

Numbers in bold in the following text refer to contexts, a full list of which is contained in Appendix 3.

3.2 Watching Brief

3.2.1 Site 101 (Red Burn Settlement)

The watching brief within the vicinity of Site 101 monitored groundworks for the substation compound, a temporary construction compound, and a length of access track. Within this area the deposits consisted of 0.2m to 0.5m of peat overlying reddish-brown sandy clay and soft waterlogged grey clay natural. This part of the Red Burn settlement consisted of an area of improved ground and there were no features, deposits or artefacts of archaeological significance identified.

3.2.2 Site 102 (Dersalloch Settlement)

The watching brief within the vicinity of Site 102 monitored groundworks for the turbine bases and crane pads associated with Turbine 19 (T19) and Turbine 20 (T19). Both of these turbines were situated on low dry knolls standing slightly above the surrounding bogland.

Turbine 20

The deposits at T20 consisted of 0.1m - 0.5m of mid-brown silt overlying orangey-brown sandy gravel and bedrock. Due to the nature of the underlying bedrock, this area was very uneven making it difficult to remove all topsoil deposits. Two small pits (005 and 007) and a shallow linear feature (003) (Fig. 2 and 4) were identified on an area of flattish ground at the summit of the knoll (Fig. 5). It is unclear if these features relate to the known Dersalloch Settlement or if they date to an earlier or later period.

Linear feature **003** (Fig. 6) was aligned north-west to south-east and measured c.11m in length. At either end, this feature just petered out rather than having a defined terminus. Three sections excavated through the linear feature showed that it had

sloping sides and a flat base, and that it had a maximum width of 0.95m and a maximum depth of 0.1m. The fill **004** of this feature consisted of loose grey-brown sandy-silt.

Pit **005** (Fig. 7) was sub-oval in plan with gently sloping sides and a slightly concave base. It measured 0.42m east to west by 0.35m north to south and had a depth of 0.05m. The fill (**006**) of this feature consisted of dark-grey/black silty sandy peat containing charcoal.

Pit **007** was irregular in plan with gently sloping sides and a slightly concave base. It measured 0.53m east to west by 0.45m north to south and had a depth of 0.04m. The fill **(008)** of this feature consisted of dark-grey/black silty-sandy peat containing charcoal.

Turbine 19

At T19 there was a considerable variation in the deposits with those on the dry knoll consisting of c.0.3m of peaty-silt overlying orange-brown sandy clay, while those on the lower bogland consisted of up to c.2m of peat overlying grey clay. Five small pits (Fig .3 and 4) were identified towards the summit of the knoll (Fig. 8). It is unclear if these features relate to the known Dersalloch Settlement or if they date to an earlier or later period.

Pit **007** (Fig.9) was sub-circular in plan with sloping sides and a concave base. It measured 0.4m east to west by 0.36m north to south and had a depth of 0.05m. The fill **(010)** of this feature consisted of dark-brown peaty-silt containing charcoal.

Pit **011** (Fig.10) was sub-circular in plan with sloping sides and a concave base. It measured 0.46m east to west by 0.44m north to south and had a depth of 0.12m. The fill (**012**) of this feature consisted of mottled dark-grey sandy-silt containing charcoal.

Pit **013** (Fig.11) was oval in plan with sloping sides and a slightly concave base. It measured 0.6m north to south by 0.42m east to west and had a depth of 0.12m. The fill (**014**) of this feature consisted of mottled dark-grey sandy-silt containing charcoal.

Pit **015** (Fig.12) was circular in plan with sloping sides and a flat base. It measured 0.5m in diameter and had a depth of 0.07m. The fill (**016**) of this feature consisted of dark-brown sandy-silt containing charcoal.

Pit **017** was circular in plan with steeply sloping sides and a concave base. It measured 0.15m in diameter and had a depth of 0.08m. The fill **(018)** of this feature consisted of dark-brownish-grey sandy-silt containing charcoal.

3.2.3 Site 105 (Field Banks)

A watching brief was undertaken at NGR NS 40690 04570 where the access track cut through the northern end of the southern part of Site 105. Here, the deposits consisted of 0.3m of silt topsoil overlying stony orange sandy clay natural. The site consisted of a low earth bank on a slight natural knoll (Fig. 13). The bank measured c. 2m wide by 0.6m high. There was no evidence of any stone in its construction.

4. CONCLUSIONS

A programme of archaeological mitigation works was carried out at Dersalloch Wind Farm, South Ayrshire. The works consisted of the demarcation of specific sites and a programme of targeted watching briefs. A proposed programme of targeted sample evaluations on specific sites was not undertaken because the sites were either deemed to be of very low archaeological potential (improved ground only), or were preserved in situ (either avoided by construction work or floated over). For similar reasons, the fencing off of sites was only required in relation to a percentage of those originally proposed.

During the programme of targeted watching briefs, a section was recorded across field bank 105 where it was cut by the access track, and two clusters of archaeological features were identified at T19 and T20. These consisted of a shallow linear feature and a number of small and shallow pit features. There were no finds from these features, but a number of soil samples were retained. The decision regarding further analysis on this material lies with South Ayrshire Council as advised by WoSAS.

The project archive, comprising all CFA digital data, record sheets, maps and reports, will be deposited with RCAHMS and copies of reports will be lodged with the South Ayrshire Council Historic Environment Record.

The project will be reported through the online OASIS portal and a summary statement will be submitted for publication in *Discovery and Excavation in Scotland* (See Appendix 5).

APPENDIX 1: Digital Photograph Register

Photo	Description	Taken from
1-28	General working shots from enabling works showing soil stripping for	Various
	access road and compound within vicinity of Site 101	
29	Site 126, general shot	West
30-31	Site 126, general shot	East
32	Site 126, general shot	North-west
33-34	Location of T20, pre-excavation	North-west
35	Haul road next to T20 looking towards Site 102	North
36-37	Site 105, section of bank to be removed	West
38	Site 105, section of bank to be removed	South
39	Site 105, section of bank to be removed	South-west
40	Site 105, section of bank to be removed	West
41-42	Site 105 following demarcation	South
43-44	Site 105 following demarcation	North
45-47	South facing section through bank 105	South
48-49	General view of stripped area within vicinity of Site 105	South-east
50	General working shot of area stripped for T20	North-west
51	General working shot of area stripped for T20	South-west
52	Linear 003, Section 1 (SE-facing)	South-east
53	Linear 003, Section 2 (SE-facing)	South-east
54	Linear 003, Section 3 (SE-facing)	South-east
55	Pit 005, N-facing section	North
56	Pit 005, N-facing section (no scale)	North
57	Pit 005, post-excavation	North
58	Pit 007, W-facing section	West
59	Pit 007, W-facing section (no scale)	West
60-61	Pit 007, post-excavation	West
62-66	T20, general shots taken post soil stripping	Various
67-69	T19, general shots taken pre soil stripping	South
70-71	T19, general working shots of soil stripping	South
72	Pit 009, W-facing section	West
73	Pit 011, W-facing section	West
74	Pit 013, NE-facing section	North-east
75	Pit 015, SW-facing section	South-west
76	General post-excavation shot showing pits 009/011/013/015	South-west
77	Pit 009, post-excavation	South-west
78	Pit 011, post-excavation	South-west
79	Pit 013, post-excavation	South-west
80	Pit 015, post-excavation	South-west
81	T19, general working shot from hillside	South-west
82	T19, post soil stripping	South-east
83	T19, post soil stripping	East
84-86	T19, general shots of stripped area taken from hillside	Various
87	Mid-excavation shot of Pit 017	Above
88	Post-excavation shot of Pit 017	Above
89-93	T19, shot showing depth of peat below knoll	North
94	T19, general shots taken post soil stripping	South-west

APPENDIX 2: Context Register

Context	Fill of	Trench/Area	Description
001	N/A	All	Topsoil
002	N/A	All	Natural
003	N/A	T20	Cut of linear feature
004	003	T20	Fill of linear 003 (mid-brown sandy-silt)
005	N/A	T20	Cut of shallow pit
006	005	T20	Fill of shallow pit (dark-grey/black silty-sand and peat)
007	N/A	T20	Cut of shallow pit
008	007	T20	Fill of shallow pit (dark-grey/black silty-sand and peat)
009	N/A	T19	Cut of shallow pit
010	009	T19	Fill of shallow pit (dark-brown peaty-silt)
011	N/A	T19	Cut of shallow pit
012	011	T19	Fill of shallow pit (mottled dark-grey sandy-silt)
013	N/A	T19	Cut of shallow pit
014	013	T19	Fill of shallow pit (dark-grey sandy-silt)
015	N/A	T19	Cut of shallow pit
016	015	T19	Fill of shallow pit (dark-brown sandy-silt)
017	N/A	T19	Cut of shallow pit
018	017	T19	Fill of shallow pit (dark brownish-grey sandy-silt)

APPENDIX 3: Drawing Register

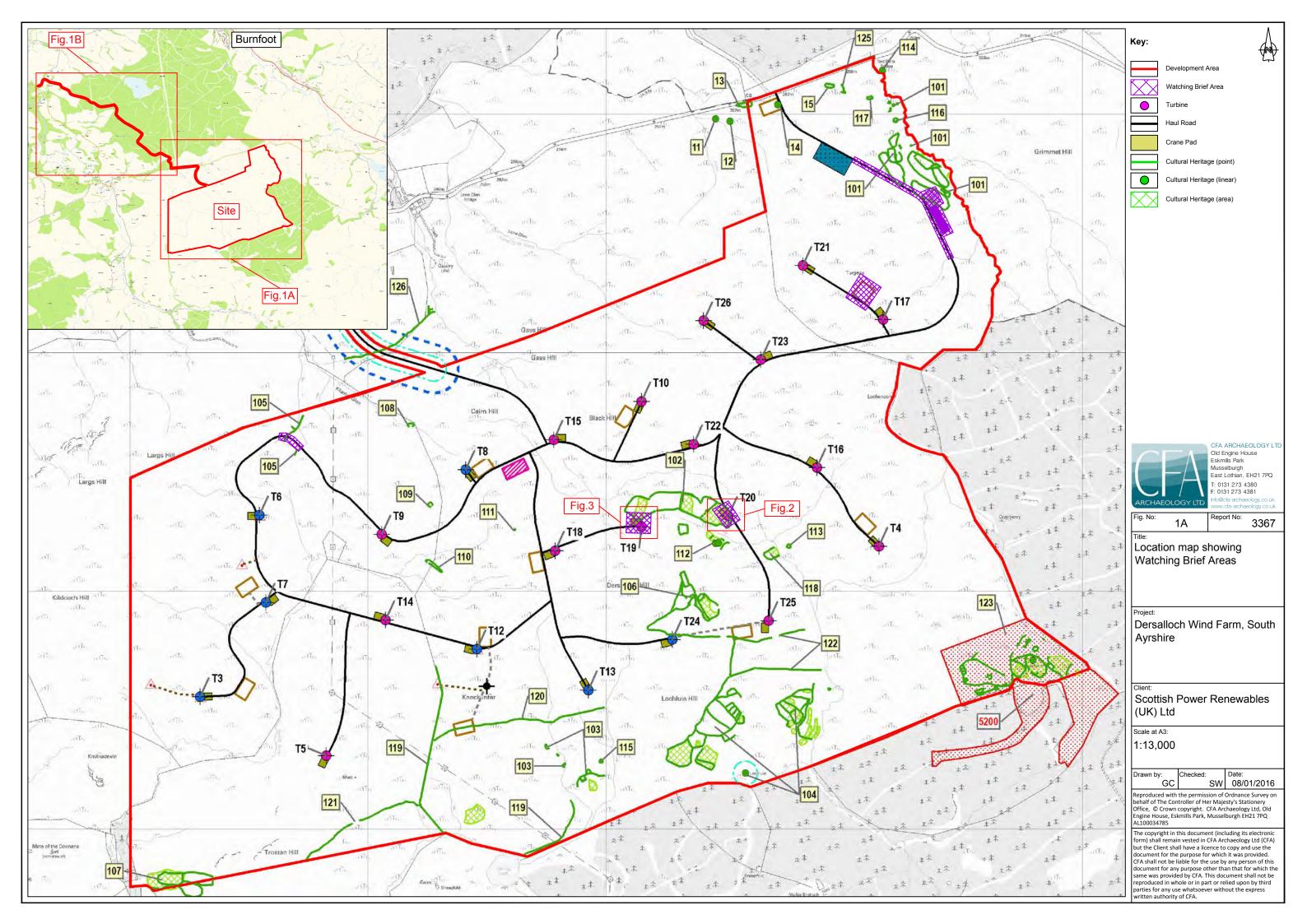
Dwg.	Description	Section/Plan	Scale
No.			
1	Pits 009/011/013/015 plan	Plan	1:20
2	Pit 009 W-facing section	Section	1:20
3	Pit 011, W-facing section	Section	1:20
4	Pit 013, NE-facing section	Section	1:20
5	Pit 015, SW-facing section	Section	1:20
6	Pit 017, plan	Plan	1:10
7	Pit 017, W-facing section	Section	1:10
8	Pit 005, plan	Plan	1:10
9	Pit 005, N-facing section	Section	1:10
10	Pit 007, plan	Plan	1:10
11	Pit 007, W-facing section	Section	1:10

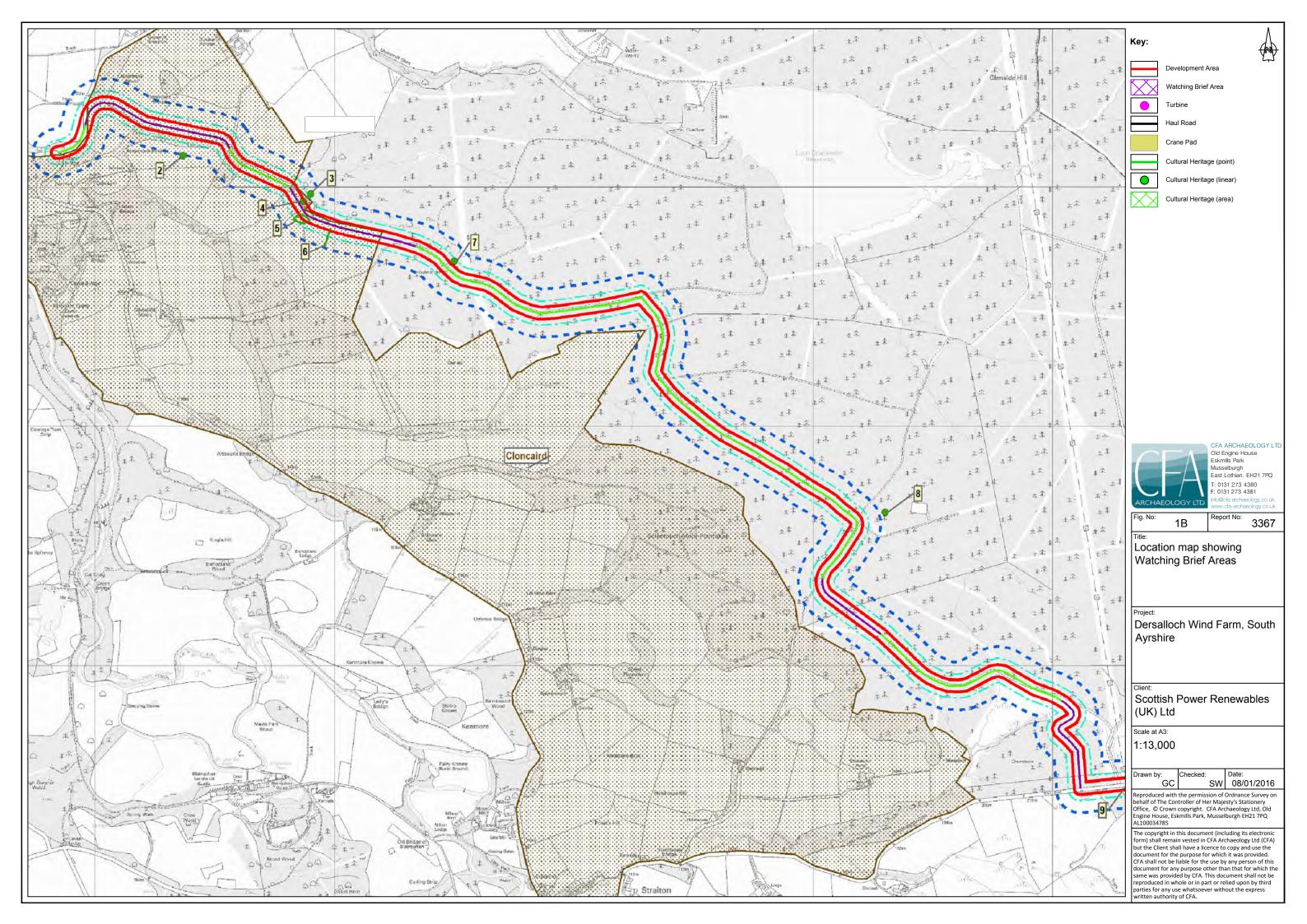
APPENDIX 4: Sample Register

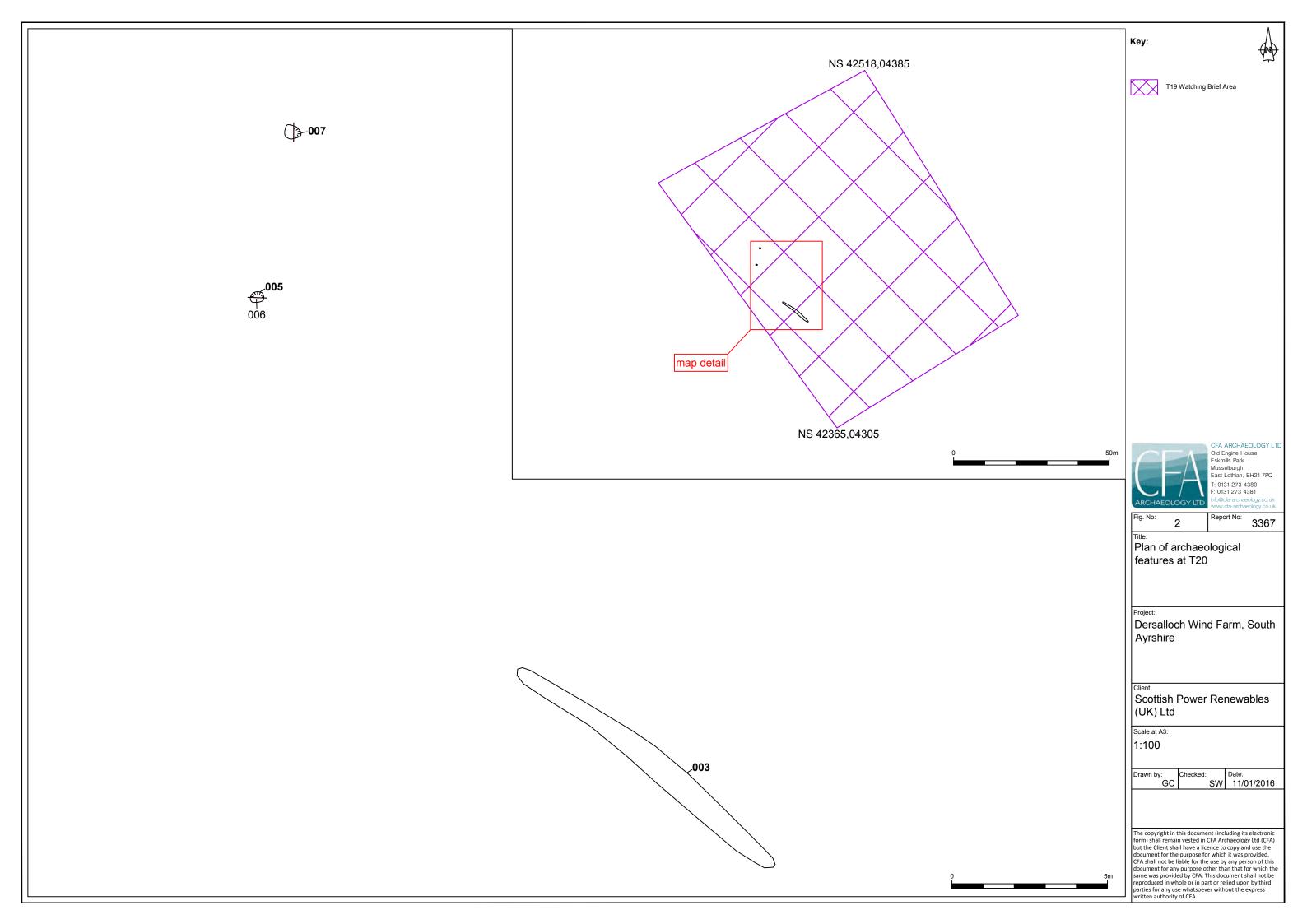
Sample No	Context	Fill	Sample type	Reason for	Sample Volume
		of		collection	
1	006	005	Bulk (100%)	Charcoal	51
2	008	007	Bulk (100%)	Charcoal	51
3	016	015	Bulk (50%)	Charcoal	101
4	014	013	Bulk (50%)	Charcoal	101
5	012	011	Bulk (50%)	Charcoal	101
6	018	017	Bulk (100%)	Charcoal	2.51

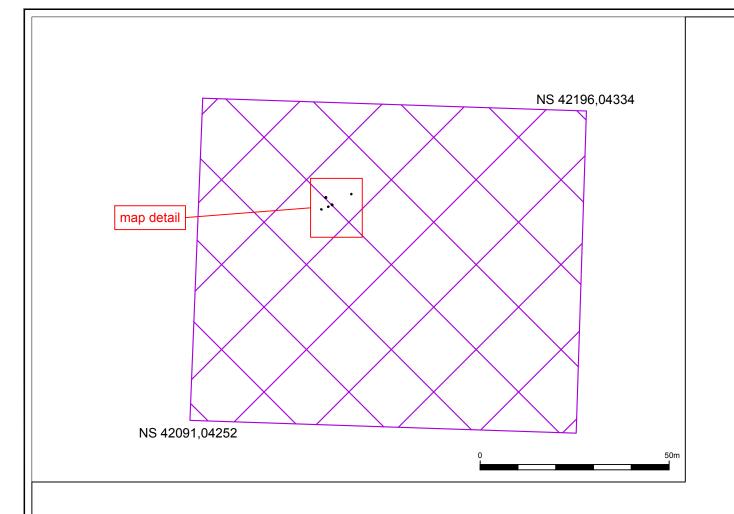
APPENDIX 5: Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	South Ayrshire
PROJECT TITLE/SITE NAME:	Dersalloch Wind Farm
PROJECT CODE:	DEWF
PARISH:	Straiton
NAME OF CONTRIBUTOR:	Magnus Kirby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Site demarcation and targeted watching briefs
NMRS NO(S):	NS40NW 18
SITE/MONUMENT TYPE(S):	Red Burn Settlement (Area of depopulation with buildings and shieling huts)
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NS 42057 03962
START DATE (this season)	April 2015
END DATE (this season)	October 2015
PREVIOUS WORK (incl. DES ref.)	None
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A programme of archaeological mitigation works was carried out at Dersalloch Windfarm, South Ayrshire. The works consisted of the demarcation of specific sites and a programme of targeted watching briefs. A proposed programme of targeted sample evaluations on specific sites was not undertaken because the sites were either deemed to be of very low archaeological potential (improved ground only), or were preserved in situ (either avoided by construction work or floated over). For similar reasons, the fencing off of sites was only required in relation to a percentage of those originally proposed. The watching brief led to the discovery of two clusters of archaeological features. These consisted of a shallow linear feature and a number of small and shallow pit features. Some of these pits contained charcoal-rich deposits. There were no finds from these features, but a number of soil
PROPOSED FUTURE WORK:	samples were retained for analysis. Post excavation analysis?
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Scottish Power Renewables (UK) Ltd
ADDRESS OF MAIN CONTRIBUTOR:	CFA Archaeology Ltd, Old Engine House, Eskmills Park, Musselburgh, EH21 7PQ.
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	Archive to be deposited in NMRS, Reports lodged with SMR and NMRS.

















T19 Watching Brief Area



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3367

3

Plan of archaeological features at T19

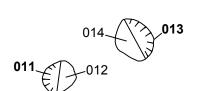
Dersalloch Wind Farm, South Ayrshire

Scottish Power Renewables (UK) Ltd

Scale at A3: 1:50

i: Date: SW 08/01/2016 Checked:

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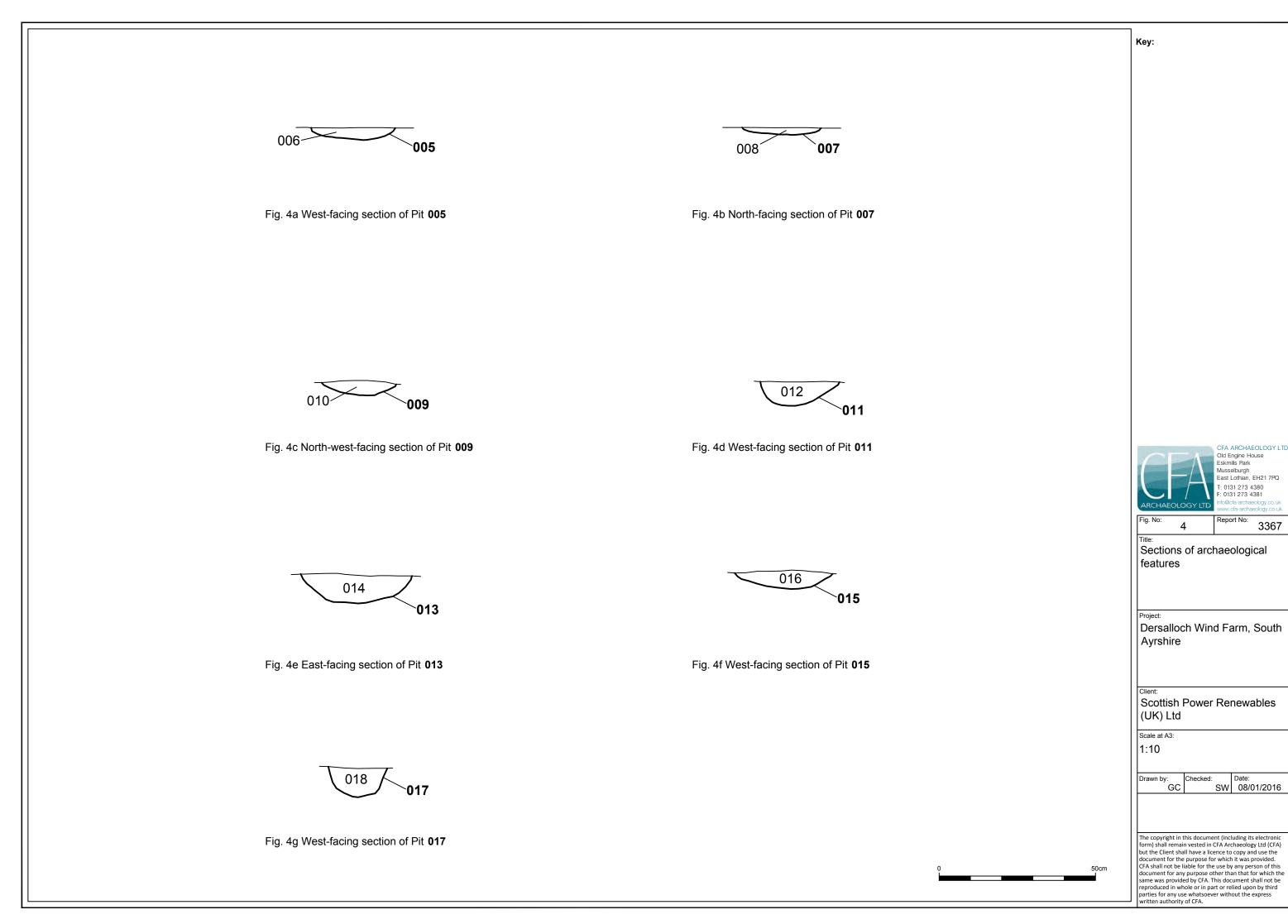




Fig. 5 Area strippped for T20



Fig.6 Linear 003 from the south-east



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Project:



Fig. 7 Pit 005 north-facing section



Fig.8 Area stripped for T19



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Fig. 9 Pit 009 west-facing section



Fig.10 Pit 011 west-facing section



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Fig. 11 Pit 013 north-east-facing section



Fig.12 Pit 015 south-west-facing section



0131 273 4380 0131 273 4381

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Fig. 13 Section through field bank 105



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Project: