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Ardentraive Hydro Scheme Colintraive, Argyll & Bute

Archaeological Mitigation Works

Report No. 3400

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Ardentraive Hydro Scheme Colintraive, Argyll & Bute

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1 INTRODUCTION

1.1 General

This report presents the results of a programme of archaeological works undertaken by CFA Archaeology Ltd (CFA) in November 2015 and January 2016 during groundworks for the Ardentraive Hydro Scheme, Colintrave, Argyll (NGR: NS 03874 75591 to NS 03320 74650) (Fig. 1). The work was commissioned by Green Highland Renewables Ltd (Green Highland).

A Written Scheme of Investigations (WSI) dated 04 March 2015 was produced by CFA on behalf of Green Highland. The WSI was approved by the West of Scotland Archaeology Service (WoSAS).

1.2 Background

Planning consent (Ref. 14/00648/PP) has been granted for the construction of the Ardentraive Hydro Scheme to the north of Colintrave. The scheme consists of an intake at an existing dam on the Milton Burn, a turbine house, and approximately 1.08km of penstock pipeline. The planning condition was subject to an archaeological condition requiring a targeted watching brief and the recording of two post-medieval field-banks that cross the pipeline.

A desk-based-investigation and walk-over survey for this scheme was undertaken by Scotia Archaeology in November 2013 (Scotia 2013). This study led to the identification of nine cultural heritage sites (Site 1-9) within the vicinity of the scheme. Five of these sites (Sites 2, 3, 4, 6 and 7) indicated evidence of prehistoric activity within the area, while the remainder (Sites 1, 5, 8 and 9) related to post-medieval agriculture. The prehistoric sites consisted of cup-marked rocks, a cairn and a find-spot (stone-axe), while the post-medieval sites consisted of a house, a township, and two turf and stone field banks. Direct impacts from the hydro scheme were predicted in relation to the two field banks (Site 8 and Site 9), but the remainder of the sites lay outwith the development area.

As a result of the archaeological potential of the area, it was decided in consultation with WoSAS that a watching brief would be undertaken covering the southern half of the penstock pipeline on the lower altitude, improved and semi-improved ground where conditions would have been more conducive to settlement. The other areas targeted were the locations where Site 8 and Site 9 were crossed by the penstock pipeline so that these features could be recorded where they were cut through by construction activities.

The ground on which the main watching brief was undertaken sloped steeply upwards from south to north. On the lower ground adjacent to Ardentraive Farm, the ground had been extensively improved, while higher up the hill it had been partially improved for grazing (Fig. 10) with some evidence of drainage being present. Above the main watching brief area the ground consisted of rough moorland and birch forest, but vestigial traces of rig-and-furrow cultivation indicate that it had been utilized for agricultural purposes in the past.

1.3 Objectives

The objectives of this watching brief were:

- **Sites 8 and 9 Recording.** The two linear features will be crossed by the penstock and required recording where they were cut through by construction activities.
- **Archaeological Watching Brief.** A watching brief for the purpose of monitoring construction works in archaeologically sensitive areas.

2. WORKING METHODS

2.1 General

CFA Archaeology Ltd follows the Chartered Institute for Archaeologists' Code of Conduct, Standards and Guidance.

2.2 Watching Brief

The topsoil deposits were removed using a 360° tracked excavator. All ground-breaking works were carried out under constant archaeological supervision.

All excavation and on-site recording was carried out according to standard CFA procedures, principally by drawing, by photography and by completing standard CFA record forms.

3. ARCHAEOLOGICAL RESULTS

3.1 General

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

3.2 Watching Brief

The soil deposits within the improved ground at the southern end of the development consisted of 0.2m of grey-brown silt topsoil (**001**) and up to 0.2m of mixed orangey-brown silty sandy-clay subsoil (**002**) overlying orange-brown sandy-clay natural (**000**). Further up the hill on the wetter semi-improved ground, the deposits tended to consist of peat/silty-peat topsoil (**001**) overlying orange-brown sandy-clay/grey clay natural (**000**) (Fig. 10). Outwith the main watching brief area within close proximity to sites 8 and 9, the deposits were broadly similar, but rather wetter and peatier. A number of ceramic cylinder field drains were identified on the improved ground, and a few rubble field drains were identified on the semi-improved ground.

3.3 Archaeological Features

There were no archaeological features identified within the main watching brief area. A small area of rig-and furrow cultivation was identified adjacent to Site 8 and Site 9, but this lay just outwith the development area and was not affected by the programme of works (see Fig. 1 for location). Sections were recorded through Site 8 and Site 9 and the details are contained within the following paragraphs.

Site 9

The Site 9 field bank (RCAHMS No. NS07NW 36) (Fig. 5) formed part of a large irregular enclosure which ran from the edge of the Milton Burn in a western direction before looping round and back to the Milton Burn at a location to the north-east of its starting point (Fig. 1). The south-eastern edge of the enclosure between the start and end points of Site 9 was formed by the steep natural escarpment dropping down towards the Milton Burn. The southern edge of this enclosure is depicted on the First Edition 6" Ordnance Survey map (1869), while the current map shows it extending as far as a small tributary watercourse, which enters the Milton Burn from the NNW. None of the maps consulted showed the enclosure in its entirety, but this is considered more likely to be a result of the standard of surveying in this remote upland area rather than a reflection of when it was constructed. The enclosure was breached twice by the penstock pipeline, once along its southern edge, and again along its north-eastern edge. Sections were recorded in both locations in which it was breached.

Where field bank Site 9 was cut for the penstock pipeline along its southern edge (Section 1) it measured 2.8m in width and was upstanding to a height of 1m (Fig. 2 and 6) Running parallel with the bank was a shallow ditch (**009**) with a width of 0.8m and a depth of 0.15m. The primary bank material consisted of compact beige clay (**004**). This was overlain by large stones set within a matrix of orange sandy-clay (**005**) and above this there was a layer of degraded turf (**006**) and a deposit of beige-orange sandy clay (**007**). The bank had then been capped with silty-peat topsoil material (**003**) (probably degraded turf/topsoil dug from the adjacent ditch).

Where field bank Site 9 was cut for the penstock pipeline along its north-eastern edge (Section 2) it measured 2.8m in width and was upstanding to a height of 0.8 (Fig. 3 and 7). Running parallel with the bank was a very shallow ditch with a width of 1.8m and a depth of 0.15m. The primary bank material (**011**) consisted of orange-brown sandy clay (redeposited natural) capped with brown silty-clay topsoil material (**010**) (probably degraded turf/topsoil dug from the adjacent ditch).

Site 8

Site 8 consisted of a short length of WNW to ESE aligned field bank (Fig. 8), which ran for a distance of 20m from a tributary of the Milton Burn towards the Site 9 field boundary. Where a section was recorded through this feature it measured 0.9m wide by 0.46m high. The bank material (**014**) consisted of orange sand with patches of grey clay, which was capped with a thick layer of turf (**013**) (Fig. 4 and 9). This field bank may have been associated with an area of vestigial rig-and-furrow cultivation (Fig. 1), which was identified to the south of the bank just outwith the working area for the pipeline.

The rig-and-furrow was very narrow measuring only c.2m crest to crest and was very poorly preserved, only really being visible as slight linear changes in the vegetation (estimated to be upstanding to a height of <0.05m).

4. CONCLUSIONS

An archaeological watching brief was undertaken during groundworks for the construction of the Ardenraive Hydro Scheme to the north of Colintraive. The watching brief targeted the lower altitude improved and semi-improved ground as well as two locations on the higher moorland ground where the penstock pipeline crossed two field banks. One of the field banks was used in conjunction with the steep natural escarpment above the Milton Burn in order to form a large irregular enclosure, while the other field bank may have been associated with a vestigial area of rig-and-furrow cultivation which lay just outwith the watching brief area. Sections were recorded through the field banks, but there were no other features, deposits or artefacts of cultural heritage interest identified.

The project archive, comprising all CFA record sheets, maps and reports, will be deposited with the National Monuments Record of Scotland (NMRS) and copies of reports will be lodged with the Argyll & Bute Sites and Monuments Record.

A summary statement of this programme of archaeological works will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 4) and will also be reported on through *OASIS Scotland*.

5. REFERENCES

Bibliographic

Lewis J, 2014 'Inverchaolain, Ardenraive: Walkover Survey' *Discovery and Excavation in Scotland Vol 14 2013 p.45*

Scotia Archaeology 2013 *Ardenraive Hydro Scheme, Colintraive, Kyles of Bute, Argyll. Desk Study and Walk-Over Survey*. Report to Green Highland Renewables Limited.

Cartographic

Ordnance Survey First Edition 6" map (1869) *Argyllshire Sheet CLXXXII*

APPENDIX 1: Photographic Register

Photo Number	Contexts/Description	Taken From
1-4	Pre-excitation shots of on low altitude improved ground	Various
6-16	General working shots within improved ground	Various
17-20	General working shots within semi-improved ground	Various
21-26	Site 9, pre-excitation	Various
27	General working shot within semi-improved ground	NE
28-32	General working shots showing machine cutting through Site 9	Various
33-40	Site 9, SE-facing section (Section 1)	SE
41-42	Site 8, pre-excitation	Various
43-44	Site 9, pre-excitation	Various
45	Site 8, pre-excitation	NW
46	Section of wall at top of main watching brief area	SW
47	Section of wall at top of main watching brief area	NW
48-52	Site 8, SE-facing section	SE
53-58	Site 9, south facing section (Section 2),	S
59-60	General shot of stripping within region of Site 8 and Site 9	SW

APPENDIX 2: Context Register

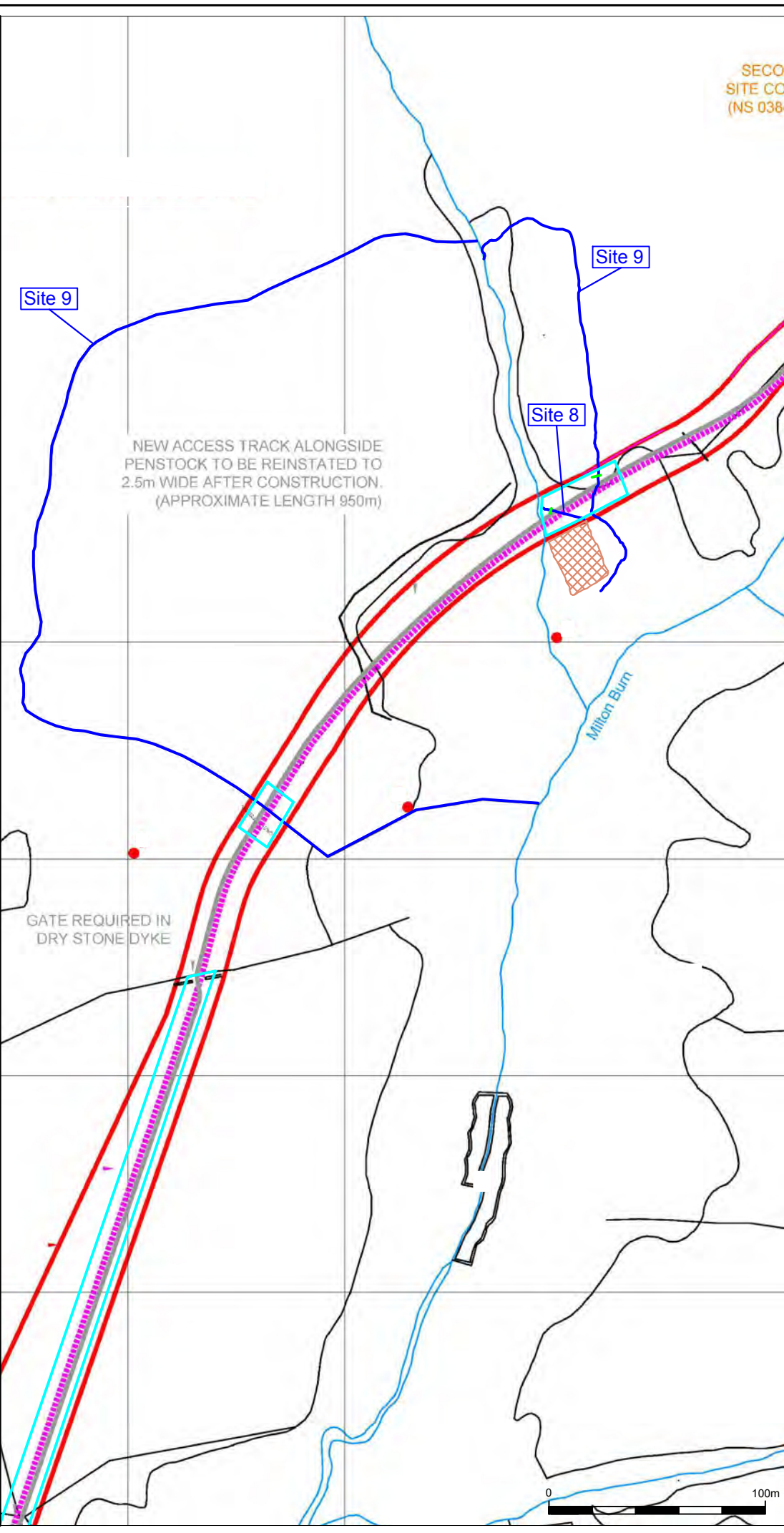
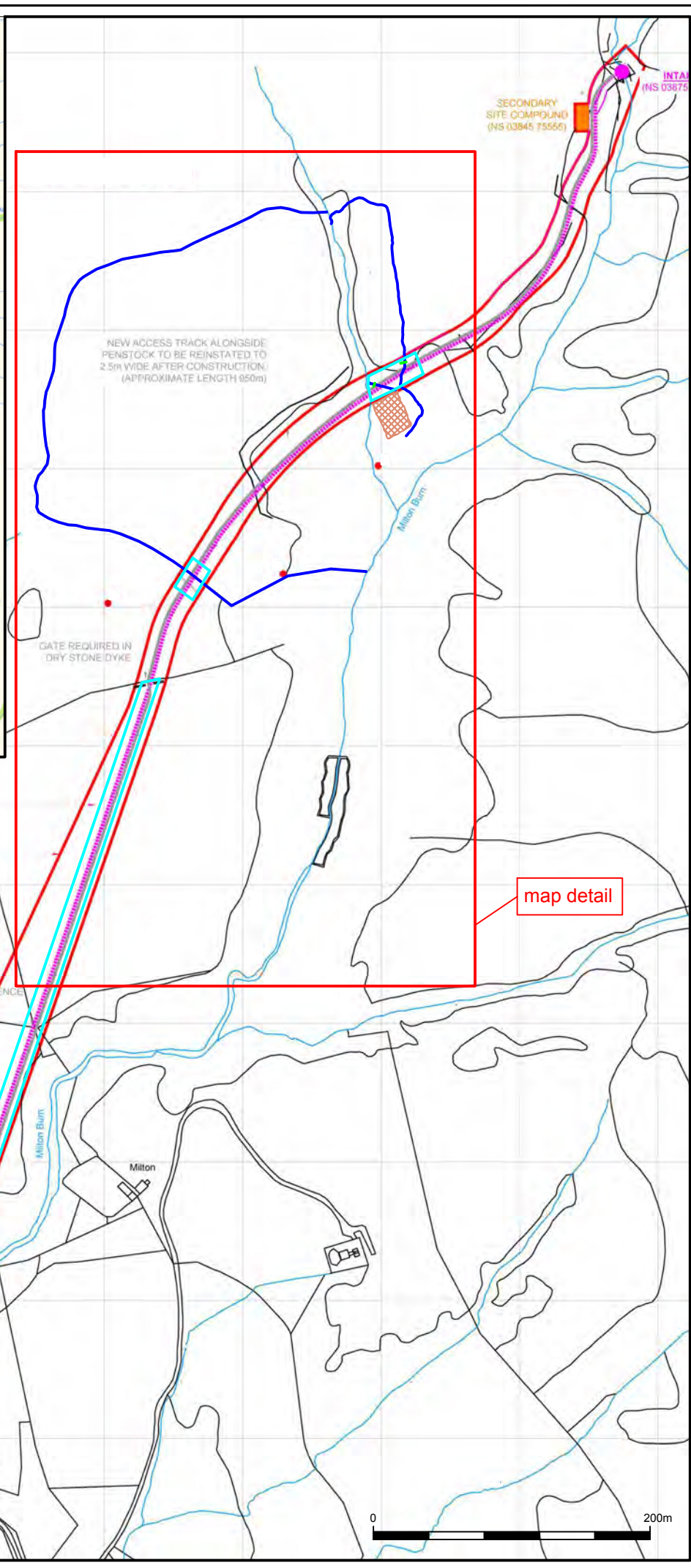
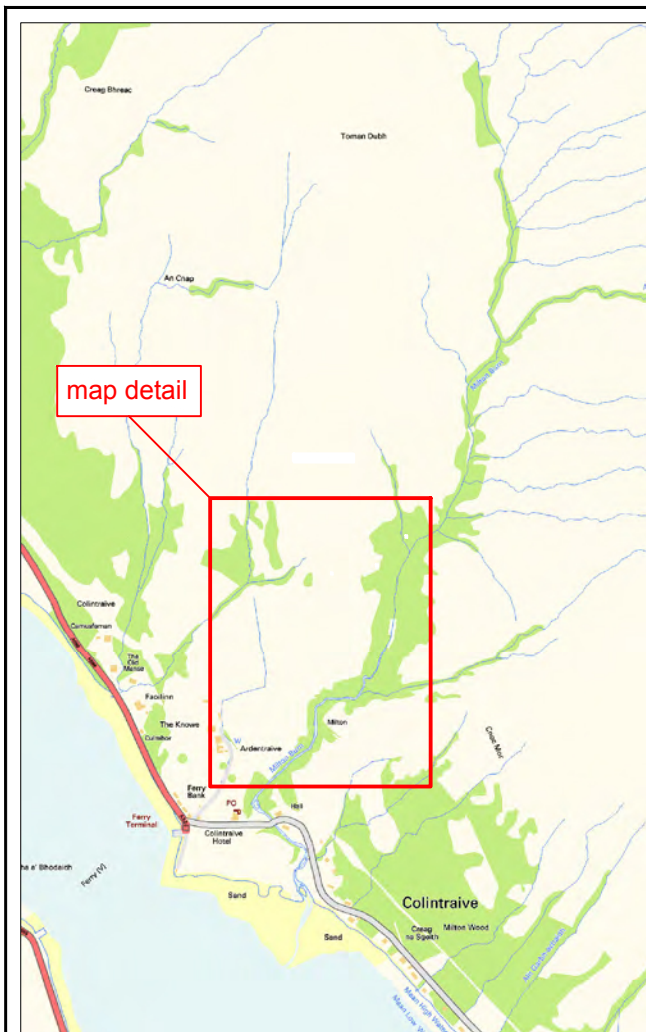
Context No.	Area	Description
000	All	Natural: largely orange-brown sandy clay
001	All	Topsoil: ranges from silt to peaty silt to peat
002	All	Subsoil: mixed orangey-brown silty sandy-clay
003	Site 9, Section 1	Dark silty peat capping field bank
004	Site 9, Section 1	Primary bank material: compact beige clay
005	Site 9, Section 1	Bank material: large stones in matrix of orange sandy-clay
006	Site 9, Section 1	Bank material: degraded peaty turf
007	Site 9, Section 1	Bank material: beige-orange sandy-clay
008	Site 9, Section 1	Grey clay associated with tree bowl in edge of bank
009	Site 9, Section 1	Cut of shallow ditch: cut to bedrock
010	Site 9, Section 2	Brown silty clay topping field bank: probably degraded turf cut from adjoining ditch
011	Site 9, Section 2	Bank material: orange sandy-clay
012	Site 9, Section 2	Cut for shallow drain
013	Site 8	Thick turf capping field bank Site 8
014	Site 8	Bank material: orange sand

APPENDIX 3: Drawing Register

Dwg. No.	Sheet No.	Description	Section/Plan	Scale
1	1	Field Bank Site 9 SE-facing section (Section 1)	Section	1:20
2	2	Field Bank Site 8 SE-facing section	Section	1:20
3	2	Field Bank Site 9 S-facing section (Section 2)	Section	1:20

APPENDIX 4: Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	Argyll and Bute Council
PROJECT TITLE/SITE NAME:	Ardentraive Hydro Scheme, Colintraiive, Argyll
PROJECT CODE:	COHS
PARISH:	Inverchaolain
NAME OF CONTRIBUTOR:	Magnus Kirby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Watching Brief
NMRS NO(S):	NS07NW 36
SITE/MONUMENT TYPE(S):	Field banks/enclosure, rig-and-furrow cultivation
SIGNIFICANT FINDS:	N/A
NGR (2 letters, 6 figures)	NS 03874 75591 to NS 03320 74650
START DATE (this season)	November 2015
END DATE (this season)	January 2016
PREVIOUS WORK (incl. DES ref.)	Desk-based study and walkover survey (DES Vol.14 2013 p.45)
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	An archaeological watching brief was undertaken during groundworks for the construction of the Ardentraive Hydro Scheme to the north of Colintraiive. The watching brief targeted the lower altitude improved and semi-improved ground, as well as two locations on the higher moorland ground where the penstock pipeline crossed two field banks. One of the field banks was used in conjunction with the steep natural escarpment above the Milton Burn in order to form a large irregular enclosure, while the other field bank may have been associated with a vestigial area of rig-and-furrow cultivation which lay just outwith the watching brief area. Sections were recorded through the field banks, but there were no other features, deposits or artefacts of cultural heritage interest identified.
PROPOSED FUTURE WORK:	None
CAPTION(S) FOR ILLUSTRS:	None
SPONSOR OR FUNDING BODY:	Green Highland Renewables 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.



- Key:**
- Site boundary
 - Hydro Scheme
 - Archaeological feature
 - Section
 - Area of rig and furrow
 - Area of watching brief

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Fig. No: 1 Report No: 3400

Title:
 Location map and site plan

Project:
 Colintrave Hydro Scheme

Client:
 Green Highland Renewables

Scale at A3:
 1:4000 and 1:2500

Drawn by: GC Checked: SW Date: 14/03/2016

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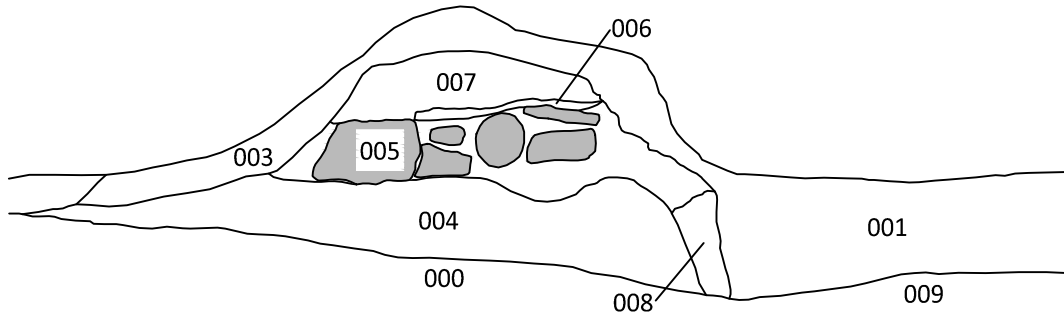


Fig.2 Site 9 SE-facing section

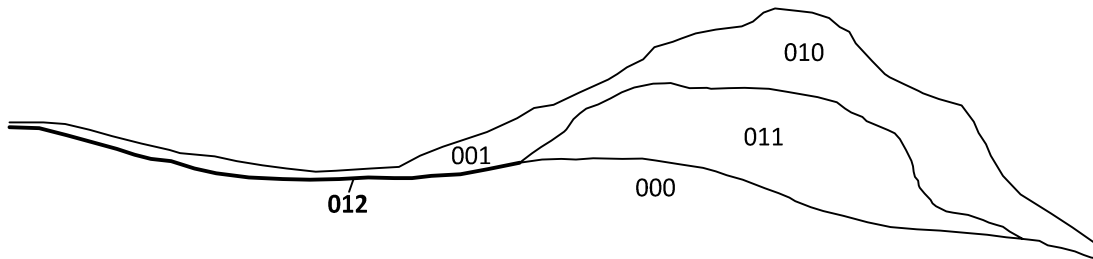
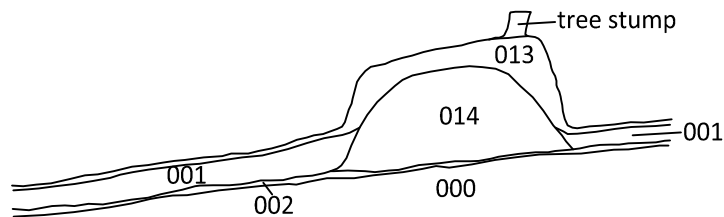


Fig.3 Site 9 S-facing section



Key:
 Stone

Fig.4 Site 8 SE-facing section



Title: Sections	Client: Green Highland Renewables
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Fig. 5 Site 9, pre-excavation



Fig. 6 Site 9, south-east-facing section (Section 1)

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Fig. 7 Site 9, south-facing-section (Section 2)



Fig. 8 Site 8, pre-excavation

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Fig. 9 Site 8, south-east-facing-section



Fig. 10 General shot of main watching brief area (from the north-north-east)

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