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Advice on Archaeology & Planning

Environmental Impact Assessment

Intpretation, Design & Display

Finds/ Environmental Analysis

Field Evaluation & Excavation

Historic Building Recording

Site & Landscape Survey

Geophysical Survey


**Chorach Hydro Electric Generating Station
Glen Dochart
Criarlrich
Stirlingshire**


Archaeological Works

Report No. 1689

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This document has been prepared in accordance with CFA Archaeology Ltd standard operating procedures.

**Chaorach Hydro Electric Generating Station
Glen Dochart
Criarlairich
Stirlingshire**

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CONTENTS

1.	Introduction	3
2.	Working Methods	4
3.	Archaeological Results	5
4.	Conclusions and Recommendations	6

Appendices

1.	Photographic Register	7
2.	Context Register	9
3.	Drawings Register	9
4.	Discovery and Excavation in Scotland Entry	10

Illustrations (bound at rear)

Fig. 1	Location map
Fig. 2	Detailed location plan
Fig. 3	SW-facing section of shieling through opposed entranceways
Fig. 4	NW-facing section/profile across shieling
Fig. 5	Tr.2, NW-facing section
Fig. 6	Tr.3, NE-facing section
Fig. 7	Tr.4, SW-facing section
Fig. 8	Site location shots (photographs)
Fig. 9	Internal shots of shieling (photographs)
Fig. 10	Trenches across possible bank (photographs)

1. INTRODUCTION

1.1 General

1.1.1 This report presents the results of a programme of archaeological works undertaken by CFA Archaeology Ltd (CFA) in September 2009 at the site of Chaorach Hydro Electric Generating Station, Glen Dochart, near Crianlarich, Stirlingshire (NGR: NN 4621 2518) (Fig.1). The work was commissioned by ASH design + assessment Ltd (ASH) on behalf of Scottish and Southern Energy Ltd (SSE).

1.1.2 A Project Design (PD) dated 17 August 2009 was produced by CFA on behalf of ASH and was agreed in advance by the Archaeology Officer for Stirling Council. The PD provided a method statement for an archaeological evaluation and constituted Phase 1 of what may be a multiphase response to the archaeological implications of this development.

1.2 Background

1.2.1 Planning permission has been granted under Section 36 of the Electricity Act 1989 for a hydro electric generating station on the Allt Coire Chaorach on the eastern flank of Ben More. The location where the main inlet is to be constructed contained a shieling hut and possible enclosure that had been identified during a Cultural Heritage Assessment carried out by CFA in 2006 as part of an Environmental Statement (ES). The ES provided details of a mitigation plan for cultural heritage features that may be affected by this development. This report should be read in conjunction with the aforementioned document.

1.2.2 Under the National Planning Policy Guideline on Archaeology and Planning (SPP 23), archaeological remains should be preserved *in situ* wherever feasible, and where this is not possible, recorded before destruction. The proposals focused on mitigating any effect the development may have on the shieling hut and possible enclosure (Site 2 in the ES) and initially looked at preservation *in situ*, but as this was deemed not possible, a programme of archaeological recording was undertaken.

1.2.3 A topographic survey of the site was undertaken by CFA in June 2009 in order to inform the mitigation proposals and following further discussion with the Archaeology Officer for Stirling Council, it was agreed that this phase of works would take the form of an archaeological evaluation of the site.

1.2.4 No previous invasive archaeological fieldwork is known to have taken place within the proposed development area prior to this evaluation.

1.3 Objectives

1.3.1 The aims of the evaluation were:

- To produce a Level 1 standing building survey of the shieling.
- To evaluate the shieling and enclosure through the hand excavation of trial trenches.
- To produce a report outlining the results of the work.

2. WORKING METHODS

2.1 Historic Building Survey

2.1.1 A Level 1 survey, as defined by English Heritage (2006), was undertaken of the interior and exterior elevations of the shieling hut prior to the evaluation to provide a record of the structure.

2.1.2 An appropriate photographic record was made of all internal and external elevations of the building. CFA uses a Digital Nikon D100 SLR to take 35mm digital photographs of structures and specific architectural features. Selected representative images are incorporated into this report.

2.1.3 A written descriptive record was made of the structure including synthesis on the changes of use, blocking work and any other features of historical and architectural significance.

2.2 Evaluation

2.2.1 All work was conducted in accordance with the Institute for Archaeologists' Code of Conduct as set out in the Guidance for Archaeological Field Evaluations 1994 (revised 2008).

2.2.2 A trenching plan (Fig.2) was produced by CFA and agreed in advance by the Archaeology Officer for Stirling Council. It consisted of a cross-shaped trench (Tr.1) across the interior of the shieling and three trenches (Tr. 2 – Tr. 4) across the possible enclosure bank. During the excavation, Tr. 1 was extended to incorporate the whole of the interior of the shieling.

2.2.3 The trenches were excavated by hand to remove topsoil and modern deposits down to subsoil. Any further excavation required to fulfil the objectives of the evaluation were carried out by hand following proper archaeological methods.

2.2.4 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. The stratification was recorded even if no deposits of archaeological significance were discovered. The location of the trenches was recorded using industry standard surveying equipment.

3. ARCHAEOLOGICAL RESULTS

3.1 Historic Building Survey

Background

- 3.1.1 Traditionally, shielings were occupied between June and August when the cattle and goats would be removed from the farming townships and taken to the summer grazing on the higher ground. This task was mainly carried out by the women and children who spent the summer living in basically constructed stone and turf dwellings. This allowed for a period of recovery for the lower level grazing, improving the condition of the animals and reducing the risk of disease. It also reduced the chances of the crops being trampled by animals. Shieling locations are frequently demarcated by the Gaelic names *airigh* or *ruigh*.

Description

- 3.1.2 Overall, the shieling measured 6m NE to SW by 4.2m externally and 4.2m by 2.4m internally (Fig. 3 and Fig. 4). It was of dry-stone construction, consisting of large un-dressed river-rolled boulders measuring up to c. 0.7m in length. The walls, which had been constructed directly on the subsoil, were upstanding to a height of c. 1m, and had a width of c. 0.9m – 1m at the base, tapering to c. 0.4m – 0.5m at the top. It is unclear if the walls stood to their full height, but given the nature of the usage of this type of building, this may well be the case. Two opposed entranceways were present in the north-west and south-eastern walls, measuring 0.8m and 0.6m in width respectively. Modern posts were present on either side of the entranceway where wooden gates had been erected. The corners of the shieling were slightly rounded, being more pronouncedly so at the south-western end than at the north-eastern end. There were no internal features, with the building consisting of a single compartment.
- 3.1.3 There was no evidence of the shieling roof, but it is likely that it consisted of peat turf or heather thatch supported on a wooden framework. No evidence of post-holes was identified, suggesting that the framework was either placed on top of the walls or sat directly on the surface of the natural subsoil.

3.2 Evaluation

- 3.2.1 The area evaluated consisted of the interior of the shieling together with an area immediately outwith the entranceways on either of the long sides of the building (Tr. 1). Three evaluation trenches (Tr. 2 – Tr. 4) were also excavated through the possible enclosure bank to the north-east of the shieling.
- 3.2.2 The evaluation of the shieling confirmed that it had been constructed directly on top of a free draining natural mound. The deposits within the shieling consisted of c. 0.14m of dark peaty silt overlying orange/reddish-brown gravel and sand. There were no features identified within or immediately adjacent to the shieling and no evidence of either earlier buildings or re-building. A

number of modern artefacts were identified including fencing wire, staples, a claw-hammer and a spade, but there was no dating evidence relating to the construction or early use of the shieling.

- 3.2.3 The three trenches (Fig. 5 – Fig. 7) excavated across the possible enclosure revealed that this feature is part of a natural river bank with no evidence of any kind of anthropogenic enhancement. The deposits with these trenches consisted of c. 0.1m – 0.2m peaty topsoil overlying reddish brown sandy gravel.

4. CONCLUSIONS AND RECOMENDATIONS

- 4.1 An archaeological evaluation and standing building survey were carried out on a shieling hut and possible enclosure alongside the Allt Coire Chaorach in advance of the structure being destroyed to create the main inlet for a small scale hydro electric scheme. The evaluation confirmed that the shieling sat directly on top of a natural free-draining mound and that the possible enclosure was a natural river bank with no evidence of any anthropogenic enhancement. No archaeological features were identified within any of the evaluation trenches.
- 4.2 A summary statement of the results of this evaluation will be submitted for publication in *Discovery and Excavation in Scotland* (Appendix 4).
- 4.3 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 Stirlingshire Council Sites and Monuments Record.
- 4.4 The decision regarding any further mitigation lies with the Archaeology Officer for Stirling Council.

APPENDIX 1: Photographic Register

Film 1

Shot	Description	Taken from	Conditions
1-4	NE-facing internal wall of shieling	NE	Rain
5-8	SW-facing internal wall of shieling	SW	Rain
9-12	SE-facing internal wall of shieling (NE part)	SE	Rain
13-16	SE-facing internal wall of shieling (SW part)	SE	Rain
17-20	NW-facing internal wall of shieling (SW part)	NW	Rain
21-24	NW-facing internal wall of shieling (NE part)	NW	Rain
25-26	NE-facing external wall of shieling	NE	Rain
27-28	SW-facing external wall of shieling	SW	Rain
29-30	NW-facing external wall of shieling (SW part)	NW	Rain
31-32	NW-facing external wall of shieling (NE part)	NW	Rain
33-34	SE-facing external wall of shieling (NE part)	SE	Rain
35-36	SE-facing external wall of shieling (SW part)	SE	Rain

Film 2

Shot	Description	Taken from	Conditions
1-2	View looking through opposed entranceways of shieling	SE	Rain
3-4	Shieling wall on the SW side of the entranceway in the NW wall	NE	Rain
5-6	Shieling wall to the NE side of the entranceway in the SE wall	SW	Rain
8-10	NE facing section across the interior of the shieling	NE	Overcast

Film 3

Shot	Description	Taken from	Conditions
1-2	Tr.2 through possible bank pre ex	NW	Rain
3-4	Tr.3 through possible bank pre ex	NW	Rain
5-6	Tr.4 through possible bank pre ex	SE	Rain
7-8	Tr.2 through possible bank post-ex	NE	Overcast
9-10	Tr.2 through possible bank post-ex	SW	Overcast
11-12	Tr.2 NW-facing section	NW	Overcast
13-14	Tr.3 through possible bank post-ex	NW	Overcast
15-16	Tr.3 through possible bank post-ex	SE	Overcast
17-18	Tr.3 SW-facing section	SW	Overcast
19-20	Tr.4 through possible bank post-ex	SE	Overcast
21-22	Tr.4 through possible bank post-ex	NW	Overcast
23-24	Tr.4 SW-facing section	SW	Overcast
25-26	Tr.1 alongside SE facing external wall of shieling	SE	Overcast
27-28	Tr.1 alongside NW facing external wall of shieling	NW	Overcast
29-30	Interior of shieling, post -ex	NE	Overcast
31-32	Interior of shieling, post -ex	SW	Overcast
33-34	Interior of shieling, post -ex	SE	Overcast
35-37	Interior of shieling, post -ex	NW	Overcast

Digital

Shot	Description	Taken from	Conditions
1-4	NE-facing internal wall of shieling	NE	Rain
5-8	SW-facing internal wall of shieling	SW	Rain
9-12	SE-facing internal wall of shieling (NE part)	SE	Rain
13-16	SE-facing internal wall of shieling (SW part)	SE	Rain
17-20	NW-facing internal wall of shieling (SW part)	NW	Rain
21-24	NW-facing internal wall of shieling (NE part)	NW	Rain
25-26	NE-facing external wall of shieling	NE	Rain
27-28	SW-facing external wall of shieling	SW	Rain
29-30	NW-facing external wall of shieling (SW part)	NW	Rain
31-32	NW-facing external wall of shieling (NE part)	NW	Rain
33-34	SE-facing external wall of shieling (NE part)	SE	Rain
35-36	SE-facing external wall of shieling (SW part)	SE	Rain
37-38	View looking through opposed entranceways of shieling	SE	Rain
39-40	Shieling wall on the SW side of the entranceway in the NW wall	NE	Rain
41-42	Shieling wall to the NE side of the entranceway in the SE wall	SW	Rain
43-46	NE-facing section across the interior of the shieling	NE	Overcast
47-48	Tr.2 through possible bank pre ex	NW	Rain
49-50	Tr.3 through possible bank pre ex	NW	Rain
51-52	Tr.4 through possible bank pre ex	SE	Rain
53-54	Tr.2 through possible bank post-ex	NE	Overcast
55-56	Tr.2 through possible bank post-ex	SW	Overcast
57-58	Tr.2 NW-facing section	NW	Overcast
59-60	Tr.3 through possible bank post-ex	NW	Overcast
61-62	Tr.3 through possible bank post-ex	SE	Overcast
63-64	Tr.3 SW-facing section	SW	Overcast
65-66	Tr.4 through possible bank post-ex	SE	Overcast
67-68	Tr.4 through possible bank post-ex	NW	Overcast
68-70	Tr.4 SW-facing section	SW	Overcast
71-72	Tr.1 alongside SE facing external wall of shieling	SE	Overcast
73-74	Tr.1 alongside NW facing external wall of shieling	NW	Overcast
75-76	Interior of shieling, post -ex	NE	Overcast
77-78	Interior of shieling, post -ex	SW	Overcast
79-80	Interior of shieling, post -ex	SE	Overcast
81-83	Interior of shieling, post -ex	NW	Overcast
84-104	Various shots of shieling	Various	Overcast/Rain

APPENDIX 2: Context Register

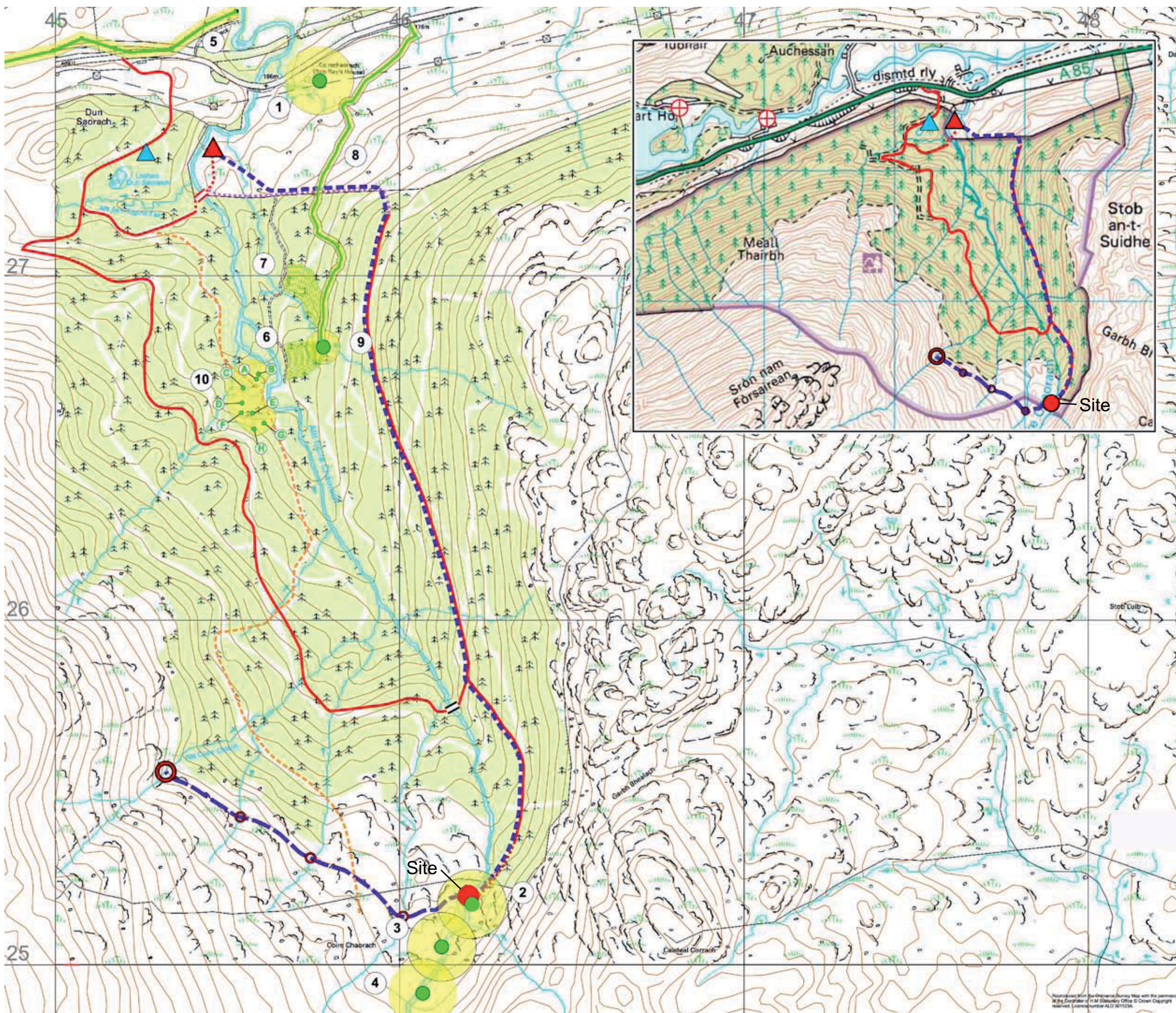
Context No.	Trench	Type	Dimensions (m)	Description
001	All	Topsoil	0.08 deep	Layer of turf and topsoil. Consists of peat and peaty silt
002	All	Subsoil	N/A	Reddish brown sandy gravel and sand
003	1	Stone	6m by 4.2m by 1m	Stonework forming shieling hut

APPENDIX 3: Drawings Register

Drawing No.	Sheet No.	Description	Plan/Section/Elevation	Scale
1	1	SW-facing section across shieling hut	S	1:20
2 A and 2B	2A and 2B	NW-facing section across shieling hut	S	1:20
3	3	Trench 2, NE-facing section	S	1:20
4	3	Trench 2, Plan	P	1:20
5	4	Trench 1, NW-facing section	S	1:20
6	4	Trench 1, plan	P	1:20
7	4	Trench 3, SW-facing section	S	1:20
8	4	Trench 3, plan	P	1:20

APPENDIX 4: Discovery and Excavation in Scotland Entry

LOCAL AUTHORITY:	Stirlingshire Council
PROJECT TITLE/SITE NAME:	Chaorach Hydro Electric Generating Station
PROJECT CODE:	CHAO
PARISH:	Killin
NAME OF CONTRIBUTOR:	Magnus Kirby
NAME OF ORGANISATION:	CFA Archaeology Ltd
TYPE(S) OF PROJECT:	Evaluation and standing building survey
NMRS NO(S):	NN42NE 13
SITE/MONUMENT TYPE(S):	Shieling-hut
SIGNIFICANT FINDS:	None
NGR (2 letters, 6 figures)	NN 4621 2518
START DATE (this season)	September 2009
END DATE (this season)	September 2009
PREVIOUS WORK (incl. DES ref.)	N/A
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	<p>An archaeological evaluation and standing building survey were carried out on a shieling hut and possible enclosure alongside the Allt Coire Chaorach near Crianlarich in advance of the structure being destroyed to create the main inlet for a small scale hydro electric scheme. Overall, the shieling measured 6m NE to SW by 4.2m externally and 4.2m by 2.4m internally. It was of dry-stone construction, consisting of large un-dressed river-rolled boulders measuring up to c. 0.7m in length. The walls, which had been constructed directly on the subsoil, were upstanding to a height of c. 1m, and had a width of c. 0.9m – 1m at the base, tapering to c. 0.4m – 0.5m at the top. Two opposed entranceways were present in the north-west and south-eastern walls, measuring 0.8m and 0.6m in width respectively. Modern posts were present on either side of the entranceway where wooden gates had been erected. The corners of the shieling were slightly rounded, being more pronouncedly so at the south-western end than at the north-eastern end. There were no internal features, with the building consisting of a single compartment.</p> <p>The evaluation confirmed that the shieling sat directly on top of a natural free-draining mound and that the possible enclosure was a natural river bank with no evidence of any anthropogenic enhancement. No archaeological features were identified within any of the evaluation trenches.</p>
PROPOSED FUTURE WORK:	Possible watching brief
CAPTION(S) FOR ILLUSTRS:	N/A
SPONSOR OR FUNDING BODY:	ASH design + assessment Ltd (ASH) on behalf of Scottish and Southern Energy Ltd (SSE).
ADDRESS OF MAIN CONTRIBUTOR:	The Old Engine House, Eskmills Park, Musselburgh, East Lothian, EH21 7PQ
EMAIL ADDRESS:	cfa@cfa-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	The National Monuments Record of Scotland Stirling Council Sites and Monuments Record



- Key:
- Powerhouse
 - Main Intake
 - Small/Minor Intakes
 - High Pressure Buried Pipeline
 - Low Pressure Buried Pipeline
 - Access via Forestry Track
 - Forestry Bridge
 - Proposed New Track
 - Proposed New Bridge
 - Compound
 - Existing Footpath
 - Proposed New Footpath
 - Cultural Heritage Site (including stand-off buffer)
 - Listed Building

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Fig. No: 1 Revision: A

Title: Location Map

Project: CHaorach Hydro Scheme

Scale: 0m 200m 400m

 SCALE N.T.S.

Client: ASH Design and Assessment Ltd.

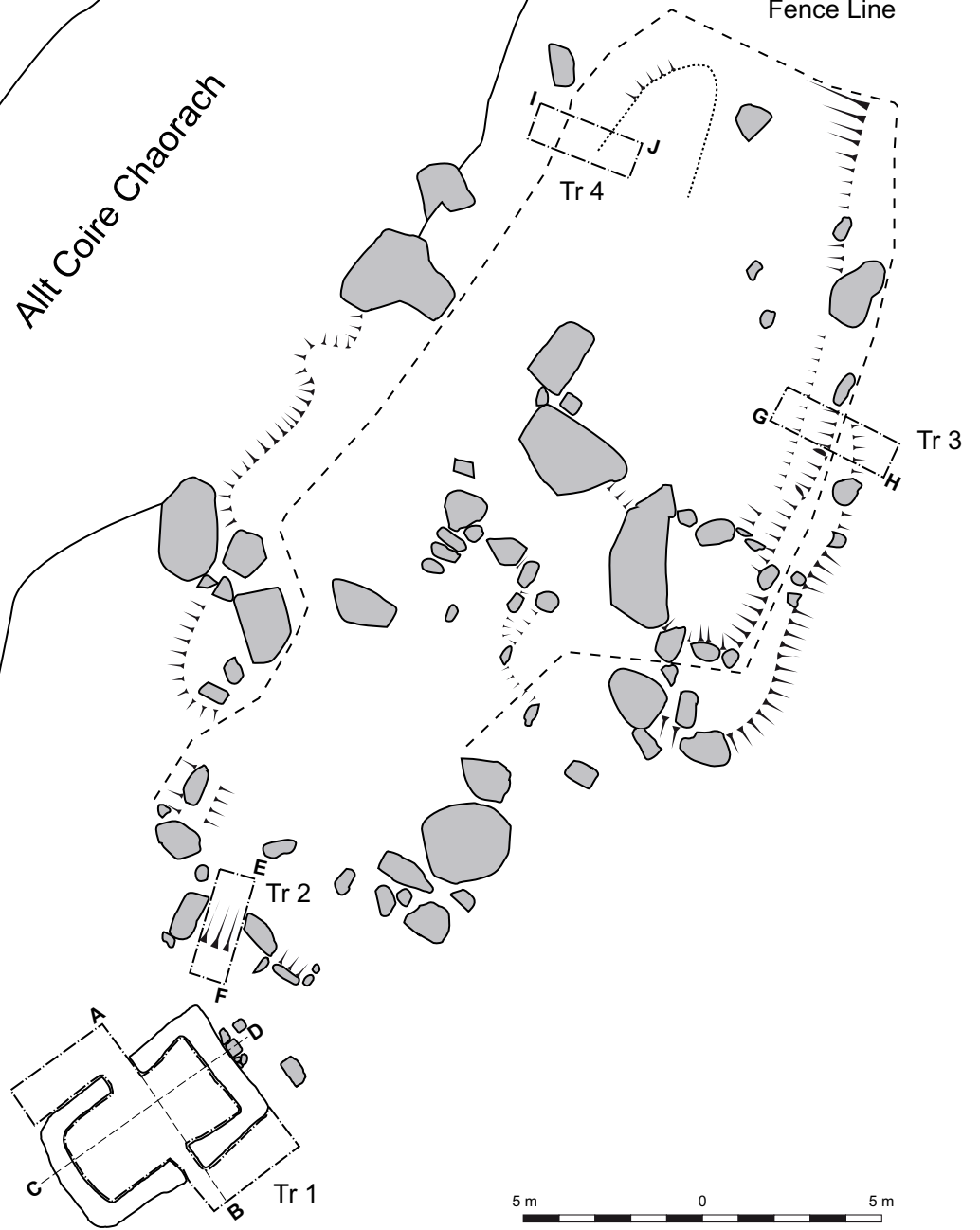
Drawn by: SW Report No: 1689

246190
725205

246220
725205

Allt Coire Chaorach

Fence Line



246190
725165

246225
725165




Key:		Boulders
		Line of Modern Fence
		Shieling



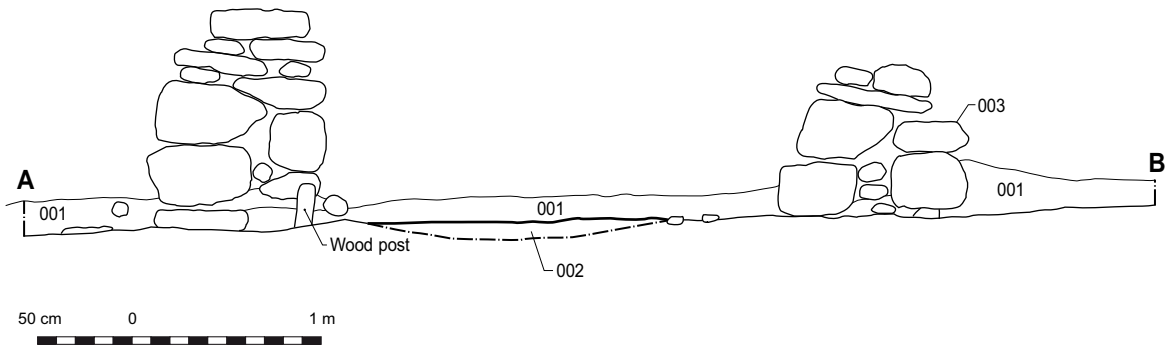
Fig. No:	2	Revision:	A	Client:	ASH
Title:	Detailed Location Plan				
Project:	Chaorach Hydro Scheme				



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Scale: 1:200

Drawn by: SW Page No: Report No: 1689



Key:

Fig. No: 3 Revision: A Client: ASH

Title: SW-facing section of shieling through opposed entranceways

Project: Chaorach Hydro Scheme



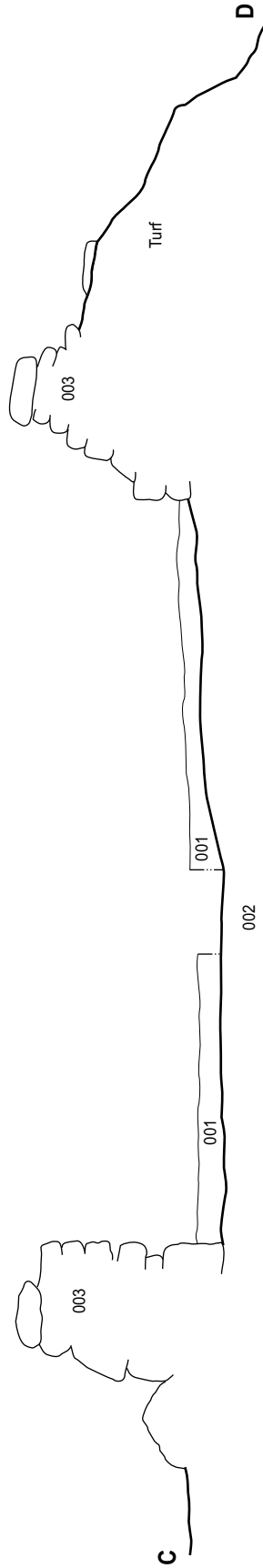
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Scale: 1:40

Drawn by: SW

Page No:

Report No: 1689



Key:

Fig. No: 4 Revision: A Client: ASH

Title: NW-facing section/profile across shieling

Project: Chaorach Hydro Scheme

Scale: 1:40



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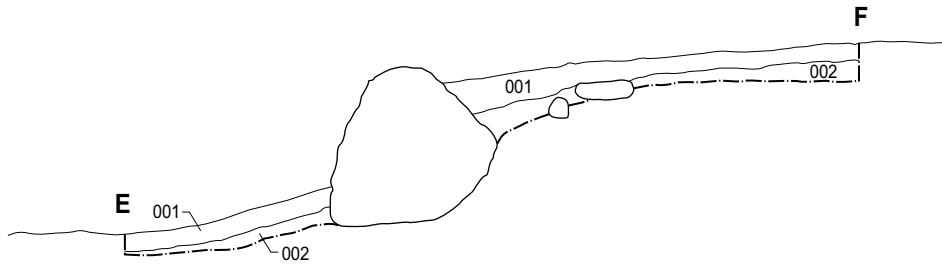


Fig. 5 - Tr 2, NW-facing section

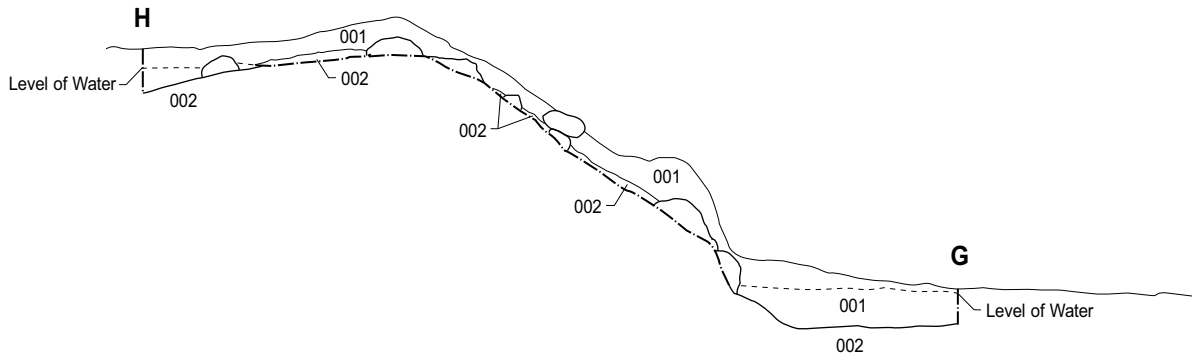


Fig. 6 - Tr 3, NE-facing section

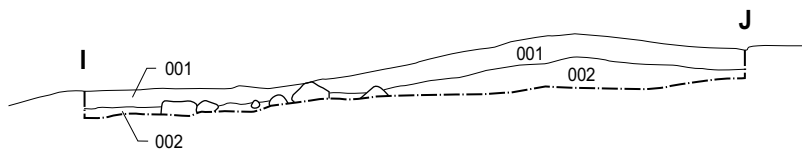


Fig. 7 - Tr 4, SW-facing section



Key:

Fig. No: 5-7 Revision: A Client: ASH

Title:

Project:

Chorach Hydro Scheme



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Page No:

Report No: 1689



Fig. 8.1 - Site location from SW



Fig. 8.2 Site location from NE


Key:	Fig. No:	8	Revision:	A	Client:	ASH
	Title:	Site location shots				
	Project:	Chaoarach Hydro Scheme				
Scale:						 <p>CFA ARCHAEOLOGY LTD The Old Engine House Eskmills Park Musselburgh East Lothian, EH21 7PQ t: 0131 273 4380 f: 0131 273 4381 e: info@cfa-archaeology.co.uk w: www.cfa-archaeology.co.uk</p>
						Drawn by: SW Page No: Report No: 1689



Fig. 9.1 - Interior of shieling from NE



Fig. 9.2 - Interior of shieling from SW



Fig. 9.3 - Internal shot of eastern corner



Fig. 9.4 - Internal shot of northern corner



Fig. 9.5 - Interior shot of southern corner



Fig. 9.6 - Internal shot of western corner

Key:

Fig. No: 9 Revision: A Client: ASH

Title:
Internal shots of shieling

Project:
Chakorach Hydro Scheme

Scale:



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Report No: 1689



Fig. 10.1 - Trench 2 from North



Fig. 10.2 - Trench 3 from W



Fig. 10.3 - Trench 4 from E

Key:

Fig. No: 10 Revision: A Client: ASH

Title:
Trenches across possible bank

Project:
Chorach Hydro Scheme

Scale:



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