

***Braevallich Farm, Loch Awe, Argyll
Proposed Hydroelectricity Scheme***

***Report on a rapid Archaeological Walk Over Survey
and
Method Statement for Archaeological Work***

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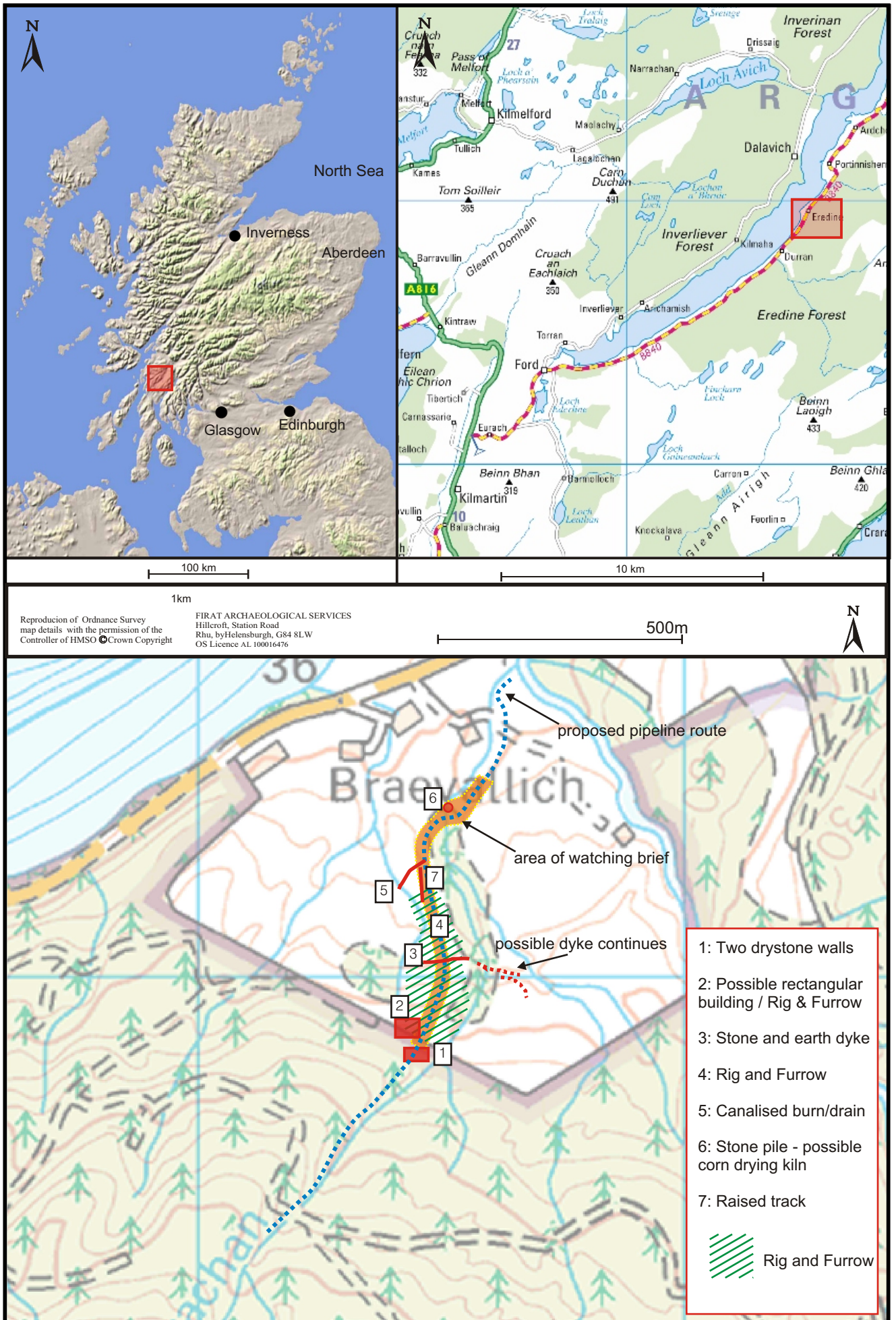


Figure No. 1: Location Map and pipeline route, showing identified sites & area of proposed watching brief

Introduction

Mr P Bowden-Smith of Braevallich Farm, Loch Awe, Argyll (NGR NM 9540 0753) wishes to develop a small scale hydroelectricity scheme on his land. The proposed route of the pipeline is shown on Figure 1. The intake weir for the pipe would be located at NGR NM 9516 0644 on the Allt Doire nan Sobhrachan at c. 180m OD and the water would enter a pipe of 80mm diameter and run northwards downslope along the west side of the Allt Doire nan Sobhrachan. The proposed route initially runs through and along the edge of forestry conifer plantation and then crosses into open pasture fields at Site 1 before crossing the burn and running along its east side before reaching the NPower Pumping Station at NGR NM 95591 07515 and c. 50m OD.

The West of Scotland Archaeology Service, represented by Martin O'Hare, advised Mr Bowden-Smith that an archaeological assessment of the route, followed by any necessary archaeological mitigation identified by the assessment, would be required as a condition of planning consent if it is granted. Given the other known archaeological sites in the immediate area, largely identified during the construction of a major hydroelectricity scheme in 2003, Mr Bowden Smith decided to commission an archaeological walk over survey in advance of the planning application. The objectives of the initial archaeological assessment were to determine if any archaeological remains were present along the proposed route and if so what archaeological work would be required to mitigate the impact of development.

This report is the result of the walk over assessment and puts forward a method statement for dealing with the archaeological remains identified by the survey during the hydro-electricity development. The walk over survey was carried out on 20 January 2009 in overcast, cold and wet conditions with snow lying on the ground, particularly over the southern half of the route.



Survey conditions, general view N over Site 2, building and rig and furrow.

Mr Bowden-Smith walked the route with the archaeologist, which allowed for any archaeological sites to be pointed out on the ground and for mitigation measures to be discussed. National Grid co-ordinates were achieved by use of GPS (Garmin GPSmap60C) and were checked by traditional measuring off the OS 1:25,000 map.

The pipeline excavation trench is likely to be no more than 1.2m deep and 2m wide to accommodate an 80mm diameter pipe. The area of disturbance associated with the installation of a pipe should be no more than 5m wide along the whole route of the pipe.

The Proposed Pipeline Route

The route of the proposed pipeline is shown on Figure 1.

The southern third of the pipeline route runs along the west bank of the Allt Doire nan Sobhrachan (transliterated as ‘burn of the clumps of primroses’). The intake weir is located adjacent to a forestry borrow pit / parking area and then crosses the forestry track into the edge of Forestry Commission conifer plantation. The route then skirts along the edge of the conifer plantation on a lower hill slope, which drops steeply down to the burn. This land is uneven and under the snow it was apparent the ground cover was heather and bracken amongst tree stumps, occasional glacial erratics, a few outlying conifers at the very edge of the plantation and self seeded willow saplings and trees. The water run-off down this slope into the burn, which is in a ravine, has created boggy conditions in the level areas and there are several small water courses draining off the hillside into the burn. No archaeological sites were observed in this area. Although the visibility was extremely poor due to snow cover over bracken and tree stumps on topographic grounds alone this hill slope above the ravine in which the burn runs in this area is not an ideal location for settlement or other activities.



General view to NNE over the south part of the pipe route in forestry section.

At the edge of the forestry plantation are two drystone walls (Site 1) and a modern fence line. To the north of this boundary is arable farmland. Immediately north of the boundary wall is a fairly level plateau in an area of knolls and glacial drumlins, which then drops down hill again to more level pasture along the west bank of the burn. This area contains Sites 2, 3, 4, 5 and 7 – all of which are associated with a post medieval agricultural landscape. The route then crosses the burn and turns N along its east bank. The pipe route skirts along the bottom of the higher ground in the stream's floodplain before rising gently to cross the lower slopes of the field. It then reaches the track and turns NW to follow the track down to the hatchery gate and curves around to the pumping station. This S end of the route where the pipe would follow the track is quite a marked deviation from the route shown on the 1:5000 map produced by WoSAS.



General view over the northern section of the pipe route from rig and furrow at Site 2 and showing dyke Site 3 at base of slope, rig and furrow Site 4 on undulating lower ground. Sites 5 and 7 and the crossing of the burn are beyond the single central tree in the distance and before the grass pasture.

Archaeological Sites

Site 1 NGR NM 9544 0685 (at crossing point, see OS map for full extent)

Substantial drystone wall as shown on the OS maps from the First Edition onwards standing to c. 1.5m high. About 4m to the south of the upstanding wall is a second denuded drystone wall. It appears there is a ditch between them but this was difficult to determine in the snow cover and it may be a track. A track is shown on the modern OS map to the west of the point where the pipe would cross the wall and the space between the walls may be a continuation of this track. This wall is a major boundary feature and it may have marked the boundary between infield and outfield. However

because the land to the south is now under conifer plantation it is difficult to determine if this is the case. The better preserved wall is probably a later land boundary as opposed to the denuded wall, which is more likely to be associated with the medieval / post-medieval agriculture. A modern post and wire fence also marks this boundary.

Site 2 NGR NM 9549 0686

Immediately to the N of the boundary wall Site 1 is a pasture field which shows traces of rig and furrow agriculture. The rig runs in a NE-SW direction across the slope and the furrows are spaced c. 2m apart. There are several ‘humps and bumps’ in this area but the snow lying on the ground made prospection difficult. A possible rectangular structure defined by an intermittent line of boulders was located at the grid reference point given above and is pictured below. This structure was obscured by snow and bracken but appears to measure c. 6m x 4m and stand up to c. 0.40m high and is aligned NE-SW at 40°. There are several bedrock outcrops in this area that should be inspected for cup and ting markings and also a possible clearance cairn. The line of the pipe route will miss the possible building but a watching brief is required in this area and further prospection under better field conditions to determine if any other identifiable archaeological remains are present. The pipe route continues downslope from Site 2 and the rig and furrow is present on the hill slope.



Site 2 possible rectangular building, view to the SW.

Site 3 NGR NM 9549 0703

A collapsed dry stone dyke curving around the base of the hill in a roughly meandering E-W direction. This bracken covered dyke is a 1.5m wide spread of field stones measuring c. 0.25m x 0.20m on average and standing up to 0.50m high maximum. It may be built on an earth bank but in the areas examined appears more likely to have been a drystone wall. Rig and furrow (Site 2) is present to the south on the hill slope and rig and furrow (Site 4) is present on the level ground to the north. This suggests this dyke, which follows the base contour of the hill, is a field boundary. However, the land owner Mr Bowden Smith informed me that this dyke continues to the east and it may be a consumption dyke (i.e. clearance of field stones to improve cultivation as the primary reason rather than for construction of a land boundary). The dyke has already been cut through by a farm track and it is recommended the pipe route is laid through the existing cut and a watching brief is carried out.



Site 3 collapsed stone dyke, view along its length to the west.

Site 4 NGR NM 9550 0714

Rig and furrow agriculture is present between the dyke Site 3 and a small glacial knoll with a large glacial erratic boulder on it at NM 95459 07166. There were no obvious signs of occupation on this knoll and no sign of any cup and ring marks on the large boulder. The track, Site 7, runs N from this knoll. A watching brief is recommended over Site 4 rig and furrow and the knoll and to the north.

Site 5 NGR NM 95469 07255

A canalised burn acting as a major field drain emptying into Allt Doire nan Sobhrachan. The burn / drain is up to 2m wide and the banks are constructed of loose stone rubble walling up to 1m wide and 0.40m high. There are scatters of loose cobbles on both sides of the burn, especially on the S side, which may represent denuded edging of the drain / burn and spreading of stones to create drier ground in this generally boggy area. The raised track Site 7 runs to the S side of the burn but could not be traced on the north side. It is possible that there may have been a simple bridge at the grid reference location where the constructed edges of the drain are most obvious. At c. 8m to the N side of the canalised burn is a short stretch of earth and stone dyke and this area is generally undulating and disturbed and generally very boggy ground. A watching brief should be carried out over this area.

Site 6 NGR NM 95520 07342

A possible corn drying kiln represented as a heap of stones measuring 3m diameter and standing to 0.60m high. Excavation would be required to determine if this is a corn drying kiln or a pile of clearance stones. This feature is located at the NW side at the base knoll on which the steading site (WoSAS PIN 51763) is located. This possible corn drying kiln is on the flat river bank and c. 10m from the river. The pipe route runs along the base of the knoll and avoids the steading but will run very close by this possible kiln. A watching brief is required in this area to ensure that the possible kiln is avoided. If it cannot be avoided it must be investigated by archaeological excavation and recorded. There are several boulders in the immediate vicinity at the base of the knoll on which the steading is located, which may represent tumbled stones that have rolled down the slope. However, only this sub-circular feature looks as if it might be a deliberate construction.



Site 6, possible corn drying kiln view to the south-east. The steading site is on the top of the knoll.

Site 7 NGR NM 95469 07255 (N end) to NM 95458 07181 (S end)

A disused track way leading from the glacial knoll noted above (Site 4) to the canalised burn Site 5. The track is covered with turf and Juncus grass and is c. 3m wide and stands up to 0.20m high above the surrounding ground surface. It is aligned N-S at 16°. There may be traces of rig and furrow to the west side of it but this was not entirely convincing under the survey conditions but further inspection will take place in this area during the watching brief. It is recommended that the track is avoided by the pipe route and a watching brief is maintained to ensure the track is avoided.



Site 7 the disused track way viewed to the north running towards the canalised burn Site 5 and the proposed pipe route crossing over the Allt Doire nan Sobhrachan.

Archaeological Work required during development

An archaeological watching brief is required along the middle section of the pipeline route from Site 1 to the crossing of the burn just to the N of Site 5. A watching brief is also required in the vicinity of Site 6. The area where a watching brief is required is shown on Figure 1.

There is no way that Site 1, the two drystone walls and possible track, can be avoided by the pipe and the walls will need to be cut through. In the area of Site 2 the possible building can be avoided. The pipe route will cross rig and furrow between Site 1 and Site 5. It is not considered necessary to monitor the excavations across all of the rig and furrow and the objective of a watching brief in this area would be to ensure that

the possible building Site 2 is avoided and that any other archaeological remains in the vicinity are avoided. The survey conditions of snow cover meant that recognition of sites was difficult but there are several knolls and bedrock outcrops in this area although it was impossible to determine if any of them were manmade or enhanced natural features. During the watching brief of the walls Site 1 and the area around building Site 2 any further archaeological sites in this area would be recorded.

The boundary dyke Site 3 has already been cut through by a farm track. This substantial linear feature extends beyond the survey area and a c.2m wide cutting through it will not substantially damage the monument. It would be preferable to put the pipe in the already disturbed area of the track but this might mean the farm traffic, although only occasional and light usage, might prove a damage risk for the pipe. The cutting of this wall would be monitored by a watching brief and the wall and its section recorded. The pipeline then crosses over quite boggy ground with remains of rig and furrow Site 4 running towards a small knoll with a large glacial erratic on it at NM 95484 07292. No archaeology was observed on this knoll and the boulder was inspected for cup and ring marks and none were found. However, topographically this knoll is a more attractive location for previous activity and a watching brief should be maintained over this section of the route. Immediately to the north of the knoll with the glacial erratic is an overgrown raised track way Site 7 which leads to the canalised burn Site 5. The pipe route can avoid the track line and run to the east of it. A watching brief in this area would ensure the track is avoided. There is no option but to cut across the canalised burn Site 5 but again a watching brief would record details of the feature and possibly also bridge footings where the track Site 7 crossed it but it is hoped the pipe route would be far enough from the track to avoid disturbance to the best preserved part of the canalised burn and also the point where the track crosses it.

The watching brief would also be required at Site 6, a pile of stones, possibly a corn drying kiln, at the base of the slope below the steading site WOSAS PIN 51763. With careful excavation it may be possible to excavate the pipe trench here without disturbing Site 6 but it is a tight fit between the stone pile and the fence line. A watching brief here will ensure that the site is either avoided or recorded if it has to be disturbed.

There is scope for the pipe route to be moved a few metres to avoid the identified archaeological sites and under watching brief conditions it could be ensured that archaeological features are avoided.

Archaeological Method Statement

The archaeological work required is an archaeological watching brief of the excavations over the relict agricultural landscape. The maximum potential extent of the watching brief and area in which archaeological remains are present is shown on Figure 1. There is scope to move the pipe route a few metres in either direction and the watching brief would ensure that any identified sites, or other sites that were not seen during the walk over survey, are avoided.

The pipe route will cut through the walls at Site 1, the dyke Site 3 and cross the canalised burn Site 5. Sections through these features will be recorded by written description, photography and measured sketches.

The building at Site 2, the track Site 7 and the possible corn drying kiln Site 6 can all be avoided by the pipe route but it is essential that an archaeologist is on site at these locations to ensure the archaeological features are avoided. Site 6, the possible corn drying kiln will be the most difficult to avoid due to limitations of space. Site 6 should be fenced with temporary orange mesh fencing or similar before excavations begin to ensure it is not damaged during pipe installation or machinery.

Since the walk-over survey took place the pipe route has been altered in the vicinity of Site 1 and Site 2 and has been moved further east towards the burn. The proposed new route has not been inspected for archaeological remains but it is assumed that the pipe will still cut the walls Site 1 and it will still be in the vicinity of Site 2 and a watching brief may be required. However, as there is flexibility to move the actual pipe route a few metres in any direction to avoid archaeological remains it is anticipated that any archaeological remains can be avoided. If the re-aligned pipe route in this area is within 10m of any archaeological remains the archaeological remains should be fenced with temporary fencing to ensure they are not damaged.

It is not considered necessary to monitor the pipe route across all of the rig and furrow at Site 2 and Site 4. However, the rig and furrow should at least be characterised by the watching brief. The area shown as the maximum extent of the watching brief on Figure 1 includes all of the rig and furrow but it is not necessary to monitor the pipe route across the entire area of rig and furrow and it is considered sufficient to monitor a short section (approximately 15m of Site 2 and 15m of Site 4) in order to characterise the rig.

The excavation of the pipe trench across the glacial mound at the S end of the track Site 7 will also be monitored as although no archaeological remains are visible on the surface it is an attractive topographic feature that may have been the focus of earlier activity.

The ground conditions during the walk over survey were not ideal and visibility was restricted due to snow. While the proposed pipe route already avoided any obvious features at Site 2 further field walk over survey is recommended in this area to record any other archaeological features.

The watching brief would be carried out by one archaeologist who would supervise and monitor the machine excavation within the area indicated on Figure 1.

To clarify the extent of the watching brief the whole area indicated on Figure 1 will not be monitored and the monitoring will be restricted to the following specific locations within the area:

- Site 1 - two walls and possible track to be recorded
- Site 2 – vicinity of building to ensure it and any other archaeological remains are avoided, characterisation of rig and furrow over c. 15m stretch
- Site 3 – field dyke to be cut through at existing break for farm track, recording of section and details of construction

- Site 4 – rig and furrow over c. 15m stretch to characterise it
- Site 5 – crossing of canalised burn / drain to determine construction details and minimise damage
- Site 6 – to ensure the possible corn drying kiln is avoided or to ensure excavation and recording if it cannot be avoided
- Site 7 – track and glacial knoll – to ensure the old track is avoided and to monitor the glacial knoll for archaeological remains not visible on the ground surface.

The stripping of topsoil down to subsoil level should be carried out by a machine fitted with a toothless ditching bucket. The excavation of the actual pipe trench into the subsoil may not require monitoring if the archaeologist is satisfied no archaeological remains are present within the wayleave from which the topsoil has been stripped.

The archaeological work would be monitored by the West of Scotland Archaeology Service (WoSAS) on behalf of the planning authority, Argyll and Bute Council.

In the event that significant or extensive archaeological remains are found further field time for excavation and recording may be required. Post excavation work leading to publication may also be required in the event that significant archaeological remains are found. Any additional archaeological work beyond the watching brief and reporting of the results would be discussed and agreed with WoSAS and a formal written mitigation and reporting / publication strategy would be prepared. The developer would be responsible for funding any further excavation and any post-excavation or publication work that may be required.

On conclusion of the watching brief a written and illustrated report of archive standard would be prepared within 8 weeks. The report would be submitted to WoSAS, Argyll and Bute Council, the client and the National Monuments Record of Scotland. This report would also form part of the project archive along with all original field records and photographs. A summary report on the project would be submitted to *Discovery and Excavation in Scotland*.

Acknowledgements

The walk over survey and this report and method statement was written by Fiona Baker, Firat Archaeological Services Ltd. The survey was commissioned and funded by Mr Philip Bowden-Smith of Braevallich Farm. Figure 1 was prepared by David Connolly.

Photograph List

Number	Direction to	Description
1	NNE	General view along W side of burn in forestry plantation section
2	NE	General view of pipe route from Site 1
3	SW	Site 1 drystone walls
4	SW	Site 2, rectangular building
5	N	General view across rig and furrow Site 4, wall Site 3 and pipe route
6	W	Site 3 collapsed and spread drystone dyke, view along it
7	SE	Site 6 stone heap / possible corn drying kiln
8	E	Site 5 canalised burn / drain
9, 10, 11	N	Site 7 raised track
12, 13	S	General view to south from glacial erratic at S end of Site 7, view upslope showing rig and furrow Site 4 in the foreground, collapsed dyke Site 3 at base of the hill at the tree and running towards fence corner, rig and furrow associated with Site 2 on the hillside. The pipe route is between the knolls on the top of the hill.

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This Method Statement for archaeological work during development has been approved by the West of Scotland Archaeology Service.