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## Clachtoll Broch

### Conservation Strategy and Research Design

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On Behalf of: Historic Assynt

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## **Abstract**

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Clachtoll broch in Assynt is one of the most significant Iron Age settlements in the North West of Scotland. The broch has been considered to be at threat for a number of reasons for many years, and several small-scale programmes of remedial work have been undertaken, both by Historic Scotland and latterly by Historic Assynt. It is the aspiration of the local community to fully conserve the broch and protect it from loss through coastal erosion or visitor damage.

This document outlines the Conservation Strategy and Principles to which the project will work. It is considered that, in addition to the consolidation and repair of the extant structural remains, conservation through record will be an essential component of the programme. As such, the research implications of intrusive archaeological work at the site are considered and a series of research questions and objectives are formulated in conjunction with a strategy for post-excavation analysis.

## Clachtoll Broch, Assynt: Conservation Strategy

### Introduction

1. This document outlines the strategy for a programme of archaeological conservation at Clachtoll broch, Assynt, Sutherland. The broch has, for over a decade, been one of the primary concerns of Historic Assynt owing not only to the unique position it occupies in the Iron Age of Sutherland, but also to the fragile state of the surviving structure. The monument has become iconic of Assynt's prehistoric archaeology and receives a large number of visitors, but is nonetheless decaying rapidly and is at severe risk of significant damage by coastal erosion and by unmanaged visitor access (see Conservation Management Plan (CMP)).
2. As part of the conservation programme, Historic Assynt intend to carry out a full archaeological investigation of the broch through the *Coigach and Assynt Living Landscapes Partnership* scheme (CALLP), in order to record and conserve the monument, understand the archaeology and history of settlement at the broch and formalise visitor access so as to halt the degradation of the structure.
3. This document lays out the research design for Historic Assynt's proposed programme, and builds on recommendations developed during the formulation of the CMP for the broch, in consultation with Historic Scotland.

### Clachtoll: Significance and Status

#### *Previous work*

4. The broch at Clachtoll (also known as An Dun, NMRS No. NC02NW 2; NGR: NC 0366 2784) is a Scheduled Monument (SM no. 1831). No significant archaeological work has been carried out at the site, other than a partial excavation of the wall surrounding the entrance area for the purposes of structural consolidation. This work was originally undertaken by Historic Scotland in the early 2000s, when rubble from the entrance passage was removed and the lintels supported by a marble column and bronze armature. This work involved removal of significant quantities of stone from the wallhead in order to expose the lintels, but no records of this work are available. In 2011 further conservation of the entrance area was undertaken by Historic Assynt and AOC Archaeology to remove the intrusive supports and stabilise upper parts of the wall (see Barber 2012). At this time, sherds of pottery of a style very similar to that of the Hebridean Iron Age were found within the first floor gallery, while a radiocarbon date from charcoal found on the scarcement ledge was dated to 111 BC to 56 AD at two sigma (SUERC-36728).

#### *Archaeological Context*

5. Although the northern mainland counties (Caithness, Sutherland, Ross-shire and Inverness-shire) contain about 300 definite, probable and possible brochs and although some of them are well preserved, few are well known or excavated. Modern explorations are rare with only a handful undertaken in Caithness (e.g. Calder 1945; Crosskirk 1984; Heald & Jackson 2002) and only one in Sutherland, at Durcha on the east coast of the county (Dunwell 1999). This latter excavation was on a very small scale and provided no material evidence from which the broch and associated remains could be accurately dated. Other excavations of Sutherland brochs are largely concentrated on the east of the county, the majority excavated in the 19<sup>th</sup> century, for example Carrol and Carn Liath (Joass 1873), Kintradwell (Joass 1865, 1873) and Backies (Stuart 1870). For this reason, the local archaeological context for Clachtoll is very limited.
  
6. Our present understanding of Sutherland brochs is almost exclusively based on survey. It is a reflection of our current knowledge that discussions still largely rest on the report of the Royal Commission on the Ancient and Historical Monuments of Scotland (1911) undertaken over a hundred years ago and on the work of earlier scholars such as Joseph Anderson (1878). The RCAHMS Inventory of Sutherland presented descriptions of the 67 Sutherland sites recorded at that time as brochs. These lists were subsequently updated by Graham (1949, 94-6), Hamilton (1968, 175-9) and MacKie (1965; 2007). In 1996 the National Monuments Record of Scotland recorded 84 sites in Sutherland as 'brochs' with numerous further roundhouses described as duns. Our understanding of the architectural details of Sutherland brochs has been greatly enhanced by the survey work of Euan MacKie (2002; 2007) which has made the available data far more accessible, but the overwhelming majority of our knowledge is still derived from surface survey.
  
7. The distribution of brochs in Sutherland is weighted heavily to the northern and eastern areas of the county (Anderson 1878; Rivet 1966, foldout; Gourlay 1996, 12, 69; Cowley 1999, 70; fig 2B). There are very few known brochs from the west coast area of the county with only three specifically mentioned by Mackie (2007, 614-7): Clachtoll, Loch Ardbhair and Kylestrome. To the south, Loch Poll An Dunain may be a dun or a broch and from here southwards, there are very few examples until one reaches the area around Skye (Henderson 2007, fig 5.1).

### **Sutherland, Atlantic Scotland and frontier zones**

8. The origin, development, use and abandonment of Sutherland brochs is one of the least understood aspects of Iron Age societies in northern Scotland (Dunwell 1999, 283). This is, of course, due to the lack of excavation of said monuments. Fairhurst (1984, 183) regarded the Sutherland brochs as representing a secondary spread from an Orkney/Caithness core area, and drew a distinction between the distribution of sites along the coastal edge, often attended by extra-mural settlements, and the mostly isolated structures occupying the more rugged inland areas (see also Young 1962, 173-5, 184-9).

9. More recent writing has emphasized that although brochs and their variants were built and used across Atlantic Scotland it is probable that there were different zones of interaction and development within different areas. Such discussions have been based largely on analysis of artefacts and, secondarily, architecture. For example Mackie has recently suggested (2000, 2005, 2007) that the flat plain of Caithness and the eastern coastal zone of Sutherland represents a transitional zone, indicated not by the architecture but by the suggestion that as one moves through Caithness to the south there is a gradual transition in material culture. He argues that there is a movement from 'typical' Atlantic assemblages found in the north (with abundant fine pottery and masses of bone implements) to more impoverished assemblages in the south which are more closely aligned to non- Atlantic mainland cultures. Importantly for Clachtoll, MacKie (2005, 24) also suggests that the north- west coast may be a similar transitional or frontier zone. He argues that, within this zone, although brochs were used by groups, individuals used different material culture than that found in other areas, particularly in the Hebrides. The foundations for discussing frontier zones are admittedly weak; from point of view of material culture the database is very small and heavily predicated on 19<sup>th</sup> century excavation on the east coast, but this does not mean these hypotheses are without merit, nor that they are beyond test.
  
10. The depiction of the north-west as some form of transitional zone between and within Atlantic areas is emphasized by other recent scholars. For example, Henderson (2007, 151; fig 5.1) draws a clear distinction between the 'Northern Settlement Sequence' – that is northern and eastern Sutherland, Caithness, Orkney and Shetland - and the 'Western Isles and Skye Settlement Sequence'. Although the few west-coast mainland brochs, including Clachtoll, are viewed as part of this latter group, Clachtoll lies more-or-less on the boundary between the two, suggesting again that, at least geographically, the west-coast of mainland Scotland may be a form of frontier zone.
  
11. This suggestion may be lent credence by analysis of architectural form. At least according to MacKie (2000, 101) there are two distinct forms of broch, with a few transitional examples. In the *ground- galleried* form the hollow wall is constructed directly on the ground, the wall base tends to be slimmer and the central court larger; these are concentrated heavily in the Western Isles but are also a minority in the north, especially in Orkney. In the *solid-based brochs* the galleried wall sits on a massive base which is solid stone except for the entrance passage and one or more intra-mural cells. This type, overwhelmingly dominant in the northern islands and the north-east mainland, tends to have thicker wall bases and smaller central courts (see also MacKie 1971, fig 1). Clachtoll broch is a ground-galleried broch, more closely aligned with the Western Isles type.



***Figure 1: Conservation works at the broch in 2012.***

## Archaeological and Architectural overview of Clachtoll

12. The broch has never been excavated. It was recorded in the RCAHMS Inventory for Sutherland and has been surveyed in recent years by AOC Archaeology Group, the RCAHMS, and by Historic Assynt's survey team. A steatite cup or lamp was found in a recess in the wall of the guard cell to the right of the entrance by the Rev J M Joass of Golspie who still had it in his possession in 1909; it is now in Dunrobin Museum. In 2005 Euan MacKie found the lower stone of a discoid rotary quern among the rubble on the wallhead on the southern side.
13. As noted, discussions of the Scottish Iron Age seldom focus on remains from Sutherland and where they do they generally are focused on the few east coast brochs excavated in the 19<sup>th</sup> century. It is, therefore, of little surprise that Clachtoll does not feature in the majority of standard texts. In discussions and general guides to Scottish archaeology, aimed primarily at keen visitors and amateurs, again very few Sutherland brochs are mentioned. However, within these more popular publications mention of Clachtoll does appear and, more often, Clachtoll is noted as the only site from the west coast fringes (e.g. Feacham 1963, 174; Close-Brooks 1995, 145-6, esp Gourlay 1996, 69). Clachtoll undoubtedly draws attention due to the impressive nature of the remains. The site has been described as the '...most visitable broch on the west coast of Sutherland' (Gourlay 1996, 74).
- 14 Remedial works to secure the fragile entrance area and to prop the overhanging outer wall at the south side of the broch (Barber 2012; Theodossopoulos and Cavers 2014) revealed *inter alia* that small cross section roundwood had been burnt on the scarcements near the entrance at about the turn of the millennium (in the interval 75 calBC x 55 calAD). This has two significant implications, the first being that the internal structures of the broch may have relied on wattle screens for its floor panels and the second, that the interior of the broch may have been sealed *in situ* at about the time of Christ and are unlikely to have been masked (and confused) by early medieval remains. The southern wall-propping (Theodossopoulos et al 2014) was a response to the poor condition of the wall in this area where it has suffered a net outward movement, allowing the collapse of the intramural stairway, which was intact into recent times.

## Current social and cultural importance of the site

14. Clachtoll broch has real social meaning and value in the present day. The population of Assynt parish is nowadays mainly concentrated on the coast and, despite a history of clearance and depopulation, has still a real affinity with the land, and particularly with natural and cultural heritage. The process of Land Reform, which has done much to transform the Highlands and Islands in recent years, began here, with the buy-out of the North Assynt Estate by the Assynt Crofters' Trust in 1992. In recent years Historic Assynt has been responsible for the preservation of Ardvreck Castle, Calda House and the Inchnadamph Church, (which has highlighted the lives of the MacLeod and Mackenzie Lairds), while Comun Eachdraidh Asainte has concentrated on genealogy, a photo archive, the Altnabradhan Mill

and the Stoer radar station. This heightened interest in the human history of the area is beginning to bring the lives historically lived in the Assynt landscape into the light of day.

15. Aside from the academic value that can be drawn out of any future work at Clachtoll there is a wish to preserve, use and develop the broch as an iconic centerpiece within the heritage landscape of Assynt. In a real sense, the local community wish to use the monument to draw people, both local and visitors, into their landscape. They also wish to use the broch as a way to increase enjoyment of the area with programmes of exploration, consolidation, interpretation, training, and education which would ultimately add to our knowledge of Assynt's past. Just as with current and past projects Historic Assynt wish to marry preservation of their monuments with programmes of education and community involvement, and in doing so unite past and present in underpinning a culturally healthy and confident future. These aspirations are wholly consistent with the Government Policy expressed in SHEP, that heritage should make an economic contribution to rural communities.

### **Statement of Cultural value**

16. Clachtoll has cultural value because it is a major broch monument and was, on the surviving evidence, a broch tower of some size and complexity. The available evidence points to its collapse or destruction around the turn of the BC/AD millennium and hints that the destruction may have been by burning. The imminence of collapse of the entrance has been halted by works, some of which are temporary (Barber 2012) and the equivalent threat to the south wall has been stayed by the insertion of temporary metal props, specially designed for this application at ESALA, in Edinburgh University (Theodossopoulos & Cavers 2012). About one quarter of the wall circuit has been destroyed and removed by coastal erosion but the wall-head from this gap to the entrance and for about 10 m on the other side of the entrance has been secured in the earlier work packages.
17. Despite their poor and worsening condition, the remains at Clachtoll have the highest cultural value because of their ability to inform this and future generations on the form, content, function, build date, structural engineering, architecture, tectonics, duration, modification and use-patterning of a broch that remained unaltered by large scale Pictish or early-medieval modifications.

### **Proposed Conservation Works: Conservation statement**

18. Whilst the stimulus for this project is principally the conservation effort needed to arrest the decomposition of the monument, it cannot be undertaken without conserving equally if mainly 'by record' the archaeological deposits and formations that will necessarily be disturbed by the conservation works on the broch structure. This information content will be conserved by means of the proposed excavation, analysis, interpretation and presentation programme set out below.
19. The proposed project will reduce the net cultural value of the monument by crystallizing some part of its potential to inform into 'actual informing' and for that reason, the greatest emphasis is placed on the completeness of the record of works undertaken, which will rely heavily of

three dimensional recording of everything that is disturbed. The alternative in this instance is the abandonment of the structure to the ravages of the sea with the complete loss of all cultural value without net gain to present or future generations.

### The current situation

20. Clachtoll broch has been severely damaged by marine erosion over many centuries and its poor condition has already been reported upon (Barber et al 2010). The areas of most immediate concern were identified as:

- i) the entrance passage and its first floor abutments, and
- ii) the undermining of an area of the outer wall on the south side

21. Action has been taken on both of these issues. The overburden above the passage was removed, the lintels inspected and a broken one repaired allowing removal of an unsympathetic support pillar from within the passage. The pocket for a secondary set of lintels was discovered and new lintels were inserted into it, over geotextile, to protect the surviving original lintels. The inner wall terminal east of the passage was disassembled and safely reassembled, mainly by use of the original building stone, and the wall head was consolidated and grassed over. Temporary metal supports were designed to underpin the southern wallface. These have now been inserted and, pinned to the bedrock beneath, they will prevent any further movement of the wallface in this area for now.

22. These operations deepened our understanding of the broch structure and its failure in antiquity, and coincidentally provided a radiocarbon date for its dountaking or collapse, at  $2025 \pm 30$  bp, calibrating to a year in the interval 111 BC to AD 55, at 2 sigma. They were fully reported to HS in the Clachtoll SMC Completion Report (Barber 2012). Prior to the SMC application for these works, a Conservation Management Plan for the broch was prepared (Cavers et al, 2009). The process of SMC required the further preparation of a case for the necessary works and this was supplied in the 2010 report *Clachtoll Broch Proposals for Conservation Works* (Barber, et al 2010). This set out (ibid pp 6-10) Conservation Policies for the project, q.v., and these remain current. They are cited here for their content:

CP1: Interventions in the historic fabric should be minimised.

CP2: The retention in situ of historic fabric should be maximised, i.e. only loose or endangered masonry and deposits should be removed.

CP3: Restoration of historic fabric is always preferable to reconstruction.

CP4: Restoration should only be undertaken where the requirements of site safety demand it and where the original configuration is clearly known from archaeological evidence derived from the site itself, i.e. it is preferable to remove unsafe displaced fabric rather than to consolidate it in the absence of evidence for its original or authentic form.

CP5: Original but displaced fabric should be utilised wherever possible in the stabilisation of damaged or weakened elements of the monument, if possible by a process of anastylosis.

(Barber et al 2010)

## Conservation of voids and spaces

23. To these Conservation Principles we now add a sixth, to take account of the voids and other spaces created by the masonry envelope. Preoccupation with the latter has at times led to the infilling of designed voids in an attempt to retain or revet masonry. We believe this to be a misguided approach despite the fact that it will always be the cheaper alternative to conservation; it is not conservation but rather an exercise in preservation that sidesteps remediation of the conditions that led to the current state of the monument.

CP6: The conservation of designed voids is at least as important as the conservation of the fabric used to create them.

24. The report also contained a structural condition report (ibid paras 92 – 98) and an options appraisal (paras 99-109). And these formed the basis for the proposed programme of works on the broch that includes those works already undertaken and those now proposed to bring the project to completion.

## Principal challenges

25. The aim of the project is to conserve what remains of the broch and to secure safe access to it. This can only be achieved by removing the debris within the broch, securing the wall where it is at risk and providing safe secure access to all parts of the surviving monument.

26. This engenders several specific challenges, of which the more problematic for conservation purposes include the following:

- i) Dowel the basal course of the broken wall ends on the seaward side to the bedrock and replace the overburden on the wall line.
- ii) Downtake the disturbed masonry on the south side, remove the temporary props, apply a permanent solution, and rebuild. The optimum solution awaits revelation of the true condition of the sub-wall footing but options include:
  - a. cutting steps or a platform into the sloping bedrock, laying in cut stone plinth courses and rebuilding from that, to
  - b. using a concrete casting fixed to bedrock to support a rebuilt wallface.

- iii) The lintel over the southern gallery entrance is broken and needs to be replaced either by the use of stainless steel dowelling of the extant lintel fragments or by use of a new lintel. The choice between these possibilities await revelation of the condition of the adjacent wall.
- iv) The treatment of the wallhead at the entrance comprised removal of loose stone and debris and turfing over of the remaining masonry. The top level of every built wallface visible at the wallhead would be left visible.
- v) Large (>30kg) loose stones on the wall head have been dislodged and therefore lost their original positional information; some are in unsafe positions. If possible they will be fixed in place by dowelling into sound masonry. Where that is not possible, aesthetically undesirable, or an impediment to turfing the wallhead, they will be removed.

### **Practical application of the conservation principles**

- 27. Each area of the broch will require a specific plan of action to be agreed and conditioned under the SMC process. Here we consider the general approach and site-specific treatments of the masonry of the broch, and its designed voids.

### **Removal of loose masonry**

- 28. Since several courses of loose and unstable masonry will have to be dismantled in some areas, a stone-by-stone survey will be undertaken and the locations of each stone larger than 5 cm in maximum dimension will be recorded by laser scanning. Each stone that is removed from the site will then be labelled and stored for use in the reinstatement of the site. The stone will be stored in stratigraphically meaningful blocks off site (the area to the NE of the monument is provisionally identified) and covered for protection. The brashy lithosol and rubble material that is typically encountered on broch walls will also be stored with the stone for potential reuse, in consolidation at the wallhead, for example.

### **Recording of all masonry to be dismantled**

- 29. It is proposed that this detailed survey be undertaken using repeated laser scanning, total station survey, digital photography and hand-drawing to provide the most complete and accurate record possible. Stone settings, layers of stone or individual key stones will be given feature numbers and the order of their sequential dismantling will be treated in all respects as a normal archaeological excavation. The use of laser scan survey will provide future scholars with the ability to digitally 'reverse' the dismantling of elements of the monuments fabric.

### **Removal of unsafe masonry**

- 30. The unstable courses will be removed by hand, assisted by suitable lifting equipment where required and the labelled stonework will be stored nearby. During this dismantling work, it may prove necessary to support adjacent masonry and structural voids, to avoid

compromising their structural stability by the removal of counterbalancing or resisting masonry. Appropriate support mechanisms will be identified and designed in advance, for SMC approval. However, it will not be possible to foresee all such requirements and ongoing liaison with HS will be required.

31. *Management structure and liaison procedures- relationship with HS and immediate decision making.* It is proposed that Graeme Cavers (AOC Archaeology) will act as the Project Manager. He will be supported by:
- i) Dimitris Theodossopoulos, as Engineering Design Adviser,
  - ii) John Barber, as Project Archaeologist and liaison with Conservation Panel
  - iii) Stuart Burke consulting engineers will provide site stability monitoring, method statement and risk assessment review, principal contractor and principal designer advice and site supervision.

## Curatorial Liaison

32. It was apparent during the Phase 1 works associated with the entrance area that practical decisions were required on a daily basis whose import ranged from the negligible to the more significant. In the timescale of a short field season it was not possible to liaise with HS regarding all of these matters. At the site inspection, John Raven noted these matters but agreed then and later in writing that appropriate decisions had been made in all instances. It is likely that such issues will arise again and, given the scale of the works, it is probable that some of them will be more significant. We shall agree with HS a process of planned site meetings and seek from them defined thresholds of variance from planned procedures at which their review would be required. The longer timescale of the proposed works would allow time for the cessation of works in one area, pending HS approval, but it would nonetheless require timeous responses from HS to ensure that the project can be completed without additional costs and impact on the schedule.

## Archaeological Implications

33. As noted above an essential component of the conservation programme will be the necessary disturbance and consequent preservation by record of all intact archaeological deposits and structures whose survival in situ cannot be ensured.. Excavations, including those undertaken to facilitate conservation at a monument of the significance of Clachtoll broch must be undertaken in full appreciation of the research context of the site, and in accordance with objectives tailored to current research questions in the field of Atlantic Iron Age broch and settlement studies. The following sections set out the project strategy for approaching archaeological recording of the monument during conservation and excavation works.
34. Conservation of the eastern half of the broch wall and reforming the southern side of it requires that the wall will be investigated and in places, especially at the south end, will be dismantled

in part. The debris inside the wall will necessarily be removed to allow access to the wall fabric and in practice, given the apparent depth of the debris (over 2.5 m) this will affect all deposits within the surviving broch wall. That removal, and subsequent work based on the exposed broch floor, leave little option other than excavation of the *in situ* deposits and structures, before the conservation work can be completed.

35. To maintain the current equilibrium between the pressures inside and outside the broch wall, the deeper deposits on the east need to be reduced in height, at least in step with the reductions within the monument. The outer deposits are steeply pitched against the broch wall, and horizontal excavation would cut across the strata. Therefore it is anticipated that strata will be peeled away from the surface of the debris field, parallel with the current angle of repose of the debris. This will bring intervention close to the encircling wall, and it would be archaeologically poor practice to reveal this without at least trying to date it and to understand its structure and structural relationship with the broch. Therefore a section across this wall and extending to the broch wall will be proposed.
36. Finally, it is possible that ephemeral structures exist within and under the external debris and that some structural traces underlie it. These will be properly excavated if encountered during dismantling of the stone masses outwith the broch wall. Removal of the debris under an archaeological excavation regimen would deal with any other structural issues arising.
37. Toward the southeast side of the monument, the slope of the debris looks manufactured and we have hypothesized that this was deliberate and related to down-taking of the monument's higher levels for reuse elsewhere; the common fate of many brochs. For its ability to inform questions about the final and surviving state of the monument, this feature also needs to be explored, at least superficially. It will similarly prove necessary, for the provision of access, to excavate areas outwith the entrance to the broch. Deposits there appear shallow, but that may be misleading and structural remains can be discerned there, with the eye of faith, and these require careful excavation where they are threatened by the man conservation programme on the broch.

## Archaeological Hypothesis

38. The investigation of the entrance structure in 2011 for conservation purposes allowed limited investigation of the upper parts of the broch wall on the northern side and exposed a limited area of the internal scarcement. The structural details of the gallery above the entrance passage strongly supported the interpretation that the broch was designed and completed as a tower-like building, with stress-relieving entrance-lintel arrangements and stacked voids incorporated into the upper parts of the structure, features that could only have been necessary if the intention was to build a tall structure (see Barber 2012). Further evidence for the superstructure of the tower was present in the form of the ordered, vacuous rubble within the broch interior that indicated the inner walls had collapsed into the broch (Barber 2012:60-61). Charcoal recovered from the scarcement ledge at this time was subsequently dated to the BC/AD transition, strongly suggesting that the broch collapsed in that time bracket and that little, if any, disturbance of the interior had occurred since.

39. The consequence of this discovery is that the broch probably represents an exceedingly rare (to current knowledge) example of a broch likely to preserve the original Iron Age occupation levels intact and undisturbed, a possibility considered by Mackie (2010:111), albeit that he envisaged a somewhat later date for the final abandonment of the structure's use as a broch. Hebridean brochs to which Clachtoll is most similar tend not to be associated with significant settlements outside the broch walls themselves (in contrast to brochs in Caithness, Orkney and Shetland), but rather the later settlement phases tend to use the internal space within the broch walls, in some cases apparently after the broch tower was dismantled (e.g. Harding and Gilmour 2000; Harding 2004: 260). The prospect that Clachtoll contains undisturbed Iron Age occupation levels and apparently no later remains, therefore is of considerable significance.



*Figure 2: Burning on the scarcement ledge encountered during the 2012 conservation works.*

## Research Objectives

### Chronology

40. If Clachtoll does indeed contain undisturbed Iron Age occupation levels, the possibility exists that suitable deposits will be encountered that might allow questions over the use date of the broch to be addressed. Clachtoll therefore has the potential to be of key importance in the study of brochs in Scotland, and the recovery of reliable dating samples will be central to the fieldwork strategy. Understanding the chronology of Atlantic roundhouses is one of the key priorities for research in the Iron Age in northern and Western Scotland (e.g. Hunter and Carruthers 2012:90); careful planning and monitoring of the sample recovery strategy

throughout the fieldwork and post-excavation stages is essential to ensuring research questions relating to chronology can be approached with suitable data (Dockrill et al 2006).

41. Samples suitable for radiocarbon dating will be collected from all contexts where these are available, and stored in stable archive. Samples for dating will be selected from those contexts that allow the following general questions to be explored:

- *What was the construction date of the broch?*

[This question cannot be answered by dating the contents of the broch or by material lying outside it. Ideally, the wall dismantling may provide secure contexts from within the structure, which, taken with datable material from beneath it, may give us reliable dating for the construction (Dockrill, Outram *et al.* 2006).]

- *What was the duration of occupation, or other use of the primary broch structure?*
- *Can secondary phases of occupation, or other use of the remains be identified, and how do these relate to the form of the broch structure over the course of its use?*
- *Can we be confident that the broch was in continuous and consistent use over the period prior to its abandonment?*
- *When was the broch abandoned as a settlement, assuming it had been one, and what evidence is there for gaps in the history of its use?*

42. A sufficient number of samples will be collected to allow Bayesian modelling of the collected date assemblage, in conjunction with the interpreted excavated sequence (see e.g. Buck et al 1996), in order to aid the refinement of the Iron Age chronology of the site and address the questions above with reliable answers.

43. Cognizance will be taken of the probable impact of the marine reservoir effect on samples suitable for radiocarbon dating, given the likely significance of marine and coastal resources in the diet and material culture of the broch inhabitants (see e.g. Ascough 2012). The possibility of the use of Atlantic driftwood in the construction of internal furnishings of the broch will also be considered, a scenario that can affect radiocarbon chronologies significantly (Church 2002).

## Environment and economy

44. Understanding the environment and economic basis of the inhabitants of the broch is currently believed to be central to understanding its status in later prehistoric society in Sutherland. Analysis of the economic basis of broch inhabitants has been key to the

interpretation of their significance in Iron Age society, with importance of the relative access to pork and dairy within the local settlement context posited as an example of evidence for social differentiation (see e.g. Gilmour and Cook 1998; Parker Pearson et al 1999). Understanding the Iron Age economic strategy of Clachtoll has significance for the north-west mainland generally, but is of key importance in understanding the level of resource control exerted by the inhabitants of the broch.

45. Every sedimentary context encountered during the excavation will be bulk sampled and analysed for plant macrofossils and where possible, for analysis of insect remains. Provision will be made for the subsampling of soft sediments for specialist analysis including insect remains, where initial assessment deems this viable. Excavation of all soft sediments must proceed on the premise that all deposits within the broch are likely to preserve important trace remains relevant to the reconstruction of the economy of the inhabitants.

## Use of Space

46. If the Clachtoll broch does indeed contain undisturbed Iron Age occupation deposits, then there is potential for the investigation of domestic arrangements and use of internal space within a broch in a level of detail that has never previously been possible due to secondary disturbance. The excavation will be recorded in a high level of detail using 3D laser scanning, with the positions of all artefacts and samples located in the same XYZ coordinate system using a total station. Recording in 3D in this manner will allow detailed analysis of the taphonomy of the site, variations in the use of internal space when occupied and the processes acting on the monument from its construction to its abandonment.
47. Analysis of the internal space of the broch through artefact distributions and, where appropriate, gridded sampling offers the opportunity for the exploration of the function of different parts of the broch; the survival of deposits within the intramural galleries and, presumably, at ground floor level make this a major research opportunity.



*Figure 3: Waves break over the broch in a winter storm at Clachtoll.*

### **Preservation through excavation**

48. As discussed, the broch is considered to be at risk of catastrophic collapse due to the effects of coastal erosion (see CMP): although the most urgent areas have been stabilized, the effects of severe winter storms (Figure 3) coupled with the ongoing erosion caused by visitors accessing the broch on foot mean that there is justification for the excavation of the broch in order to extract the archaeological information content of the monument before this is irretrievably lost. If structural failure of the broch wall occurs, the archaeological value of the monument will be drastically and irreversibly reduced.
49. Excavation strategy should, therefore, be designed so as to maximise information retrieval from those areas deemed at greatest risk from works associated with conservation activities and those brought to more prominent risk in consequence of those works. This includes all of the internal rubble and soft deposits, the structure of the broch wall, and to a lesser degree, those areas immediately outside the broch entrance.

### **The broch as a visitor attraction**

50. While the conservation concerns of the project are fundamental, central to Historic Assynt's aims is the aspiration to develop the broch into a readily 'visitable' attraction, and the investigation strategy is designed partly with the accessibility of the monument in mind. While conservation and archaeological issues will in every case take precedence in the direction of the field strategy, the ultimate accessibility of the monument for future visitors is also a principal concern. Therefore, care will be taken, not only to provide cleared access to the

monument but also to ensure that archaeological excavation addresses those areas likely to be impacted by subsequent visitor access, including the area around the entrance and the route through the rubble immediately to the N of the broch.

51. The broch will be made accessible to visitors during the excavations, allowing the visiting public to experience the archaeological fieldwork as it progresses. Provisions will be made on site for the safe access of visitors to the monument during the excavations, including a safe area from which to view the excavation of the interior in the form of a scaffolding platform located on the N side of the broch.

## Conservation and excavation strategies

52. The conservation effort will concentrate on the broch wall, but to ensure its structural safety, and to access the intra mural voids, the masses of masonry debris lying with the broch and abutting it on the outside must be reduced in synchrony. This will require the full excavation of the broch interior including removal of rubble from the intramural galleries and excavation of all soft deposits within the broch walls (see Figure 4).
53. In the first instance, it is proposed to reduce the debris within to the level of the bottoms of the lintels of the gallery and cell access doorways. Although apparently only voided stones, the debris will be excavated in line with the archaeological excavation SOPs for the monument (qv).
54. The outer wall adjacent to the temporarily propped south wall would be dismantled once the intramural void had been emptied. This may require deepening of the interior and exterior debris masses locally, which would be achieved by excavation, as above.
55. The stones loosened in the south outer wall by the failure of its footings would be removed, labelled and stored locally. If engineering inspection indicates that the removal of this mass would destabilize the adjacent wallhead, our preferred solution is to remove the wallhead debris field to an angle of 45 degrees, to retie the remainder of the wall. It is not proposed to mortar the wall as an enabling work, because this would both require some dismantling in any event but would introduce new material to the matrix of the wall, and this is utterly unacceptable.
56. If the revealed configuration of the bedrock facilitates it, a concrete plinth will be cast onto the rock-head, into which stainless steel rods will be dowelled and epoxied, to provide keying. The outer exposure of the concrete will be stone faced, linearly vertical and with a distinct angle between the two halves of the face in the horizontal plane, to emphasise its alien and introduced character. Once established and dried, the stones of the wallface would be replaced in the correct order. It is not proposed to add pinnings. The wall core will be built up with stones from its own debris, to the height of the highest extant element of the inner wallface of the outer wall.
57. Any soft deposits encountered in the dismantling will be excavated as per the site SOPs.

58. If the configuration of the revealed rockhead permits it, fixings can be secured into the rockhead to facilitate the architect's installation of an access way to the wallhead level. This could be decided on site with the site engineer, HS staff and the architect in attendance.
59. Once the south end is secured, the sloping field of debris reaching down from the inner wallhead along the east side of the broch will be excavated, and those excavations will proceed into the gallery void above the ground floor. The aim of these excavations will be to reach original or authentic masonry onto which a reestablishment of the outer wallface can be secured, disturbing the minimum amount of stonework possible to achieve this. Two options then arise, and for both of them the temporary masonry mass inserted in 2012 left of the entrance façade will be stripped down and removed. The outer wall's wallhead will require stabilisation and in Option 1, this would be achieved by rebuilding it c.1 m high. Option 2, would be to clean it off, resinate soil deposits, lay turf and do nothing more. Option 1 is preferred because the newly inserted wall's mass would stabilize the intramural voids and the inner wall's outer wallface (in places) and it would revet the extant entrance façade. Whether it should be extended over the rebuilt south wall is a decision that should be reached on site, in the light of emerging evidence.
60. The area immediately outside the entrance and the debris slope reaching thence to the lower ground would be cleared, at least locally, to provide safe secure access to the monument. The removal of material would cover the smallest footprint needed to give safe access. It is hoped that this would not require the insertion of new materials, and the excavation aim would be to recover the original access way. Whether this in turn would require conservation or consolidation cannot be determined in advance of the excavation. The debris outwith the entrance area could contain further structural remains that would require conservation and presentation or reburial and protection, but this is mere speculation until the clearance excavation takes place.
61. It is proposed that the conservation policies and practices set out in the *Conservation Management Plan* would be followed in these works.
62. In applying for SMC, it is understood that the level of detail that can be developed in advance of the down takings and excavations is not sufficient to determine a specific programme of works. We propose that the order of works should be that set out above and that a site meeting be convened at the end of each episode of excavation and debris removal, to identify the specific approach to be taken in each area. A suitably conditioned SMC would retain the option to halt works in any area and restore to pre-intervention profiles, if no ideal way forward can be found.

## Excavation & Sampling

63. Archaeological excavation will be carried out entirely by hand, according to procedures specified in AOC Archaeology Group's Standard Operating Procedures (SOPs, available on request).

64. Excavation will begin with the removal of the rubble surrounding and from the interior of the broch (see Figure 4), with close monitoring of the condition of the broch wall and any other structure as it is exposed. As per standard excavation procedure, hand drawn plans will be made at each level of the excavation and, as a minimum, of every context before and after excavation (see *Recording*, below).
65. All soft sediment deposits will be excavated by hand. Bulk samples will be taken from every sediment context, with special samples, such as Kubiena or monolith tins for soil micromorphological analysis taken on a judgment basis (see AOC SOPs and English Heritage 2011:8-11). Charcoal and other organic artefacts suitable for radiocarbon dating will be sampled preferentially as dedicated dating samples wherever possible. Samples will be stored in cool and dark conditions pending post- excavation analysis.
66. Soft deposits will be sieved on site at a ratio of 1 in 3, with 100% sieving of selected contexts where this is deemed appropriate.

## Recording

67. As a minimum, all excavated contexts will be photographed and drawn prior to excavation, on completion of excavation and during excavation if deemed necessary. Drawings will be produced at a suitable scale on drafting film, nominally 1:10 for sections and 1:10, 1:20 or 1:50 for plans. Levels will be established to Ordnance Datum using differential GPS and all drawings will be related to this.
68. All structural features and associated rubble will be recorded using 3D laser scanning and, in situations where this is deemed appropriate, 3D photogrammetry. All 3D data will be related to the site control grid using a total station.

## Artefact recovery

69. All artefacts will be collected and allocated small finds numbers, and located in XYZ coordinates on the site grid. Artefacts will be packaged appropriately (see AOC SOPs) and immediate conservation requirements assessed by an archaeological conservator. Artefacts will be packed by context daily and removed from site for storage at a secure location.

## Site management

70. The site will be cordoned off with temporary fencing for the duration of the project, and closed when the site is unattended by the field staff.
71. Rubble will be removed from the site and stored nearby for removal. In certain instances it will be necessary to use lifting equipment to remove larger stones from the excavation area. In this instance, stone will be removed using a portable lifting gantry and moved to a spoil chute located on the east side of the broch.

72. Spoil will be removed and stored in skip bags located outside the Scheduled area. Spoil will be retained for the duration of the project, allowing for its use in the reinstatement of parts of the site where this is required. Additional spoil will be removed from the site on completion of the project.
73. The consolidation and conservation of existing fabric of the broch will conform to the conservation principles described above, in close consultation with Historic Scotland.

## **Supervision & Direction**

74. The excavation of the broch will be directed by Dr Andy Heald, Dr Graeme Cavers and Mr John Barber. The excavation of the site will be supervised by project officers, supervisors and archaeologists of AOC Archaeology Group, with volunteers forming the additional excavation staff (see *Participation Policy*, below). A ratio of no more than five volunteers to one qualified archaeologist will be allowed during the excavation. All project staff and volunteers will receive induction training in issues relating to health and safety and in the recognition of typical later prehistoric material culture. Volunteers will receive training in the identification and description of archaeological soils and the procedures associated with sampling and recording. Responsibility for all recording will remain with AOC Archaeology Group staff.

## **Participation Policy**

75. It is intended that the archaeological investigation of Clachtoll will be run as a community-oriented project, allowing volunteers to take part in the excavation and post-excavation analysis. Volunteers will be recruited on a pre-arranged basis, with the number of volunteers participating on site established in advance and at no point exceeding the supervision ratio identified above.
76. Project volunteers will be invited to participate in the post-excavation phase of the project, with the initial finds processing and cataloguing and sample sieving taking place in Assynt under the supervision of AOC Archaeology's post-excavation specialists. Artefacts requiring conservation or specialist analysis will be appropriately packaged by AOC's post-excavation staff and taken to AOC's laboratory.
77. AOC Archaeology staff will assume responsibility for the supervision of project participants and the quality of their work at all times.

## **Data Structure**

78. Data will be structured according to AOC Archaeology Group's standard operating procedures, with archaeological deposits and structures described by context. All finds, samples, drawings and photographs will be cross referenced to context numbers. Summary reports will

be drafted by project staff as the excavation progresses in order to structure data deriving from the excavation.

79. A Data Structure Report (DSR) will be drafted following the completion of the excavation in order to document and describe the excavators' interpretation of the site. This document will outline the specific hypotheses to be tested by the post-excavation research programme, in line with the *Research Objectives* described above.

## Post-excavation Analyses - Outline Strategy

80. A full Post-Excavation Research Design (PERD) will be drafted on completion of the DSR, with a strategy for testing the research hypotheses formulated on the basis of the field investigation. A detailed strategy for radiocarbon dating will be formulated based on the initial assessment of suitable samples and deposits, and the chronological relationships to be tested. A programme for the treatment of material culture deriving from the excavations will be drafted, including the analysis of ceramic, bone, metallic, vitreous, industrial and organic assemblages.

## Reporting, Publication and Dissemination

81. The final report compiling all of the excavation and post-excavation analysis results will be assembled as a monograph, submitted for peer review and offered to a suitable publisher. Historic Assynt will liaise with Historic Scotland and the Society of Antiquaries of Scotland at this point to identify the most suitable way of publishing the full excavation results. It is not accepted that digital publication alone will meet the team's professional obligation to 'preserve by record' and a more suitable format will be found. Some combination of printed and online publication may maximize public access and the professional requirement for permanency of the record.
82. In addition to formal academic reporting, regular articles will be prepared for the popular archaeological media, including publications such as *Current Archaeology*, *British Archaeology*, *History Scotland* and others.
83. A website will be created for the project, and will act as a vehicle for the dissemination of regular updates on the findings of the project. This website will be maintained for a minimum of 5 years following the completion of the project.

## Interpretation

84. Interpretation and presentation of the broch and its archaeology are key parts of the project and in practice are inextricably linked, since every presentation is an act of interpretation, and as such, is subject to current zeigeistic biases in the archaeological profession. It is argued therefore that site presentation should focus principally on the surviving physical structure,

and that more abstract interpretations would more properly be restricted to secondary presentational media, printed or digital. It is proposed that the majority of this secondary matter is produced digitally for incorporation into an interactive mobile app that would function both as a guide for visitors to the site, for 'virtual' visitors and as a teaching resource for schools across Highland Scotland. The scope and functionality of this app is the subject of a separate document.

85. In response to feedback from the local community the intention is to minimise the number of interpretation installations physically installed at the broch or in the landscape surrounding it. However, one or two small interpretation boards, sensitively designed and carefully located, will be placed at the site on completion of the project. The design and placement of these interpretation boards will be agreed in consultation with Historic Scotland.
86. Access around the monument will be managed following the completion of the project, including the installation of access to a viewing platform located on the west side of the monument (see separate proposal).

### **Archiving and Finds Allocation**

87. The paper archive resulting from the excavations, comprising all written records, context/sample/finds records, notebooks and drawings will be deposited with the National Monuments Record for Scotland (NMRS).
88. The digital archive, comprising all survey data, digital photography and digitised drawings will be deposited with the NMRS in a format consistent with RCAHMS requirements for digital archiving.
89. Following cataloguing, specialist analyses, conservation and reporting, all artefacts will be presented to the Scottish Archaeological Finds Allocation Panel for assessment under Treasure Trove legislation.

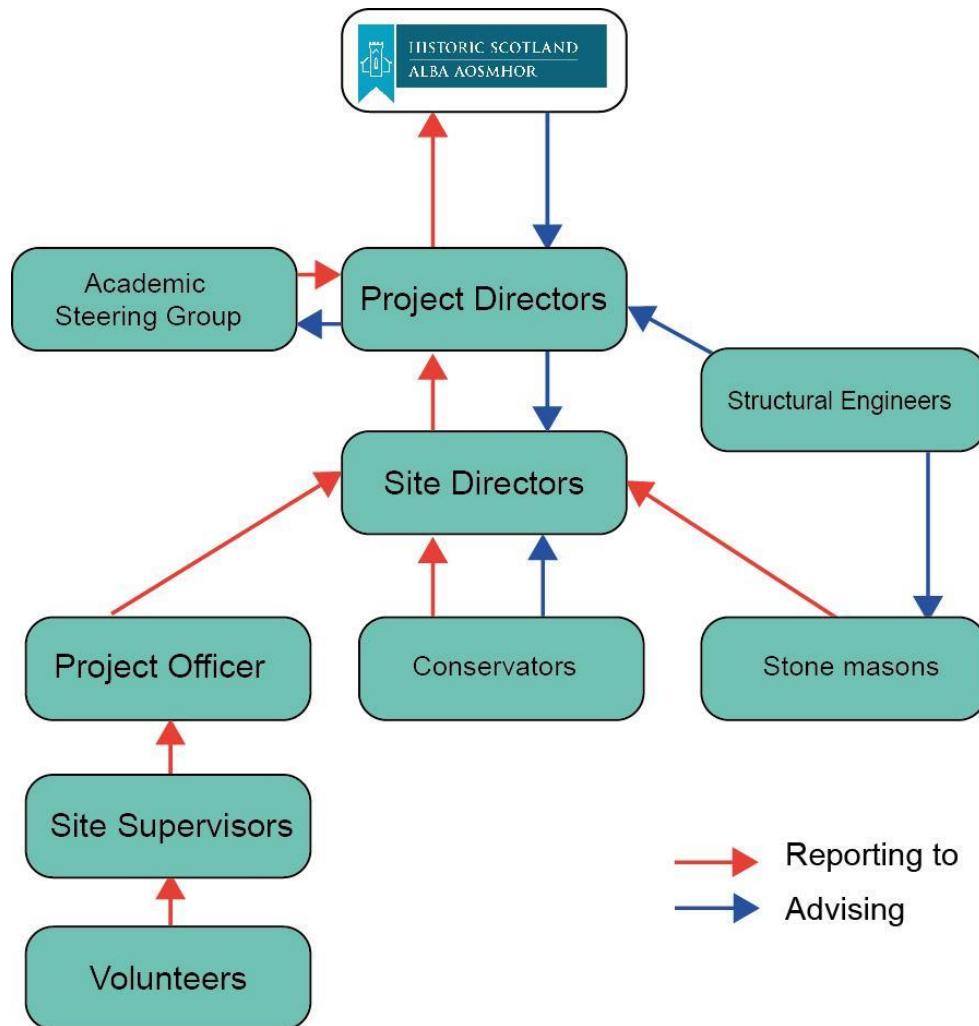
### **Project Management and Reporting Structure**

90. The project will follow the management and reporting structure outlined in Figure 4. The project directors will be advised by an academic steering committee, who will provide peer review for fieldwork and post-excavation strategy throughout the life of the project. The project directors will report directly to Historic Scotland and will consult with Historic Scotland's inspectors and architects as appropriate. Consulting structural engineers will advise the project directors on site management, methods and conservation strategy, and will direct the work of stone masons on site during conservation-led construction works.
91. The site directors will take responsibility for the execution of the project plans as advised by the project directors. A team of project officers and site supervisors will support the site directors and manage the participation of volunteers according to the supervision ratios identified above.

92. Archaeological conservators and finds specialists will carry out appraisal of the condition of material excavated from the broch, and advise the site directors on appropriate on-site finds conservation procedures.
93. In all stages of the project, the project directors will liaise closely with Historic Scotland, providing regular progress updates and briefing prior to any strategic decision making (see *Curatorial Liaison, above*).

### **Alignment with National Heritage Policy**

94. The conservation project at Clachtoll broch aligns closely with the most recent national policy on the historic environment. *Our Place in Time*, Historic Environment Scotland's strategy document for understanding, caring for and protecting Scotland's heritage outlines several key policy areas relevant to the conservation and presentation of Clachtoll broch.
95. The Clachtoll conservation project proposes works that are aligned with three of the key strategy areas outlined by *Our Place in Time*: 'Care and Protect', 'Share and Celebrate' and 'Investigate and Record'. The primary stimulus for the project is the conservation of a significant archaeological site that is at risk of destruction through coastal erosion, with the aim of securing its survival for future generations. Inevitably, the project involves archaeological excavation which provides the simultaneous opportunity to investigate and better understand the archaeology of Iron Age settlement on the north-western mainland. Through improved visitor access and presentation of the monument, the project fulfils many of the 'Share and Celebrate' aspects of *Our Place in Time*, promoting the monument as a visitor attraction and offering many opportunities for public, community and schools involvement.
96. Clachtoll broch is a Scheduled Monument, protected under the Ancient Monuments and Archaeological Areas Act 1979. Interventions in Scheduled Monuments like Clachtoll are usually considered only when no other feasible options exist. However, as outlined by Section 3.19 of SHEP, Scotland's Historic Environment Policy, intrusive works can be considered essential to secure the long-term preservation of the monument and/or where a demonstrable public benefit is derived from such works (e.g. improved visitor access). The conservation and access programme proposed for Clachtoll falls into this category.



**Figure 4: Management and reporting structure**

## APPENDIX 1: Clachtoll Broch and Material Culture Studies

A1. Over the last 70 years numerous research agendas have been published of relevance to the Scottish Iron Age and material culture. For example, during the post-war period Hawkes and Piggott (1948) stressed the need for wider understandings of Iron Age chronology, industry and trade. Fifty years later Historic Scotland's rescue archaeology priorities (Barclay 1997) reiterated these key priorities concentrating on the primary use and internal structure of brochs; the chronology and significance of decorated pottery; and the need to study the context of 'stray finds' of metalwork. A few years later Haselgrove et al (2001) considered versions of the same themes and, again, highlighted the need for closer study of Iron Age material culture. But the recently published *Iron Age Scotland: Scottish Archaeological Research Framework* (ScARF) (Hunter & Carruthers 2012) gives a sobering summary of the progress made over the last 70 years:

*'In looking back to 1948, our knowledge of and perspective on the Iron Age have transformed dramatically, but many of the essential concerns of chronology, regionality and understandings of settlements and material culture, remain' (ibid., 11)*

A2. The Panel also stressed that '...there is a Britain-wide problem in developing artefact specialists, with many specialisms dependent on a very few specialists' (ibid., 122). This dearth was also highlighted in a recent Institute of Field Archaeologists *State of the Profession* (2012) study.

A3. In summary, despite over seventy years of Research Agendas, research programmes and aligned priorities there still remain many gaps in our understandings of the Iron Age material culture, and a declining body of people studying the subject.

A4. That said, the recent *Iron Age Scotland: Scottish Archaeological Research Framework* (ScARF) (Hunter & Carruthers 2012) highlighted again the rich data of international quality within our shared heritage including the deeply-stratified sites of the Atlantic Zone, including Sutherland. They also highlighted how excavating and analysing these sites could tackle key 'big themes' such as: the nature of domestic architecture, the movement of people and resources, the spread of ideas and the impact of Rome. They also highlighted the many other topics that remain to be explored including social structures, craft processes and the use of material objects to shape people's lives (ibid., iii).

A5. The research priorities embedded within the ScARF document will remain the benchmark for the next two decades. Any new work must, therefore, take cognisance of their suggestions and recommendations. Their main recommendations can be summarised under five key headings: Building Blocks; Daily Life and Practice; Landscapes and Regions; Reconstructing Iron Age Societies and the Wider Context. Within this broad recommendations are specific areas of study of which the following are directly relevant to Clachtoll and the associated artefact studies:

- *Chronological control and effective dating strategies of settlements (and artefacts)*
- *Getting the most out of information-rich sites as they appear.*
- *Many areas still lack anything beyond the baldest of settlement and artefact sequences*
- *Much of the methodologically innovative work and new insights have come from long- running large-scale research projects.*
- *Ritual practice: valuable work done to date but there is greater potential for further pattern-spotting, synthesis and interpretation, particularly in relation to house-based ritual practices.*
- *Subsistence practices are a core area of research essential to understanding past society; this should include not only environmentalists but also far greater integration of specialism including artefacts (e.g. querns, stone tools).*
- *Concepts of region and how they changed over time need to be critically explored*
- *Relationships with neighbouring areas need to be explored.*
- *Key big topics include: nature and effect of the introduction of iron; social processes lying behind evidence for movement and contact; the changing nature of houses and households over this period; including the role of 'substantial houses', from crannogs to brochs, and relationships with the Roman world.*

A6. More explicitly the Panel's recommendations also include the following:

A7. **Material culture.** *Artefact studies have the potential to be far more integral to understandings of Iron Age societies, both from the rich assemblages of the Atlantic area and less-rich lowland finds. Key areas of concern are basis studies of material groups (including the function of everyday items such as stone and bone tools, and the nature of craft processes – iron, copper alloy, bone/antler and shale offer particularly good evidence). Other key topics are: the role of 'art' and other forms of decoration and comparative approaches to assemblages to obtain synthetic views of the uses of material culture.*

A8. Excavations at Clachtoll broch allow an excellent opportunity to explore all of the key areas identified by the leading Iron Age Scottish scholars. Further, work at Clachtoll broch will allow new generation of scholars to become engaged with artefacts, helping to combat the decline in specialists engaged in Iron Age material culture. For example:

- *Getting the most out of information-rich sites as they appear.*

A9. The project provides a wonderful opportunity for archaeologists to gather new date from information-rich sites. The work undertaken to date at Clachtoll suggests that the broch suffered a catastrophic collapse around the 1<sup>st</sup> century BC. In essence then, the working model is that there will be largely untouched deposits / floor layers etc. with all the associated structure and artefactual remains. If this proves the case having an almost pristine broch interior has huge potential.

- *Chronological control and effective dating strategies of settlements (and artefacts)*

A10. One of the key aims of the Clachtoll excavation will be to utilize existing scientific techniques to gain excellent chronological control through a bespoke dating programme that will include radiocarbon dating and Bayesian statistics. However, it is also envisaged that actual artefacts (e.g. bone) and residues (pottery) will be directly dated. Not only will this allow archaeologists to better understand the dating sequence of the sediments and structures but also allow one to construct specific chronologies for object types.

- *Many areas still lack anything beyond the baldest of settlement and artefact sequences*

A11. As stated earlier the Sutherland Iron Age is poorly understood, with few recent excavations and narratives reliant on sequences from other areas or 19<sup>th</sup> century excavations. 21<sup>st</sup> century work on a broch mound allows unparalleled opportunities, almost once in a generation, to construct a thorough framework for settlement and artefact sequences in northern mainland Scotland.

- *Ritual practice: valuable work done to date but there is greater potential for further pattern-spotting, synthesis and interpretation, particularly in relation to house-based ritual practices.*

A12. If the working model is correct (that the broch suffered a catastrophic collapse) then there could be an almost untouched Iron Age floor level within the broch interior. In recent years emphasis has been on understanding the interior use of roundhouses both in terms of everyday life, but also ritual practices. Careful excavation of the Clachtoll interior will allow an unparalleled opportunity to analyse intra-site patterning and, for example, house-based ritual practices.

- *Subsistence practices are a core area of research essential to understanding past society; this should include not only environmentalists but also far greater integration of specialism including artefacts (e.g. querns, stone tools).*

A13. Any programme of work on Clachtoll will include thorough environmental analysis through, for example, animal bones, pollen, charcoal and the like. But as the ScARF document highlights (ibid., 27-39) there is a wealth of artefactual material that can help these discussions. Stone and bone objects can help us understand planting, harvesting, cultivating and processing regimes. Pottery, bone and stone objects can also allow us to understand how food was consumed and shared. As with many Atlantic Iron Age sites, excavations at

Clachtoll should be expected to uncover literally tens of thousands of pieces of pottery, bone and stone.

- *Concepts of region and how they changed over time need to be critically explored.*

A14. If the working model is correct then few first millennium AD remains (including artefacts) should be expected from the broch interior. However, excavations outside the broch may reveal post-broch occupation. Recovered artefacts and structural sequences from this area may allow us to understand what happened in the post-broch period and what the post-broch Iron Age across the region looked like.

- *Relationships with neighbouring areas need to be explored.*

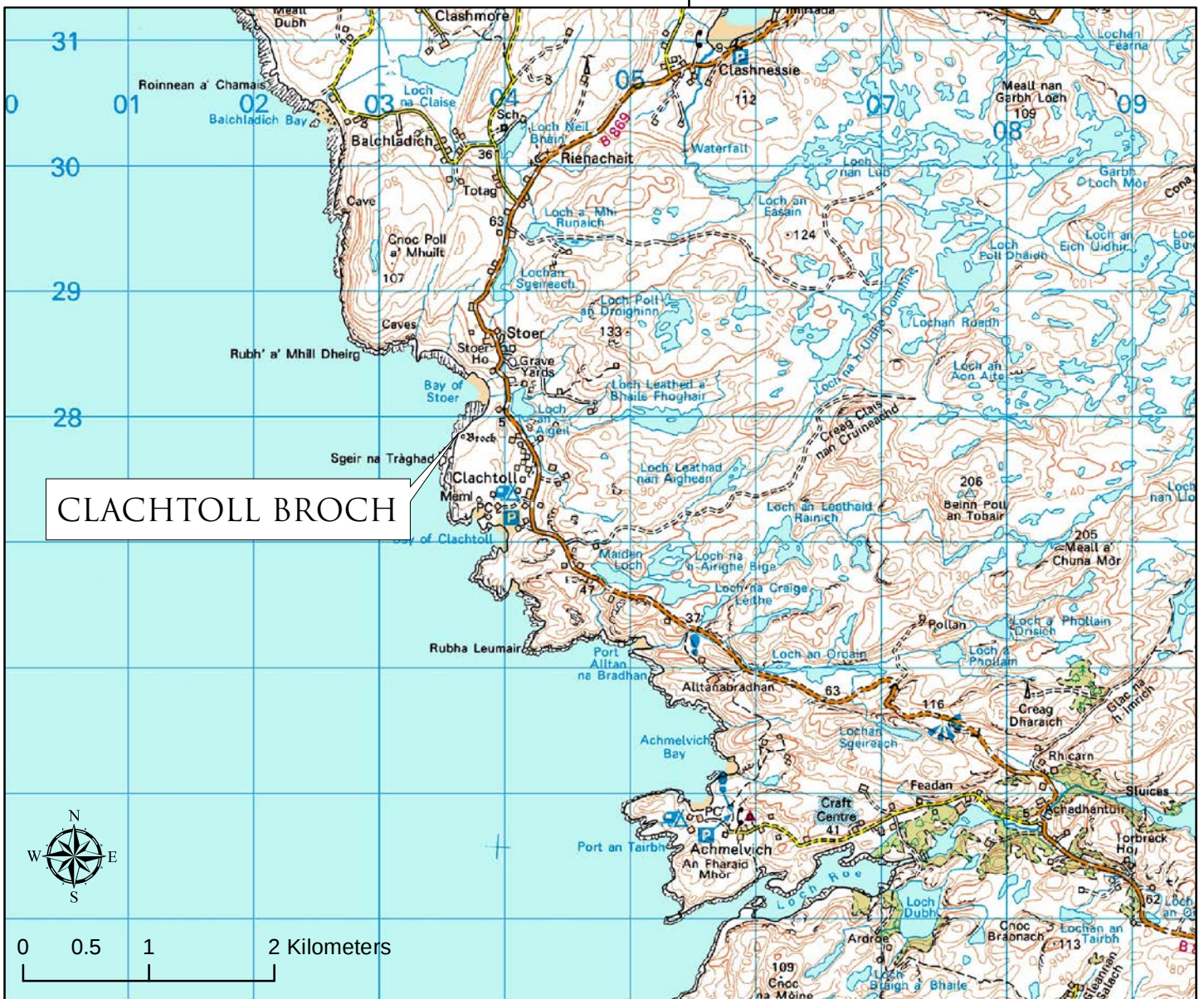
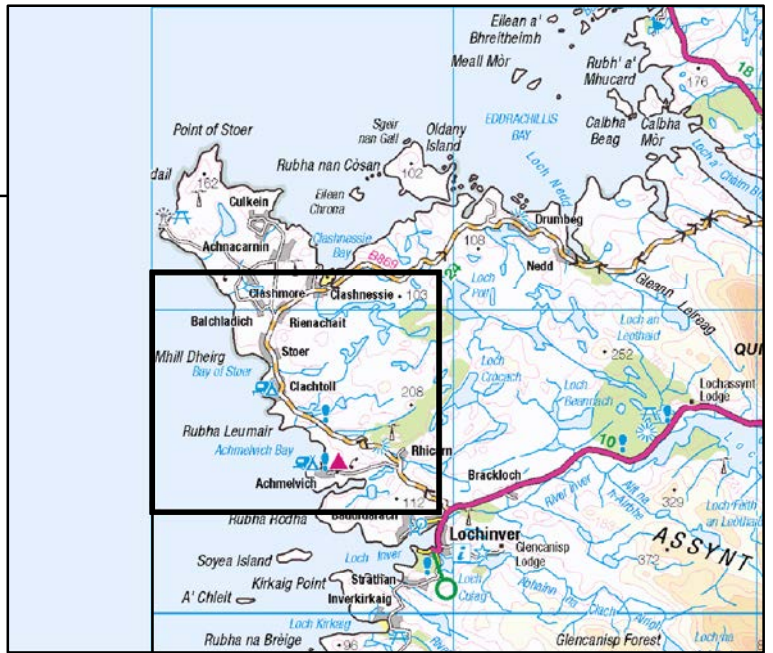
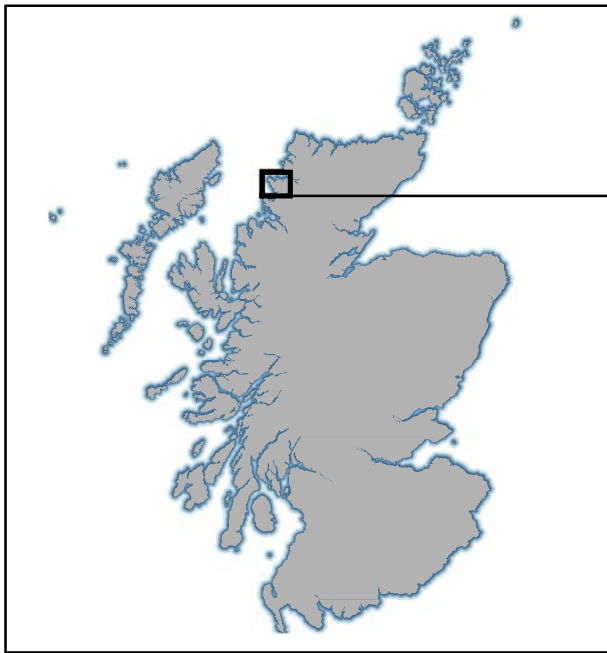
A15. As stated elsewhere in this document part of the appeal of the Clachtoll excavation is attempting to place the north-west Sutherland Iron Age into its wider Atlantic Iron Age sequence. For example, there has long been debate as to where Atlantic roundhouses originated from (Western Isles or Northern Isles) and, therefore, how northern mainland Scotland (Sutherland and Caithness) relate to these areas. The artefacts expected to be uncovered at Clachtoll, particularly the pottery, will allow us a better understanding of whether the Clachtoll inhabitants looked to their neighbours to the west or north, neither, or both.

- *Key big topics include: nature and effect of the introduction of iron; social processes lying behind evidence for movement and contact; the changing nature of houses and households over this period; including the role of 'substantial houses', from crannogs to brochs, and relationships with the Roman world.*

A16. New work at Clachtoll and the recovery of artefacts allow archaeologist in northern mainland Scotland to engage with the key big topics identified by the ScARF panel. It is expected that artefacts related to iron production may be uncovered. These need not relate just to metal objects (assuming they survive) but also secondary indicators of metal production such as whetstones, slag, moulds and crucibles. Understanding of the interest and influence of Rome (if any) may also be aided by artefacts from Clachtoll. Although not found in great amounts we do know that Roman finds found their way to Orkney, Caithness, western Sutherland and the Western Isles; did they also reach north-west Sutherland? Excavations in the broch interior and the external settlements may uncover artefacts that progress such discussions.

- *Material culture. Artefact studies have the potential to be far more integral to understandings of Iron Age societies, both from the rich assemblages of the Atlantic area and less-rich lowland finds. Key areas of concern are basic studies of material groups (including the function of everyday items such as stone and bone tools, and the nature of craft processes – iron, copper alloy, bone/antler and shale offer particularly good evidence).*

A17. As the ScARF *Iron Age Scotland* document outlines Atlantic Iron Age objects have a tremendous amount to tell us about Iron Age society. As stated earlier, the excavations at Clachtoll are expected to uncover tens of thousands of artefacts, particularly stone, bone and pottery. The assemblage should parallel other recent work at, for example, Scatness in range. Thus, it is undoubted that careful analysis will reveal new insight into everyday life (food production and consumption, drink, heat, lighting). Studies should reveal new insight into many craft processes (iron, copper alloy, shale, bone). The emphasis during the Clachtoll artefact analyses will not merely be on creating typologies; it will be concerned with using cross-collaborative approaches to understanding key questions regarding subsistence, manufacturing, trading, living and dying.



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Location of Clachtoll Broch

General Notes

An Dunan broch, Clach Toll  
Assynt

Ground plan with cell positions



0.03.0m

0.010.0ft

(C) AOC Archaeology 2009

Survey & Drawing:  
G. Cavers & G. Hudson

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|-----|----------------|------|
|     | 0/1            |      |
| No. | Revision/Issue | Date |

Firm Name and Address

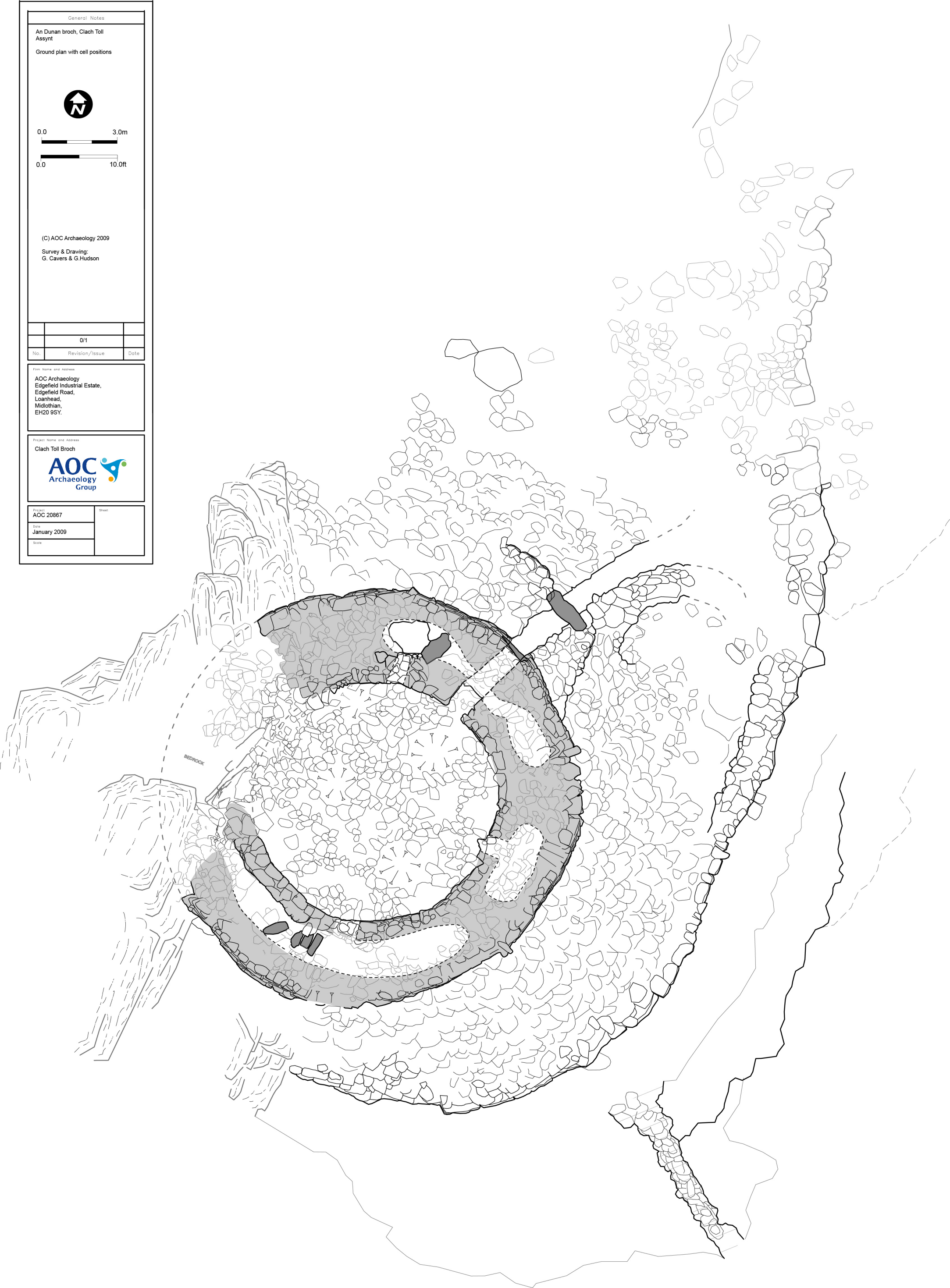
AOC Archaeology  
Edgefield Industrial Estate,  
Edgefield Road,  
Loanhead,  
Midlothian,  
EH20 9SY.

Project Name and Address

Clach Toll Broch



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|----------------------|-------|
| Project<br>AOC 20867 | Sheet |
| Date<br>January 2009 |       |
| Scale                |       |



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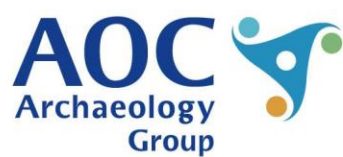
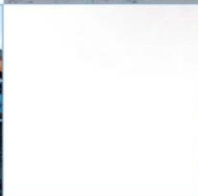
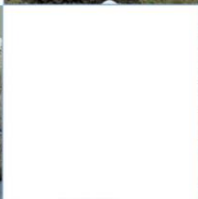
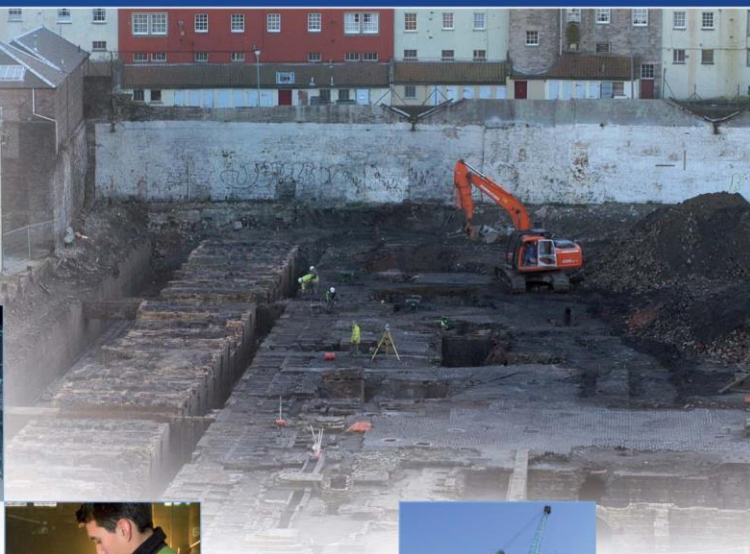
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