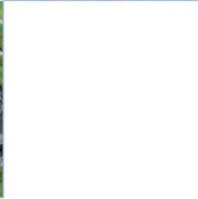
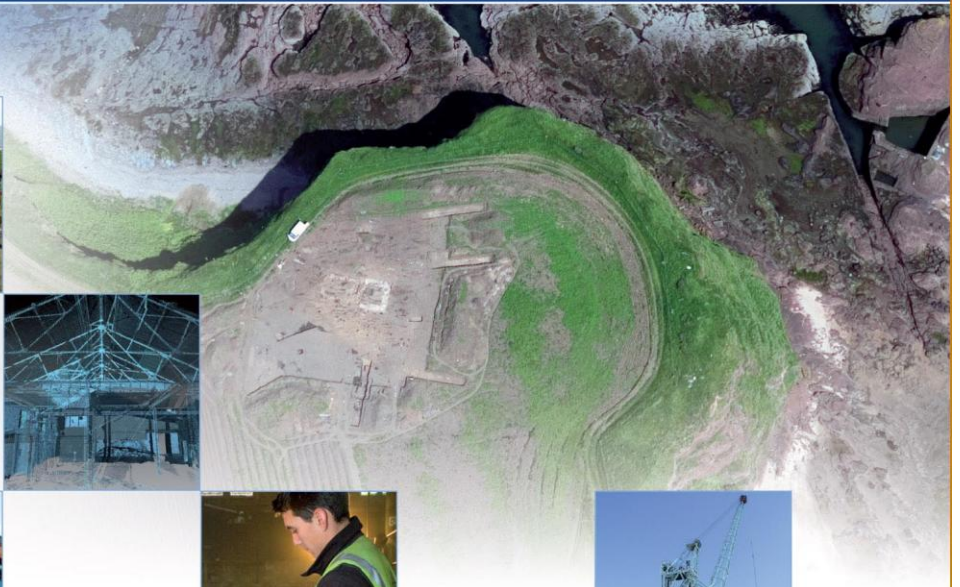


Community Excavations at Inchnadamp

Moated Site

February 2013

AOC Project No. 60058-B
29th March 2013



ARCHAEOLOGY

HERITAGE

CONSERVATION

Community Excavations Inchnadamp Moated Site 2013

Excavation Report

On Behalf of:	Historic Assynt
National Grid Reference (NGR):	NC 2488 2197
AOC Project No:	60058-B
Prepared by:	Graeme Cavers Charlotte Douglas
Contributions by:	Enid Allison David Clarke Anne Crone Dawn McLaren Jackaline Robertson
Illustration by:	Gemma Hudson Graeme Cavers
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This document has been prepared in accordance with AOC standard operating procedures.

Author:	Date:
Approved by:	Date:
Draft/Final Report Stage:	Date:

Enquiries to: AOC Archaeology Group
Edgefield Industrial Estate
Edgefield Road
Loanhead
EH20 9SY

Tel. 0131 440 3593
Fax. 0131 440 3422
e-mail. edinburgh@aocarcaeology.com



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Abstract

The excavations at Inchnadamph formed the second of two phases of archaeological fieldwork undertaken by Historic Assynt as part of their Assynt Fire & Water project.

Historic Assynt's previous survey project, Assynt's Hidden Lives, highlighted an apparent and conspicuous absence of evidence of early medieval period sites. This pattern is repeated across the rural Highlands. The possible moated site at Inchnadamph therefore represented an opportunity to explore the parish's early medieval past.

Comparanda for this large, embanked enclosure are not readily forthcoming in the archaeological record of Sutherland, the Inchnadamph site being the only known example in Sutherland or Caithness.

The discovery in 1993 of two early medieval carved stone cross fragments in Inchnadamph Old Kirk graveyard lends weight to the possibility that the site may be of great importance, and so contribute to our understanding of the medieval centuries in Assynt and in Northern Scotland as a whole.

This research was generously supported by the Heritage Lottery Fund and Robert Kiln Charitable Trust.

ARCHAEOLOGICAL EXCAVATIONS AT INCHNADAMPH, FEBRUARY 2013

Introduction

For the past ten years Historic Assynt has been undertaking research into the archaeology and history of the parish of Assynt in NW Sutherland, with fieldwork projects undertaken at Ardvreck Castle, Calda House, Clachtoll broch, Loch Borralan East chambered cairn and Glenleraig clearance-period village. In addition to investigations at these sites, a survey of well over 300 sites was undertaken as part of the *Hidden Lives Project*, a collaborative programme of recording work undertaken in 2009/10 (Cavers and Hudson 2010). In carrying out these programmes of work, the first narratives of this understudied area of Scotland have begun to emerge. However, despite the inroads made by these projects into understanding Assynt's archaeology, significant gaps remain in this knowledge. Prominent among these is the conspicuous absence, recurrent in Highland rural archaeology, of the earlier medieval period, particularly the later centuries of the first millennium AD.

One site that stands as a strong contender as a representative of this period is the possible moated site at Inchnadamph kirk, south of Loch Assynt. This large embanked enclosure may be an unusual example of a moated settlement, comparanda for which are not readily forthcoming in the archaeological record of Sutherland: the Inchnadamph site is the only known example in Sutherland or Caithness, though a small number of possible parallels exist further south in Gairloch, Cromarty and Invernesshire. The possible importance of the site is heightened by its being the findspot of several fragments of an incised high cross of a type unparalleled in the local area, and which may suggest connections to early monastic centres in Argyll. The cross fragments and their significance are discussed below.

The Inchnadamph moated site is therefore, potentially, of considerable importance to our understanding of the medieval centuries in Assynt, and northern Scotland more generally. However, questions remain over the precise identification of the site and its correct chronological context; this research design aims to identify the correct context for the site and to propose an appropriate methodology for exploratory investigation.



Figure 1: View of the site prior to excavation in February 2013.

Description of the site

The enclosure at Inchnadamph is located in low-lying, wet ground to the immediate SW of the surviving kirk. The kirk itself is largely of 19th century construction, but the adjacent Macleod burial vault, dating to the 16th century. This has been extensively restored by Historic Assynt. In addition, records exist to suggest that a church may have been founded, or re-founded here in the later 13th century (Fisher 2001).

The enclosure is sub-rectangular to oval in plan, measuring roughly 52m NW/SE by 36m SW/NE. The central platform is defined by the encircling ditch, averaging some 5m in width, outside of which is a discontinuous bank, which stands to its greatest height in the SE quadrant, where it stands to 40cm in height and is over 7m wide. There are three breaks in the circuit of the bank and ditch, to the E, NE and N, though whether all are original is difficult to ascertain. The ditch is dug into very wet ground, meaning that the ground is generally saturated and the potential for the ditch to contain waterlogged deposits is high: appropriate measures must be made for encountering such deposits and these are considered below.

The site is a Scheduled Ancient Monument (SAM 9191). Historic Scotland's Schedule cites the high potential of the site:

“The monument is of national importance as an example of an unusual form of settlement, quite dissimilar to the normal categories of enclosed settlement found in Highland Scotland. Although its date and affinities are obscure, it has a high potential to provide information about the late prehistoric or, more probably, medieval settlement construction and economy.”

Geophysical Survey

Geophysical survey carried out in 2005 by Highland Council Archaeology Unit identified a number of anomalies associated with the site (Hodgson 2005). The results confirm the presence of the ditch and

bank, and indicate that the possible presence of a metalled track leading to the NE entrance. An area of high resistance in the interior, while amorphous, suggested to the surveyor the possibility of a rectangular structure, or rubble deriving from one. Gradiometry results were less clear, though the possibility of curvilinear features within the interior was also highlighted.

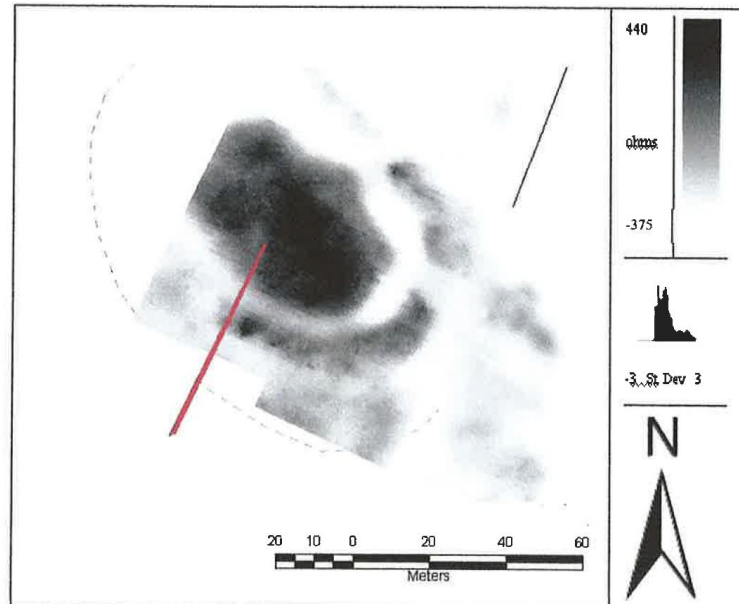


Figure 2: Resistivity results collected in 2005 (Hodgson 2005). Enhancement of the central high resistance area suggested the possibility of a rectangular area of rubble, possibly deriving from a structure.

Parallels and Hypotheses

Given the unusual character of the site in the local archaeological record, numerous theories have been offered as to its interpretation. These have included suggestions that the site may be a prehistoric ritual site, such as a henge, or an Iron Age fortification (Hodgson 2005), neither of which seem particularly likely: the irregularity of the site would discourage comparison with the few henges of the north mainland (although some ritual enclosures, like Achavanich in Caithness, bear a superficial resemblance), while the location of the ditch on the inside of the embankment would present a highly unusual, albeit not entirely unknown arrangement in a later prehistoric defensive enclosure. The more probable interpretation is that the site relates to the medieval period, with two possibilities in contention.

The identification of moated settlements in the field monuments of Scotland has generally been predicated on the morphology of the enclosure and topographic location of the site in question. Linear banks and ditches, particularly where these form square or triangular enclosures, are typical of medieval moated settlements, while the choice of low-lying, often marshy ground seems to be typical of medieval moated homesteads. However, the better known examples from southern Scotland are typically rectilinear in plan, to the extent that many, e.g. the 'Praetorium' at Fortingall and at Aardargie were mistaken for Roman fortifications until the mid 20th century (Coleman and Perry 1997). Few of these sites have been investigated fully, though several have been excavated in part: examples at Easterhouse (Glasgow), Ladywell (Girvan), Dunrod (Kirkcudbright) and Perceton House (Irvine) all produced artefacts of 13th/14th century date, some including high-status objects, prompting their general association with lesser nobility in these centuries (Dalland 2005; Duffy 1998; Davies 1966;

Stronach 2001). As noted above however, there are no local parallels for such sites in northern Scotland. The most likely candidate is probably Tigh Dige in Gairloch; this ditched enclosure site occupies a similar marshy, low-lying location, but has been effectively destroyed by agriculture and few further details are known, other than that a turf-built, blackhouse-like building stood on the site prior to modification in the 19th century.

The morphology of the Inchnadamph earthwork, however, does raise other possibilities. In particular, it is possible that the enclosure could represent the remains of an ecclesiastical settlement, with the ditch possibly representing the *vallum* of an early monastic establishment. There are several factors weighing in support of this interpretation. Firstly, the location of the site close to the later church and burial ground at Inchnadamph may indicate the ecclesiastical importance of the location that could predate the surviving structures. Secondly, the size and configuration of the enclosure bears close resemblance to several other early Christian settlements of Western Scotland, particularly to those of the Western and Inner Isles, and mainland Argyll. Construction style of early monastic enclosures in western Scotland is variable, and not all such sites had ditches, but monastic settlements of this period were typically on a similar scale to the Inchnadamph enclosure; comparisons can be drawn with the early Christian period *vallum* at Iona (Barber 1981) and several other early enclosed ecclesiastical sites of the Inner Isles. Close parallels can be found in the enclosures at the 6th century ecclesiastical foundation at Eileach An Naiomh, Garvellachs and Nave Island, Islay, which on the basis of cross fragments found there was probably established by the 8th century (Fisher 1997, 191). Further afield, the site finds a range of parallels in the Irish early monastic settlement record. While unusual in a northern Scottish context, then, there are good grounds for associating the site with the Atlantic early Christian enclosed settlements of Scotland, a context within which the cross fragments found in 1993 would plausibly fit.

The cross fragments from Inchnadamph (*David V. Clarke*)

Fragments of a large cross were discovered in the churchyard at Inchnadamph in 1993 (Fisher 2001, 92). Nearby is an earthwork that might be the *vallum* of an early monastery. The presence of the cross fragments and, less certainly, the adjacent later churchyard would give credibility to that interpretation.

The fragments suggest a cross that is similar in shape to the one from Kilnave on Islay. But the cross at Inchnadamph is without any evidence at present of comparable decoration, having only a single incised groove outlining the bevelled edges. *Pace* Fisher (2001, 92), I do not think the absence of carved decoration requires the use of parallels significantly later than the 8th-century date suggested by Kilnave. Undecorated Irish high crosses are known and the largest of them, the North Cross at Carrowmore, Co Donegal and a cross at Inishmacsaint, Co Fermanagh, exceed 3.3 metres in height (Harbison 1992, 33 & fig 90. 100 & fig 325). Moreover, the North Cross at Kilfenora, Co Clare has an east face where the outlining grooves curl up into spirals below the head. It also has a central plain boss (Harbison 1992, 115 & fig 371). Neither of these features would be capable of being determined from the fragments surviving at Inchnadamph. The possibility that the cross was painted also needs to be borne in mind.

Using Kilnave as a model, the Inchnadamph cross, with an estimated span of at least 1.6 metres (Fisher 2001, 92), is likely to have stood over 5 metres tall. This may be an exaggerated height for crosses elsewhere, particularly at Iona, show that there is no simple correlation between span and height. Equally though, they demonstrate that a height exceeding 5 metres is that of the largest

crosses. Certainly, the Inchnadamph cross is likely to have been more than 3.5 metres in height and that would put it among the largest in the West Highlands and Islands.

The normative explanation for a cross of this size would be to associate it with an ecclesiastical settlement. Exploration of the adjacent earthwork through excavation would establish this conclusively. A large cross like this one would probably have been set in a cross base. The excavated cist-like structure at Kilnave (Barber 1981), comparable in general terms to examples at Iona, does not seem have to have been the original base for that cross and there is no reason to expect a comparable feature here. A large stone, perhaps shaped, with a central slot seems much more likely. If such a feature could be found in its original position, it would make a significant contribution to our understanding of the positioning of large crosses. Following Lawlor (1897, 167-85), it has been common to see the drawing on the final sheet of *The Book of Mulling* as providing a layout of crosses within a monastic situation. While not completely refuting its monastic associations, Nees has cast considerable doubt upon its value as “a reliable, nearly archaeological picture of the plan of an early Irish monastery” (1983, 68). Beyond that evidence about the original siting of large crosses is effectively non-existent. Confirming the ecclesiastical nature of the earthwork at Inchnadamph would open significant opportunities for exploring this key question.

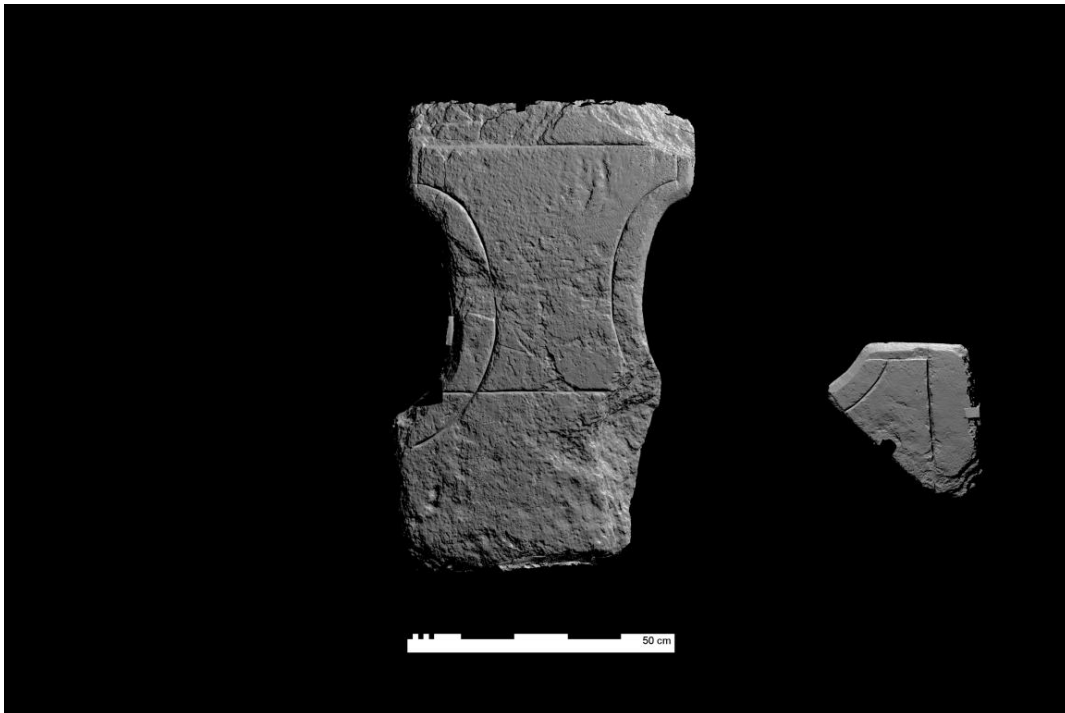


Figure 3: Laser scan of the Inchnadamph cross fragments, produced in 2011.

Aims of the Excavations

The location of the enclosure and its association with the unusual cross fragments indicate that the site has clear potential to contribute to our knowledge of early Christian foundations in northern mainland Scotland. Nonetheless, there are several peculiarities about the site that are somewhat atypical of early ecclesiastical settlements further south. In geographical terms, the site is an outlier to the main concentration of enclosed monastic settlements and as such holds the potential to inform

our understanding of the nature and date of Christian penetration into the north. Of particular relevance is the link to Argyll implied by the meta-basic geology of the cross fragments. The extant historical narratives for this are clouded by the re-writing of ecclesiastical histories in the medieval period and the suppression of narratives concerning pre-Columban saints (e.g. Adomnan refers to no pre-Columban missionaries in the area), to be followed by the marginalisation of Columba himself following Nechtan's expulsion, in effect, of those foundations adhering to the Irish traditions in respect of tonsure and the dating of Easter. The evidential value of the cross fragments, similarly, is strong enough to pose interesting questions but too weak to answer them convincingly. However, if the site can be dated to this period the chronological and cultural implications of the cross would be made more secure.

The site, then, has clear potential to inform our understanding of Sutherland in the early medieval period, with the possibility that the site is of considerable importance for our understanding of the northwards penetration of the early Christian settlements of western Scotland.

The primary research questions relating to the site are summarised as follows:

- What period does the enclosure relate to?
- Can the enclosure be confirmed as a domestic moated homestead?
- Can any evidence be obtained to support the interpretation of the site as an early monastic settlement?
- Can this evidence, or other evidence recovered, be used to link the provenance of the cross fragments to the site?
- Can any evidence be obtained from excavation to elucidate the origin or cultural identity of the occupants?

Methodology

A single slot trench was excavated over the banks and ditch on the E side of the enclosure, close to two putative entrances to the site. The trench was oriented E-W, and designed to provide a slot through the ditch fills and the internal and external banks. The trench was 1m in width, aside from over the ditch, where it was expanded to a 3m by 3m box trench in order to allow stepping down to reach the lower fills.

All deposits were excavated by hand, with plans and sections drawn to scale. Bulk samples were retrieved from all soft deposits, and kubiens samples taken from key deposits within the ditch fill for the purposes of soil micromorphology. After the removal of topsoil, approximately 30% of excavated deposits (i.e. every third bucket) was sieved by hand and scanned for the presence of artefacts.

All procedures adopted conform to AOC Archaeology's standard operating practices.

EXCAVATION RESULTS

Results

Stripping of the turf and topsoil from the site produced a small assemblage of modern pottery and glass, which was collected in bulk (SF1). Removal of the turf and topsoil (001) within the interior of the

site immediately revealed the orange sand subsoil, with no evidence to indicate the presence of upstanding structures or other in-situ deposits above the level of the subsoil. The subsoil was disturbed in several places by the presence of animal burrows but was devoid of archaeological features other than a single shallow pit or posthole [012], located in the extreme W end of the trench. This shallow feature was approximately 0.35m in diameter (although only c.75% of the feature was contained within the trench) and 0.12m deep, with an orange-grey silty sand fill (012). It was not possible to determine whether [012] indicated the presence of a structure within the interior, though on the basis of the results of this excavation it seems likely that if such features are present, they will be found in the form of negative features cut into subsoil.

The natural fluvio-glacial deposits encountered on the site presented in the form of a coarse orange sand overlying large boulders up to 0.4m in diameter, contained within a dark brown sand matrix. In two places sondages were cut into the subsoil to ensure that this orange sand was not redeposited; in both instances large rounded boulders and cobbles were encountered. This lower natural deposit is the probable source of a bank of rounded boulders found running N-S across the trench on the W side of the ditch. This formed a low bank of cobbles (004) with much larger stones near the base of the deposit. It is likely that this bank of stones was formed during the excavation of the ditch, with the cobbles upcast into the interior, perhaps to form a bank or low wall around the inside of the site, although no clear evidence that the rubble had been coursed survived. On collapsing, the bank (004) had slumped into the ditch, and large cobbles deriving from it were found throughout the upper ditch fills. During cleaning, a fragment of a possible disc quern (SF 6) was recovered from the upper levels of (004).

The ditch itself comprised a wide, U-shaped cut [008], c.1.0m in depth below the turf line at its central point but c.1.5m deep overall. The sides of the cut were sheer, nearly vertical on the E side, but less steep on the W where the natural deposits were coarser boulders and gravel. The base of the cut was a shallow concave, and the loose gravel subsoil readily allowed water to flood into the ditch: excavation was only possible by pumping out the trench and through continual bailing.

The upper fills of the ditch comprised a deep loamy deposit (003), similar to the topsoil but more compact and containing charcoal and burnt bone fragments throughout. This deposit in turn overlay a wetter, more clayey orange-grey soil (005). Both of these upper fills are thought to represent post-abandonment in-filling of the ditch, and were separated from lower deposits by a band of grey sand (006), averaging 0.06m in thickness across the deepest part of the ditch. This sand contained frequent charcoal and woody fragments, including one large fragment of waterlogged wood (SF18), possibly an offcut or fragment of structural timber. A large fragment of iron slag (SF17) was also retrieved from this deposit. It is likely that the grey sand (006) represents a water-lain silt, formed in standing water following the abandonment of the site, or at least following the cessation of maintenance of the ditch and banks (see discussion below); kubiena samples (SS1 and SS2) were taken in order to test this hypothesis.

Beneath (006) were fully waterlogged sediments, the upper of which was a dark brown compact organic clay (007) while the lower deposit (009) was a more fibrous organic peat, with woody and plant fragments readily identifiable within. Both deposits contained fragments of charcoal and burnt bone, and seem likely to have accumulated shortly after the initial excavation of the ditch and during the occupation of the site. A relatively small volume of each context was excavated owing to the 1m slot excavated to natural, and water ingress was a significant hindrance to excavation in such a restricted sondage, but the waterlogged conditions would suggest that preservation is likely to be good in these primary deposits, and fragments of hazel roundwood were observed with the bark still intact.

The outer bank was detected to the E of the ditch, immediately beneath the topsoil and was visible in initial cleaning as a dark brown-black sandy silt (002), but containing regular patches of redeposited natural orange sand, in places visible as bands up to 0.04m in thickness within the darker silt. Rounded cobbles and boulders, similar in character to those found in (004) on the opposite side of the ditch were particularly concentrated in the upper levels of the deposit, but were dispersed and did not appear to form a coherent structure. The outer bank was very denuded, and less than 0.6m of (002) remained upstanding- far less than in other areas on the S and W sides of the enclosure where the bank survives to c.0.8m above ground level.

The majority of small finds recovered from the excavation were located within (002). These included a significant quantity of iron slag (SF 16, 19), an the blade of a possible folding knife (SF 14) and several fragments of pottery (SF 11-14) . The security of these finds within (002) is questionable: while they could have been buried by the collapse of the bank, they could equally have been incorporated into the bank material during construction and subsequently redeposited as the bank eroded. Their use in dating the bank construction or collapse, therefore, is problematic.

RADIOCARBON DATING

At the time of writing, two radiocarbon dates were available. These determinations, for charcoal from context 002 (SUERC-45120) and for the waterlogged wood fragment SF 18 (SUERC-45121) both produced dates calibrating in the range 1439- 1638 AD. Table 1 details the results of these initial determinations. The results are discussed below.

Sample ID	Context	Name	Age BP	Error	FROM (2 sig)	TO (2 sig)
002/1	2	SUERC-45120	342	29	AD 1439	AD 1638
006/1	6	SUERC-45121	360	29	AD 1451	AD 1635

Table 1: Radiocarbon determinations for context 002 and SF 18.

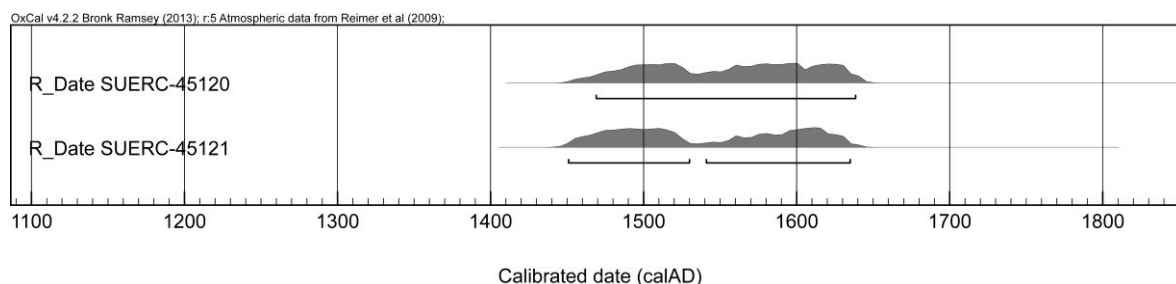


Figure 4: Calibration plot for radiocarbon dates from contexts 002 and 006.

THE SMALL FINDS

Dawn McLaren

Ceramic

A total of eight body sherds from hand-made pottery vessels were hand-retrieved during excavation; the majority from context 002. A further two sherds came from samples (s.3 & s.11). With the exception of one sherd which comes from the contracted bipartite neck and expanded shoulder of a decorated jar, the ceramics from Inchnadamph form a homogenous group of undecorated domestic pottery. Despite the small number of sherds present, differences in fabric type have been noted indicating that a minimum of three vessels are represented. The lack of diagnostic feature sherds such as base or rim sherds makes it impossible to say anything of substance about the form or date of the vessels, however, the distinctly rounded profile of the undecorated sherds suggests that the vessels were likely to be globular in shape and the presence of one contracted neck implies a jar-like form, consistent with 'craggan' or 'crogan ware' jars known from the Hebrides and many parts of Atlantic Scotland (Cheape 1993). These craggan ware vessels represent a tradition of domestic pottery manufacture which changed little in form and technology from the Iron Age through to the early twentieth century making it impossible to date such wares with any precision.

In addition to the coarse, hand-made pottery vessel sherds already discussed is a single highly fragmentary and abraded bowl fragment from a clay pipe. It was recovered from topsoil and is likely to be 17th century or later in date.

Catalogue

Craggan or crogan ware sherds

SF 3 Body sherd of handmade vessel; undecorated. The fabric is fine clay which has fired hard and is pinky-buff-brown with light brown exterior surface and pinky-buff interior surface and occasional quartz and mica inclusions. The rounded exterior surface has been hand smoothed when wet and is sooted with adhering dark brown food residues. Internal diameter is a minimum of 300 mm, T 9 mm. Context 002.

SF 11 Rounded body sherd of handmade vessel; undecorated. The fabric is fine clay with occasional quartzite and mica flecks which has hard fired and is dark brown with a pinky-brown exterior surface, now sooted. The external surface has been hand wiped when wet and patches of food residue adhere across surface. Internal diameter is a minimum of 280 mm, T 8.5-9 mm. Context 002.

SF 13 Rounded body sherd of a handmade vessel; undecorated. The fabric is fine clay which has fired hard and is dark brown-grey in colour with a pinky buff exterior surface and margin and brown interior surface. The external surface has been hand smoothed when wet with dark sooting from use. Internal diameter is a minimum of 300 mm, T 9 mm. Context 002



Figure 5: Examples of pottery sherds (illustrations pending), top: SF15, decorated with incised fingernail impressions; bottom: SF 13, craggan-type body sherd.



Figure 6: Quernstone fragment, SF6.



Figure 7: SF19, plano-convex slag cake.



Figure 8: SF16, furnace base.



Figure 9: X-ray images of iron objects: nails and SF14, folding knife blade, on right.

SF 12 Three body sherds from a handmade vessel or vessels. The fabric is fine clay which has hard fired, all with occasional quartzite inclusions and is pinky-buff-brown in colour with pinky-buff exterior and interior surfaces. Surfaces have been hand smoothed when wet and both interior and exterior surfaces have patches of sooting. Range from 6.5 to 9 mm in thickness. Context 002.

SF 14 Body sherd from a fine but large vessel. Fabric is fine clay which has hard fired with occasional small quartz inclusions and is pinky-buff in colour with a dark brown external surface. The external surface has been hand wiped and is covered with patches of dark brown sooting. Original diam is a minimum of 560 mm, T 4 mm. Context 002

SF 15 Decorated bipartite shoulder sherd from handmade vessel; the upper portion of the neck is undecorated but sooted on the exterior surface whilst the lower portion is decorated with a row of equidistant incised vertical lines, possibly made with a finger nail. The shoulder flares out suggesting a wide globular or barrel-shaped body. The fabric is hard fired fine clay, pinky-buff-brown in colour on the exterior and interior surfaces with a yellow-buff core and occasional quartz and mica inclusions. The surfaces appear slipped prior to decoration. Only 20% of the circumference of the shoulder survives, indicating an original diameter of 140 mm at the neck and expanding sharply at the shoulder. Maximum T 8.5 mm. Context 002.

S.3 Body sherd of handmade ceramic vessel, surfaces hand smoothed when wet. The fabric is fine clay with frequent fine unsorted quartzite inclusions and mica flecks. The vessel is red-brown with orangey-buff exterior surface and brown interior which has patches of dark-brown food residue adhering. L 40.5 W 24.5 T 6.5 mm.

S.11 Small body sherd of handmade ceramic vessel. Rounded exterior of sherd suggests it derives from a globular-type vessel. The fabric is fine clay with fine unsorted mica inclusions which has been fired hard and is buff-brown with a pinky-buff interior surface and dark brown exterior surface which is covered with patches of sooting from use. L 24 W 19 T 6.5 mm.

Burnt clay

Three fragments of burnt clay were retrieved from soil samples (s.6). No original surfaces survive to confirm what form of object these might have derived from; one may be associated with metalworking due to the high level of heat damage.

S.6. Three amorphous nodules of burnt clay, the fabric ranging in colour from a light brown-buff through to pale grey. Original surfaces have been lost and form unknown. One fragment is vitrified and may be a piece of hearth or furnace lining associated with a high temperature process, such as metalworking but no residues adhere to confirm. L L 10 W 9 T 7mm; L 22 W 19 T 13.5 mm; L 30 W 25 T 24 mm.

Clay pipe

SF 1 Clay pipe fragment. 3g. Context 001, topsoil.

Iron

Several fragments of iron were recovered including two small wrought iron nails, a possible clenched nail and a nail shank fragment from context 002. A modern nail and an unidentified fragment of iron

came from topsoil. The most significant item is the damaged blade and tang of a possible folding knife. The knife has a slightly curving thick back and narrow blade which curves up towards the tip; now lost. The handle is obscured by corrosion but x-radiography suggests that the blade pivoted away from the handle by the means of a small iron rivet set back from the shoulder of the blade. Dating is problematic due to a lack of published post-medieval examples but is unlikely to be earlier than 17th century by reference to southern British examples such as that from Llanmaes, S Glamorgan (Courtney 1996, 212, no 12 & 13), Ardingly Mill, Sussex (Bedwin 1976, 60, no. 7) and Portchester Castle (Garratt 1994, 112).

Catalogue

Knife blade

SF 14 Folding knife (incomplete). Blade is wedge-shaped in section, tapering towards tip which has been lost. Narrow step at blade shoulder leads to rectangular tang, handle fixed in place by small circular rivet (D 2 mm). L 90mm; Blade: L 63.5 W 17 T 4.5 mm; Tang: L 26.5 W 12 T 7.5 mm. Context 002.

Nails

SF 51 iron nail tip fragment. L 30 D 3 mm. Context 002.

SF ? Nails. Two small hand-forged iron nails; tip of each is missing. L 41.5 mm, head: D 13.5 T 3.5 mm, shank D 5 mm; L 38 mm, head: D 17 T 4 mm, shank D 4 mm. Context 002.

S.2 Possible clenched nail, distorted mid-shank (D 7 mm). (Not x-rayed). L 53 mm. Context 002.

Stone

The only worked stone recovered during excavation was a fractured and damaged fragment of a disc-shaped rotary quernstone. The fragment represents less than 20% of the circumference of the stone which has broken in such a way as to result in the loss of the central spindle or feeder pipe of the stone making it difficult to assess whether this fragment derives from an upper or lower stone. The distinct concavity of the grinding face hints at this being a lower stone but this cannot be confirmed with any certainty. Disc-querns were the predominant rotary quern type in Atlantic Scotland from the Iron Age onwards but by the Early Historic period disc-shaped querns were used throughout Scotland (MacKie 1971, fig 5), remaining in use in some areas up to the early twentieth century (Fenton 1978) making it impossible to closely date the Inchnadamph example.

SF 6 Disc quern fragment. Less than 20% of a highly fragmented and damaged rounded edge fragment of a disc-shaped rotary quern stone. No central spindle socket or feeder pipe survives and there is no trace of a handle socket to confirm whether this is a fragment of an upper or lower stone. The grinding face is dished with a light sheen from abrasion through use. Some pitting of the grinding face remains from initial dressing. L 146.5 W 141.5 T 19.5-25 mm. Context 004.

Vitrified material

Perhaps the most significant component of the artefact assemblage is the large volume of vitrified material that was recovered, representing a minimum of 16.9Kg of waste relating to ironworking activities. The vitrified material present is limited in range but consists of three large sub-circular plano-convex cakes, a large but damaged plano-convex furnace base fragment and five fragments of further possible cakes. Plano-convex slag cakes are circular/oval or square, plano-convex accumulations of slag, fuel and ore that build up at the base of a smelting furnace or smithing hearth. It is not always possible to differentiate between the two processes based on morphological characteristics alone but cakes of larger dimensions (e.g. over 100 mm in diameter and more than 10 mm in thickness) are less likely to be the product of bloom or blacksmithing. Analysis by McDonnell and others suggest that cakes resulting from iron smelting tend to be larger in size, heavier and more robust, often with large charcoal inclusions (1994; Starley 2000). Smelting cakes or furnace bottoms also tend to be non-magnetic. With the exception of the large charcoal inclusions, these characteristics are consistent with the examples from Inchnadamph implying that most, if not all, of the slag recovered is debris relating to iron smelting. Like all slag assemblages, a large quantity of material consists of small, fractured amorphous fragments of non-magnetic red-brown to grey vesicular vitrified material. Such material can be formed during iron smithing and smelting and is likely to represent rake out material either from a hearth or furnace. These fragments are best described as unclassified iron slag.

One small fractured piece and crumb of unmodified bog ore was recovered from sample 6 alongside small unclassified iron slag residues. It is unclear if the ore had been roasted or processed.

Also present are small, highly fired and sintered fragments of vitrified ceramic, probably fragments of furnace lining, some of which have fused with pieces of low-density iron rich slag. Frequent small angular quartz fragments have been noted in many of the pieces implying that crushed up quartz was deliberately added to the clay before use.

The majority of the vitrified material was recovered from a built-up bank (context 002) suggesting that these bulk slags may have been deliberately re-used as wall core material. The robust character of bloomery slags often results in their re-use as building materials either as building blocks for walls, rubble fills or wall core material as well as road metalling (Bayley *et al* 2001). The material is not closely datable as bloomery technology has a long chronology of use, from later prehistoric times through to the post-medieval period.

Further large amorphous lumps of iron-stained material (approx. 20 litres) had been recovered due to their association with the metalworking waste just described. A sample of this material was washed to remove residual earth and x-rayed to determine the morphology of the fragments and were found to be amorphous lumps of manganese-rich earth. Although these samples were very close in appearance to the unclassified iron slag lumps, they are entirely natural and are not related to ironworking.

WATERLOGGED WOOD

Anne Crone

A single small find of waterlogged wood was recovered from the sediments within the ditch.

SF18 is an offcut of Scots pine (*Pinus sylvestris*) 130 mm long and 80 mm across at its maximum width. It consists of a chord chopped off the outer surface of the log, so that bark survives on one face

while there is an oblique chopmark down one side of the inner face. It is the type of offcut commonly created when trimming a stake tip.

ASSESSMENT OF INSECT REMAINS

Enid Allison (*Canterbury Archaeological Trust*)

Introduction

Two sub-samples from the waterlogged organic basal fills of a ditch (contexts 007 and 009) associated with a moated enclosure at Inchnadamph, Assynt, Sutherland were submitted for assessment of insect remains.

Methods

Sub-samples with volumes of two litres were gently wet-sieved by hand onto 0.25mm mesh by AOC Archaeology. Once received, paraffin flotation was carried out to extract insect remains following the methods described by Kenward *et al.* (1980) with recovery on 0.3mm mesh. The resulting paraffin flots were scanned for the presence of insects and other invertebrates using a low-power stereoscopic zoom microscope (x10 – x45). Abundances of beetles (Coleoptera) and bugs (Hemiptera) were estimated, the state of preservation of remains recorded using the criteria of Kenward and Large (1998), and the potential to provide detailed environmental data assessed. Ecological groups used are based on Kenward *et al.* (1986) and Kenward (1997) (see Table 4). The abundance of other invertebrate remains in the paraffin flots has been scored on a three-point scale as present, common or abundant (see Appendix, Table 3). Nomenclature for Coleoptera follows Duff (2012). The paraffin flots are currently stored in industrial methylated spirits (IMS) in glass jars.

Results

A list of insect and other invertebrate taxa noted in the paraffin flots is shown in Appendix Table 2. Details of individual sub-samples, including scores for fragmentation and erosion of insect sclerites, are shown in Appendix Table 3. The identifications should be regarded as provisional, and some taxa are currently ecologically uncoded pending closer identification.

Insect remains were abundant in the sub-sample from context 9 (estimated >150 individuals). Fragmentation of sclerites of larger species was high, and various degrees of erosion were noted across the assemblage, ranging from a slight deterioration in condition to considerable thinning and partial loss of colour. However, most of the material is reasonably well preserved and identifiable to a useful taxonomic level. The variation in condition might suggest the insect remains had diverse origins with some undergoing a degree of decomposition before becoming waterlogged, but equally it is possible that anoxia within the deposit had been incomplete at some stage, for example as a consequence of a reduced water table. Ostracod carapaces, a larval case of a caddis fly (Trichoptera), and a limited range of aquatic beetles (mainly *Helophorus* spp.), suggested that standing water was present in the ditch for at least some of the time, but there were no real

indications of a developed aquatic community. There could be several explanations for this including non-permanence of the water, seasonal drying, or unsuitable water conditions. *Helophorus* species are attracted to water bodies of many kinds, even when small or temporary and are not particularly informative in this regard.

Terrestrial beetles and bugs were common, and they included a range of decomposers and taxa from 'outdoor' habitats (i.e. unable to live and breed within buildings or in accumulations of man-made organic litter). The presence of the spider beetle *Tipnus unicolor* was suggestive of material from within buildings having entered the ditch, perhaps in limited episodes of dumping or in runoff from drains. It is a particularly strongly synanthropic species (i.e. generally found in association with human occupation, and scarce in natural habitats), and appears to be an indicator of long-lived, often high status buildings (Kenward 2009, 308-9). In nature it has sometimes been recorded from birds' nests (e.g. Hinton 1941; Linsley 1944, Palm 1959), and among accumulations of dryish organic matter in hanging oak woods in Scotland (Crowson 1972). No beetles or bugs associated with trees were noted during scanning, suggesting a synanthropic origin is most likely. *Cercyon unipunctatus* is a typical synanthrope that is particularly associated with very foul organic material, and some other decomposers were also suggestive of the presence of occupation waste in the ditch or close to it, although they do not appear to have been common enough to imply that the basal ditch fills contained large amounts of such material.

Insect remains were common in the sub-sample from context 7, but were much more poorly preserved than in the sub-sample from context 9. Erosion was advanced for about 50% of the sclerites, and some had lost most of their colour. Fragmentation was also fairly high. The condition of the remains will make identification difficult for some taxa, but despite this the assemblage still has some potential to produce data on the local environment and deposit formation. There were hints again from the spider beetle *Tipnus unicolor* and a few other synanthropic taxa that some material from within buildings had entered the ditch.

Aphodius dung beetles were noted in both sub-samples, being most common in context 9. They primarily exploit herbivore dung but some species (less commonly) exploit decaying plant material (Jessop 1986, 20-25). Further work on the assemblages may elucidate whether their occurrence here is linked with the presence of grazing animals nearby, or with accumulations of foul habitation waste. A recent modern study has suggested that the proportion of scarabaeid dung beetles in insect assemblages from small bodies of water can reflect the intensity of grazing (Smith *et al.* 2010).

Acknowledgement

The initial wet-sieving of the two samples was carried out by Jackaline Robertson of AOC Archaeology.

Results: Preliminary Discussion

The results of this initial evaluation of the Inchnadamph enclosure have been productive, both in terms of the dating, ecofactual and artefactual evidence retrieved and in terms of demonstrating the future archaeological potential of the site.

Significance of the results

The radiocarbon dates available at the time of writing point to activity around the enclosure at some point between the later 15th century and the earlier 17th century. As noted in the excavation report above, the dates retrieved from context 002 may not necessarily date the use of the enclosure closely, since the bank was very denuded and mixed at the point excavated, and there are taphonomic issues that undermine the reliability of the dates from this context for the purposes of establishing the date of occupation. Nonetheless, the concurrence with the date for SF18 points to activity on the site at this time. The significance of context 006, which awaits detailed assessment through soil micromorphological analysis, might be key in this respect: if the grey inorganic silts do indeed represent a water lain silt built up during a period of abandonment or reduced activity, then by implication the organic occupation debris represented by contexts 007 and 009 predate this horizon, and could conceivably belong to the earlier medieval centuries. This report will be revised and updated on provision of the radiocarbon dates for these lower deposits and the results of the micromorphological analysis.

The artefacts retrieved from the excavation are of considerable regional importance, not least because they constitute some of the first examples of medieval or later vernacular ceramics from excavated contexts in Assynt. Assessment of these wares is difficult given the lack of regional parallels, and the similarity to Hebridean craggan wares indicates the likelihood that they will remain insensitive to accurate dating until a larger assemblage from secure contexts can be obtained. However, this excavation demonstrates the potential for future excavations at Inchnadamph to contribute significantly to an understanding of northern Scottish vernacular pottery from the medieval and later centuries. Similarly, the metalworking debris recovered from 002 represents a valuable assemblage of late/post-medieval smithing and offers the potential for further, more detailed study in future.

The wealth and quality of ecofactual remains from the lower deposits excavated within the ditch (contexts 007 and 009) indicates a the preservation of a rare and highly valuable resource with high potential for fine-grained studies of living conditions within the enclosure. The preservation of organic food debris, including sloe, as well as the well preserved insect assemblage demonstrate that the site will prove very productive in clarifying the function and nature of the enclosure if future excavations proceed. The survival of such organics is rare on rural medieval and later settlements, and the Inchnadamph enclosure could contribute considerably to our understanding of Highland rural economy in this period.

Nature and function of the enclosure

The results of this evaluation have clarified our understanding of the nature of the enclosure, though inevitably the work raises as many questions as it answers. It is clear that the ditch was a wide, almost flat-bottomed moat, and as the excavations demonstrated, need not have been fed with a running water source in order to remain water filled. The interior of the site was probably enclosed by a bank or perhaps a wall, for the most part built from fluvio-glacial boulders found in the natural subsoil as represented by context 004, but very likely built up with earth and/or turf. No evidence for a wooden

fence or palisade was found, and it is uncertain whether the stony bank 004 was continuous around the site, since its presence in the internal bank at the point excavated in trench 1 may simply have been due to the fortuitous presence of the natural boulder layer at this point; this may account for the lack of this feature in the geophysical results.

The single posthole recorded at the W extremity of the trench is of little assistance in characterising the nature of the internal structures, and does not seem likely to represent a significant weight-bearing post. The internal structures do seem likely to have been timber built, however, and this probably accounts for their invisibility to geophysical survey. The description of the now-destroyed blackhouse-style building within the enclosure at Tigh Dige in Gairloch, mentioned above, may be of relevance here. Such a structure would leave few earthfast traces and might account for the lack of visible features detected in the geophysical work. Home's estate map of Assynt (AD 1774) shows the area around the enclosure as partially under corn crop, and the agricultural working of the enclosure in the recent centuries could account for the complete destruction of upstanding structures within the interior.

The profile of the enclosure moat, with steep sides on the outer face but shallower sides on the inside is much more characteristic of moated settlements of the later medieval period in Scotland than of prehistoric defensive or ritual enclosures, and this latter theory can now be confidently ruled out. On the basis of the morphological parallels discussed above, and with the preliminary dating evidence outlined here the most plausible diagnosis would be of the site as a moated settlement akin to those known more widely in southern and eastern Scotland.

With the dates for context 007 and 009 not yet available, it is currently impossible to confirm or refute the possibility of the foundation of the Inchnadamph enclosure in the medieval centuries concurrent with the dates estimated for the Inchnadamph cross fragments discussed by Clarke above. It is, furthermore, impossible to demonstrate any ecclesiastical function for the site, and for the moment, there is nothing intrinsic to indicate that the site should be considered monastic or as a moated grange. However, the close association with the church at Inchnadamph, which was founded prior to AD 1274 (Cowan 1967) raises the strong possibility that the site was the settlement associated with this ecclesiastical centre. There are local records of the association of the church with Angus Macleod, laird of Assynt between 1436 and 1443 (OPS 1855), and it is possible that the Inchnadamph enclosure was in occupation at this time.

Conclusion

The results reported here add considerably to our understanding of the origin of the Inchnadamph enclosure. The site confirms its high archaeological potential in the preservation of waterlogged occupation debris from the base of the ditch, and can be expected to provide a wealth of information on living conditions if future excavations were to proceed.

Although this discussion is necessarily provisional, the site can already be considered to be of key importance in Assynt's history, and may represent one of the principal high-status residences of the early post-medieval period, with close associations with the Inchnadamph kirk and perhaps with the Macleods prior to the establishment of Ardvreck castle in the later 16th century.

REFERENCES

- Barber, J. 1981 Excavation of the cross base at Kilnave, Islay, *Glasgow Archaeological Journal*, 8, 1981, 95-102
- Barber, J. 1981 'Excavations on Iona, 1979 :the vallum and organic materials', *Proc Soc Antiq Scot*, vol.111, pp.282-380
- Bayley, J, Dunworth, D & Paynter, S 2001 *Archaeometallurgy*. English Heritage (= CFA Guideline 2001: 01).
- Bedwin, O 1976 'The excavation of Ardingly Fulling Mill and Forge, 1975-76', *Post-Medieval Archaeology* 10, 34-64.
- Cavers, M.G. and Hudson, G. 2010 *Assynt's Hidden Lives: an archaeological survey of the parish*, Historic Assynt/AOC Archaeology Group
- Cheape, H 1993 'Crogans and Barvas Ware: handmade pottery in the Hebrides', *Scottish Studies* 31, 109-127.
- Coleman, R. And Perry, D. 1997 'Moated sites in Tayside and Fife', *Tayside and Fife Archaeological Journal*, vol.3, pp.176-87
- Courtney, P 1996 'Iron objects', in R Newman & P Wilkinson 1996 'Excavation at Llanmaes near Llanwit Major, South Glamorgan', *Pos- Medieval Archaeology* 30, 211-5 (187-233).
- Cowan, I B 1967 The parishes of medieval Scotland, *Scot Rec Soc*, vol.93 Edinburgh
- Crowson, R A, 1972 Records of Coleoptera from Gledswood, leaderfoot, Berwickshire, *Entomologists' Monthly Magazine* **107** (for 1971), 148
- Dalland, M. 2005 'Bishop's Residence, Easterhouse, Glasgow City (Old Monkland parish), medieval moated residence', *Discovery Excav Scot*, vol.6, p 76
- Davies, E F B 1966 'The moated manor at Dunrod, Kirkcudbright', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc*, 3rd, vol.43, pp.121-36
- Duff, A, (ed) 2012 *Checklist of beetles of the British Isles*, 2nd edition, Iver: Pemberley
- Duffy, P. 1998 'William Grant Distillery, Girvan (Girvan parish), medieval moated enclosure; burnt mound deposits', *Discovery Excav Scot*, p. 87
- Fisher, I. 2001 *Early Medieval Sculpture in the West Highlands and Islands*. Edinburgh: RCAHMS & Soc Antiq Scot.
- Fisher, I. 1997 'Early Christian archaeology in Argyll' in Ritchie, G. (ed.) *The Archaeology of Argyll*, Edinburgh, University press, pp.181-202

Garratt, B 1994 'The small finds', in B Cunliffe & B Garratt 1994 *Excavations at Portchester Castle. Volume V: Post Medieval 1609-1819*, 98-129. London: Soc Antiq London (= Research Committee Report No. LII).

Harbison, P. 1992 *The High Crosses of Ireland: an iconographical and photographic survey*. 3 vols. Bonn: Rudolf Habelt.

Hinton, H E, 1941 The Ptinidae of economic importance, *Bulletin of Entomological Research* **31**, 331-381

Hodgson, D. 2005 *Homestead Moat, Inchnadamph, Sutherland, Highland region: Geophysical Report*, Highland Council Report No.1524

Jessop, L, 1986 Dung beetles and chafers. Coleoptera: Scarabaeoidea, *Handbooks for the identification of British insects* 5 (11), London: Royal Entomological Society

Kenward, H K, Hall, A R, and Jones, A K G, 1980 A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits, *Science and Archaeology*, **22**, 3-15

Kenward, H K, Hall, A R, and Jones, A K G, 1986 Environmental evidence from a Roman well and Anglian pits in the legionary fortress, *Archaeology of York* **14** (5), 241-288, London: Council for British Archaeology

Kenward, H, 1997 Synanthropic decomposer insects and the size, remoteness and longevity of archaeological occupation sites: applying concepts from biogeography to past 'islands' of human occupation. In A C Ashworth, P C Buckland and J T Sadler (eds) *Studies in Quaternary Entomology: an inordinate fondness for insects*, *Quaternary Proceedings* **5**, 135-152

Kenward, H, and Large, F, 1998 Recording the preservational condition of archaeological insect fossils, *Environmental Archaeology* **2**, 49-60

Lawlor, H J 1897 *Chapters on The Book of Mulling*. Edinburgh: David Douglas.

Linsley, E G, 1944 Natural sources, habitats and reservoirs of insects associated with stored food products, *Hilgardia* **16**, No. 4, 187-222

Mackie, E W 1971 'English migrants and Scottish brochs', *Glasgow Archaeological Journal* **2**, 39-71.

McDonnell, G 1994 'The slag report', in Ballin-Smith, B (ed), *Howe: Four Millennia of Orkney Prehistory. Excavations 1978-82*, 228-34. Edinburgh (=Soc Antiqs Scot Monogr Ser, 9).

Nees, L. 1983 The colophon drawing in the Book of Mulling: a supposed Irish monastery plan and the tradition of terminal illustration in early medieval manuscripts, *Cambridge Medieval Celtic Studies*, **5**, 1983, 67-91.

OPS 1855 *Origines parochiales Scotiae: the antiquities ecclesiastical and territorial of the parishes of Scotland*, vol.2, 2 Edinburgh

Palm, T, 1959 Die Holz-und Rinden- käfer der Sud-und Mittelschwedischen laubbaume, *Opuscula Entomologica Supplementum* **16**

SCARF 2012 *Medieval Scotland: a Future for Its Past*, ScARF Panel Report, Society of Antiquaries of Scotland/Historic Scotland

Smith, D., Whitehouse, N., Bunting, M. J., and Chapman, H. 2010 Can we characterize 'openness' in the Holocene palaeoenvironmental record? Modern analogue studies of insect faunas and pollen spectra from Dunham Massey deer park and Epping Forest, England, *The Holocene* **20** (2), 215-229

Starley, D 2000 'Metalworking debris', in Buxton, K & Howard-Davis, C (eds), *Bremetenacum: Excavations at Roman Ribchester 1980, 1989-1990*, 337-47. Lancaster (=Lancaster Imprints Ser No. 9).

Stronach, S. 2001 'Perceton, Irvine, North Ayrshire (Dreghorn parish), medieval enclosed residence', *Discovery Excav Scot*, vol.2, p. 69

APPENDICES

Insect Analyses: Table 2

Inchnadamph, Assynt, Sutherland: List of invertebrates noted during scanning of the paraffin flots. Ecological codes are given in square brackets and are explained in Table 3. Nomenclature for Coleoptera follows Duff (2012)

Hemiptera: (bugs)	<i>Platystethus</i> sp. [u]
Heteroptera spp. [u]	<i>Stenus</i> spp. [u]
Delphacidae spp. [oa-p]	<i>Euaesthetus</i> sp. [oa]
Trichoptera sp. (caddis fly)	<i>Lathrobium</i> spp. [u]
Trichoptera sp. (caddis fly) larval cases	Staphylininae spp. [u]
Diptera spp. (fly) puparia	<i>Aphodius contaminatus</i> (Herbst) [oa-rf]
Hymenoptera : (wasps, bees and ants)	<i>Aphodius</i> spp. [ob-rf]
Formicidae sp.	? <i>Clambus</i> sp. [rt-sf]
Hymenoptera Parasitica spp.	Elateridae sp(p). [ob]
Coleoptera: (beetles)	Elateridae sp. (larval apex)
Dytiscidae sp. [oa-w]	<i>Tipnus unicolor</i> (Piller & Mitterpacher)
<i>Notiophilus</i> sp. [oa]	[rd-ss]
<i>Elaphrus ?cupreus</i> Duftschmid [oa-d]	<i>Brachypterus</i> sp. [oa-p]
<i>Dyschirius</i> sp. [oa]	<i>Cryptophagus</i> sp. [rd-sf]
<i>Trechus</i> sp. [oa]	Corticariinae sp. [rt]
<i>Pterostichus diligens</i> or <i>strenuus</i> [oa]	<i>Donacia</i> or <i>Plateumaris</i> sp(p). [oa-p-d]
Carabidae spp. and spp. indet. [ob]	Curculionidae sp. [oa-p]
<i>Helophorus</i> spp. [oa-w]	Coleoptera spp. and spp. indet. [u]
<i>Chaetarthria</i> sp. [oa-d]	Insecta spp. indet larval fragments
<i>Anacaena</i> sp. [oa-w]	Arachnida:
? <i>Hydrobius fuscipes</i> (Linnaeus) [oa-w]	Acarina spp. (mites)
<i>Cercyon unipunctatus</i> (Linnaeus) [rf-st]	
<i>Cercyon ?nalis</i> (Paykull) [rt-sf]	
<i>Cercyon</i> spp. [rt]	
<i>Megasternum concinnum</i> (Marsham) [rt]	
<i>Acidota</i> sp. [oa]	
<i>Lesteva</i> sp. [oa-d]	
<i>Olophrum</i> sp. [oa]	
Omaliinae sp. [u]	
<i>Megarthus</i> sp. [rt]	
<i>Micropeplus fulvus</i> Erichson [rt]	
Pselaphinae sp. [u]	
<i>Tachinus</i> sp. [u]	
<i>Tachyporus</i> sp. [u]	
Aleochariinae spp. [u]	
<i>Syntomium aeneum</i> (Müller) [oa]	
<i>Anotylus rugosus</i> (Fabricius) [rt]	
<i>Anotylus sculpturatus</i> group [rt]	
<i>Anotylus</i> sp. [rt]	

Insect Analyses: Table 3

Context	Description of deposit	Sub-sample volume (litres)	Paraffin flot volume (ml)	Est MNI beetles and bugs	Fragmentation of sclerites (F)	Erosion of sclerites (E)	Invertebrates noted during scanning
7	Dark brown organic fill of ditch	2	25	50-100	F: 2 - 5 (mode 3.5)	E: 2.5 - 5.5 (mode 4)	Earthworm egg capsules ++, Diptera spp. puparia +, Hymenoptera Parasitica +, Dytiscidae [oa-w], <i>Notiophilus</i> [oa], <i>Elaphrus</i> [oa-d], <i>Dyschirius</i> [oa], <i>Pterostichus diligens</i> or <i>strenuus</i> [oa], Carabidae spp. [ob], <i>Helophorus</i> spp. [oa-w], ? <i>Hydrobius fuscipes</i> [oa-w], <i>Cercyon</i> spp. [rt], <i>Olophrum</i> [oa], <i>Megarthus</i> [rt], <i>Micropeplus fulvus</i> [rt], Aleocharinae spp. [u], <i>Anotylus rugosus</i> [rt], <i>Stenus</i> spp. [u], <i>Lathrobium</i> spp. [u], Staphylininae spp. [u], <i>Aphodius</i> spp., ? <i>Clambus</i> [rt-sf], Elateridae sp. [ob], Elateridae sp. larval apex, <i>Tipnus unicolor</i> [rd-ss], <i>Cryptophagus</i> [rd-sf], Coleoptera spp. and spp. indet.[u], insect larval fragments +, Acarina ++
9	Dark brown compact peat/organic fill of ditch	2	50	150+	F: 2 - 4 (mode 3)	E: 2 - 4 (mode 3)	Earthworm egg capsules ++, ostracods ++, Heteroptera sp. [u], Delphacidae spp. [oa-p], Trichoptera sp. (larval case) +, Diptera spp. puparia +, Formicidae +, <i>Notiophilus</i> [oa], <i>Dyschirius</i> [oa], <i>Trechus</i> [oa], <i>Pterostichus diligens</i> or <i>strenuus</i> [oa], Carabidae spp. [ob], <i>Helophorus</i> spp. common [oa-w], <i>Anacaena</i> [oa-w], <i>Chaetarhria</i> [oa-d], <i>Cercyon unipunctatus</i> [rf-st]; <i>Cercyon ?nalis</i> [rt], <i>Cercyon</i> spp. [rt], <i>Megasternum concinnum</i> [rt], <i>Acidota</i> [oa], <i>Lesteva</i> [oa-d], Omaliinae spp. [u], <i>Megarthus</i> [rt], Pselaphinae [u], <i>Tachinus</i> [u], <i>Tachyporus</i> [u], Aleocharinae spp. [u], <i>Syntomium aeneum</i> [oa], <i>Anotylus rugosus</i> [rt], <i>Anotylus sculpturatus</i> group [rt], <i>Anotylus</i> sp. [rt], <i>Platystethus</i> [oa-d], <i>Stenus</i> spp. [u], <i>Euaesthetus</i> [oa], <i>Lathrobium</i> [u], Staphylininae spp. [u], <i>Aphodius contaminatus</i> [oa-rf], <i>Aphodius</i> spp. common, Elateridae sp. [ob], Elateridae sp. larval apex, <i>Tipnus unicolor</i> [rd-ss], <i>Brachypterus</i> [oa-p], Corticariinae sp. [rt], <i>Donacia</i> or <i>Plateumaris</i> [oa-d-p], Curculionidae sp. [oa-p], Coleoptera spp. and spp. indet.[u], insect larval fragments +, Acarina ++

Context	Description of deposit	Sub-sample volume (litres)	Paraffin flot volume (ml)	Est MNI beetles and bugs	Fragmentation of sclerites (F)	Erosion of sclerites (E)	Invertebrates noted during scanning
7	Dark brown organic fill of ditch	2	25	50-100	F: 2 - 5 (mode 3.5)	E: 2.5 - 5.5 (mode 4)	Earthworm egg capsules ++, Diptera spp. puparia +, Hymenoptera Parasitica +, Dytiscidae [oa-w], Notiophilus [oa], Elaphrus [oa-d], Dyschirius [oa], Pterostichus diligens or strenuus [oa], Carabidae spp. [ob], Helophorus spp. [oa-w], ?Hydrobius fuscipes [oa-w], Cercyon spp. [rt], Olophrum [oa], Megarthrus [rt], Micropeplus fulvus [rt], Aleocharinae spp. [u], Anotylus rugosus [rt], Stenus sp. [u], Lathrobium spp. [u], Staphylininae spp. [u], Aphodius spp., ?Clambus [rt-sf], Elateridae sp. [ob], Elateridae sp. larval apex, Tipnus unicolor [rd-ss], Cryptophagus [rd-sf], Coleoptera spp. and spp. indet.[u], insect larval fragments +, Acarina ++

9	Dark brown compact peat/organic fill of ditch	2	50	150+	F: 2 - 4 (mode 3)	E: 2 - 4 (mode 3)	Earthworm egg capsules ++, ostracods ++, Heteroptera sp. [u], Delphacidae spp. [oa-p], Trichoptera sp. (larval case) +, Diptera spp. puparia +, Formicidae +, Notiophilus[oa], Dyschirius [oa], Trechus [oa], Pterostichus diligens or strenuus [oa], Carabidae spp. [ob], Helophorus spp. common [oa-w], Anacaena [oa-w], Chaetarthria [oa-d], Cercyon unipunctatus [rf-st]; Cercyon ?analysis [rt], Cercyon spp. [rt], Megasternum concinnum [rt], Acidota [oa], Lesteva [oa-d], Omaliinae spp. [u], Megarthrus [rt], Pselaphinae [u], Tachinus [u], Tachyporus [u], Aleocharinae spp. [u], Syntomium aeneum [oa], Anotylus rugosus [rt], Anotylus sculpturatus group [rt], Anotylus sp. [rt], Platystethus [oa-d], Stenus spp. [u], Euaesthetus [oa], Lathrobium [u], Staphylininae spp. [u], Aphodius contaminatus [oa-rf], Aphodius spp. common, Elateridae sp. [ob], Elateridae sp. larval apex, Tipnus unicolor [rd-ss], Brachypterus [oa-p], Corticariinae sp. [rt], Donacia or Plateumaris [oa-d-p], Curculionidae sp. [oa-p], Coleoptera spp. and spp. indet.[u], insect larval fragments +, Acarina ++
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Insect Analysis: Table 4

Ecological groups used following Kenward et al. (1986) and Kenward (1997):

d – damp ground or waterside taxa

g – grain-associated taxa

l – wood-associated taxa

m – moorland taxa

oa – certain outdoor taxa (unable to live and breed either within buildings or in accumulations of organic material)

ob – probable outdoor taxa

p – strongly plant-associated taxa

rd – dry decomposers

rf – foul decomposers

rt – generalized decomposers

RT - total decomposers (rd+rf+rt)

S - total synanthropes (ss+st+sf)

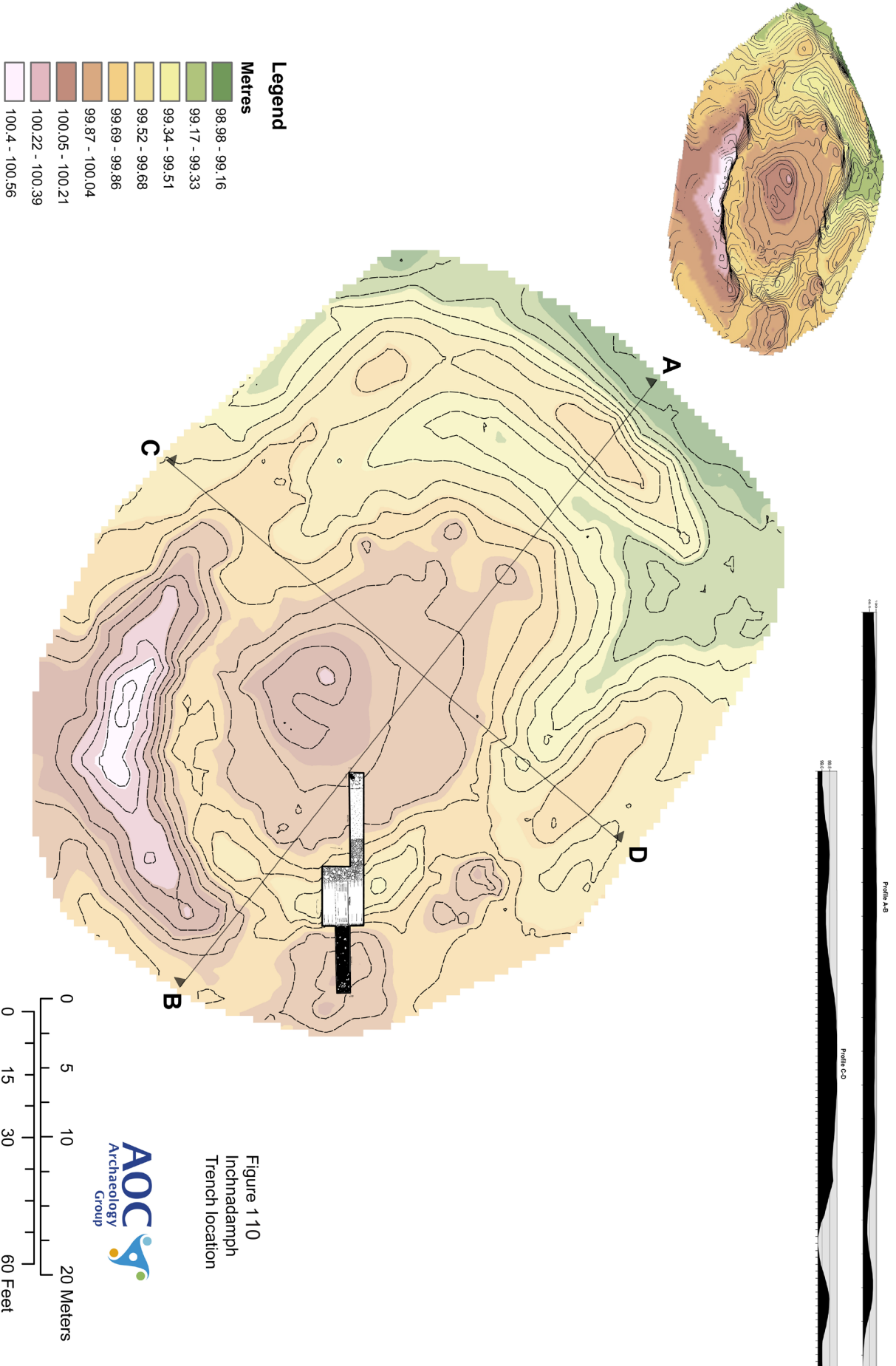
sf – facultative synanthropes (found in man-made and natural habitats)

ss – strong synanthropes (very rare in natural habitats)

st – typical synanthropes (typically present in man-made habitats but capable of living in natural situations)

w – aquatics

u - uncoded



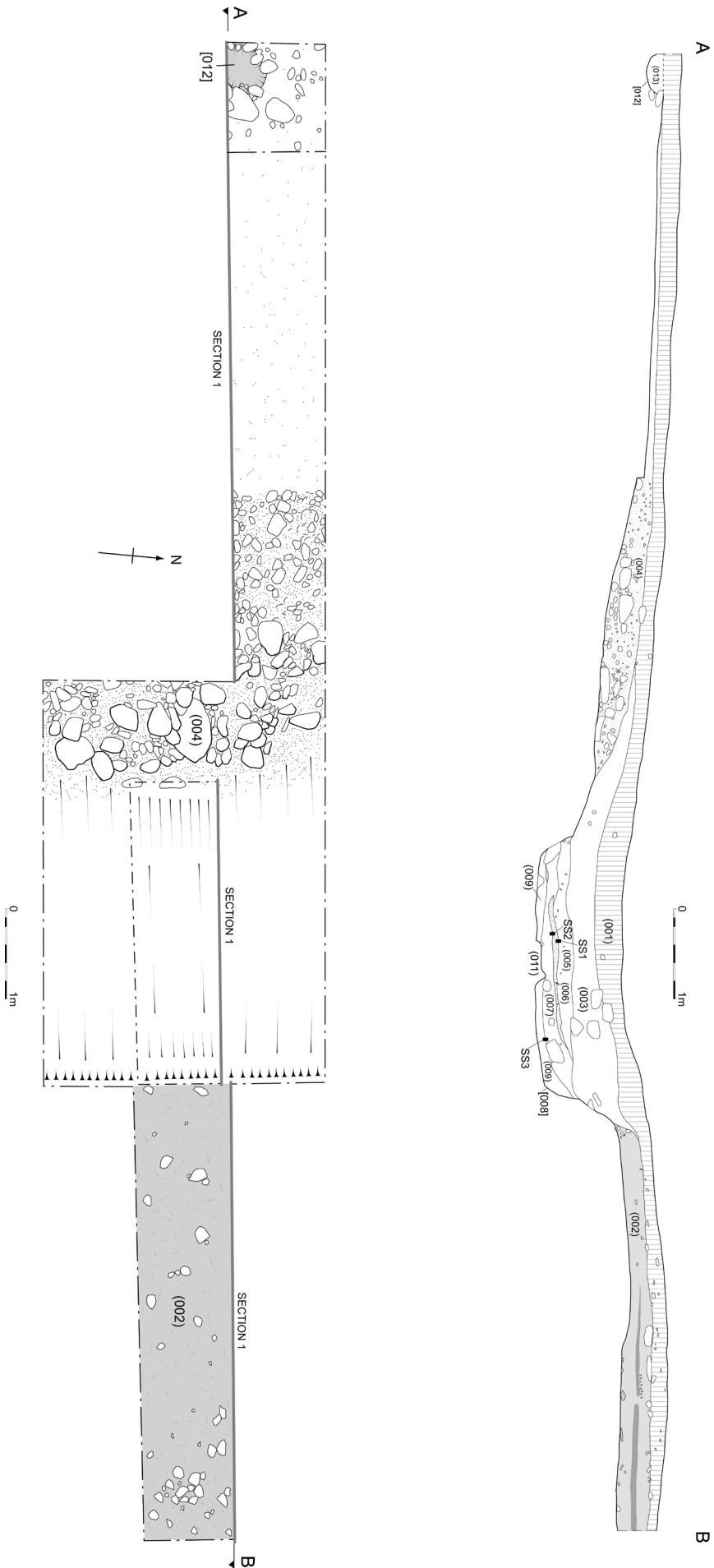


Plate 11 : Trench section (above) and plan (below)



Plate 1: View of the enclosure prior to excavation.



Plate 2: View of upper fill of the ditch (c.003) showing remnants of the bank.



Plate 3: View of c.002 prior to excavation.



Plate 4: View of the boulder bank 004.



Plate 5: Large mass of slag in c.002, prior to excavation.



Plate 6: View of outer bank deposit 002 in section after excavation.



Plate 7: View of outer bank deposit 002 in section after excavation.



Plate 8: View of the outer bank 002 after excavation, showing the steep sided cut of ditch 008.



Plate 9: View of bank 002 after excavation, facing into the interior of the site.



Plate 10: View of the lower, organic rich sediments 005, 007 and 009, with inorganic layer 006 between.



Plate 11: View of trench 1, post-excitation.



Plate 12: Detail of lower ditch sediments, 005, 007 and 009.



Plate 13: Lower ditch sediments 005, 006, 007 and 009.

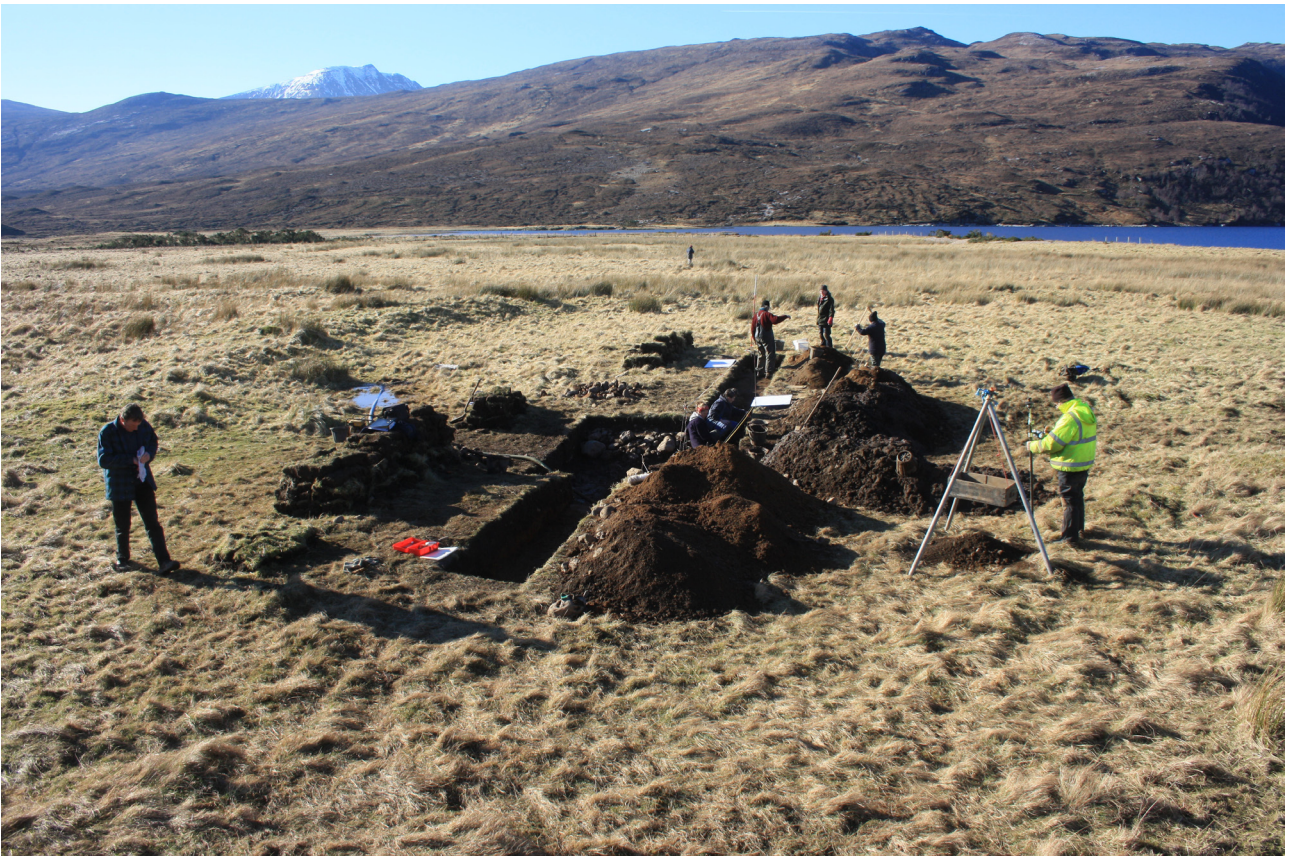


Plate 14: General view of excavation.



Plate 15: View of posthole 012 pre-excitation.



Plate 16: View of posthole 012 post-excitation.



Plate 17: View of the trench after excavation.

Context	Type	Over	Cuts	Fill Of	Under	Cut By	Filled By	Same as	Within	Encloses	Description	Interpretation	Drawing	Photo No.s
Area: T1														
1											Turf and topsoil covering entire trench. Topsoil is an orange-grey loamy silt containing occasional fragments of modern pottery and glass.	Turf and topsoil.		
2	Deposit	Nat			001						A dark brown-black loamy silt, containing regular stones up to c.0.15m in diameter, and occasional large lumps of charcoal. Deposit is moderate-loosely compact and contains patches of redeposited natural orange sand throughout-this appears as a thick lens in NW end of trench.	Denuded remains of outer bank		
3	Deposit	004, 005			001						A moderate-loosely compact mottled orange-grey silty sand, containing occasional large rounded stones, probably derived from the collapse of the outer and inner banks. Small fragments of burnt bone and charcoal throughout.	Post-abandonment infilling of ditch with eroded inner and outer bank.		
4	Deposit	Nat			001, 003						Large rounded and sub-angular stones in an orange-brown gravelly-sand matrix. Stones up to 0.4m in diameter, with larger stones at base of deposit.	Upcast bank of natural boulders from excavation of ditch		
5	Deposit	006			003						A dark orange-brown sandy clay containing grit and small sub-angular pebbles. Small fragments of charcoal and burnt bone throughout.	Initial fill of ditch following abandonment of site.		
6	Deposit	007			005						A mid-grey silty sand, with gravelly content, containing regular charcoal fragments throughout, and occasional fragments of waterlogged wood, including SF 18.	Possible water-lain silt, indicating abandonment of site?		

Context	Type	Over	Cuts	Fill Of	Under	Cut By	Filled By	Same as	Within	Encloses	Description	Interpretation	Drawing	Photo No.s
7	Deposit	009			006						A dark chocolate-brown sandy clay located in the fill of the ditch. Deposit has a high organic content, with occasional charcoal fragments throughout. Interface with 006 above is abrupt, though merges more gradually with 009 below.	Organic fill of ditch- later of primary occupation fills, relating to occupation of site?		
8	Cut		Nat		009						Cut of ditch. Cut forms a broad U-shaped profile, with a shallow concave base. Sides are near vertical, particularly on E side, though less steep and more irregular on W side where natural is boulders in gravel matrix.	Cut of ditch.		
9	Deposit	Nat			007						A dark orange-brown, compact organic peat. Well humified and very compact, deposit contains woody fragments and charcoal throughout.	Primary fill of ditch- probably formed during occupation.		
10	Deposit							Natural			Natural sand in interior of site, comprising an orange fluvio-glacial sand. Frequent animal burrows noted throughout, and occasional stones up to 20cm in diameter. Sampled in sondage at W end of trench.	Natural sand		
11	Deposit			008	009						A mid-brown/grey gravelly sand comprising the natural at the base of ditch 008. Interface level contains wood and charcoal fragments so sampled for C14 date	Initial fill/natural interface deposit.		
12	Cut		Nat					013			Cut of shallow pit or posthole in E end of T1. Circular in plan, with a U-shaped profile, base is irregular due to coarse cobbles in lower natural levels. Only c.75% of feature located within T1.	Cut of shallow pit or posthole.		
13				012	001						An orange-grey silty sand containing occasional charcoal flecks and small pebbles throughout. Interface with natural is clear, though blends to topsoil over indistinct boundary.	Fill of small pit or posthole.		

Finds Register

Finds Register

Find No.	Context	Material	Description
1	001	XX	Modern pottery and glass; topsoil finds
2	002	VI	Slag
3	002	CE	Pot sherd
4	002	BO	Charcoal
5	002	VI	Slag
6	004	ST	Possible quern fragment
7	003	CE	Burnt bone
8	002	VI	
9	U/S	VI	Slag
10	002	ST	Phallic stone
11	002	CE	Pot sherd
12	002	CE	Pottery sherds (seiving)
13	002	CE	Pot sherd
14	002	ME	Poss iron blade fragment
15	002	CE	Pot sherd
16	002	VI	Large slag deposit
17		ME	Possible fragments of iron object (or decayed stone?)
18	006	WO	Wood fragment
19	006	ME	Slag or Iron object