Bruach An Druimein, Poltalloch, Argyll: excavations directed by the late Eric Cregeen, 1960–2

by Duncan Abernethy

with contributions by
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1 Summary

Rescue excavations in advance of gravel quarrying were carried out under the direction of the late Eric Cregeen from 1960 to 1962, at Bruach an Druimein, Poltalloch, Mid Argyll (NGR: NR 820 972). The site lies on one of the fluvio-glacial terraces which border the Kilmartin Glen, overlooking the lower ground, which has one of the densest concentrations of prehistoric funerary monuments in Britain. The excavations were carried out in difficult circumstances, with little good stratigraphy, and proved difficult to bring to publication. The present report is based on the substantial records created by Cregeen, including draft reports, and further working of the site archive by his sister, Sheila Cregeen.

The site had previously been identified as containing later prehistoric and Early Historic cist burials and a degraded bank. The main features of the excavated part of site were an enclosing ditch complex, and numerous post-holes and other occupation evidence within the ditch. Possible Neolithic/Bronze Age activity was indicated by lithic scatters and possible burnt mound material. Several Bronze Age cist-burials, also uncovered during the quarrying, have already been published (Cregeen & Harrison 1981). The main phase of occupation, as supported by a series of radiocarbon dates, lay in the later first millennium BC, the early Iron Age period. The post-holes were interpreted as belonging to at least two roundhouses, important as the first such structures identified in Atlantic Scotland, though common in eastern and southern Britain.

Evidence of cereal production of hulled six-row barley was abundant, but few artefacts could be confidently assigned to this phase, which was aceramic. Rare evidence of prehistoric woodland management in the form of hazel coppicing was deduced from the charcoal samples. The initial construction and use of the ditch complex was dated to this period, though it could have been re-utilized in the succeeding periods. There was a further significant phase of occupation in the Early Historic period. No certain structures were excavated, but series of intermittent patches of walling, and considerable spreads of artefacts and non-ferrous metalworking debris, suggested the presence of a craft-working area.

The finds ranged in date from the seventh to 10th century AD, contemporary with the main period of occupation of the important royal site of Dunadd, situated 4km to the south-east. Two beads and other finds indicated close contact between the two sites, and a motif piece showing Norse-style ornament is important as there is otherwise little evidence of Norse influence in this area. The nature of the Early Historic settlement remains unclear, with some evidence of ecclesiastic activity in the form of long-cist graves, an ogham inscription, and a *Kil-* placename. Later medieval activity in the area is indicated by a spread of medieval pottery in the ploughsoil, unusually including evidence of material imported from lowland Scotland and possibly the Continent. Finally, a standing stone was erected in the 19th century. The site is important in giving a rare glimpse of settlement activity on the low-lying land of the region, rather than the hilltop settlements and funerary monuments which have dominated our view of the Kilmartin Glen until now.

2 Introduction

In August 1959 the firm of Tawse applied for permission to remove gravel from Bruach an Druimein (NGR: NR 820 972) in the Kilmartin Glen, for use in the construction of a hydroelectric dam at Loch Glashan. The then County Planning Officer, Mr R D Carr, was anxious to prevent the destruction of any antiquities that could be revealed by this operation, so E R Cregeen visited the site and observed some sample topsoil stripping by bulldozer. This revealed several features of potential archaeological importance and the contractor agreed to phase their operations in order to allow time for archaeological investigation. This became a major rescue excavation, which was conducted over several seasons between 1960 and 1962. It was carried out on behalf of Glasgow University and the Natural History and Antiquarian Society of Mid Argyll using volunteer labour.

Cregeen produced summary reports for *Discovery and Excavation in Scotland* (Cregeen 1960; Cregeen 1961; Cregeen 1962), as well as unpublished draft reports. Unfortunately, he died before a final report could be produced. His sister Sheila, who also took part in the excavations and did a remarkable amount of work on the site archive, also unfortunately died, leaving little in the way of finished text.

As part of the ongoing task to deal with the backlog of unpublished excavations in Scotland, Historic Scotland provided funding through Glasgow University Archaeological Research Division, to re-examine the archive and the finds from Cregeen's excavations at Bruach an Druimein in order to publish the results.

2.1 Biography of Eric Radcliffe Cregeen, 1921–83

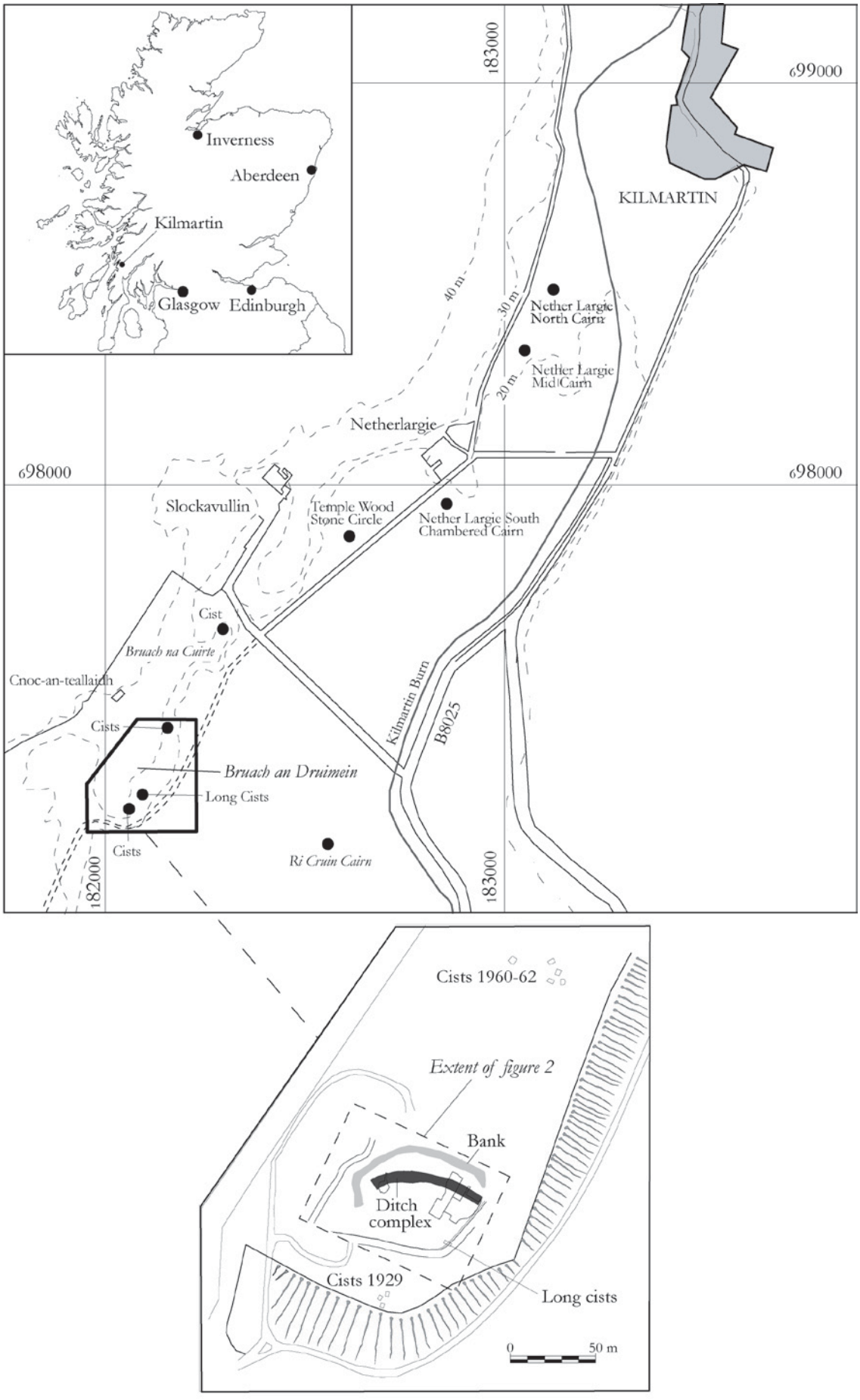
Eric Cregeen was born in the north of England but his family were from the Isle of Man and much of his formative years were spent there. At the age of 13 he studied the Manx language and, in 1935, won a scholarship to Leys School in Cambridge, leading to a BA in history and Latin in 1947, and an MA in 1949. During World War Two, Eric was a conscientious objector and spent this time mainly in agricultural work. During this period, part of his time was spent on the Isle of Man where he was able to work with Professor Carl Marstrander, a linguist from Oslo who had been recording Manx speech, and Dr Gerhard Bersu, the brilliant German archaeologist who was interned on the island and conducted a series of important excavations coordinated by the Manx Museum. In 1948, Eric was appointed assistant director to Basil Megaw at the Manx Museum and secretary to the Manx Museum and Ancient Monuments Trustees where his main responsibility was the organization of a Manx Folk Life Survey. After completion of this project he worked for three years teaching History and Latin at Culford School, Bury St Edmonds, before joining the University of Glasgow's Extra-Mural Department in 1954 as resident tutor to introduce extra-mural studies throughout Argyll. He spent 10 years in this post, encouraging individuals and groups to study systematically their own localities and helping create local historical societies as well as being instrumental in the setting up of Achindrain Folk life Museum (Ritchie 2005).

In 1958, Eric married Lilly Gemmill, an artist who taught at Campbeltown High School. In 1964/5, a Nuffield Foundation Sociological Award enabled Eric to widen the basis of his research on the West Highlands and Islands of Scotland with comparative studies in social history and anthropology. In 1966, he was appointed lecturer in the School of Scottish Studies in the University of Edinburgh with responsibility for research and teaching in the field of social organization; he became a senior lecturer in 1969. In 1981, he was appointed Reader in Scottish Studies until his death in 1983.

Eric's sister Sheila (1924–93) obtained a BA in English and French from Manchester University in 1944. She went on to teach at Kings School, Macclesfield and also researched an MA with Manchester University Department of Archaeology on *Aspects of Celtic Culture in the Isle of Man* (1952). She became an assistant at the Doncaster Art Gallery and Museum and subsequently was Deputy Director of the Verulamium Museum St Albans. From 1958 she held a part-time lectureship in Archaeology in the Department of Extra-Mural Education at Sheffield University and held similar positions at Glasgow and Edinburgh universities. During this period she liaised closely with Eric and conducted a number of archaeological excavations in Mid Argyll including Bruach an Druimein and Crarae chambered cairn. In 1966 she returned permanently to the Isle of Man and continued to be involved in teaching and archaeology, becoming President of the Isle of Man Natural History and Antiquarian Society in 1979. After Eric's death she spent many years working alone on the unpublished results from Bruach an Druimein.

Eric's wife Lilly assisted him in both research and fieldwork and was part of the Bruach an Druimein excavation team. After Sheila's death, Lilly deposited the Bruach an Druimein archive

in Kelvingrove Museum and asked Historic Scotland's help in the production of a report. Lilly lives at Ballochgair Cottage near Campbeltown, is actively involved in the Kintyre Natural History and Antiquarian society and still works on Eric's unpublished work.



Illus 1 Site location

3 Site Location, Geology, Topography and Soils (Illus 1)

The site is 2km south-west of Kilmartin village in Mid Argyll. It is located at the west side of the entrance to the Kilmartin Glen on a promontory at the south end of a fluvio-glacial terrace at 20m OD. The edges of the terrace form steep bluffs, particularly on the south and south-east. This higher ground provides extensive views across the floor of the glen and to the south across the Moine Mhor (Illus 2). Much of the ground immediately above the floor of the glen in the vicinity of the site is suitable for agriculture. To the north-west are gently rising slopes dotted with depopulated settlements. At around 200m west of the edge of the terrace, the slope rises steeply to rugged hills. When the site was occupied, it would have been central to what was one of the largest expanses of arable ground in the Kilmartin Glen (Lane & Campbell 2000, illus 7.18).

The rocks of Mid Argyll are a variety of sandstones, shales and limestones metamorphosed into quartzites, schists, phyllites and marbles belonging to the Dalriadian Assemblage but in the Loch Awe and Knapdale areas, intrusions of basic igneous rock are prolific. Differential erosion of the sedimentary and igneous rocks, particularly accentuated by glaciation, has created long, narrow, steep-sided valleys following the north-east to south-west Caledonian trend. During the Quaternary the area was heavily glaciated, with ice sheets flowing south-west from Rannoch Moor. After the retreat of glaciers the land rose relative to the sea, leaving raised beaches.

The characteristic topography of the Kilmartin Glen is very much the result of melt-water flowing from the glaciers. Two kilometres north of Kilmartin village melt-water escaped through the Creagan-tairbh Pass into the glen. Debris dumped from this flow contributed to the fluvio-glacial terraces on either side of the glen and formed an alluvial plain over the former marine embayment of the Moine Mhor. The terraces appear to be flat but on closer inspection are undulating and cut by meandering paleo-channels and gullies, which can also be observed on aerial photographs. Above the terraces to the north-east and south-west of the glen, the

Illus 2 Site setting, view looking west across valley floor towards the gravel terrace

topography is characterized by steep-sided hills rising to an average height of some 200m.

Surface geology is varied, but the floor of the glen and lower terraces comprise mainly marine clays, overlaid by gravels with sands, silts, and stony topsoil. The soils are naturally acidic and some are very humic and peaty. On the hill slopes are thin clays, while the bottom of the slopes are often characterized by deep deposits of fine silt from hill-wash. Other than these silty deposits, topsoils throughout the area are thin and generally podsolic in character with a leached layer and iron panning. Since quarrying, the ground surface at Bruach an Druimein has become wet and inundated with rushes and is now used as rough grazing for cattle.

4 Archaeological Background

The Kilmartin Glen contains some of the most important archaeological monuments in Britain. The most prolific are prehistoric monuments: chambered cairns, round cairns, cists, standing stones and rock carvings, and many of them are scheduled ancient monuments (RCAHMS 1984, 13). From later periods, there are also a variety of Iron Age and Early Historic sites, the most important of which is Dunadd, the ancient capital of the Scots of *Dál Riata*. There is also an important collection of Early Christian and medieval inscribed stones as well as castles, tower houses and deserted farmsteads. Agricultural improvements and a diverse collection of early industrial monuments, most notably the Crinan Canal, attest to later activity.

Many of these sites are in view of Bruach an Druimein, and several other important archaeological sites have been discovered on the same terrace. In 1928, a Bronze Age cist cemetery and a medieval long-cist cemetery were excavated (Craw 1929), following earlier discoveries of a cist. In 1931, Craw also discovered a stone with an ogham inscription close to the long-cist cemetery (Craw 1932). The inscription has been recently discussed (by Forsyth 1996, 433–55). At the north-west end of this terrace is a single cist (Campbell & Sandeman 1962; RCAHMS 1988) . In the middle of the terrace a group of Bronze Age cists, which were discovered during Cregeen's series of excavations, have been published separately (Cregeen & Harrington 1981).

During the early 1980s, archaeological investigation prior to quarrying at Upper Largie, 2km to the north-east of Bruach an Druimein, revealed several Bronze Age cists and burials (Mercer *et al* 1987). Further work in advance of expansion of the quarry during the 1990s revealed a complexity of prehistoric sites, including several more Bronze Age cists, a timber circle and pit alignments (Radley 1993; Terry 1997). Just over 1km to the south-east, on the opposite side of the entrance to the glen, lies a suite of terraces also densely occupied by prehistoric sites (Abernethy 1995; Abernethy 1998).

5 Aims

The original intervention at the site was a rescue excavation, the aim of which was to retrieve as much information as possible from the archaeological deposits that were being revealed by quarrying operations. The aim of this report is to re-examine the archive, the site report and the artefacts, and to publish the results in their wider context.

6 Methodology

The archaeological excavations that are the focus of this publication include a series of investigations mainly confined to an area measuring approximately 80m by 40m on the promontory at the south end of the terrace (Illus 1). The work was not continuous but was conducted in a series of campaigns over a three-year period by members of Glasgow University and the Natural History and Antiquarian Society of Mid Argyll directed by Eric Cregeen. Others involved included Ian Morrison and Frank Bigwood. The areas investigated depended on the existence of archaeological features, their perceived significance and the resources available to deal with them. Quarrying operations continued around the site, and as a result the excavations were conducted under difficult circumstances (Illus 3). Important areas were left as islands; unimportant areas were quarried away; and other areas were covered by quarry spoil. A nearby Bronze Age cist cemetery was discovered, and excavated and published separately (Cregeen & Harrington 1981).

Topsoil stripping of the site was sometimes conducted by hand and sometimes by machine, not all of it conducted under archaeological supervision, and in some cases bulldozer drivers were left to report anything unusual (Illus 4). For example, when the driver noticed anything interesting he dumped the contents of the bulldozer bucket onto an area for Cregeen to inspect later. This was the case for what is described as the debris dumps, which presumably derived from pits identified by the driver. One of these pits was partially described *in situ* by Cregeen.

The site had an excavation grid (Illus 5), but only some of the squares within it were fully excavated and recorded. Entire squares were removed without anything significant being encountered, and others containing significant features only underwent partial excavation and test pitting. Accurate depth measurements and the full extent of different contexts were not usually recorded. There was no systematic numbering of contexts, though post-holes were numbered. This was normal procedure for the

Illus 3 Site under excavation, looking north-east towards Kilmartin, showing quarrying operations in progress around the excavation

Illus 4 Utilizing quarry machinery as a photographic platform (pre-Health and Safety days!)

time; however, the lack of context planning means that there is no way of reconstructing any possible chronological horizons within the main occupation layers (context 003). This is particularly frustrating as the site was clearly multi-period, with significant occupation in the Iron Age and Early Historic periods. However, very detailed descriptions, plans and sections of features such as post-holes were recorded, along with over 600 photographs, mainly colour slides and lists of finds. This very extensive archive was worked on by the excavators over some 30 years in an attempt to unravel the complexities of the site, but it has to be admitted that no comprehensive account of the site can be given based on this material.

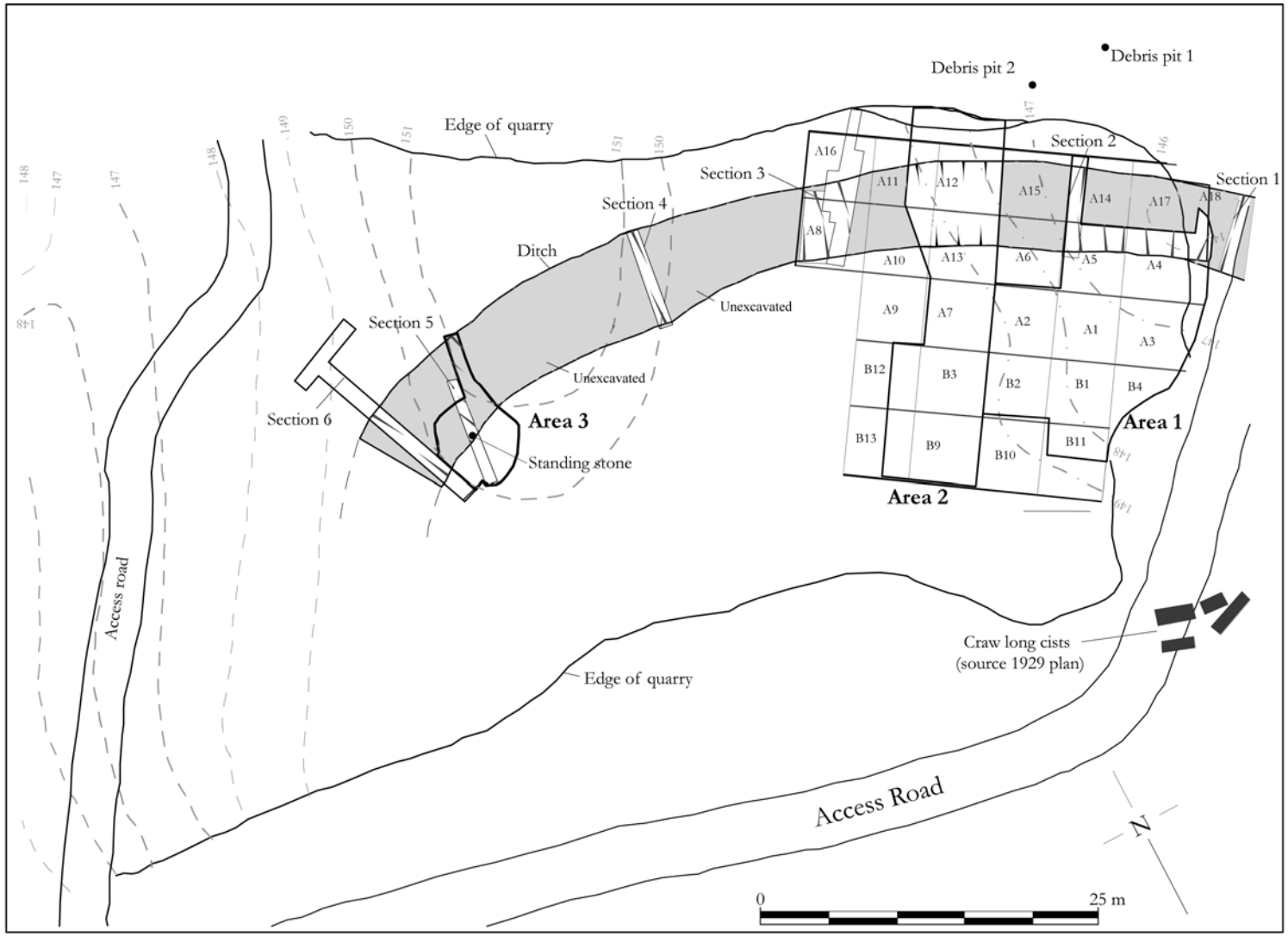
Despite this, a considerable complex of archaeological features were excavated. As more of the site grid was opened and the extent of features became apparent, the site was sub-divided into areas. This was according to when they were opened or the presence of significant features and resulted in two main contiguous excavation trenches (Area 1 and Area 2), and one separate one (Area 3). These were excavated in a series of 16ft (4.85m) squares, including 4ft (0.60m) baulks. The squares were numbered in the order that they were opened. Areas B5, 6, 7, 8, 14 and 15 are in Area 3, while all the other squares are within Areas 1 & 2.

A trench (Area 1) was opened where topsoil stripping in 1959 had revealed potential archaeological features. As work proceeded and the trench was gradually extended, another complex of features, quite different in character, was encountered to the west (into Area 2). Despite the fact that all the features were in the same trench it was decided, probably for logistical reasons, to call one group Settlement Area 1 and the other Settlement Area 2. A separate 'Metalworking area' was identified with Area 2. In Settlement Area 1, all archaeological features were excavated down to a sterile subsoil, whereas in Settlement Area 2, excavation was limited to topsoil stripping and the cleaning of features cut into the occupation layer (context 003). Area 3 was the area around the standing stone at the western side of the site.

A large, curvilinear ditch that bordered both of these trenches was also encountered. Although not fully excavated, it underwent a series of investigations, including test pits and sections excavated across its full width. These are described as Ditch Sections 1–6. North of this ditch there was no systematic excavation, but a number of 'Debris pits and dumps' were recovered by the bulldozer drivers as described above.

In the 40 years since Bruach an Druimein was excavated there have been various developments in excavation methodologies, recording strategy and the study of specialist material recovered from excavations. The site archive and the available small finds were reassessed between 2001 and 2003. Although we cannot improve on the stratigraphic relationships that Cregeen was able to identify, an attempt has been made to clarify the labelling and interpretation of certain key elements encountered during excavation and combine this with contemporary assessments of the various small finds. For the purposes of this report, only the more significant features encountered are described and these have been assigned context numbers in an attempt to ease identification. The post-holes have their own sequence of numbers as assigned by Cregeen.

The finds from the excavation have been deposited in the Kelvingrove Museum (Glasgow Museums and Art Galleries), along with the site archive.



Illus 5 Areas of excavation and site grid. Contours in feet OD, from pre-quarrying survey

7 Excavations

7.1 Areas 1 & 2

These areas measured approximately 30m by 25m and formed a rectangle aligned north-east/south-west. Its south-east side was somewhat irregular and limited by the quarry face and access road (Illus 5).

7.1.1 Topsoil (context 001), subsoil (context 002) and natural (context 004)

The topsoil (context 001) is only alluded to as being black, dark or dark brown. This overlay is a more compacted, sticky, red-brown subsoil (context 002). These two layers are described together as being of varying thickness. Together they appear to have been mostly between 0.3m and 0.4m depth, and up to 0.6m deep on the western edge of the trench with the greatest variation in depth affecting the topsoil. Both layers contained inclusions of charcoal and burnt bone, which was particularly abundant from 0.15m below the ground surface to some 0.05m above the natural gravel (context 004). The subsoil (context 002) is the horizon between the plough soil and the natural gravel, which through ploughing, root intrusion, animal and human disturbance has become contaminated with charcoal and burnt bone. The features identified within these areas were cut into the subsoil (context 002).

7.1.2 Occupation layer (context 003)

Extending across the central part of Area 1 was a layer of burnt soil, sand, gravel with burnt bone and charcoal (context 003). This lay between the topsoil (context 001) and the subsoil (context 002). This was an occupation layer about 0.15m in depth, but was much thinner over the east area of Area 1 as if it had been truncated or cleared away. It was recognized during the excavation due to greater quantities of burnt bone, charcoal and blackened soil associated with reddened stones and patches of burning. These were more abundant within Area 2, but no differentiation in the finds from the two areas was made until later in the excavation. In general, context 003 was excavated in Areas 1 and 2 as a single layer but its full extent is not known. However, it did not extend as far as the ditch edge in the north and it petered out to the south. It seems likely that this horizon represented more than one phase of activity, but the lack of detailed context recording means that there is no possibility of reconstructing the stratigraphical relationships. A radiocarbon sample from this layer (GU-11092) produced a date of the fourth to second centuries BC.

7.1.3 Area 1 (Illus 6, Illus 7)

The features excavated in Area 1 extended over an area measuring 12m by 12m. Although severe disturbance from ploughing was evident, a number of discontinuous and amorphous stone features were found cut into the subsoil (context 002), which probably represented paving (Illus 6). These are contexts 101 (a large flat slab), 102 and 103. A complex of post-holes were also encountered below the occupation layer (context 003), which had cut the natural gravel (context 004) (Illus 7). A series of shallow, charcoal-filled pits and hollows were also located.

Work bench (context 101)

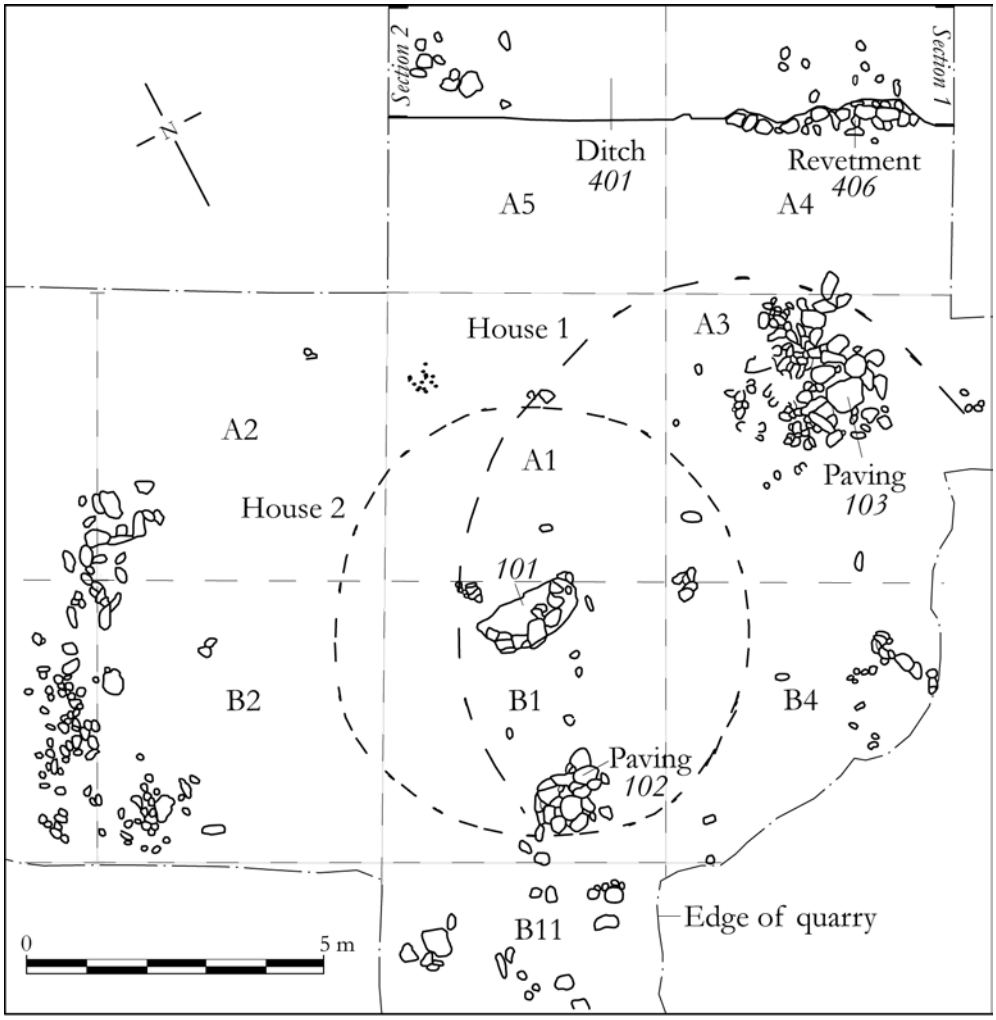
A large, flat, slate-grey stone (context 101) measuring 1.8m x 0.75m x 0.1m thick was encountered 0.1m below the topsoil. Its long axis was aligned east/west and when lifted it appeared to rest on a D-shaped arrangement of flat chocking stones. These lay on a layer of brown soil and clay 0.15–0.2m thick on top of natural gravel (context 004). The stone was not decorated or worked and nothing of archaeological significance was encountered in the soil and clay beneath it. Cregeen interpreted it as a possible work bench.

Paving (context 102)

Two metres south of the stone (context 101) was an arrangement of flat stones of various sizes, laid to form an area of paving 1.5m by 1.2m, and delineated on the north and east by vertically set stones. The stones overlay a 0.1–0.15m depth of reddish soil (context 002), which in turn sealed the burnt and charcoal-rich surface of the natural gravel (context 004). This paved area was interpreted as the floor of a structure that was late in the sequence of occupation in this area. The only artefact associated with it was one fragment of flint (SF 234) found at the base of the paving on top of the subsoil (context 004).

Paving (context 103)

About 4.2m east of Stone 101, another area of paving measuring 3m by 2.1m was encountered below the



Illus 6 Area 1, upper contexts

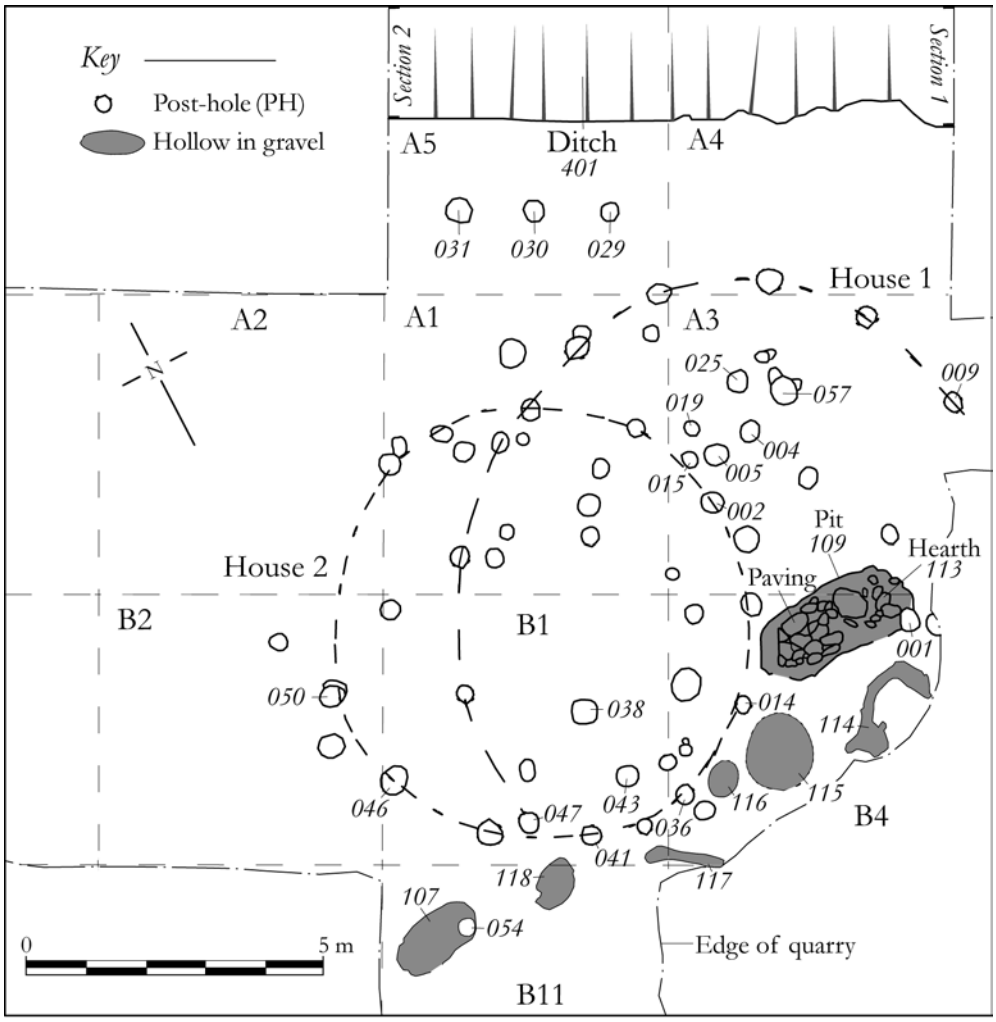
topsoil. The archaeological records indicate that the subsoil (context 002) was not present, so it is assumed that both the topsoil and the subsoil in this part of the site had been severely disturbed. Some of the paving stones had been burnt and there was abundant charcoal both between and below them. Beneath the stones were several post-holes with abundant burnt charcoal in and around them. Where charcoal was not present the paving lay directly on natural gravel.

Post-holes (Illus 8)

Almost 60 post-holes were recorded in Area 1 within an area measuring approximately 12m by 12m. Where a relationship could be identified the post-holes were sealed by both the occupation layer (context 003) and by paving (context 102). Post-hole 047 was partially overlain by the vertical slabs of paving (context 102). Some post-holes overlay a series of charcoal-filled pits, eg Post-hole 001 overlay Pit 109, and Post-hole 054 overlay Pit 107 (see below).

The post-holes ranged from small shallow depressions, such as Post-holes 018 and 019, to much larger features like Post-holes 030, 031, 038 and 057, which had diameters of 0.4m and depths of 0.5m. Most of the post-holes were circular in plan and although they penetrated the natural gravel, they contained fills of soil. They also contained chocking stones, which varied from large boulders to thin slabs. In a number of cases (Post-holes 004, 005, 016 and 037) the structure of the stone settings survived, with thin slabs set vertically against the sides of the hole. Many of the post-holes, especially in the north and north-east of this area, were approximately 0.3m in diameter with vertical sides and flat bases.

In spite of variations in size, structure, fills and preservation, Cregeen proposed two main phases of post-hole construction forming two overlapping roundhouses. This interpretation relied on the fact that the rings overlapped the other, and also on the tendency for the post-holes to fall into two characteristic groups. Cregeen named one ring of post-holes 'House 1' and the other 'House 2', but there is no archaeological evidence for this chronological distinction.



Illus 7 Area 1, lower contexts, showing roundhouses defined by post-holes

House 1

The possible House 1 structure had a diameter of 10.5m. However, a large portion of the ring's southern half was destroyed by the construction of the quarry access road in 1959. The structure was therefore only represented by a semi-circle of post-holes which were irregularly spaced but of similar size, straight-sided and flat-bottomed. They were filled with sticky brown soil, identical to the natural subsoil (context 002) in this area. Large blocks of light grey stone, sometimes split were used as chocking stones wedged against the side of the post-holes. A piece of worked flint (SF 108, flint report no 73) was found in Post-hole 009.

House 2

This possible structure comprised what would have been 13 evenly spaced post-holes forming a circle 7.5m diameter. The post-holes were typically 0.3–0.38m in diameter, 0.23–0.30m in depth, with sloping sides and rounded bases. Their fills contained substantial amounts of charcoal but their chocking stones were usually small, thin, flat and sometimes burnt. Around the post-holes were reddened, split stones. Three adjacent post-holes (014, 036 and 041) contained the burnt stumps of posts. A sample of charcoal from Post-hole 036 produced a radiocarbon date of the fourth to second centuries BC (GU-11094). This possible structure was sealed by the occupation layer (context 003).

The majority of the other post-holes encountered lay within the perimeters of the two possible houses. As no coherent pattern was discernible, they were interpreted as possible internal posts associated with the roundhouse architecture. Some of the post-holes also exhibited evidence of burning (Post-holes 004, 005, 025, 057) and contained charcoal, but no burnt bone, when compared with the occupation layer (context 003).

Two of the post-holes cut charcoal-filled pits (see below). One (Post-hole 001) cut the upper layers of the fill of Pit 109. West of House 2 was one of the smaller, shallower pits (Pit 107); it was cut by Post-hole 054.

Illus 8 Area 1 post-holes

Line of Post-holes 029, 030 & 031

North of House 1 were three evenly spaced post-holes (Post-holes 029, 030 and 031) forming a line some 2.5m long and aligned parallel with the edge of Ditch 401 at a distance of 1.5m. They differed in character from the other post-holes in that two of them were particularly large, at 0.4m in diameter, and all three had adjoining shallow depressions. They were cut into the natural gravel. Cregeen thought they might represent a gateway or a palisade following the inside edge of the ditch; however, the line of post-holes could not be traced any further in either direction. These features are therefore open to reinterpretation, an alternative being that they could have been the posts for a possible bridge crossing the ditch.

Cooking Pits 109, 107, 114, 115, 116 & 117

In the south corner of Area 1 was a series of six relatively small, shallow hollows all in close proximity to each other and cut into natural gravel. In plan they were either round or oval in shape and in section tended to be round-bottomed with steep, straight sides. Five of them ranged between 0.6m and 1.5m across and between 0.1m and 0.32m deep. Their fills were similar and consisted of dark, charcoal-rich soil with reddened, broken stones similar to occupation layer (context 003). The bases of the hollows (except for Pit 109) appeared to be lined with clayey gravely. Cregeen interpreted these lower fills as part of the original construction, possibly a lining, and postulated that each of these pits would have served the same function a cooking pit complex or perhaps tanning pits. A number of worked flints and stone tools (SF 51; SF 54; SF 101; SF 224; SF 237), mostly from contexts 002 and 003, were found in the vicinity of these pits, which may be suggestive of pre-Iron Age activity. One of the pits (Pit 114) had a channel leading to or from it, suggesting to Cregeen that it may have been associated with water storage as it may have been lined with wood or hide.

Pit 109

The interpretation of this feature from the site records is particularly problematic as it was dug over several seasons and no proper section drawing exists, only a rough partial sketch. However, the feature clearly had several phases of use. It was a sub-rectangular pit with straight sides and a flat base, measuring 2.8m by 1.2m by 0.6m deep. The fills can be described as follows:

1 The hard gravel floor at the base of the pit was covered in patches of charcoal and calcined

bone. Half filling the pit was an accumulation of sticky, reddish-brown soil (context 108) containing cracked pebbles, flecks of charcoal and fragments of calcined bone.

2 The pit had then been re-floored and the sides lined with clay to above half way. A charcoal-rich layer lay above this sealed by large flat-bottomed stones, suggesting a hearth. The rest of the pit was filled with a charcoal-rich soil (context 112), which incorporated several large rounded stones, possibly pot-boilers. A sample of charcoal from this layer produced a radiocarbon date of the fourth to third centuries BC (GU-11095).

3 The uppermost fills consisted of a small hearth (context 113) at the north-east end, formed of small upright stones. This was at the same level as Paving 118, which occupied the south-west half of the pit. The upper layer of Paving 118 and the charcoal-rich soil with pot-boilers was cut by Post-hole 001.

Two small pieces of daub (SF 100; SF 104) were found in this pit. One was found under a stone at the top of Post-hole 001, and the other was found next to it in the upper charcoal-rich soil (context 112).

The fact that the pits were sealed by the occupation layer (context 003), and that two of them were cut by post-holes associated with the possible Iron Age roundhouses, led Cregeen to interpret them as the earliest phase of the site. While Pit 109 was cut by Post-hole 001, and Pit 107 was cut by Post-hole 054, neither of these post-holes formed part of Cregeen's possible houses.

The archaeological layers in Area 1 were generally shallow and disturbed, with few identifiable stratigraphical relationships, which could help phase the site. The cooking pits are possibly earlier than the houses, although the Iron Age radiocarbon date from the fill of Pit 109 could indicate that the later use of this pit was broadly contemporary with the houses. However, it was clear that the paving overlay the occupation layer (context 003), which in turn sealed the post-holes.

7.1.4 Area 2 (Illus 9)

To the immediate north-west of Area 1, another complex of features was identified in an area some 10m square, but these were not fully excavated. In some parts of Area 2 only the topsoil was removed, while in others it was only excavated into the subsoil (context 002) and only two test pits were excavated down to the natural gravel. It was also apparent that this area was severely disturbed by ploughing.

The topsoil comprised a mass of disturbed small angular stones mixed with dark soil that contained small finds. At a depth of 0.15 m, a layer of cobbling (context 201) was encountered (not illustrated). These consisted of small, angular stones, some burnt, that was littered with charcoal and burnt bone. This horizon of cobbles was detected right across Area 2, but it was intermittent, suggesting that it had been disturbed by ploughing. Immediately below the cobbling was an occupation layer (context 003), which was not as thick as it was in Area 1. Below the cobbling on the west side of Area 2 was a reddish subsoil (context 002) with no evidence of burning.

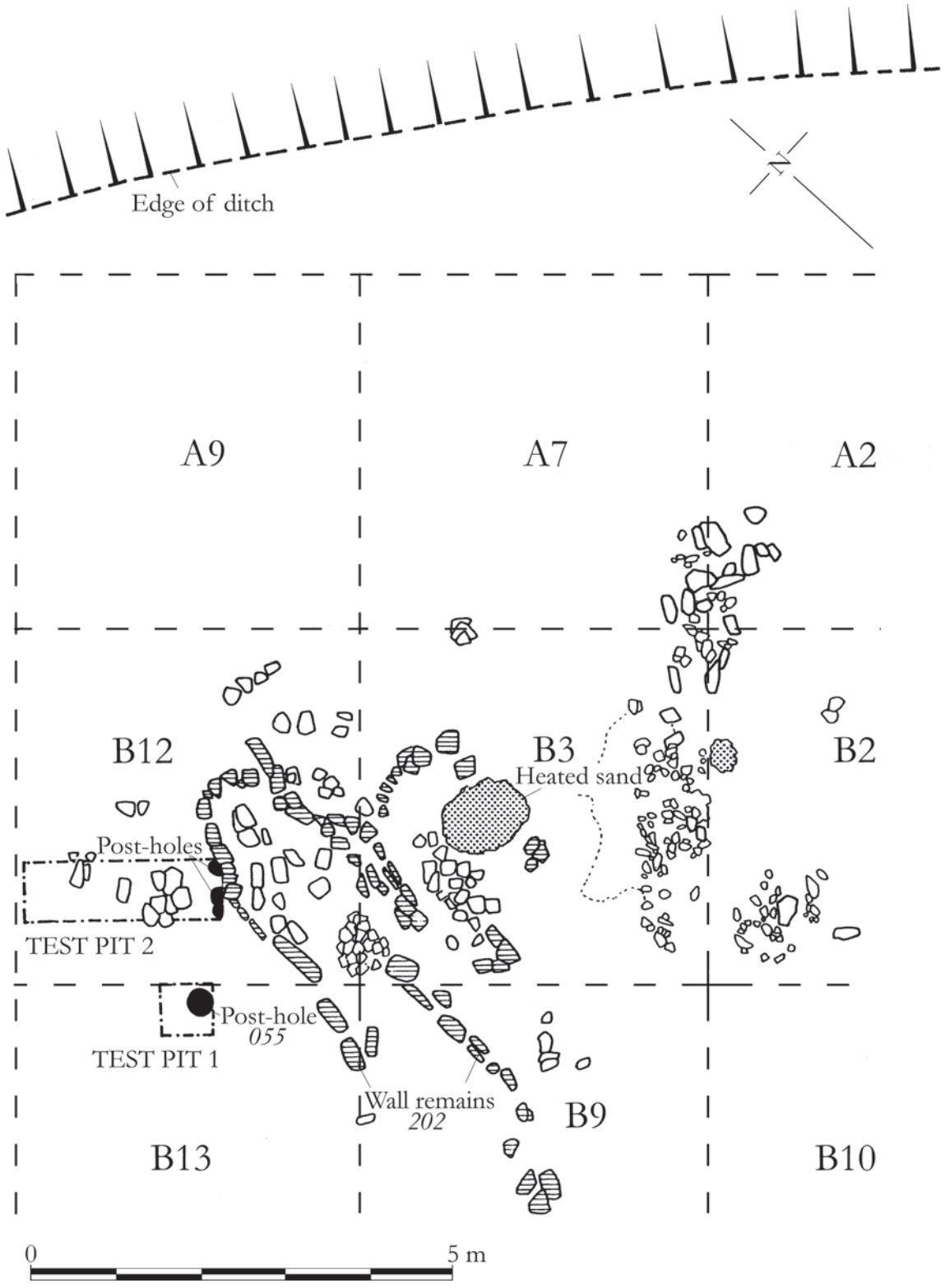
Foundation stones (context 202)

Set into subsoil (context 002) were a number of unmortared foundation stones (context 202) of a wall, the bases of which were about 0.3m below the ground surface but there was no mention in the records of a foundation trench (Illus 10). These stones were sealed by the cobbles (context 201) and by occupation layer (context 003) and dense patches of charcoal had collected around some of the stones. Both the cobbling and foundation stones had been affected by burning, but this appears not to have affected the subsoil. The pattern of the foundation stones was not fully apparent but Cregeen suggested that it represented the foundations of two oval shaped buildings, one of them with an oval-shaped annexe (not specified by Cregeen).

A sketch plan in the site archive shows that some of the wall foundation stones (context 202) formed an almost circular feature about 3m in diameter within which was a lump of what Cregeen described as ironstone some 1.2m in diameter that had been, 'partly reduced by fire'. This was subsequently identified as a heated patch of silica, which did not contain any metallic iron (Dr Payne, Glasgow University, pers comm.). A U-shaped setting of stones about 5m long, with the opening to the south, adjoined this patch. These features were not fully excavated.

Test Pit 1

A test pit measuring about 0.5m square was excavated some 2.0m west of the structure. This revealed some undisturbed stratigraphy not seen elsewhere in Area 2. Beneath the topsoil was the area of cobbling (context 201), which continued outside the wall foundations (context 202). Below the cobbling (context 201) was the occupation deposit (context 003) sealing context 002, which overlay a thin layer of yellow sandy-clay (context 005) which itself overlay natural gravel (context 004). Post-hole 055 was cut into the clay (context 005) and natural gravel (context 004) and was sealed by subsoil (context 002). The post-hole measured about 0.5m in diameter at the top, narrowing towards its base, and was 0.45m deep. Its fill comprised red-brown sticky soil with a number of flat stones near the top. While a fragment of charcoal was found below the stones, the post-hole did not show evidence of burning.



Illus 9 Area 2, showing insubstantial stone structures

Test Pit 2

A slightly larger test pit (Illus 4) was excavated some 2.0m north-east of Post-hole 055. Similar layers were encountered to those in Test Pit 1, except that the clay layer (context 005) was not noted. Cut into subsoil (context 002) was part of a feature (context 203) that resembled a post-hole, 0.2m deep, in section. In its base was a layer of iron pan and its fill was the same as the occupation layer (context 003). Two further possible features were seen in the section and sketched. These features were sealed buy a burnt soil, possibly the occupation layer (context 003). No further excavation was carried out here.

Illus 10 Area 2 structures

Finds from Areas 1 & 2

Of the total 241 recorded finds from the site, 6% were retrieved from Area 1 or what was described as Area 1/2, and 45% were from Area 2, despite Area 1 being excavated more comprehensively down to natural. Within both areas the vast majority of finds were allocated to contexts 001 or 003, with only a few from context 002, and only 10 from features cut into the natural gravel (see below). In particular, the majority of the finds were found within grid squares B9, B3 and B12, which are all located in Area 2 to the south-west of the post circles and in the area of the stone structures described above. The lithic artefacts were found in greater numbers in grid squares A2, B2 and B12 in Area 1, and also in B3 and B9, and also predominantly from contexts 001 and 003.

Small finds from Area 1 were sparse but included iron, pottery, baked clay, flint and stone tools. The only ones from secure contexts were daub (SF 100 and 104) from Post-hole 001 and context 112, flint (SF 234) from below Paving 102, and (SF 108) from Post-hole 009.

In Area 2 the assemblage contained considerably more metal and pottery and included iron and stone tools, lumps of fused iron, beads and flint. The finds were from the disturbed contexts of 001, 002 and 003. The only find to have certain association with a feature was an iron droplet (SF 113), which was found inside Feature 203. There does not appear to be any finds suggestive of a date for the cobbling (context 201), but pottery from the topsoil in its vicinity (and context 202) included SF 117, SF 136 and SF 175, which were green-glazed medieval sherds, suggesting the cobbling was relatively modern. Other finds from the vicinity of contexts 201 and 202, but from occupation layer context 003, include an early medieval bead (SF 201), pottery (SF 215) and an iron knife (SF 13). Cregeen interpreted this complex of features and finds as evidence of an area where metalworking was conducted, perhaps a medieval smithy or bloomery. However, as discussed below, it is noticeable that all the finds of early medieval date cluster in this area, suggesting an earlier origin for the structures.

7.2 The ditch complex & Area 3

A large, multi-phase ditch traversed the promontory (Illus 2), cutting off the southern end containing the possible roundhouses and metalworking area. It ran east/west from immediately above the steep slope on the east of the site in the direction of the standing stone. After passing below the stone it curved toward the south-west slope of the terrace. It was traceable for over 70 m, but further investi-

Illus 11 Ditch Section 1, showing 'revetment' 406

gation of its course was made impossible by quarry spoil heaps. In general, the ditch was up to 7m wide and 2m deep.

The route of the ditch was traced by exploratory trenches because the presence of spoil from the quarrying prevented larger area topsoil stripping. Not all of the ditch sections were fully excavated and, of those that were, not all sections were fully recorded. Only a small sample of this feature was therefore investigated archaeologically. Despite this, the occurrence of a series of ditches running almost parallel is consistent in each of the sections that were fully revealed. Within most sections the series of ditch cuts and backfills are in approximately the same location. However, towards the west end, the line of the ditch diverged, giving Cregeen the impression that there were two major ditches.

7.2.1 Ditch Section 1

The ditch was first noted in a section cut by the access road as it traversed the south-east side of the site. The remains of a possible wall (context 406) within the ditch was noted along the south-west (inner) side, but no convincing remains were recorded (Illus 11). A radiocarbon sample from the upper fill (context 407), produced a date of fourth to second centuries BC (GU-11093).

7.2.2 Ditch Section 2

A trench was cut across the ditch at a point approximately 10m north-west of Ditch Section 1. Ditch Section 2 measured 1.35m in width and was excavated for a distance of some 6m across the ditch and was up to 1.2m deep. It revealed that Wall 406 continued along the inside of the south-west side of the ditch at a depth of 0.3m below the surface. Immediately below Wall 406 were two layers of charcoal and burnt bone (context 405) that suggested the ditch had been initially backfilled by material that had derived from the occupation layer (context 003). Artefacts recovered from this ditch section included iron (SF 218, context 406), pottery (SF 72 & SF 83 from topsoil; SF 216, context 407), flint (SF 86 topsoil; SF 217, context 407) and pieces of a crucible (SF 85) from the topsoil.

7.2.3 Ditch Section 3

Another section was excavated 15.5m to the north-west of Ditch Section 2, which revealed the curved nature of the features. The trench measured approximately 12m by 1.2m but was widened to 2.4m in the centre to allow for the investigation of a well-preserved, stone-built structure (context 409) found within the fill of the ditch. Ditch Section 3 had

Illus 12 Ditch Section 3, showing recuts and dumped burnt material

evidence of several recuts all in approximately the same location (Illus 12).

Feature 409 lay 0.5m below the ground surface and comprised a domed chamber up to 0.75m in diameter, with corbelled walls and large flat stones sealing the opening at the top. Below the chamber was a succession of long, narrow cavities that penetrated deep into the gravel. Initially a hole in the gravel 0.25m in diameter led into a clay-lined cylinder 0.6m long. This abruptly narrowed to a diameter of 0.09m for 0.45m when it widened again to a chamber filled with loose sand. Cregeen tentatively interpreted this as an oven, although he was fully aware that the domed chamber had no obvious access route or evidence of heating. He also considered that it may have been connected with water collection from the gravel or was perhaps even a borehole. The feature was cut into the final backfill (context 407) of the ditch and the top of it was level with the top of the Revetment Wall 406. It is possibly a fairly modern feature.

Topsoil stripping later revealed an area of paving (context 408) overlying the fill of the ditch and immediately west of this ditch section. The paving incorporated a line of heavy stone blocks, 0.3m by 0.38m, set close together, running south-east/north-west and traceable for about 9m. They were laid into soil and Cregeen interpreted them as a deliberately laid stone path over the back-filled Ditch 407. There was no further investigation of this feature and only two small finds were recovered in this area: pottery (SF 170) from context 408 and flint (SF 172) from the topsoil.

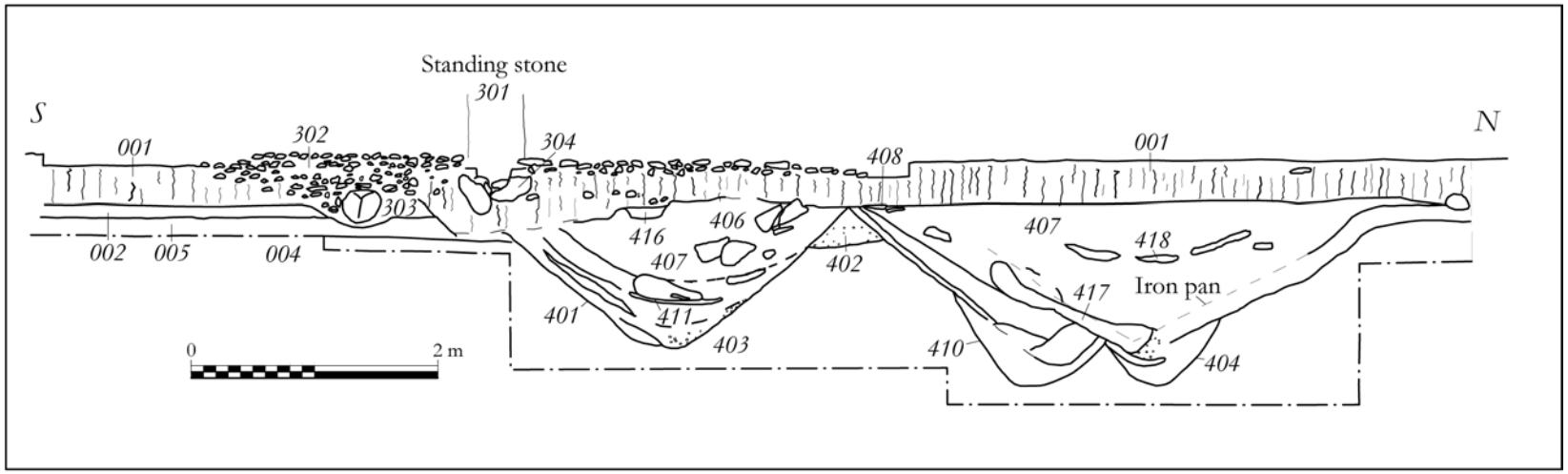
7.2.4 Ditch Section 4

The line of the ditch was confirmed by the excavation of another trench, between Ditch Section 3 and the standing stone. The trench measured 7.5m by 1.2m by 1m deep. The upper backfilled layers (context 407) were again noted. The revetment wall on the inner face of Ditch 406 had collapsed and was noted 0.6m below the ground surface. Various lenses of charcoal and layers of stone (context 405) lay beneath the collapsed Wall 406. No finds are recorded from this section and it was not excavated to the full depth of the Ditch 401.

7.2.5 Ditch Section 5 (Illus 13)

The ditch section was first excavated to examine the cobbled area (context 302) surrounding the standing stone setting and the inner face of Ditch 401. It was later enlarged and the trench finally measured 7.2m in length, up to 2.4m in width and was 1.8m deep.

This section revealed at least five ditch re-cuts (context 401, 410, 404, & 2 unnumbered). The inner



Illus 13 Ditch Section 5

Illus 14 'Standing stone' under excavation

Ditch 401 was V-shaped and measured 3.0m in width by 1.5m in depth. The basal layers and lenses were a result of natural silting (context 403) to a depth of 0.4 m. The tip lines indicate that these deposits derived from the south side of the ditch, possibly a bank. Overlying these layers was a probable turf line (context 411), which was sealed by further naturally silted deposits. The upper fill of the ditch was reddish to yellow-brown sticky soil containing charcoal (context 407); its homogenous consistency indicates it to be deliberate backfilling. This deposit incorporated collapsed stones from a low revetting Wall 406. A dark, cultivated soil overlay the backfilled ditch and this in turn was sealed by the cobbling (context 302) surrounding the standing stone.

Two further ditch re-cuttings (contexts 410 and 404) were seen to the north of the inner face of Ditch 401. They had rounded bases with steep sides. The basal layers of both ditches consisted of natural silting. Ditch 410 had been re-cut and filled with naturally silting deposits.

A subsequent re-digging of the ditch with a wide V-shaped profile had cut both earlier re-cuts (contexts 410 and 404). Its basal fill was a dark organic layer (context 417), 0.1m thick, probably representing turf. Further naturally silting layers continued to fill the ditch. At about 0.5m from the surface there was a thin, orange clay lens (context 418). This was sealed by the homogenous backfill (context 407).

7.2.6 Area 3 & Ditch 5

Excavation of an area between Ditch Sections 5 & 6 (see below) revealed more of the deposits in the vicinity of the standing stone. Area 3 measured approximately 14.5m by 9.5m. To the south of the Ditch Cut 401 was the remnant of a cut though Layer 002. This cut was filled with a layer of red soil containing large stones, representing both natural rounded boulders and angular quarried stone (context 303). The stratigraphical relationship between this cut and Ditch 401 was unfortunately removed by the cut for the standing stone setting.

Within the upper fill of Ditch 401 was a patch of charcoal 0.75m across and 0.1m thick with a flat, round stone at its base. Burnt bone and barley were also noted. Below the stone and adhering to its underside were lumps of iron clinker. This feature was interpreted as a hearth (context 416). This feature was at the same level as Paving 408. Fill 303 and Hearth 416 had been truncated by the cut for the standing stone setting.

7.2.7 Standing stone (Illus 14)

The standing stone was tapered and dressed, measuring 1.65m by 0.6m by 0.45m. It was surrounded by a cobbled platform of small stones (context 302) extended *c* 2.5m in all directions. The platform was almost square in plan but with rounded corners, and was between 0.15m and 0.3m in depth. Immediately below the cobbling, a sherd of thick green post-medieval glass was found (SF 221). These cobbles sealed the dark cultivated deposit 001.

7.2.8 Post-hole 063

Almost 1.0m south of the standing stone, a cross-section through a probable post-hole (063) was discovered in the face of Ditch Section 5. It was 0.3m below the ground surface and cut through a shallow layer of red/brown subsoil (context 002). The post-hole was almost 1.0m across, 0.6m deep and had steep sides and a flat base. The fill was a yellow/brown sticky soil and the presence of large packing stones prompted the interpretation as a post-hole. The top of the fill comprised small broken pebbles and there was no evidence of burning. No other post-holes were encountered below the cobbling. Cregeen thought that this was further evidence for a palisade on the inner side of the ditch.

Apart from the debris associated with Hearth 416, no artefacts were recovered from Area 3 or Ditch

Section 5. This may be attributed to the absence of the burnt Layer 003 re-deposited in the ditch sections further west as Layer 405.

7.2.9 Ditch Section 6

This was located 2.5m west of the standing stone, which aimed to trace the route of the ditch. After excavation of the standing stone revealed it to lie over the fill of the ditch, attention was turned to Ditch Section 5, so this ditch section was never completed.

7.3 Discussion of the ditches

Cregeen originally thought that Ditch Section 5 indicated the presence of two contemporary ditches (401 and 410), separated by a bank, but this has been re-interpreted by the author as a series of at least five ditch cuts, the lines of which have diverged in Section 5 to give the impression of separate ditches. There is no evidence for a bank between the ditches. The line of the ditches is broadly followed by a bank about 0.45m high that was identified by J H Craw in the late 1920s (Craw 1929). During Cregeen's excavations he noted that the bank was no longer visible but Craw's plan of the bank followed the line of the ditch system on its northern side (Illus 1).

As the course of the ditches was tracked from east to west, the extent of the first and second ditch that survived in each of the sections is variable. Where the course of the ditch was investigated adjacent to the standing stone (Ditch Section 5), the earliest and latest ditch lie side by side with only the bottom and part of the inner edge of the second ditch surviving between them. This led Cregeen to postulate the existence of the promontory being cut off by a double ditch system. Although this is not the case from the other sections, in Ditch Section 5 this is somewhat problematical particularly as the main section drawing from this trench is of the east-facing section but with stratigraphy transposed from the west-facing section due to a section collapse after a night of heavy rain. However, the stratigraphy of fills in Ditch 401 and Ditch 404 differ so were not open at the same time, and Ditch 401 was probably backfilled by the excavation of Ditch 410. The occurrence of the remains of a stone wall in Ditch 401 being visible in all of the sections and partially overlaid by backfilling from Ditch 410 suggests that this wall/revetment was in a state of disrepair when Ditch 401 was backfilled. The slight variations in ditch profiles and the greater degree of survival of Ditch 401 in Ditch Section 5 could be explicable by a slight deviation in the line of Ditch 410 as it was excavated partially overlying Ditch 401. To add further confusion to the relationship of the ditches it is apparent that not all of the sections were excavated perpendicular to the course of the ditch, probably as a result of being unable to trace the course of the ditch through topsoil stripping.

The inner Ditch 401 is the earliest, and after natural silting undergoes a series of restructuring involving the deposition of burnt material (context 405), essentially the same in character to the burnt occupation layer (context 003) across the site, and the construction of a revetment or Wall 406 along part of its inner edge. This ditch is then cut by the excavation of a second ditch (Ditch 410), which leaves the inner edge, bottom and part of the fill of the first ditch. After a period of natural silting the second ditch is cut by a third (Ditch 404), leaving only part of the bottom and inner face of the second ditch for the entire length that it was traced. The third ditch undergoes natural silting before finally being deliberately backfilled (Ditch 407). The radiocarbon date from the inner Ditch 401 appears to confirms a Iron Age date contemporary with the main occupation. The later ditches can be presumed to belong to the early medieval or later periods, but there is no confirmation of this in the finds.

Three other large ditches termed 'tributary ditches' were encountered at different locations outside of the excavation area. They may have intersected the main ditch system, but only underwent minimal investigation. Two of them (Ditches 412 & 413) were noted in the northern face of the quarry and some 5m outside of the ditch enclosing the site, which actually places them on the recorded route of the Craw Bank. Some 30m north-west of the standing stone, another ditch (Ditch 415) was encountered. In the short section that was examined, its western face was lined with a stone wall and the ditch was running north-west/south-east. In contrast to the enclosing ditch system, the two tributary ditches on the north were recorded as having U-shaped cuts (context 412 & 413) and filled with sticky red soil (context 414). No finds were retrieved from these ditches. Cregeen suggested these ditches may have bounded cultivated fields and were constructed when the double ditch system underwent modification, but the possibility remains that they were natural palaeochannels.

7.4 Debris Pits 1 & 2

The pits were encountered just before the main excavations started. To the north-east of Area 1, about 9.5m on the other side of the ditch complex, two large pits (Debris Pit 1, context 501; and Debris Pit 2, context 503), *c* 6m apart, were destroyed by a bulldozer. Their fills (contexts 502 & 504) aroused suspicion and were dumped separately in order that they could be examined. They were found to contain large quantities of grain and pieces of wattle and daub (Illus 15). Descriptions from workmen indicated that, after topsoil had been removed, one of the pits was conspicuous as a black spread of soil and charred grain, surrounded by large stones defining

an area about 1.8m by 1.05m by 1.2m deep. Part of one pit survived as a round-bottomed pit (context 503), cut into natural gravel, 1.35m deep, filled with brown clay and signs of charcoal (context 504).

Stratification of the fills was still visible within the dumped fill (context 504). Two layers of grain, charcoal and burnt bone were visible, separated by lenses of sand and gravel. The general fill was rich in clay and soil that had been burnt and contained charcoal and burnt bone.

In the surviving section, Pit 501 contained red clay (context 502) that was concentrated in the lower part. This fill was rich in charcoal but contained less burnt grain and bone than Fill 504. Burnt barley grains from context 502 produced a date of second to first centuries BC (GU-11096), confirming general contemporaneity with the main occupation of the site in the Middle Iron Age, though slightly younger than the other radiocarbon dates.

Debris Pit 2 contained pieces of wattle and daub (SF 12) and orange-baked clay bearing impressions (SF 1, SF 3, SF 4, SF 5, SF 7), some of which still contained the burnt remains of wooden stakes. Burnt barley from this material gave a radiocarbon date of the fourth to first centuries BC (GU-11097), statistically indistinguishable from the dates from the occupation contexts.

The burnt material in the fill of the pits was identical in appearance to Layer 003 and so Cregeen assumed that the fill of these pits was comprised of debris that had been cleared from Area 1 after a major fire. This would also account for the presence of the burnt Layer 405 within the nearby ditch sections. He suggested that the function of the pits had originally been for storage of grain or as grain drying ovens.

7.5 Radiocarbon dates

The radiocarbon dates (Table 1) were submitted to the Scottish Universities Research and Reactor Centre and were determined by the University of Oxford Radiocarbon Accelerator Unit. The dates are calibrated using OxCal v 3.9.

The dates form a very coherent set of results, spanning the last part of the first millennium BC. The strong correlation between the dates suggests that most of the activity in Area 1 is contemporary and can be related to an Early to Middle Iron Age settlement. In particular, GU-11094, from a burnt post in one of the post-holes associated with House 2, seems solid evidence that the postulated circular structure was Iron Age in date. Pit 109 was early in the stratigraphic sequence, being cut by a post-hole, though not one forming part of the putative circular structures. The close correspondence of the dates between the pit and the post-hole of House 2

Illus 15 Debris Pit 1 in situ showing large quantities of charred barley

Table 1 Radiocarbon dates

Lab no	Context	Description	Sample	Dates BP ± 1-sigma	Calibrated dates ± 2-sigma
GU-11092	103	Square A3	*Alnus* sp charcoal	2160 ± 45 BP	370–50 cal BC
GU-11093	407	Ditch section 1, upper fill	*Quercus* sp charcoal	2185 ± 50 BP	390–90 cal BC
GU-11094	PH36	House 2 post-hole	*Corylus* sp charcoal	2195 ± 50 BP	390–110 cal BC
GU-11095	112	Pit 109	*Corylus* sp charcoal	2245 ± 45 BP	400–200 cal BC
GU-11096	502	Debris pit 1	Carbonized grain: *Hordeum vulgare* var *vulgare*	2065 ± 50 BP	210 cal BC–cal AD 60
GU-11097	504	Debris pit 2	Carbonized grain: *Hordeum vulgare* var *vulgare*	2140 ± 50 BP	360–40 cal BC

suggests there was not a large chronological depth to the Iron Age occupation. While statistically all the dates could refer to one event, GU-11096 is sufficiently younger than the other dates to suggest that the occupation did last for some time.

Cregeen had tentatively suggested a chronological scheme for occupation of the site. The earliest habitation was attested by a lithic assemblage and cooking pits, which he suggested dated from the Mesolithic period. In the Iron Age, a defensive ditch containing a settlement of timber roundhouses was constructed, which was then destroyed by a fire. Debris was then cleared from the site and dumped in the ditch and Dark Age occupation was concentrated in Settlement Area 2. During the medieval period, the ditch was backfilled and paving was laid over the site. The standing stone was then erected. One of the problems raised by Cregeen was to correlate the features in Area 1, which was fully excavated, with the above tentative conclusions and the rest of the site that was only partially excavated. He also emphasized that the above conclusions were only provisional and subject to modification after study of the small finds. This tentative sequence is supported by the radiocarbon dates, and the artefactual material discussed in the following sections.

8 Artefacts

8.1 Coarse stone artefacts (Illus 16; Illus 17; Illus 18; Illus 19)

Beverley Ballin Smith

8.1.1 Introduction

A total of 21 stone artefacts were re-examined from the 1960s excavations at Bruach an Druimein. Three absent artefacts were identified from illustrations. All the finds from the site were originally processed and analysed by Shelia Cregeen and several geologists. The surviving artefacts are only half the original number collected from the site (see below), but nevertheless provide a representative account of the raw materials used, the tools manufactured, the activities to which they were put and the time periods they were used.

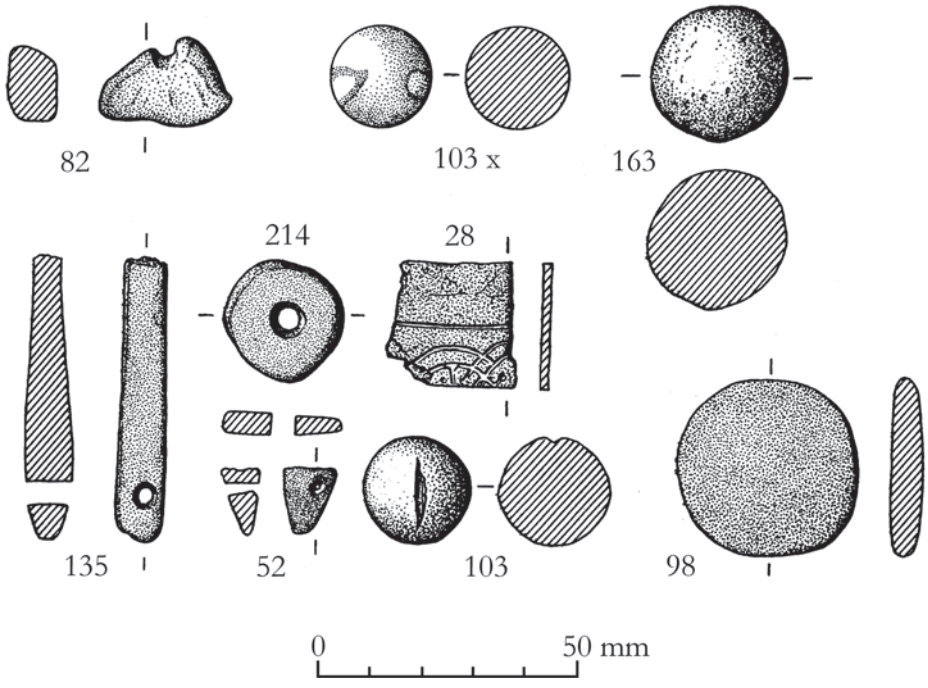
8.1.2 Results of the analysis

On examination of the 21 artefacts, 19 were identified as stone (with an extra six surviving only as illustrations) and two as ceramic (SF 103 and SF 103x). As the excavator classified these two artefacts as stone, they are included here for continuity. It was only possible to re-examine 18 artefacts and these weighed a total of 6.14kg (excluding the trial piece and the bangle). The heaviest weighed 3.46kg and the smallest 1g. The full measurements and weights of the stones are included in the modern catalogue (see Appendix 4).

8.1.3 Raw materials

The artefacts indicate that a variety of stones were utilized from sedimentary sandstones, igneous basalts and metamorphic schists and quartzites (Table 2). The variety of rock types is explained by the complex geology of the Kilmartin Glen area and its environs, and by the result of glaciation which transported material from areas further north. The local rock types include epidiorite, hornblende-schist and basaltic lavas and tuffs (Stephenson & Gould 1995; Geological Map of the United Kingdom-North 1979).

It is quite possible that most of the stones used for tools were collected from the valley floor and sides where they were deposited during the last glacial period. Some local rock outcrops may have been used when larger stones were required for specific functions such as the pivot stone in house construction, and the querns for grinding grain. Some stones if not found as components of the glacial till, such as the micaceous schists, are located as bedrock *c* 10km north of the glen. The nearest source of outcropping sandstone is the Greenock and Rothesay area over 50km distant. However, the complexities of the metamorphic



Illus 16 Stone artefacts

Table 2 Contextual information and geology of the coarse stone artefacts (* indicates illustrated)

SF no	Context	Area	Grid square	Artefact type	Geology	Date
98	001	Area 1	A3	Circular stone	Unidentified	Prehistoric
52*	003	Area 1	B3 or B2	Perforated stone	Epidote?	Prehistoric
68*	003	Area 1	B1	Whetstone fragment	Micaceous schist	Norse/medieval
101*		Area 1	B4	Pebble tool	Silicified mudstone	Prehistoric
28*	001	Area 2	B3	Trial piece	Slate	Early medieval
31	001	Area 2	B3	Cobble tool	Quartzite	Prehistoric
135*	001	Area 2	B3	Whetstone fragment	Micaceous sandstone?	Norse/medieval
202*	003	Area 2	B9	Armlet	Oil-shale	Early medieval
190*	003	Area 2	B12	Cobble tool	Felspathic sandstone?	Prehistoric
214*	Unstratified	Area 2	B13	Bead	Banded schistose sandstone	Prehistoric
148*	201	Area 2	B3	Unworked stone	Basalt?	Prehistoric
163*		Area 2	A7?	Unworked stone ball	Unidentified	Prehistoric
103*	304	Standing Stone	B5	Ball	Porcelain	Post-medieval
82	001	Ditch Section 2	A5	Unworked perforated stone	Chlorite schist	Prehistoric
102*	407	Ditch Section 2	A4	Unworked stone	Micaceous schist	Prehistoric
97*	407	Ditch	A4	Cobble tool	Fine-grained sandstone?	Prehistoric
99*	407	Ditch section 3	A8	Pot lid	Gabbro	Prehistoric
107*	Unstratified	Debris pit 1		Upper quern stone	Quartz-mica chlorite schist	Prehistoric/medieval
210		Cist Cemetery	B3	Mattock fragment	Mica schist	Prehistoric
260	Unstratified			Pivot stone	Basaltic lava?	Bronze/Iron Age
103x*	Unstratified			Ball	Ceramic	Post-medieval
219	407	Upper ditch fill	A14- upper fill	Pivot stone?		Prehistoric
223	407	Upper ditch fill	B13	Pivot stone?		Prehistoric

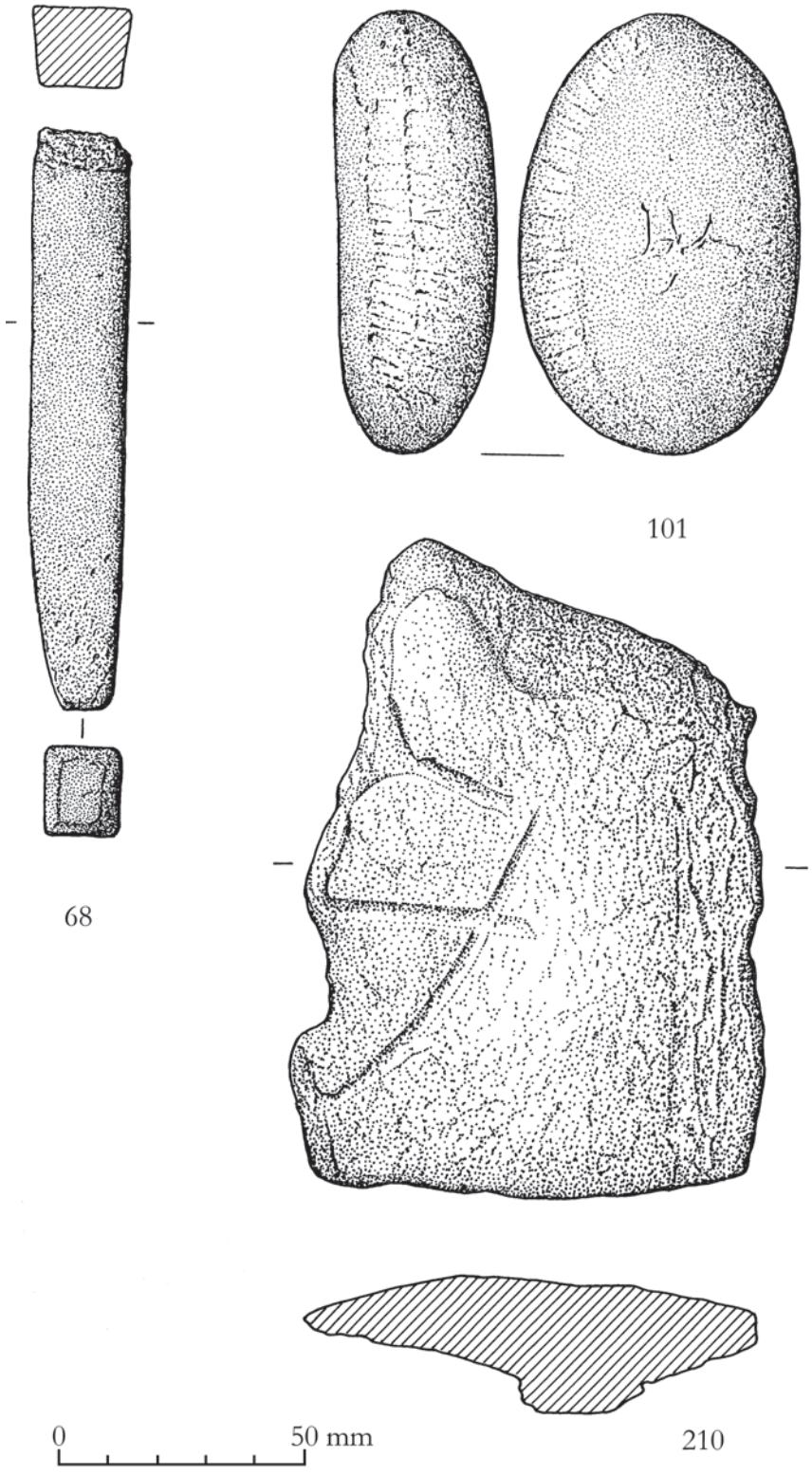
rocks of the Argyll and Southern Highland Groups of this area, with extrusions of igneous rocks lying to the immediate north and the smaller outcrops of sedimentary rocks on the western seaboard of this coastline including slate (Stephenson & Gould 1995; Geological Map of the United Kingdom-North 1979), indicate that a wide variety of stone types was available within easy transportable distance of the site.

The two anomalies in this collection of stone artefacts are the two balls (SF 103 and SF 103x) and the shale bangle (SF 202). The former defied identification by geologists as they are made of ceramic. One is possibly porcelain, the other a hard-fired earthenware. The shale bangle is the only definite import to the site (see Section 8.2).

8.1.4 Tool types and technology

Only 17 out of the 21 stone finds have been identified as actual artefacts (see Appendix 4 & Table 14); however, the shale bangle and trial piece are reported separately. The present report orders the artefacts in 12 categories slightly differently from that of Cregeen. In most instances there are only one or two finds for each tool type, except the cobble tools, compared with up to seven from the original catalogue.

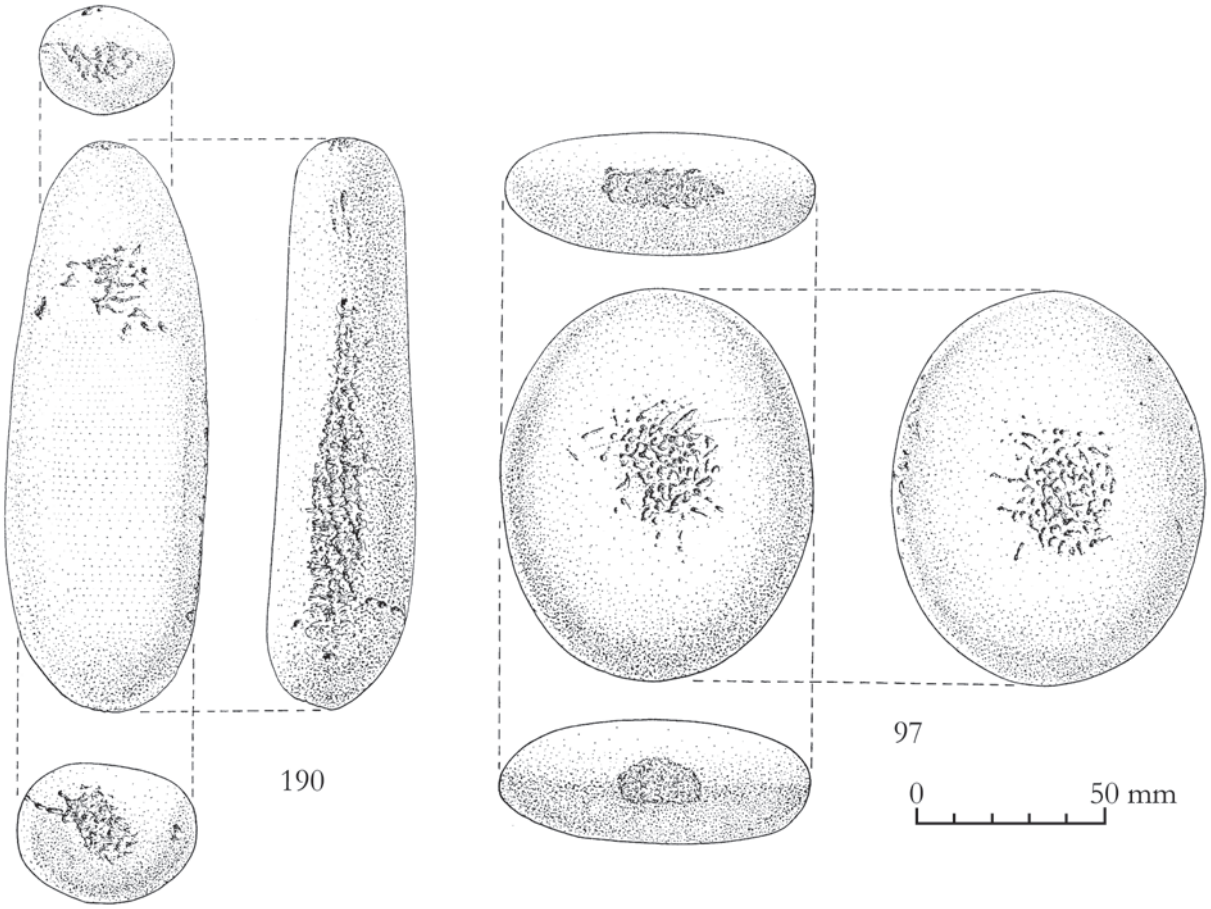
The stones types indicate tools, which have either required little modification of the raw material, ie cobble and pebble tools, to more complex pieces, which have been shaped, worn and bored, such as whetstones and beads.



Illus 17 Stone artefacts

The least modified tools are those where the raw material remains largely unaltered. This has caused confusion in the past where, for example, a stone ball (SF 163), has been identified as an artefact when it displays no surface marks to suggest the raw material has been worked. This example remains a roughly spherical and unmodified stone, which does not exclude it from having being collected for use (in an unmodified state) as perhaps a gaming piece.

Other least modified stones include a circular stone (SF 98), which has a small area of polish on one edge, and the cobble and pebble tools. SF 31 is an



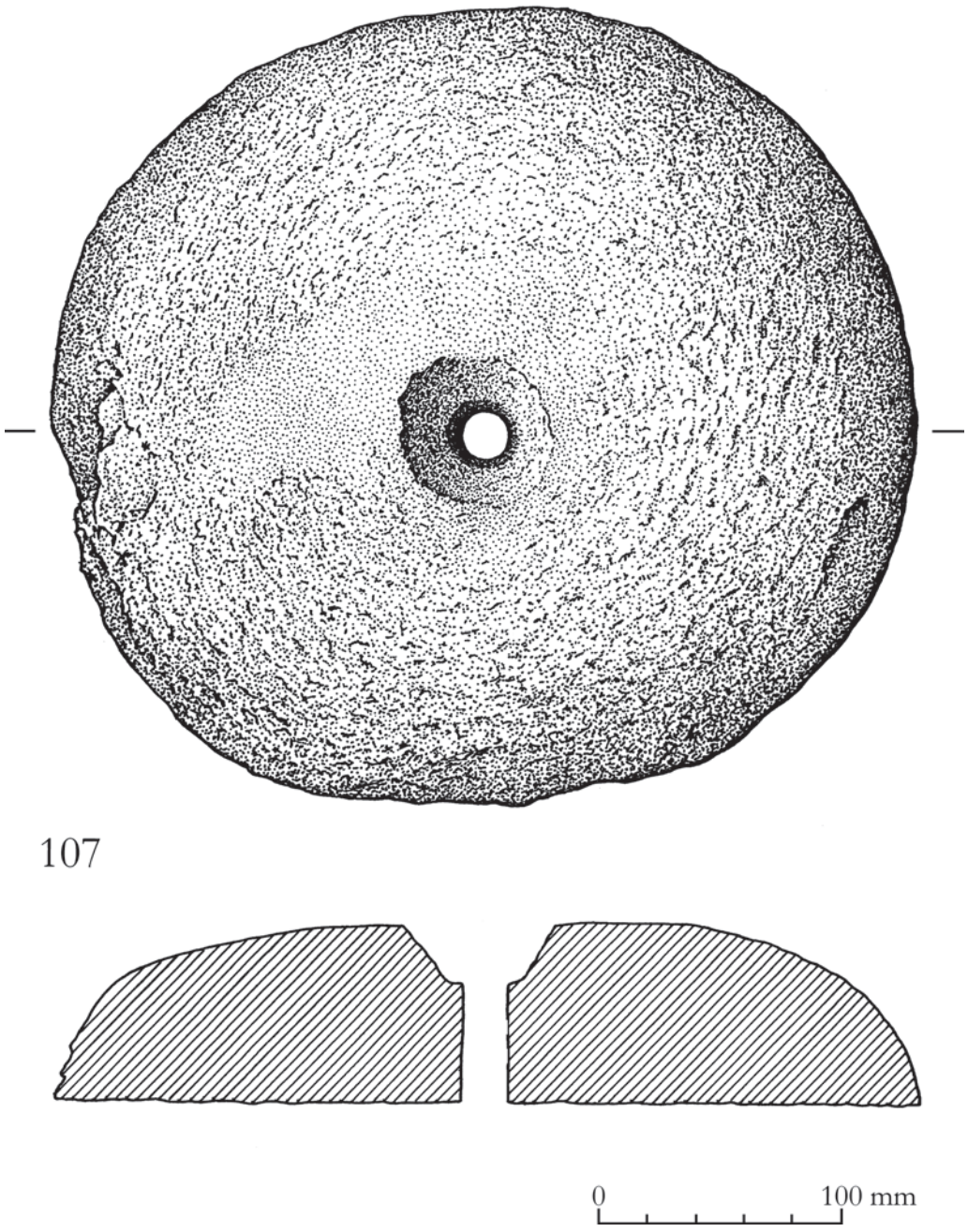
Illus 18 Stone artefacts

elongated cobble, which also has one area of polish on its surface. In contrast, SF 101, a rounded pebble, has been modified by use, as areas of faceting, indentations and polish suggest. Two other stones, only surviving as illustrations (SF 97 and SF 190), are also cobble tools. The former, a rounded stone, has an area of pecking on one end and an area of possible grinding on the other. Both surfaces have central peck marks indicating its use as a hammer. The latter, an elongated cobble, is similar with pecked areas at either end, down one side and towards the tip of one end.

Alteration of the raw material indicates more complex technology, but the stone roundel identified as a rough pot lid was made by splitting a rounded pebble and slightly chipping one edge to maintain a rounded shape. The mattock fragment is a thin piece of stone, which has edges, which are chipped to form notches. As its blade and butt end are missing, its classification is not certain, but similar more complete examples have been found on Orkney and Shetland (see the stone tools in Ballin Smith 1994 and Ballin Smith 2005). From tools with chipped edges, more complex technology has been employed to excavate or incise the surface of stones by wearing away the rock. This can be undertaken by hammering, pecking, or grinding with stone on stone or by metal (or harder stone) on stone to cause incisions. The pivot stones are large irregular blocks of stone, which have one or more conical hollows on one surface formed by chipping and predominantly grinding through use. One stone is similar to roughouts for pivot stones found on Iron Age house sites (Ballin Smith 1994; Ballin Smith 2005) but could also be compared to anvil stones. However, the lack of additional surface marks on the stones associated with either stone- or metalworking activities, suggest the former suggestion is the most plausible interpretation.

Perforations made through stones require skill, and stone or metal tools harder than the raw material to be bored. Two artefacts were found with perforations, which were man-made, while a third, a small triangular piece of stone, has a natural hole which may have been enhanced (SF 52). One of the perforated artefacts is a flattened, almost circular bead (SF 214). The edges of the bead and the central perforation have been ground. The perforation is hourglass-shaped, or splayed on both surfaces, indicating the difficulty of boring a small hole through a small piece of stone.

The second perforated object is a whetstone fragment (SF 135). This artefact is small, thin and quite heavily worn, with a small off-centre and angled perforation at the surviving end. This tool is very similar to Norse and medieval whetstones



Illus 19 Quern, SF 107

which would have hung from a belt around a person's waist. The fine quality of this piece and the heavy wear indicate that it was an everyday object, possibly belonging to a female.

A much larger whetstone or hone, SF 68, was also found at the site made on a bar of possibly locally produced mica-schist. Like the previous piece, this was also broken across the shaft, but in contrast, the lower portion survived. It showed signs of being well worn on three sides, one edge and on the tip, which was slightly facetted with wear. This piece could also be Norse or medieval in date.

One quern, SF 107, survives from the excavation. This too was produced on mica-schist but is an almost complete example. It is an upper stone; the lower stone is absent. The upper surface of the quern has been shaped by a combination of pecking, chipping and polishing. One elongated area, lying at an angle between the central hole and the edge, is very smooth, suggesting wear possibly by a piece of wood. The central hole has been produced by a combination of pecking and drilling. The upper portion of the hole is splayed for about one-third of its depth; the remainder of the hole is drilled. There is also evidence of recent flaking and chipping on this surface. A shallow depression has been formed around the hole on the lower surface by pecking. The surface is generally slightly concave and shows evidence of being re-pecked between the hole and the quern's outer rim. This repacked band is *c* 60mm wide. From the re-pecking to the outer edge of the quern, the surface is quite worn, and is almost

polished with wear close to the rim. Four chips of recent origin are noted on the edge of this surface.

One un-numbered stone, identified only from photographs, was possibly thought to be a stone from a ritual monument with a design of incised lozenges. More detailed examination of the images and its incised marks indicates that these are most likely the result of the stone being hit by a plough. The upper part of the stone lay close to the ground surface, and other smaller nicks and scratches on its upper edge, as well as the longer incisions suggest a recent origin – from ploughing. All the other stones in this collection (SF 82, 102 and 148) are stones with natural features. Further details of them can be found in the catalogue (Appendix 4).

8.1.5 Activities suggested by the tools

The identified stones from this site indicate a range of activities and uses. Only the possible pivot stones are associated with building construction. The stones would have functioned with another, forming a pair, as a door hinge. The door of a building would have swung, or pivoted, in a lower and an upper pivot built against or within the doorway.

Activities associated with farming and agriculture include the fragmentary mattock. This would have been used for breaking up soil and turf when hafted in a handle. The larger whetstone is also a tool that would have been regularly used for sharpening metal blades, whether axe, knife or sickle/scythe. The missing querns indicate cereal-growing and processing.

Most of the remainder of the artefacts are associated with activities around the home. The cobble and pebble tools with discrete areas of pecking may have been used in food preparation or those with polish in wooden tool or textile manufacture. The small perforated whetstone would have been used for sharpening small knives. The pot lid would have been just that. The small circular pebble may also have been used in textile production or been used as a gaming piece along with possibly, the unworked spherical ball.

Personal adornment is not neglected as the bead, and the triangular perforated stone, attest. The piece of shale bangle may have also been used for adornment.

The two ceramic balls are most likely post-medieval/modern marbles.

8.1.6 Location of artefacts on the site

Area 1

From the topsoil (context 001) over the roundhouse complex came circular stone, SF 98 (see Table 2). Only two artefacts, SF 52 and the whetstone fragment SF 68, are associated with the occupation layer (context 003). One artefact, SF 101, was not ascribed to a particular context. Some mixing of contexts may have occurred due to farming activities, as the whetstone is an artefact which may date to a later period than the houses (see Section 5, below).

Area 2

A similar situation exists with the distribution of finds in contexts associated with Area 2. The incised slate motif piece (SF 28) and the perforated whetstone (SF 135) (see Section 8.7) indicate that finds from later activities (see below) have become mixed with earlier material, such as the cobble tool (SF 31) in the topsoil. It is interesting to note that two artefacts came from the occupational layer, the most important being the shale bangle (SF 202). Other finds from Area 2 are either unstratified, such as the bead (SF 214), or are unworked. However, it is interesting to note that twice as many stone finds came from Area 2 as from Area 1.

Standing stone area

One of the ceramic marbles (SF 103) was found in the standing stone socket (context 304). It is suggested that this recent artefact was introduced accidentally.

Ditch complex

Two unworked stones were located in Ditch Section 2, one in the topsoil the other in the backfill (context 407). Two other artefacts, a cobble tool (SF 97), and the pot lid (SF 99), were also located in backfill material (context 407), the latter in Ditch Section 3.

Debris pits

Only the quern (SF 107) was located near Debris Pit 1, but no information is available on its actual location. It is therefore considered unstratified.

Cist cemetery and others

The possible mattock fragment (SF 210) was located in an area of the Cist Cemetery to the north of the present site. Two other finds, one with no small find number, the other described as SF 103x, are unstratified and could have derived from any part or context of the site.

8.1.7 Discussion and dating

It is regrettable that a substantial amount of the collection has become lost since the excavation.

Some categories of artefacts, such as the missing quern, may have supplied additional information on the dating of activities associated with the use of the settlement. The axe head, if correctly identified, may have also been a diagnostic tool type.

The stone objects from the site indicate a range of raw materials, uses and periods of use. Some of the pieces are not diagnostic of any particular period in time, such as the polished and pecked cobbles. However, it is possible to suggest that the cobble, pebbles and the pivot stones indicate a date from the Late Bronze Age through the Iron Age period. The mattock fragment is a prehistoric tool type, as is the pot lid. Both they and the bead belong to the same wide date range. It is difficult to determine with certainty without visual examination whether the quern is a prehistoric or a more recent example. The form of its central hole which appears quite shaft-like suggests this is not an Early Iron Age example. The absence of a handle hole or slot does not necessarily help date the quern, but it is suggested that it is possibly from the Later Iron Age/early medieval period (Ballin Smith 1994; Crawford & Ballin Smith 1999, 179).

The whetstones, as already suggested above, are most likely to be Norse or medieval in date as clear parallels exist from other sites within Scotland (Ballin Smith in Crawford & Ballin Smith 1999, 181–2).

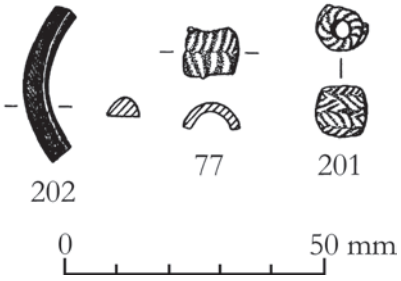
8.2 Shale bangle

Fraser Hunter

Small Find 202 (Illus 20), from context 003, Area 2, grid square B9 (depth of 0.28m) is a fine D-sectioned bangle portion which has residual internal knife-facetting from manufacture with some wear on the external surfaces. Its size and small diameter suggest it was for a child. Length is 29.5mm, width 4.5mm, height 6.5–7.5mm and internal diameter 45–50mm. Twenty per cent of the object survives.

The raw material is an oil shale: X-ray fluorescence indicates it is relatively inorganic, with iron the main impurity, while the structure is visibly laminar. The raw material does not occur naturally in mid-Argyll and is likely to have come from the Carboniferous deposits of the Ayrshire coast or central Scotland (Gibson 1922), although there is a possible source in southern Kintyre (MacDonald 1982, 184).

Bangles of shale and related materials occur from the Early Bronze Age but reached their zenith throughout the first millennia BC and AD; most, like this one, are chronologically undiagnostic, but its location close to the Area 2 structures, and the cluster of Early Historic artefacts, is consistent with an Early Historic date. Bangles are occasional finds from a number of Argyll sites of probable Early Historic date (eg Ugadale, Fairhurst 1956; Kildalloig, RCAHMS 1971, no 219; Lochan Dughaill, Munro 1893, 219; all from Kintyre) but Dunadd is the only mid-Argyll site with evidence so far of their manufacture (Lane & Campbell 2000, 178). Although the evidence is sparse it seems likely that, as argued for metalwork (Lane & Campbell 2000, 240–3, 252–60), Dunadd acted as a central point for the manufacture and distribution of shale and cannel coal items, with the raw material imported from Ayrshire or central Scotland. It is unclear whether this system included the Kintyre sites or if there were further production centres near the possible Kintyre source; working debris was found at Balloch Hill in post-rampart contexts (MacDonald 1982, 186), but these are as likely to be Late Iron Age as Early Historic in date.



Illus 20 Shale bangle, SF 202. Glass beads, SF 77, SF 201

8.3 Chipped stone

Graeme Warren

The small assemblage was mainly recovered from topsoil and late contexts, and is clearly redeposited, but appears to have originated to the north-west of the roundhouses of Area 1. The assemblage is abraded, edge-damaged and in fragmentary condition, and is difficult to date, but is most likely to be Later Neolithic or Bronze Age. The industry is of some interest historically as initially it was analysed by Armand Lacaille, who believed it to be Mesolithic in date. However, there is no reason to believe the assemblage is of this date. Consequently, it sheds some light on the ways in which Lacaille approached material in the post-war period.

The artefacts have been given individual catalogue numbers marked on small bags. Some, but not all, pieces have previous SF numbers. The new catalogue numbers supersede previous identifications, and concordances are presented (Appendix 1; Appendix 2; Appendix 3). All pieces were analysed macroscopically according to standard analytical categories (Wickham-Jones 1990, 58; Finlayson *et al* 1996).

Two groups of finds have been excluded from the detailed analyses presented below. Three flints in an envelope marked '3 flints, in cupboard, DATA?', with a second hand adding 'Ref. Eric then Ian', have not been analysed as it is not clear that they are associated with the site. One small bag is marked as 'Flint chippings etc from grave' with the addition, by a different hand, of a '?' and a second label reading

'at Bruach an Druimen'. The bag contains a total of 71 pieces. Fifty-six are small chips or chunks of flint and other materials, none are worked and they are best described as gravel. A further 11 flints are chips by standard definition, including small flakes and débitage. One unusual and irregular bipolar core (Cat no 118) and a chunk (Cat no 119) are also present, and two chunks (Cat nos 120, 121) are not clearly artefactual. This small assemblage is difficult to interpret (see below for discussion)

This leaves an assemblage of 119 pieces. Of these, 18 pieces are clearly natural and six indeterminate – and therefore excluded from the analyses that follow. The remaining 95 pieces include four chips less than 10mm in maximum dimension.

8.3.1 History of analysis

The history of analysis of the Bruach an Druimein assemblage is of some interest. The assemblage was originally analysed by Armand Lacaille (1894–1975) in an unpublished report entitled 'The Flaking industry of Ballaghoun' – an earlier name for the site (site archive 2/9, written before 1965). Lacaille argued that 'the facies of the whole is that of a Hiberno-Scottish coastal mesolithic industry' and 'quite unrelated to the Bronze Age antiquities brought to light at Ballaghoun in different conditions' (m.s. p. 10, 11–12). Furthermore, it is 'the basic equipment of a lowly band of squatters' and 'the whole clutch is that of a debased coastal industry'. These interpretations fit in well with Lacaille's wider emphases (Lacaille 1954) on the late colonization of Scotland, the marginal character of Mesolithic settlement and his stress on links with other areas of Europe, especially Ireland – he identifies Larnian parallels for some pieces and Late Palaeolithic for others. The steep convex end of flake scraper (Illus 21, Cat no 64) for example is described as 'so dressed the piece has been transformed into a steep end scraper of a type commonly associated with Upper Palaeolithic industry and with those facies that preserve its tradition'. Steep endscrapers of this type are known in Mesolithic contexts in Scotland, eg Lussa Wood (Mercer 1970, 11), Craigsfordmains (Lacaille 1954, 163–5; Warren 2001, 47–8), and indeed may be a feature of some of the earliest sites in Scotland but they are not restricted to this period. Lacaille's reliance on them as a type fossil is revealing of his approach to artefacts, where formal characteristics of the artefact signify cultural affiliation and therefore genealogical relationships and age. Lacaille's great work, *The Stone Age in Scotland* (Lacaille 1954), was in many ways anachronistic in this emphasis, being published at the dawn of absolute dating mechanisms (Morrison 1996).

Lacaille's interpretation of the Bruach an Druimein assemblage is very much in line with his wider interests – and his interpretation was being questioned by at least as early as 1965 when a handwritten memo of Cregeen records (italics are my annotations) a conversation, seemingly with Stuart Piggott:

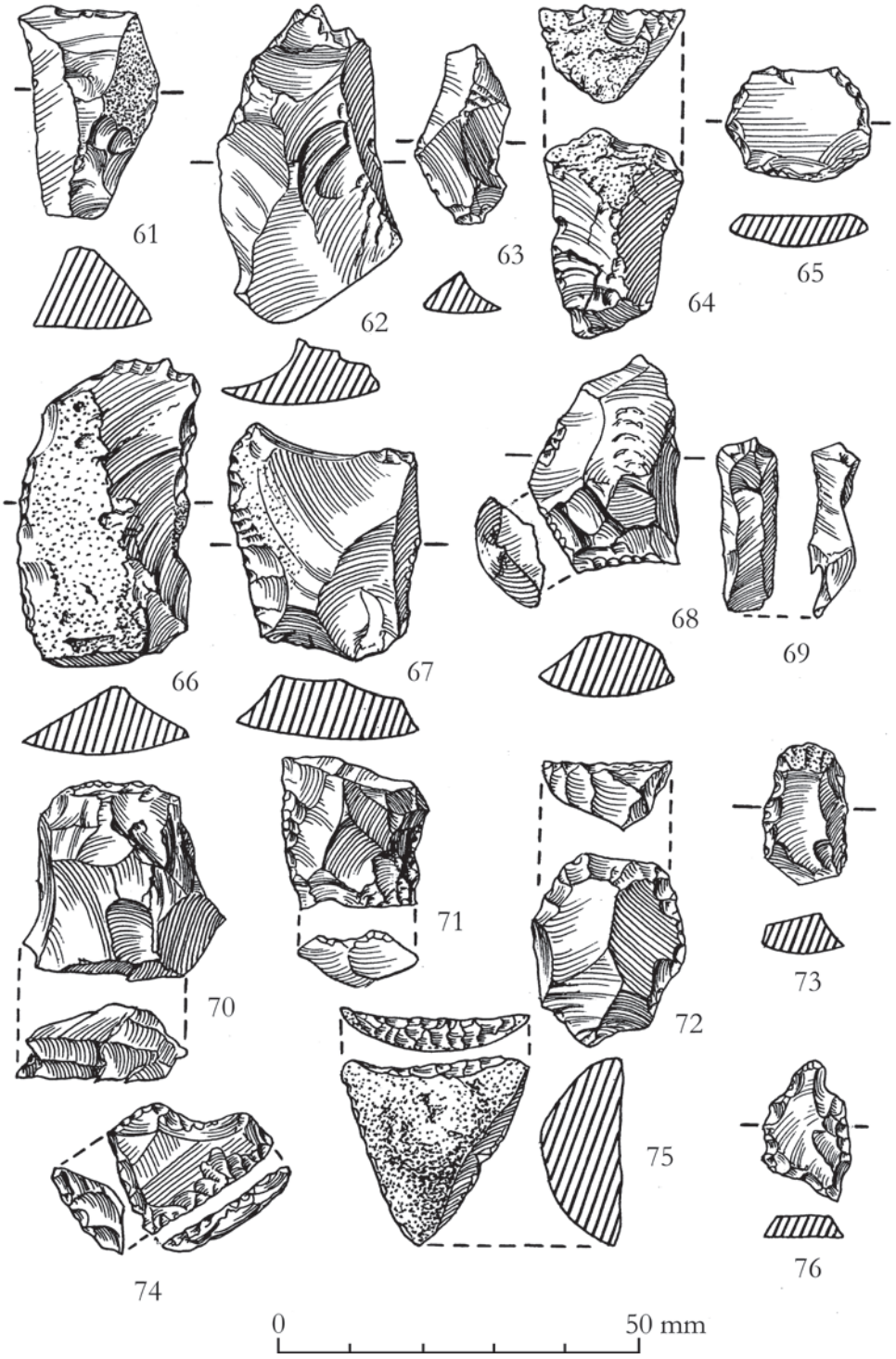
> 'SP (*Stuart Piggott?)* 12/5/65
> SP questions Lacaille's whole theoretical position, says XXXX (*illegible word*) his th. (*thesis; referring to The Stone Age in Scotland 1954*?) was out of date when it came out'

There are also notes relating to a conversation with RBK Stevenson (NMAS) on 19/5/65. These are particularly hard to read, but imply that Stevenson suggested that John Coles be asked to analyse the material, commenting that it would be 'inadvisable to publish a text which may be *typologically* as well as chronog. outmoded. await outcome of Coles' work'.

Coles, at the time, was working on a range of Mesolithic material from the broad region (see for example Coles 1964, and later Cormack & Coles 1968). There are also letters from Ian Morrison (5/6/65 and undated) discussing combining Lacaille's report with his own: 'I was worried at first about publishing something jointly with L . . . when my thesis would inevitably disagree later with some of this basic premises'.

There are many further notes, including a very illegible series dated 1984, that appear to be attempts to posthumously edit the Lacaille report into a publishable format. The catalogues of material from site also include repeated comments by a 'Prof George' (sometimes 'Prof G') on matters typological and geological (it should be noted that these comments are, almost without exception, misleading!) [editors note: Professor TN George was head of the University of Glasgow's geology department in the 1960s]. Then, in 1986, a letter (15/1/86) from Ann Clarke to Sheila Cregeen accompanies a short note on the material, written in the absence of any information on the stratigraphy of the site ('The Flaked Stone from Brouch an Drummin, Poltalloch'). Clarke is very cautious about interpreting the site, noting that it is 'not diagnostic of any one particular period' and pointing out that: 'Lacaille concludes that this collection was a debased coastal mesolithic culture. This was a particular interest of his and a lot of the more northerly flaked stone assemblages were categorized by him as such in the fifties.'

The background to the analysis of the assemblage is therefore illuminating. Lacaille's interpretations of the Mesolithic settlement of Scotland have been very influential (see Morrison 1996 for discussion, also Woodman 1989), but many of his conclusions about debased or secondary Mesolithic cultures, or the continuity of Mesolithic techniques into later periods of prehistory, have been sceptically received. The Bruach an Druimein assemblage is interesting, as there is very little evidence of a Mesolithic date (see below) and it appears that Lacaille's interest in tracing links through typological referents misled him as to the age and associations of the assemblage. By extension, we might argue that some of the other debased industries he discusses, especially those



Illus 21 Chipped stone. Lacaille's original illustrations (c 1962), with Warren's catalogue numbers (not SF nos)

lacking microliths, are also unlikely to be Mesolithic in date.

Lacaille's interpretations of individual pieces within the assemblage as kinds of tools are generally acceptable. No two analysts, especially separated by so many years, will classify material from an abraded and damaged assemblage in exactly the same ways but there are few significant disagreements. Ambiguous fragmentary pieces (such as Cat 74, fig X No 14) are described as multipurpose tools by Lacaille, whereas I leave them as indeterminate. One small area of concern lies in the two 'core trimmings' identified by Lacaille (Cat 68, 69, fig XX No 8 & 9); neither of which seem to be what he says. Lacaille argues that the 'lower edge' on Cat no 68 has been 'much bruised by the repeated blows of the hammer stone'. However, the piece is a flake with crude retouch blunting retouch applied to its proximal left hand side *after* the removal of the flake – some

of the scars cut the ventral flake surface. Irregular retouch and damage of this kind is seen on many of the Bruach an Druimein pieces. The only true platform lies in the plane of the main removal, and is marked by small hinge fractures. The piece is fragmentary, and strictly unclassifiable but may have been some kind of side or concave scraper. Artefact Cat no 69 is argued to be another core trimming and is seen as evidence 'that fine blades must certainly have been extracted from the parent core. Hence it is possible that microliths may yet be found here'. The piece, however, is not a core trimming, but a rather unusual irregular bipolar core with clear evidence for direct hard hammer percussion and hinge fractures.

8.3.2 Location of finds

The extensive later prehistoric activity on site has greatly influenced the condition of the assemblage as well as its spatial distribution. The interpretation of the assemblage is further complicated by the incomplete nature of the excavation, with some grid squares only partially excavated, and others not excavated to natural. In this kind of situation the creation of point distributions of artefacts would be meaningless, and a more generalized approach to the location of finds is adopted here. Table 3 records the location by grid square of the artefacts with a brief comment on the extent of the excavation of that square.

Table 3 demonstrates that the majority of the assemblage originates to the north-west of the roundhouses; mainly from squares A2, B2 and B12, and extending into B3 and B9. Considering the incomplete character of the excavation in this area it is difficult to be certain, but based on some incomplete plots of the scatter in the archive the original scatter seems to have been approximately 8m (north-west/south-east) by 10m (north-east/south-west). Material is also found across the site beyond this scatter – seemingly redeposited (see discussion in Section 8.3.3, below).

Assessing the context from which finds were recovered is complicated by inconsistencies in the reference point for measurements and variable topsoil depths across site. Most finds come from secondary contexts. The disturbance of material, combined with the varied extent of excavation, implies that the assemblage is little more than a random grab sample, with few controls on collection standards or spatial consistency. However, the assemblage is broadly homogenous in character, and is treated as a unit in this report.

8.3.3 Condition

The Bruach an Druimein assemblage is in quite bad condition, suffering from abrasion, edge damage and breakage. In combination the three attributes suggest considerable disturbance to the assemblage; given the site history this is not surprising.

Table 3 Finds by square and level of excavation

Grid square	Number	Description
?A2	19	Fully excavated
A	1	Indeterminate
A1	1	Fully excavated
A2	8	Fully excavated
A3	1	Fully excavated
A4	4	Almost fully excavated
A5	4	Almost fully excavated
A5/A1	1	Almost fully excavated
A6	1	One section complete, rest unexcavated
A7	3	Partial excavation
A8	1	Partial excavation
B1	2	Fully excavated
B12	11	Partial excavation
B2	14	Fully excavated
B2 ext	3	Partial excavation
B2 ext NW	20	Partial excavation
B3	5	Partial excavation
B4	1	Fully excavated
B9	7	Partial excavation
Cluster A	5	Fully excavated

Table 4 shows the condition of artefacts. Abrasion, burning and patination are all important (note that only abrasion, burning *or* patination is recorded and that this classification under-represents the extent of abrasion or patination; see Finlayson *et al* 1996). Abrasion is found on over 40% of flint artefacts and is especially common on flint flakes and blades (25 out of 49 are abraded). The number of burnt chunks is inflated by a group of five small fragments (less than 17mm in maximum dimension) recovered from?A2. Many artefacts are showing some signs of surface alteration but are not fully patinated.

There are also a high proportion of broken artefacts in the assemblage (Table 5), with only 47.6% of flint pieces definitely complete. Breakages were also more common on flakes, with 26 of 49 flint flakes being broken.

Edge damage is found on a very high proportion of the material at Bruach an Druimein, with 67.9% of flint items damaged, and all of the pitchstone (Table 6). Thirty-seven of the flakes and blades in flint have edge damage. Macroscopically, it is difficult to differentiate edge damage from use from damage caused by other sources. In this context, with so much abrasion and breakage, it is likely that much of the damage is post-depositional (but see below).

Table 4 Condition of lithic artefacts by raw materials

	Flint	%	Agate	Pitchstone	Quartz
Abraded	36	42.9		5	1
Burnt	16	19.0			
Fresh	25	29.8	1	1	3
Patinated	7	8.3			
	84		1	6	4

Table 5 Breakages to lithic artefacts

	Flint	%	Agate	Pitchstone	Quartz
Indet	7	8.3			
No	40	47.6	1	4	3
Yes	37	44.0		2	1
	84		1	6	4

Table 6 Edge damage to lithic artefacts by raw material

Breakage	Flint	%	Agate	Pitchstone	Quartz	Total
No	27	32.1			3	
Yes	57	67.9	1	6	1	
	84		1	6	4	95

As the assemblage is small and found across a large area, it is difficult to be certain of spatial patterning in terms of condition but there are some provocative patterns. Abraded material is found in all areas where chipped stone is recovered. It is least frequent in?A2 (three or 18.8%), and B2 ext NW (six or 37.5%) – but the proportion in A2 is affected by the five small chunks of burnt flint noted above. It is most frequent in A4 (three examples) and A5 (four), where it forms 100% of the chipped stone, possibly implying that this material is redeposited rather than *in situ*. Burnt material is most frequent in B2 (including its extensions) and?A2. Fresh material is found in greater numbers in?A2, A2, B12, B2, B2 ext NW, B3 and B9, the main areas of the scatter noted above. Broken material is more common in?A2 and A2, but is not as common in B2 or its extensions (see Table 7); it is hard to interpret the reasons for this, and this may be a product of sample sizes. Edge-damaged material is found across the site.

In review, the condition of the artefacts suggests considerable disturbance since their deposition involving chemical changes, physical abrasion and edge damage. Indeed, there are often considerable difficulties in identifying whether some pieces have been worked or not, especially given the presence of some clearly natural pieces. Nevertheless, there are some pockets of better survival, with small numbers of fresher artefacts being found in the A2/B2 region; possibly implying that this is the original location of the scatter, even if the material itself is no longer *in situ*.

8.3.4 Raw materials

The assemblage is composed of four raw materials: flint (88.4%), pitchstone (5.3%), quartz (4.2%) and a single piece of agate.

The flint varies widely in colour, not least due to chemical alteration since knapping. Twenty-five of the flints are cortical (29.8%); this is quite a low proportion. The cortex, where present, is coherent with a pebble source for the material. The average length of complete flints is only 22.2 ± 8.8mm (this figure excludes chips), suggesting that the flint utilized was very small. Although no formal record of termination types was kept, hinge and step terminations were both common and suggest that the material was of mixed quality. Pebbles of this kind are likely to have been available locally on sea beaches. The presence of small amounts of natural flint gravel suggests that some material was caught up in local terrace deposits, but none of this is large enough to have been worked. The small amounts of quartz and agate would also available in such deposits.

There are also six pieces of porphyritic pitchstone, one burnt (Cat no 3). The pitchstone has devitrified, and edge damage is clearly visible as chips on all of the pieces. The pitchstone is varied in composition but may still have derived from one outcrop. Given wider archaeological understandings of pitchstone exploitation (Thorpe & Thorpe 1984), this outcrop is likely to have been on Arran although it is not possible to identify the source more closely. [Nyree Finlay (pers comm) reports it as Tormore type, and

Table 7 Location of artefacts of varying condition

	?A2	A1	A2	A3	A4	A5	A5/ A1	A7	B1	B12	B2	B2 ext	B2 ext NW	B3	B4	B9	Cluster A	unk
Abraded	3	1	2		3	4	1	1	1	2	6	1	6	3	1	2	2	3
Burnt	5		1								2	2	3				1	2
Fresh	7		3	1				1	1	3	2		6	2		2	2	
Patinated	1							1		2	1		1			1		
	16	1	6	1	3	4	1	3	2	7	11	3	16	5	1	5	5	5

Table 8 Composition of the flint assemblage (bold figures describe blanks, percentages of retouched are expressed as proportion of blank)

	Total	%	Not retouched	%	Retouched	%	Indet	%
Bipolar core	2	2.4	2	100.0				
Blade	2	2.4	1	50.0	1	50.0		
Chip	4	4.8	4	100.0				
Chunk	27	32.1	23	85.2	1	3.7	3	11.1
Core	2	2.4	2	100.0				
Flake irregular	18	21.4	15	83.3	3	16.7		
Flake regular	29	34.5	12	41.4	16	55.2	1	3.4
	84	100.0	59	70.2	21	25.0	4	4.8

notes that most show signs of being secondary source material, and therefore likely to be Later Neolithic/ Bronze Age rather than Early Neolithic.]

Pitchstone is found throughout Scotland and Ireland on sites of Neolithic and Bronze Age date and its use can be interpreted in terms of symbolic rather than practical properties (for discussion see Warren 2001). This close to Arran, however, pitchstone seems to form a slightly more routine part of assemblages, although frequently in lower proportions (for example the Neolithic assemblages from Ballymeanoch discussed below). In any case, the presence of pitchstone in the assemblage therefore demonstrates routines of procurement stretching beyond the Kilmartin Glen.

8.3.5 Composition

The flint assemblage from Bruach an Druimein is dominated by flakes and chunks, blades are not significant and cores are rare (see Table 8). Two formal platform cores are present. One (Cat no 2), is a two-platform flake/blade core: the first platform, developed on a split pebble has been abandoned and crude flake removals made at 90 degrees to this. The second core (Cat no 49) has a very shallow platform angle and weak removals. It is interesting that the cores present do not appear to fit technologically with the majority of the assemblage. This may indicate some complexity to the chronological associations of the assemblage. Two unusual bipolar cores are also present: Cat no 94 is a small tertiary flint (16 x 7 x 5mm) with clear evidence of direct bipolar percussion; Cat no 69 (see above) is a small tertiary piece. Percussion techniques on the flakes themselves are difficult to assess, not least because of the small, fragmentary and damaged state of the assemblage. Twenty-nine removals are platform examples and six are possibly bipolar, and this is in keeping with the absence of clear evidence of classic bipolar cores. Platforms are simple artificial types with little or no preparation. They are generally medium in size (avg. 6.6 ± 4.4mm wide, 3.9 ± 3.2mm deep).

There are only a few chips in the assemblage, which may indicate that little production was taking place on site. However, it is difficult to assess collection standards during the excavation, except to note that some very small pieces were collected. In any case the high proportion of tertiary flint (70.2%), the rarity of cores and their unusual character, and the high proportion of retouched pieces (25%) all suggest that this is an assemblage derived from stone tool 'use' (of whatever kind and including some production) rather than large amounts of stone tool production. The presence of edge damage may also be interpreted in this light, although post-depositional processes are a factor here.

The small pitchstone assemblage includes two cores, a chunk and two regular flakes, one of which has been retouched. The cores are both small and rather irregular: Cat no 79 has small flake removals across one face; Cat no 105 is a cruder material with attempted removals – possibly including a failed bipolar blow. Lacaille identified a refit between Cat no 79 (grid square A4) and flake Cat no 78 (grid square B3); this is possible, but not absolutely convincing as further removals have altered the core. It is interesting to note that a higher proportion of the pitchstone assemblage is connected to production than is the flint assemblage.

The quartz assemblage includes one chunk, one regular and two irregular flakes; two have clear platforms. None is retouched. The single agate piece is a chunk.

8.3.6 Secondary technology

There are a total of 22 retouched pieces in the assemblage, including many irregular forms. Retouch is much more frequent on regular flakes than any other pieces (see Table 9). Given the extent of edge damage to some pieces it is very difficult to definitely identify retouch on some artefacts, and they

Table 9 Classes of retouched artefact (figures in brackets are uncertain attributions)

Retouched artefact	No
Point/borer	2
Indet	4
Knife	1
Scraper (convex)	8(2)
Scraper (concave)	2
Scraper (other)	2
Notch	1

are left as indeterminate. Retouch on chunks is rare, which may imply that the indeterminate pieces in this category are only edge-damaged.

The most numerous class of retouched pieces are scrapers, of which many types are present, most convex, but frequently crude and rather irregular. Exceptions include Cat no 72, a thick convex scraper, heavily worn in use with denticulations opposing the convex working edge. Otherwise a more irregular approach is apparent (Cat no 65 is a thin disc scraper, Cat no 73 a small, narrow end scraper). Concave scrapers include Cat nos 75 and 80. The latter is a dorsal fragment of a pitchstone flake with three rather irregularly retouched concave faces. The left-hand retouch is bifacial, but otherwise the retouch is quite short. The piece is unclassifiable, and not all of the notches need be of the same age – the right-hand example is a little fresher than the others.

Artefact Cat no 67 is a large flake (even in its broken state) with fine shallow retouch forming a long gently curving convex edge. It is probably a knife and has some similarities to the more irregular Cat no 66, which has a steeper working edge, and may be a scraper. Other types include points (eg Cat no 58) and notches. Artefact Cat no 76 bears extensive modification: a small flake has inverse and normal blunting retouch forming two noses – one rather rounded and the other pointed. Although the piece bears some similarities to a very irregular microlith it is probably best understood as a borer or point of some kind. There are also a great many unclassifiable retouched pieces (eg Cat no 68); Cat no 74 is unusual, a tanged object that has had attempted flake removals before a crude scraper edge has been added.

None of the retouched pieces are strictly diagnostic, although many would not be out of place in a Neolithic or Bronze Age context.

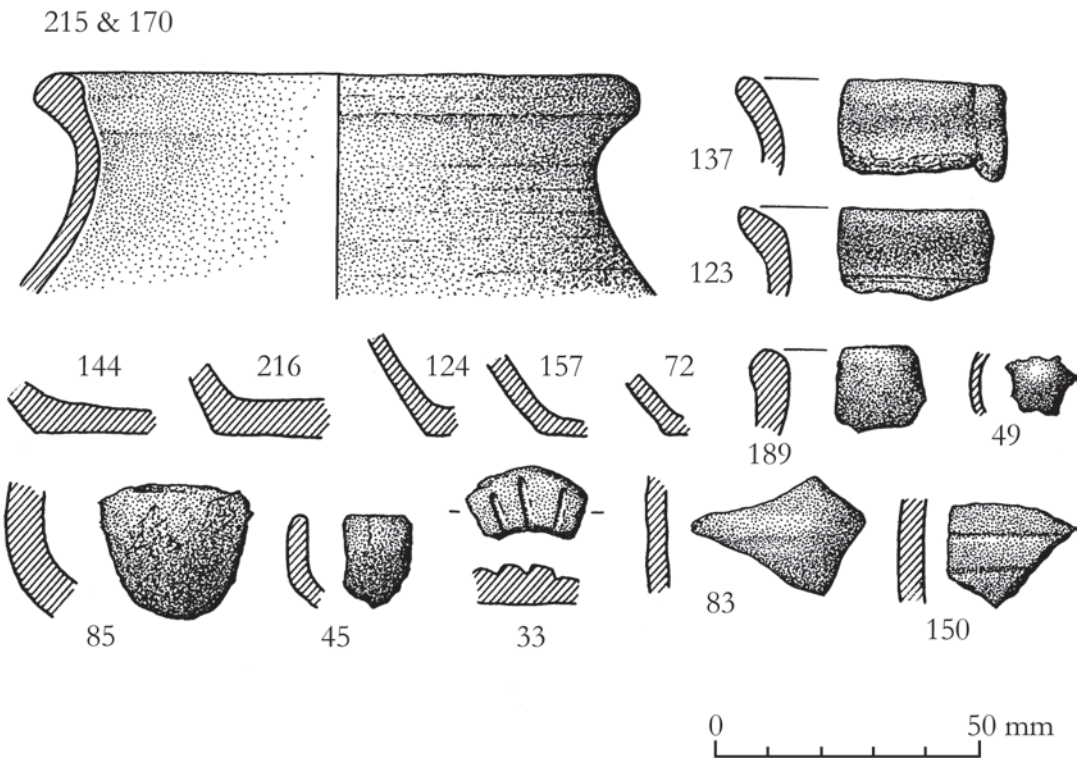
8.3.7 Discussion

The Bruach an Druimein assemblage is difficult to interpret and its function, age and coherence are far from clearly established. The assemblage is broadly homogenous, but with variation in the character of retouched pieces and slight differences in the character of the cores that may imply some time-depth to the deposition of material. Despite this, it is not possible to separate out an early or later aspect to the assemblage. Much of the material would not be out of place in a Late Neolithic, Bronze Age, or even possibly later, context.

As noted above, the assemblage is clearly disturbed, and there is reason to believe that it originated in or around A2/B2. Some, at least, of the assemblage may be contemporary with the roundhouses, whilst the associated extensive modifications to this area may have disturbed a pre-existing scatter; probably of Neolithic or Bronze Age date: of course, both explanations may be true! In this regard it is interesting to note that despite being located on a promontory that was clearly in use for funerary ritual in the Bronze Age there is little sense that this assemblage fulfilled a ceremonial role. Few of the retouched pieces are elaborate and the presence of small amounts of production debris suggests that this assemblage mainly derived from the use, and possibly maintenance of, stone tools.

There are very few regional parallels for the Bruach an Druimein assemblage. Although the Kilmartin area is archaeologically famous, this is a landscape dominated by monuments, with a few rich finds known from excavations rather than extensive scatters of lithics. Plano-convex knives, for example, are known from the cist cemeteries to the north and south of the settlement excavation. A fine plano-convex knife was recovered with a food vessel from Cregeen's excavations of the cist cemetery (Cregeen & Harrington 1981) and another 'knife' from Craw's excavations just to the north. Plano-convex knives are also recorded in association with food vessels at Rudle (Greenwell 1866). In this context it is interesting to note that 'chippings' and a knife are also recorded from gravel in association with cist burials at Duncragaig (Campbell & Sandeman 1962). The presence of 'gravel' in cist burials in the region is also noted elsewhere (eg Greenwell 1866; Craw 1929). It is tempting to suppose that the envelope containing 'Flint chippings etc from grave', noted above, is connected to this practice, and should be related to the cists excavated at Bruach an Druimein and published in 1981. If so, the very poor 'artefacts' and fresh chips contained within it are unlikely to be anthropogenic.

Aside from disturbed funerary assemblages (eg Nether Largie South), there are very few comparative assemblages from the Kilmartin region. An excavated assemblage has been recorded from Clachbreck (Campbell & Sandeman 1962), including small blades, water-worn scrapers and cists with flint and quartz. Few details are currently available (NMRS NN77NE 12, 15). A flint assemblage is also known from Dunadd. Material from recent excavations has been described (Healey 2000); it is a damaged, pebble flint industry including a range of small scrapers, piercers (points/borers) and knives and with evidence of bipolar techniques being used.



Illus 22 Ceramic objects and medieval pottery

Healey argues that the assemblage is difficult to date but would be coherent with Late Neolithic/ Bronze Age activity. However, she argues that the assemblage may also demonstrate Early Historic flint working. The assemblage sounds comparable to the Bruach an Druimein assemblage.

Recent fieldwalking undertaken by Duncan Abernethy has led to the identification of flint scatters at Ballymeanoch (MAT site) which have been analysed by the author. These are flint with some pitchstone and quartz. They are characterized by flake production, very rare blades, some small amounts of bipolar evidence and a range of retouched pieces including larger convex scrapers. They are likely to be Neolithic or possibly Early Bronze Age, and are broadly comparable to the Bruach an Druimein assemblage, although significant differences in platform size should be noted. Although the samples are small, the surface assemblages from MAT have larger and more elongated platforms than Bruach an Druimein, and the artefacts are generally a little larger. It is possible that the MAT assemblages are slightly earlier in date than the Bruach an Druimein ones.

8.3.8 Conclusions

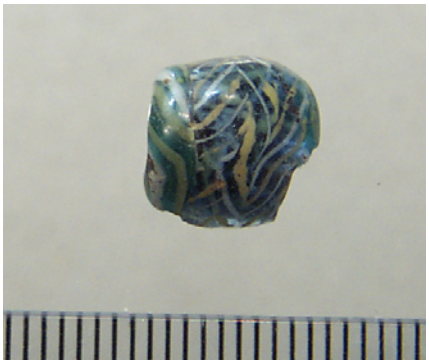
The Bruach an Druimein assemblage is small and appears to have been badly disturbed by later activity on site. It may have originated near the roundhouses of Settlement Area 1, but it is not clear whether it is contemporary with those features or predates them. The assemblage is broadly homogenous, and probably mainly dates to the Bronze Age, or possibly Late Neolithic – but there are some indications of earlier material. The assemblage does not appear to have fulfilled any kind of ceremonial function, and is best understood as derived from the use of stone tools.

8.4 Early medieval artefacts

Ewan Campbell

8.4.1 Mould

The mould fragment (Illus 22) is from a two-piece mould, and is identical in fabric and technique to those from the seventh-century metalworking workshop at Dunadd (Lane & Campbell 2000, 201–4). This is quite a small mould, probably for casting a small thick ring or other circular item (not a brooch). The keying technique is characteristic of early medieval moulds, and can be specifically linked to a Dalriadan tradition, rather than British or Pictish. A closer date cannot be suggested on the basis of the form. The mould may have been for casting either copper alloy or precious metals. The presence of a crucible nearby suggests this was a metalworking area. This type of metalworking suggests a fairly high status settlement, though not as high as that of Dunadd. Other finds from this area, such as the high quality bead, SF 201, and the motif piece, SF 28, support the idea that an early medieval workshop lay in Area 2.



Illus 23 Early Historic glass bead, SF 201

***SF 33** Fragment of lower valve of mould. Outer edge of mould with three keying marks of parallel-sided grooves. The only trace of the cast object is a circular edge of a thick object of unidentifiable type of about 2cm diameter. Fabric soft, silty clay, buff on exterior, grey where in contact with metal on inside surface. Context 003, Area 2, B3, south-west quarter, Layer 1–2. Illus 22.

8.4.2 Glass beads

Two broken glass beads decorated with herringbone patterns formed from twisted glass cables were recovered from the site. Both are interesting as they share this technique of manufacture with beads recovered from Dunadd. The more highly decorated bead, SF 201 (Illus 20, Illus 23), is a very fine bead of complex manufacture with no exact parallels. It utilizes opaque white and opaque yellow trails in two different coloured bodies, clear and semi-opaque light green making a five-strand herringbone pattern. Beads with herringbone design are fairly common on early medieval Scottish and Irish sites, but are usually of blue and opaque white trails (Guido 1985; Callmer 1977, Group Ka). Two beads of this type, including one exceptionally fine one, come from Dunadd, though neither were in dated contexts (Lane & Campbell 2000, 177, nos 21 & 1963). SF 201 is different in that it has two 'collars' of different coloured glass at the ends of the bead, making it resemble the characteristic Irish tripartite 'string beads' of the seventh to ninth centuries (Callmer 1977, Group Bj; Guido 1985). It differs from these in that the collars are marvered flush to make a barrel-shaped bead, but is clearly influenced by their design. This type of 'reticella' twisted glass rod in these colours is also found on glass vessels of the middle Saxon period, sometimes on the rim (Evison 2000, 85). An unused rod with opaque white and yellow trails has been excavated from a workshop area of eighth to ninth century date at Kirkdale, Yorkshire (Rahtz and Watts 1999, 7, fig 6). An eighth to ninth century date can therefore be suggested for the Bruach an Druimein bead. The bead shows a sophisticated level of workmanship and was presumably a fairly high status object. It was found in the charcoal layer associated with the possible metalworking structures of Area 2.

Illus 24 Early Historic glass bead, SF 77

The other bead, SF 77 (Illus 20, Illus 24), is much less well made, and only uses two colours, opaque yellow and a yellow-green, employed in a two-strand herringbone pattern. This colour pairing is similar to an unusual bead from Dunadd (Lane & Campbell 2000, 177, no 1040), which came from a seventh-century context (Lane & Campbell 2000, 74–5). The Dunadd bead does not have a herringbone pattern, but has a more irregular mixture of the two colours. Both these beads showed a similar pattern of decay. A rather similar bead, though with a dark blue core, is described from Period II at Lagore crannog, Meath (Hencken 1950, 139, no 1289). The date of the later periods of occupation at Lagore is debated, but the preceding Periods 1a and 1b can now be seen to date to the seventh and eighth centuries (Lynn 1986;Warner 1986; Whitfield 2001). Period II can be given a broad eighth to 10th century date. Bead SF 77 can probably be dated to the seventh to ninth centuries.

The chemical analysis of the opaque yellow element of both beads is identical to each other and to that of the opaque yellow and green bead from Dunadd (Henderson, Julian 2000, Table 5.11, no 6). The opacity is the result of introduction lead–tin oxide ($PbSnO_3$) to the glass melt. The opacity of the white cables is, however, achieved by the use of many tiny bubbles, which scatter the light and give the impression of opacity. This is interesting as the opaque white trails on early medieval glass imported from the continent (Campbell's group D) is sometimes formed in the same way (Campbell & Lane 1993, 47). The two green colours on bead SF 201 are of similar composition, but the pale colour used on the cables has elevated levels of magnesium, suggesting they came from separate melts. The yellow-green of bead SF 77 is a lead sodium glass with iron giving it its green colour. Unlike the opaque yellow there is no tin, but a few bubbles make it semi-opaque. All these different compositions show a very sophisticated knowledge of glass technology to produce complex variegated beads. While there is no evidence that beads were being manufactured at Bruach an Druimein, there is some evidence for glass-working at Dunadd (Lane

Illus 25 Motif piece, SF 28, with Norse Borre*-style ornament*

& Campbell 2000, 174). The concentration of a significant number of these cable beads around the Kilmartin area might suggest that they were being manufactured in Dál Riata.

***SF 77** Cylindrical herringbone bead, broken, about one third remaining. Badly decayed, especially the opaque yellow parts. Two strands of twisted reticella rod laid alternately Z- and S-twist to make herringbone pattern. Body semi-opaque light yellow-green with opaque yellow trails. There are traces of a red deposit on the inside surface of the perforation. H 9mm, perforation D 5mm, D *c* 9mm. Context 003, Area 1, 'Square B2 in sticky charcoal-rich soil 3′ above gravel'. Illus 20, Illus 24.
***SF 201** Small barrel-shaped herringbone bead, broken, about half remaining. Complex structure: core of apparently black (actually dark green) glass, wound round with three bands of multi-coloured reticella glass. The middle is of clear body with three twisted strands of opaque white and opaque yellow laid alternately Z- and S-twist to produce a herringbone pattern. The ends of the bead have collars made from single twist bands having a semi-opaque light green body full of bubbles, also with opaque white and opaque yellow trails. All are marvered flush. H 9.5mm, D 10mm, perforation D 4mm. Context 003, Area 2, 'Square B9/13. Occupation layer with charcoal beside burnt stone'. Illus 20, Illus 23.
SF 91 & SF 91x Two lost beads 'of brown? clay'. It is just possible these could be the two parts of the mould SF 33, which resembles a clay melon bead and was found in the same area (B3).

8.4.3 Motif piece

This tiny rectangular piece of local phyllite (a metamorphic rock intermediate between a schist and a slate) has incised decoration, indicating use as a motif piece. Motif pieces are characteristic of early medieval Insular workshop contexts (O'Meadhra 1987, 173). The pattern is hand drawn with a fine point. The piece is broken on three sides, so only preserves one edge of the design, making it frustratingly difficult to reconstruct. Traces of three intersecting double-outline bands are sketched, as well as a two short, radial lines and dots (Illus 25). This may be an attempt at ring-chain work, and if so would suggest a *Borre*-style Norse influence and therefore a late ninth to 10th century date. However, it could also be a rather unsure attempt at a simple interlace pattern, which would be less easy to date. The presence of a motif piece indicates an artistic workshop, producing complex designs for metal-, wood- or leatherworking. Again there are parallels with Dunadd where motif pieces are known from the old and recent excavations (Lane & Campbell 2000, 186–9, illus 7.7). It is interesting that it was found in grid square B3, close to the mould fragment and bead, both of which can be paralleled at the metalworking workshop at Dunadd.

***SF 28** Small piece of phyllitic slate, with carved decoration. Sub-rectangular fragment, broken on all edges. One surface has edge of hand-drawn incised design consisting of two intersecting double arcs, probably parts of rings and traces of a third on one broken edge. The middle ring has a Y-shaped line extending from the inner ring towards the centre. The upper ring has a small circle with another line radiating towards the middle ring. There are one or two dots in the middle ring. One line has been redrawn where the engraving tool has slipped. Context 001, Area 2, square B3. Illus 16, Illus 25.

8.5 Crucibles (Illus 22)

Andrew Heald & Fraser Hunter

Three crucible fragments were recovered, all probably from different crucibles. Reconstruction of their original shape is not possible. Two were analysed non-destructively by energy-dispersive X-ray fluorescence (EDXRF) to give broad characterization of the alloys melted. Both were used

for non-ferrous metalworking: SF 85 for leaded bronze, while SF 49 had traces of silver, indicating that silver was being worked on the site. The catalogue entries give the NMS analytical number; relative quantities of elements are indicated by ** - abundant; ( ) - trace.

Evidence for non-ferrous metalworking has been found on a range of Argyll sites of the second half of the first millennium AD. Assemblages from forts, such as Dunadd (Christison & Anderson 1905, 311–14; Craw 1930, 120–3; Lane & Campbell 2000, 106–49) and Dunollie (Alcock & Alcock 1987, 140–1), and the monastic site of Iona (Barber 1981, 349–350, fig 42, nos 303/1 & 304/1; Graham-Campbell 1981; McCormick 1992) are best documented. However, sites of a different nature have also produced such evidence, such as Loch Glashan crannog (RCAHMS 1988, 205–8; Campbell & Crone 2005), Ardifuir dun (Christison & Anderson 1905, 267–9) and St Columba's Cave (Tolan-Smith 2001, 49–51, fig 24). This accumulating evidence, together with the crucibles from Bruach an Druimein, shows that non-ferrous metalworking (including precious metalworking) took place on a wide variety of sites in the region (Campbell & Heald 2007).

***SF 45** Small body fragment of crucible. Broken on all sides and lacking diagnostic features (rim, base etc). Deposits in interior. 15mm x 13mm x 4mm. Zn**, Pb, Ag, Sn, (Cu). Analysis F126740B. Context 001, Area 2, square B2. Illus 22.
***SF 49** Tiny body fragment of small thin-walled crucible. Broken on all sides, lacking diagnostic features. 11mm x 10mm x 2mm. Context 001, square B2. Illus 22.
***SF 85** Body fragment and?base of crucible. Broken on all sides. Deposits on inside and outside. 25mm x 26mm x 8mm. Cu, Pb (Sn). Analyses F126741B, F126742B. Context 001, Ditch 2, quare A5. Illus 22.

8.6 Metal artefacts (Illus 26; Illus 27)

Andrew Heald & Fraser Hunter

8.6.1 Introduction

Fifty-six iron objects were recovered in the excavations. These comprise seven knives, four punches, one pin, 10 fittings or mounts and 19 nails. Eleven pieces are fragmentary and unidentifiable. Six objects are now missing (SFs 158, 169, 186, 207, 213 & 218), but the last two were drawn in the 1980s and are included in this report. The only non-ferrous pieces were a lead object and a copper alloy cylinder. The sparsity of stratified finds and the generally undiagnostic nature of ironwork makes dating difficult, although those items which can be broadly dated (the knives and pin) would fit an Early Historic date.

8.6.2 Catalogue

The objects are grouped in functional categories: tools, ornaments, fittings/mounts, nails and miscellaneous. For some objects the function is unclear or spans a range of possibilities. Measurements (in millimetres) are largely taken from X-rays, using the abbreviations: L length, W width, T thickness, H height, D diameter.

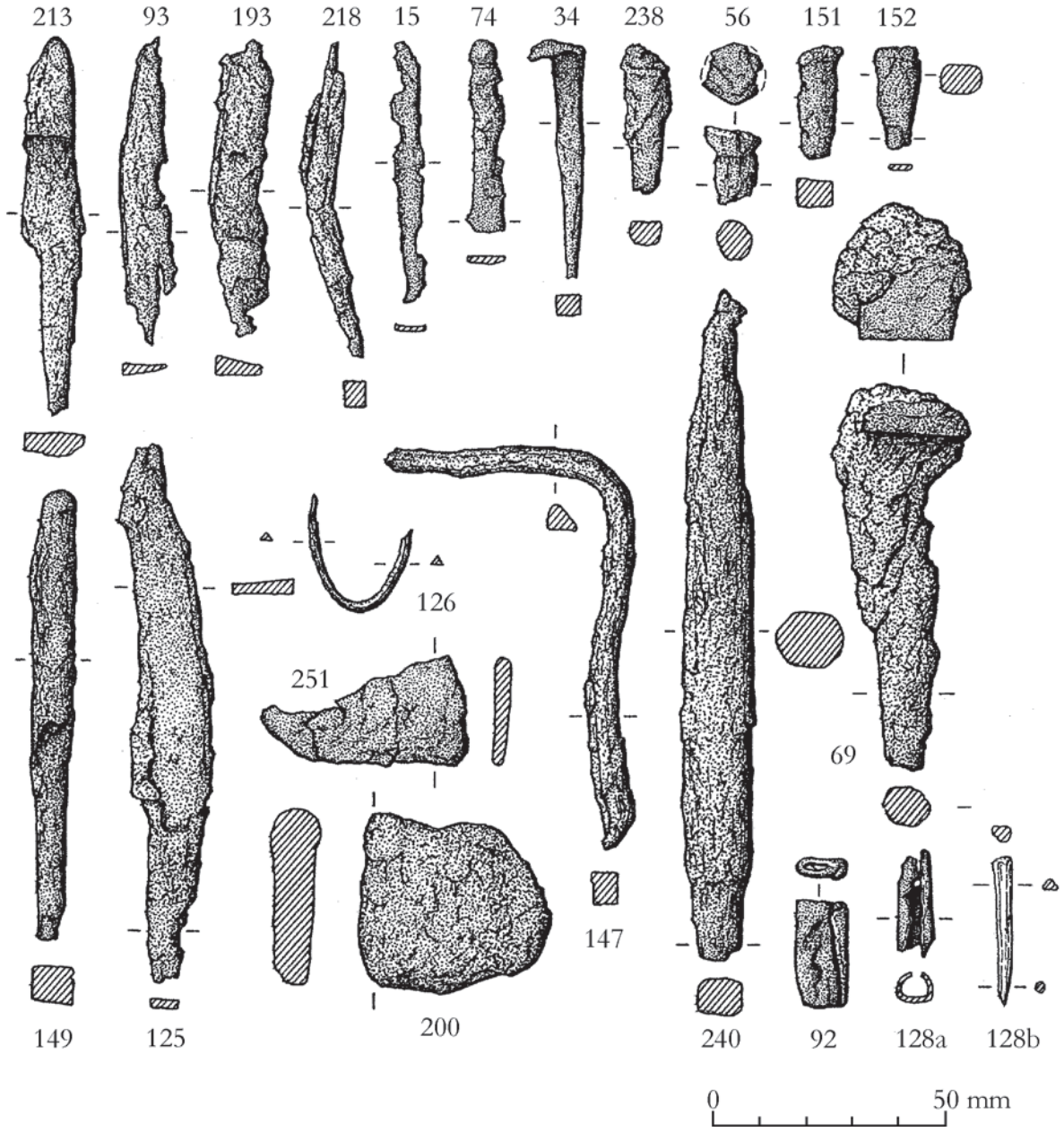
Tools – Knives

Seven intact or fragmentary knives were recovered. Most show signs of re-sharpening, sometimes extensive. Their fragmentary nature causes problems for standard typologies which rely on complete objects (eg Laing 1975; Cowgill *et al* 1987; Goodall 1990; Ottaway 1992). Only three of the Bruach an Druimein knives can be classified using Ottaway's typology (probably the most useful): two fall into type A and one into type D. One (SF 13) preserves traces of an organic sheath, probably of leather.

Knife types can only be dated within broad parameters. Several of the types familiar in the Early Historic period have Roman antecedents (see Duncan 1982, 3; Ottaway 1992; Manning 1985, 116, types 17–20) – for instance, a knife with an angled back is known from Roman Iron Age levels on Traprain Law, East Lothian (Burley 1956, no 433). Equally some types continue into the medieval period (Duncan & Spearman 1984, 354, illus 25.1; Ford 1987, 132, illus 65, nos 80 & 81; Goodall 1990, 835–60). However, while individual types may have a wide date range, from the overall composition of the assemblage it is possible to get a feel for the date. The best parallels for the Bruach an Druimein knives come from Early Historic sites in Scotland, Wales and Ireland (eg Munro 1882, fig 129, 226–7; Hencken 1937, 130, fig 6, C–D; Alcock 1963, 116, fig 21; Duncan 1982, 3; Alcock 1987, 105, fig 5.3; Nicholson 1997, 426–9; Lane & Campbell 2000, 161–3).

The interpretation of knives is a difficult subject. Even when they can be classified, the reasons behind the typological variation are often unclear, and a wide range of shapes and sizes were in use concurrently: it has been suggested (Alcock 1987, 107) that 'the form of knives was governed rather by the skill and fancy of individual smiths than by any strong typological tradition'. There will presumably have been functional variation according to size, but the knife is the classic multi-functional tool and attributing detailed uses is difficult.

Illus 28 compares key dimensions of the Bruach an Druimein knives to intact specimens from Dunadd. They fall within the range of variation seen in Dunadd's much larger assemblage; specimens from the broadly contemporary sites of Buiston (Ayrshire) (Crone 2000, fig 199) and Bostadh (Lewis) (Neighbour in prep) show the same range. Some of the small, fine knives may have been intended for specialist tasks, as has been suggested for Dunadd (Lane & Campbell 2000, 161–3). Two knives (SF 93 and SF 94) are notably smaller (blade height 9–11mm) than the other more robust examples.



Illus 26 Iron and non-ferrous artefacts

SF 13 Knife, tip and tang broken. Straight cutting edge and upward-angled back, the blade broken before the return to the tip. Central broken tang, rectangular-sectioned; the blade/tang division is weakly defined with the tang expanding gradually to the blade. At the broken end of the blade the corrosion has flaked off, revealing orange-brown corrosion products on the blade surface which are the remains of an organic sheath, probably leather. No traces of the handle survive. Angled-back knives are typically Early Historic (eg Ottaway 1992, fig 229–30); there is a good parallel from Dunollie, Argyll (Duncan 1982, 4, fig 1; Alcock & Alcock 1987, 139 ill 8.14; SF 87, 019). Overall L: 74.5mm; surviving blade L: 50mm; H: 15–18mm; T: 5mm; tang section 7.5 x 6.5mm. Context 003, Area 2, grid square B2.

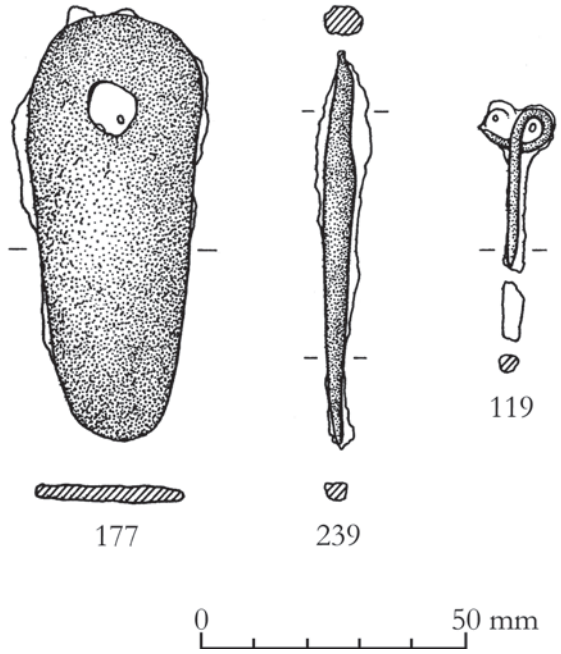
***SF 93** Knife blade. Intact parallel-sided blade with angled tip; vestigial stump of central tang. Ottaway (1992) type A. L: 62mm; H: 11mm; T: 2mm. Blade L: 54mm. Ditch Section 3, context 405, square A8. Illus 26.

SF 94 Knife with rectangular-section stepped tang tapering to a point. The blade is mostly lost but its width and the concavity of the cutting edge show it has been heavily re-sharpened. L: 57mm; H: 9mm; T: 5mm. Tang L: 37mm, W: 5mm, H: 7.5mm. Ditch Section 3, context 407, square A8.

***SF 125** Knife, intact. Convex curved back with slightly concave tip. Concave cutting edge implies resharpening, while the X-ray indicates the cutting edge was welded on. Stepped tang tapering to a point. Ottaway (1992) type D. Similar curved backs with stepped tangs are known from Dunadd, Argyll (NMS HPO 289 & 292; Duncan 1982, 4, figs 2 & 3), Lochlee, Ayrshire (Munro 1882, 124, fig 129), Buiston, Ayrshire (Munro 1882, 222–3, figs 227–8, 230) and Kildonan Bay, Argyll (Fairhurst 1939, 210, plate LXXVII, no 2). L: 111mm; H: 16mm; T: 4mm. Blade L: 78mm, tang L: 33mm, H: 6mm. Context 001, Area 2, square A7. Illus 26.

SF 140 Knife blade fragment, lacking tip. Straight back and cutting edge. Badly corroded. L: 58mm; H: 18mm; T: 5mm. Context 202, Area 2, square B9.

SF 185 Knife with tapering rectangular-section stepped tang. Little of the blade survives, although its concave



Illus 27 Iron artefacts

shape shows that it has been re-sharpened. L: 35mm; H: 10mm; T: 3mm. Context 001, Area 2, square B12.
***SF 213** Knife,?intact. Straight back with angled tip, concave cutting edge, stepped and slightly tapering tang. Ottaway (1992) type A. Overall L: 80mm. Surviving blade L: 46mm. H: 11mm; T: 4mm; tang L: 34mm. Context 003, Area 2, square B13. Missing; described from drawing. Illus 26.

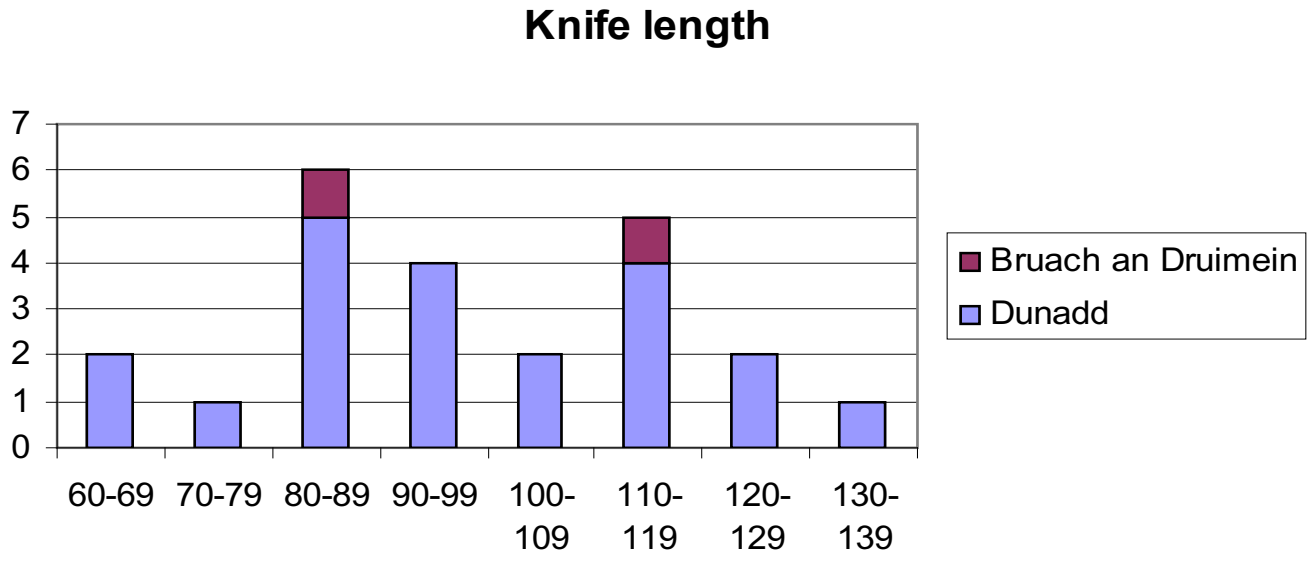
Tools – Punches

Four objects are probably punches, though three lack the working tip. One has an integral head, two were probably tanged and one lacks the head. Punches such as these were commonly used in metalworking, especially blacksmithing for tools of this size; tanged punches could have a range of functions (Ottaway 1992, 517) although the size of this one would be consistent with iron working. The fineness of SF 239 suggests it was for non-ferrous metals.

***SF 149** Punch with rounded top for striking. Square section, changing to round at the broken tip. The shaft is slightly expanded below the head. Similar tools are known from Dunadd (Lane & Campbell 2000, 161, 163–6, fig 4.71, no 1298) and Whithorn, Galloway (Nicholson 1997, 421–3, fig 10.102). L: 95mm; W: 8mm; T: 9mm. Context 001, Area 2, square B9. Illus 26.
***SF 193** Punch, parallel-sided rectangular-sectioned bar, broken at one end, with tip rounded in one plane. L: 58mm; W: 7mm. Ditch Section 3, context 407, square A8. Illus 26.
***SF 239** Fine tanged punch, both ends damaged. The sub-square shaft is slightly expanded below the head, suggesting it was tanged, and tapers towards the tip. L: 70mm; W: 5mm; T: 6mm. Context 001, Area 2, square B12. Illus 27.
***SF 240** Tanged punch, both ends missing. Heavy-duty cylindrical bar tapering to a damaged point. Broken rectangular-sectioned tang at the top (cf Ottaway 1992, fig 198). Tanged punches are less common on Early Historic sites than non-tanged examples (eg only five out of 81 awls/punches from Whithorn, Galloway; Nicholson 1997, 422–3, illus 10.102, nos 50.43; 50.54). L: 132mm; W: 12mm; T: 12mm. South-east end of ditch, unstratified. Illus 26.

Ornaments

An unusual iron double loop-headed pin was recovered from the site. After initial conservation this was tentatively identified as a La Tène I brooch, but X-rays make it clear this was wrong. The head of the pin spirals into two coils in the same plane, the end comes to a rounded point rather than a fracture and is coiled back on itself, while the terminal loop is tighter than the initial one. None of this is consistent with a distorted spring. The item is clearly the



Illus 28 Dimensions of knives at Dunadd and Bruach an Druimein

head and part of the shank of a stick pin. Similar pins come from Cahercommaun, Co. Clare, where the site is dated to the ninth century (Hencken 1938, 37–8). It is also paralleled at the Early Historic crannog of Lough Faughan, Co. Down, here looped in a figure-of-eight (Collins 1955, 59–61); the pin is unstratified but the site is broadly dated mid seventh – late 10th century from parallels to Lagore. An undated parallel in copper alloy wire comes from Gallanach, Coll (Beveridge 1903, 38 & illus facing p133; NMS HD 347), while Dunadd has produced a single-looped pin (Lane & Campbell 2000, illus 4.77 no 1954). It may be related to spiral-headed copper alloy types where the shank was split and the ends formed into loops (eg Laing 1973, 62–5; Laing 1975, 327; Nicholson & Hill 1997, 363, BZ13.4) for which seventh to eighth century dates are suggested. Presumably all these western examples are derived from the widespread Middle Saxon double spiral-headed type, which is usually of copper alloy. These are now dated from the sixth to eighth century or later (Hinton 1996, 29–30). A broad seventh to ninth century bracket for this pin seems safest on current evidence.

***SF 119** Double loop-headed pin made from round-sectioned wire. The shank is broken, but the diameter increases from the head down the shank (from 1.5 to 3mm), indicating the shaft was slightly swollen to hold the cloth better. At the top the wire is twisted to form two loops perpendicular to and flanking the shank. One is tighter than the other, with the end tucked in. L: 39mm, head W: 13mm, H: 8.5mm. Context 001, Area 2, square A7. Illus 27.

Fittings/mounts

Ten fittings or mounts were found. Their exact function is unclear, as all except one are fragmentary, but they are probably from furniture or domestic fittings. All are chronologically undiagnostic.

***SF 15** Thin bar, broken and damaged at the edges, slightly curved longitudinally. L: 55mm; W: 6mm; T: 2mm. Dump 3, unstratified. Illus 26.
***SF 74** Flat rectangular strip, one end?intact, the other expanding and broken. Wood traces in the corrosion on one side imply use as some form of mount or fitting. L: 41mm; W: 5.5–7mm; T: 2mm. Context 003, Area 2, square B2. Illus 26.
SF 120 Bar fragment, plano-convex section. L: 21mm; W: 12mm; T: 6mm. Context 001, Area 2, square A7.
SF 126 Fine broken hook, lacking ends; section varies from sub-rectangular to triangular. Head width 16mm, surviving arm length 24mm. L: 43mm; W: 3mm. Area 2, unstratified.
SF 134 Bar fragment, plano-convex section. L: 26mm; W: 13mm; T: 5mm. Context 001, Area 2, square B12.
***SF 147** Bent bar, one end bent through 90 degrees, perhaps original; the other end is distorted. Sub-rectangular section, broken at both ends. Possibly a large U-shaped staple, one arm now extended. Surviving arm length 44mm; overall L: 124mm; W: 5mm. Unstratified, 100–150 yards north-east of excavation area. Illus 26.
SF 153 Substantial bar fragment, one edge partly inturned, both ends broken. L: 45mm; W: 25mm; T: 4mm. Context 001, Area 2, square B9.
SF 155 Riveted bar fragment. Heavily corroded but there appears to be a sub-rectangular head of a rivet through a?rectangular strip. L: 30mm; W: 18mm; T: 4mm. Context 001, Area 2, square B9.
***SF 177** Mount, perhaps decorative. Sub-rectangular sheet with rounded ends and a sub-square hole at one end for a nail. L: 79mm; W: 32mm; T: 3mm. Perforation 10mm by 7mm. Ditch Section 3, context 407, square A8. Illus 27.
SF 199 Bent bar, tapering, sub-rectangular section, ends broken. L: 31mm; W: 9mm. Context 003, Area 2, square B12.

Nails

The most common iron finds from the site were nails, with 19 examples. Square-sectioned rod fragments with no other distinguishing features were assumed to be nail fragments. A full catalogue can be found in the archive: only the key points are outlined here.

All of the nails had square-sectioned shanks. Only seven had surviving heads; all were flat and either sub-square or circular in plan. Only three nails survived intact (SF nos 034, 154a & 154b), with another two (SF nos 031 & 069) lacking only the tips; lengths varied from 16 to 74mm. One (SF 31) had surviving wood traces. Without more intact nails, further discussion is difficult, but a range of sizes are present, with head size varying from 10 to 23mm.

Such nails are chronologically undiagnostic. None were associated with buildings or structures, and only SF 218 and 238 (from Fill 405 and collapsed Wall 406 in the ditch section) came from a secure context. However, it is worth looking at wider Early Historic parallels. Nails are rare on Early Historic sites, although in part this relates to selective retention by older excavators. There are only 57 from Dunadd (Craw 1930; Duncan 1982, 18–20; Lane & Campbell 2000, 169) and 12 from Dunollie, Argyll (Duncan 1982), where they occur only in post-10th/11th century deposits (Alcock 1987, 141). At Whithorn the vast majority of the 3857 nails post-date the eighth/ninth centuries: only 156 were recovered from Period I deposits (sixth to eighth centuries).

This scarcity of nails is a clue to building traditions. Nails are surprisingly rare finds from crannogs (Munro 1882) and duns, while at Whithorn they were largely absent from the timber and wattle buildings (Nicholson 1997, 405–6). Clearly, Early Historic building traditions did not make extensive use of nails, and those we have may come from internal fittings and furnishings rather than buildings. This dearth is even more marked in the Iron Age (Hunter 1998, 366–7). Exceptions are few and specific: the quantities recovered from Dundurn, Perthshire were linked to their use in timber-framed ramparts (Alcock *et al* 1989, 217–18, illus 15, nos 1, 18 & 49).

Miscellaneous objects

Eleven fragmentary objects cannot be identified. Unidentifiable iron objects are a recurring issue: from the recent Dunadd excavations, 44% of the iron objects fell into this category (Lane & Campbell 2000, 160).

SF 62 Lump. L: 22mm; W: 19mm; T: 14mm. Area 1, context 003, grid A2.
SF 120 Sheet fragments (2), lacking diagnostic features. L: 39mm; W: 27mm; T: 2mm, and miscellaneous lump, L: 20mm; W: 18mm; T: 10mm Area 2, context 001, grid A7.
SF 121 Lump. L: 40mm; W: 30mm; T: 10mm. Area 2, context 001, grid A7.
SF 131 Sheet fragment, two surviving perpendicular edges with a semi-circular concavity at the corner with a raised lip. Function unknown. L: 33mm; W: 29mm; T: 5mm. Hole: 10mm. Area 2, context 202, grid B12.
***SF 152** Tapering fragment, missing one end. Oval section. L: 22mm; W: 10mm, T: 6mm. Area 2, context 001, grid B9. Illus 26.
SF 197 Miscellaneous sheet fragments, no diagnostic features. 4 individual pieces. Area 2, context 003, grid B12.
***SF 200** Fragment of a thick sub-rectangular object. L: 41mm; W: 35mm; T: 8mm. Area 2, context 003, grid B13. Illus 26.
SF 211 Sheet, thin. L: 43mm; W: 35mm; T: 2mm. Area 2, unstratified, grid B13.
SF 250 Miscellaneous fragment. L: 42mm; H: 22mm; T: 3mm. No context.
***SF 251** Broken sub-rectangular fragment. No diagnostic features. Found along with three pieces of unclassified iron slag. L: 28mm; B: 25mm; T: 10mm. No context. Illus 26.
SF 252 Sheet fragments x 21, no diagnostic features. No context.

Missing items (descriptions taken from site records)
***SF 56** Rod with expanded head, possibly nail. Grid A2. Illus 26.
***SF 151** Rectangular bar. Grid B9. Illus 26.
SF 158 Lump. Grid B12. Missing in June 1965
SF 169 Lump. Grid B9.
SF 185 Portion of an iron artefact. Grid B3.
SF 207 Iron fragment, about 1″ long, slightly bent, round section. Grid B13.

Non-ferrous objects

***SF 92** Rectangular lead strip, rolled into a cylinder and flattened. L: 21mm; B: 11mm; T: 6mm. Ditch section 2, context 405. Illus 26.
***SF 128** Copper alloy cylinder (SF 128a), apparently broken at both ends. Now missing; site records describe it as a 'bone or wooden point in a cylindrical copper case'(SF 128b) but it looks too crude to be a case and is more likely to be binding from the edge of an organic object. L: 23mm, D: 8mm. 'Oven trench', square A8, topsoil. Illus 26.

8.6.3 Discussion

The metal objects recovered from Bruach an Druimein are summarized in Table 10. The assemblage consists mainly of tools and fittings. The punches suggest metalworking, mainly blacksmithing, which is confirmed by the slag reported elsewhere. However, it is unclear how much blacksmithing was a ubiquitous pursuit to be anticipated on every site and how much a specialist one: older excavations tended to dismiss slag and gave scant attention to iron. This makes it very hard with these less glamorous materials to assess what is normal and what represents deviations from the norm. The iron pin is unusual, as most jewellery was in bronze or bone, but again this may in part be due to recognition problems, as fragmentary pins and brooches are hard to identify.

Table 10 Metal finds from Bruach an Druimein (excluding four missing ones)

Material	Description	Quantity
Iron	Knives	7
	Punches	4
	Ornaments	1
	Fittings and mounts	10
	Nails	19
	Unidentified fragments	11
Lead	Sheet	1
Copper alloy	Cylindrical binding	1

Dating the site by the ironwork is tricky, but the pin and the knives are consistent with an Early Historic date (the pin probably of seventh to ninth century date), and the assemblage as a whole would not be out of place in an Early Historic context. The sparsity of secure contexts does not allow us to date or phase the objects further, although the absence of diagnostic finds from Area 1, with its prehistoric roundhouses, suggests the bulk of the ironwork is likely to belong to the Early Historic phase (Table 11). For wider discussion the assemblage will be considered as a whole and compared to other Early Historic assemblages in Argyll and elsewhere.

The RCAHMS inventory for Mid-Argyll lists 31 forts, 63 duns, 20 enclosures and eight crannogs (RCAHMS 1988). When ecclesiastical sites are added (RCAHMS 1992, 3–10; Lane & Campbell 2000, 24–5), it is clear the environment around Bruach an Druimein was densely occupied. However, there are few excavated sites, with only five having finds suggesting contemporary occupation: Ardifuir (Christison & Anderson 1905); Dun Chonallaich (Ritchie 1987, 62; RCAHMS 1988, 160–1); Eilean Righ 1 (Brown & Cowie 1987), Loch Glashan (RCAHMS 1988, 205–8); and Dunadd (Lane & Campbell 2000). Of these, Dun Chonallaich has not been thoroughly excavated and Loch Glashan is yet to be fully published (Campbell & Crone 2005). For comparanda we must take a wider view, considering every excavated fort, dun and crannog in modern-day Argyll of potential Early Historic date

Table 11 Distribution of metal objects (excluding four missing items)

Area	Context	Grid square	Finds
1	001	A2	Nail
1	003	A2	Miscellaneous
1	003	B1	Nail
1	003	B11	Nail
2	001	A7	Pin SF 119; knife SF 125; bar fragment SF 120; two miscellaneous; eight nails
2	003	B2	Knife SF 13; strip SF 74
2	001	B3	Two nails
2	001	B9	Punch SF 149; bars SF 153, SF 155; two nails; miscellaneous
2	002	B9	Nail
2	Wall foundation 202	B9	Knife SF 140
2	001	B12	Knife SF 185; punch SF 239; bar fragment SF 134; nail
2	003	B12	Bent bar SF 199; miscellaneous
2	202	B12	Miscellaneous
2	003	B13	Knife SF 213; miscellaneous
2	Unstratified	B13	Miscellaneous
2	Unstratified		Hook SF 126
DS	Ditch wall 406	A4	Nail
DS2	Ditch fill 405	A14	?Nail SF 218
DS2	405	–	Lead sheet SF 92
DS3	405	A8	Knife SF 93
DS3	Ditch fill 407	A8	Knife SF 94; punch SF 193; mount SF 177
	Unstratified	–	Punch SF 240; bars SF 15, SF 147; SF 3 miscellaneous

Table 12 Iron objects from excavated and published Early Historic sites in Argyll. Sites with poor dating (such as sandhill sites and most caves) are excluded

Site	Type	Weaponry	Knives	Tools	Nails	Ornaments	Other	Ref
Dunadd	Fort	X	X	X	X	X	X	Lane & Campbell 2000
Dunollie	Fort	X	X	X	X		X	Alcock & Alcock 1987
Kildonan Bay	Dun	X	X	X	X		X	Fairhurst 1939
Bruach an Druimein	Open?		X	X	X	X	X	
Eilean Righ 1	Dun		X		X			Brown & Cowie 1987
Leccamore, Luing	Dun		X					Ritchie 1971
Dun Mic Choigil	Dun						X	Hedges & Hedges 1977
Dun an Fheurain	Dun				X		X	Ritchie 1971
Iona	Monastic				X			Barber 1981, 349
Keil Cave	Cave					X		Ritchie 1967

(using RCAHMS 1971; RCAHMS 1975; RCAHMS 1980; RCAHMS 1984; RCAHMS 1988 as a basis). Problems still arise: many are old excavations where little attention may have been paid to rusting iron, and the occupation sequence on these complex sites is rarely known in detail. However, a few points emerge from consideration of the assemblages (Table 12).

On most sites, even those excavated recently, iron is sparse, but it is notable that more recent excavations have larger ironwork assemblages, and clearly

differential recovery is a major issue. This further complicates matters in assessing what is typical and what is unusual. However, the Bruach an Druimein assemblage is different from those from nucleated forts such as Dunadd and Dunollie: it has a notable absence of weapons and only a restricted range of tools. More detailed study shows that the closest comparison is to Kildonan Bay (Fairhurst 1939), one of the few duns excavated to reasonable standards, where knives, nails and a limited range of tools predominate.

Previous studies have shown that the presence and absence of object types may give insights into questions of status, hierarchies and inter-site relationships. This has largely been confined to the exotic end of the spectrum: imported pottery, fine metalworking and jewellery (eg Dark 1994; Campbell 1996). It is clear that sites such as Dunadd stood apart from other settlements in Argyll, with their inhabitants able to acquire, use and distribute exotica (see Alcock & Alcock 1987; Alcock 1988; Campbell 1996; Campbell 1999). It has also been argued that some crannogs and duns were inhabited by people of high status, perhaps nobles and important freemen, or even kings (Alcock 1988; Campbell 1999, 22, 28). These studies into local and regional politics may now be augmented by the more prosaic material. Differences in the ironwork assemblages from different sites are likely to reflect these social processes, with a more restricted range of activities taking place at the smaller sites compared to the royal sites.

8.7 Medieval pottery (Illus 22)

Bob Will

Twenty sherds of pottery weighing a total of 87g were recovered from the excavations. The assemblage was worked for joins with little success mainly due to the small size of the sherds.

The pottery falls into two main categories: Scottish White Gritty Ware fabrics and Scottish Medieval Redware fabrics. These fabrics are the two main fabric types found in Scotland and broadly date from the later 12th/13th century through to the 15th century.

8.7.1 Scottish White Gritty Wares

Twelve sherds were recovered, two rimsherds and ten body sherds. This type of pottery has been found in large numbers from excavations in the east of Scotland, particularly in Fife, Lothian and the Borders where it often accounts for over 95% of the assemblage (Haggarty & Will 1996). But recent excavations in Ayr, Dumbarton, Cruggelton Castle and other sites in the south west of Scotland have recovered large assemblages of White Gritty Ware pottery. It is now likely that this pottery was being made at a number of different production sites including sites in the west of Scotland. So far the only known and excavated White Gritty kiln site in Scotland is at Colstoun near Haddington in East Lothian (Brooks 1980), although other possible kiln sites have been suggested at Balchrystie and Tentsmuir in Fife. This type of pottery has been found in archaeological contexts dated to the later 12th century at Kelso Abbey (Haggarty 1984) but it remains in use right through to the 15th century.

The fabrics from Bruach an Druimein tend to be partially reduced with a grey or black core, often with a white border on the external surface rather than the pale buff to white fabrics found in the east of Scotland. These differences may reflect a different firing process or production centre,

The vessels represented by the sherds from Bruach an Druimein seem to comprise cooking pots or storage jars and jugs. The cooking pots identified by sooting or fuming marks on the external surface and have unglazed square rims.

8.7.2 Scottish Medieval Redwares

Eight sherds, including three rimsherds and three base sherds, were recovered in a pale orange fabric that appears to have been fired at a fairly low temperature as the fabric is quite soft and abraded. As with the Scottish White Gritty Wares, Scottish Medieval Redwares are found throughout Scotland and continue in use over a long period of time (late 12th to 15th century). Redwares exploit iron-rich clays, which are found in most parts of Scotland and tend to be oxidized during firing. Although this is a general fabric type, recent work in Aberdeen (Murray 1982), Perth (Scott & Blanchard 1983) and at the kiln site at Rattray, Aberdeenshire (Murray & Murray 1993) have identified local fabrics for these areas, although apart from Rattray the production centres are unknown. Although similar material has been found in large quantities from west coast sites (Glasgow, Paisley, Rothesay), thus far little research has been carried out, surprisingly only small quantities of Redware sherds have been recovered from a series of excavations in Ayr (Franklin forthcoming). A large pottery production site for the late medieval to post-medieval period has recently been published from Stenhouse near Falkirk (Hall 2002).

8.7.3 Possible imported vessel

Two sherds from the same vessel, a small globular jar, possibly a cooking pot (SF 170, SF 215) may represent an imported vessel from the Low Countries. The sherds were recovered from the topsoil and are abraded on the external surface. The orange/pink fabric and pronounced rilling manufacturing marks are very similar to Low Countries Redwares; these fabrics begin to come into Scotland in the mid to late 15th century. Ewan Campbell notes, however, that the fabric and form of this vessel is similar to an early medieval import at Southampton (Timby 1988, 100, Fabric 178).

8.7.4 Conclusions

This small assemblage of medieval pottery is an important group for this area where so little medieval pottery has been published. The assemblage consists of the two main fabric groups found in Scotland from the late 12th to 15th centuries and demonstrates trade in pottery both within Scotland and possibly mainland Europe. Much of the assemblage is abraded and comes from unstratified contexts, mainly ploughsoil, and is probably the result of manuring.

9 Environmental Evidence

9.1 Botanical remains

Camilla A Dickson, Jennifer J Miller & Susan Ramsay

9.1.1 Introduction

The findings contained within this report constitute a compilation of botanical results from the site of Bruach an Druimein, Poltalloch, in the Kilmartin Valley of Argyll. They are obtained from analyses of some contexts by the late Camilla A Dickson in 1986, together with further work undertaken by Jennifer Miller and Susan Ramsay, both of GUARD, in 2002.

9.1.2 Method

The samples examined in 2002 constituted several bags of unsorted, dried material containing carbonized botanical remains, together with spot finds of charcoal and a collection of daub and clay deposits for examination. Material came from several different storage locations and in general was poorly labelled. A few samples had suffered during storage. There is no information available regarding the methods employed during initial processing for recovery of carbonized remains. The 16-year time differential between the two individual analyses means that two distinct methodologies were employed. Although this means that the two sets of results are not entirely compatible, it was felt that to replicate the methodology of 1986 was not satisfactory by modern standards. Consequently, many of the results of CAD were re-examined to ensure consistency wherever possible. In some cases the identified material had been mislaid in the intervening years, and in such situations the numbers and weights of materials are not recorded, except by a '+' to denote presence only.

9.1.3 Results

The results are shown in Tables 1–3 held in the archive.

Areas 1 and 2

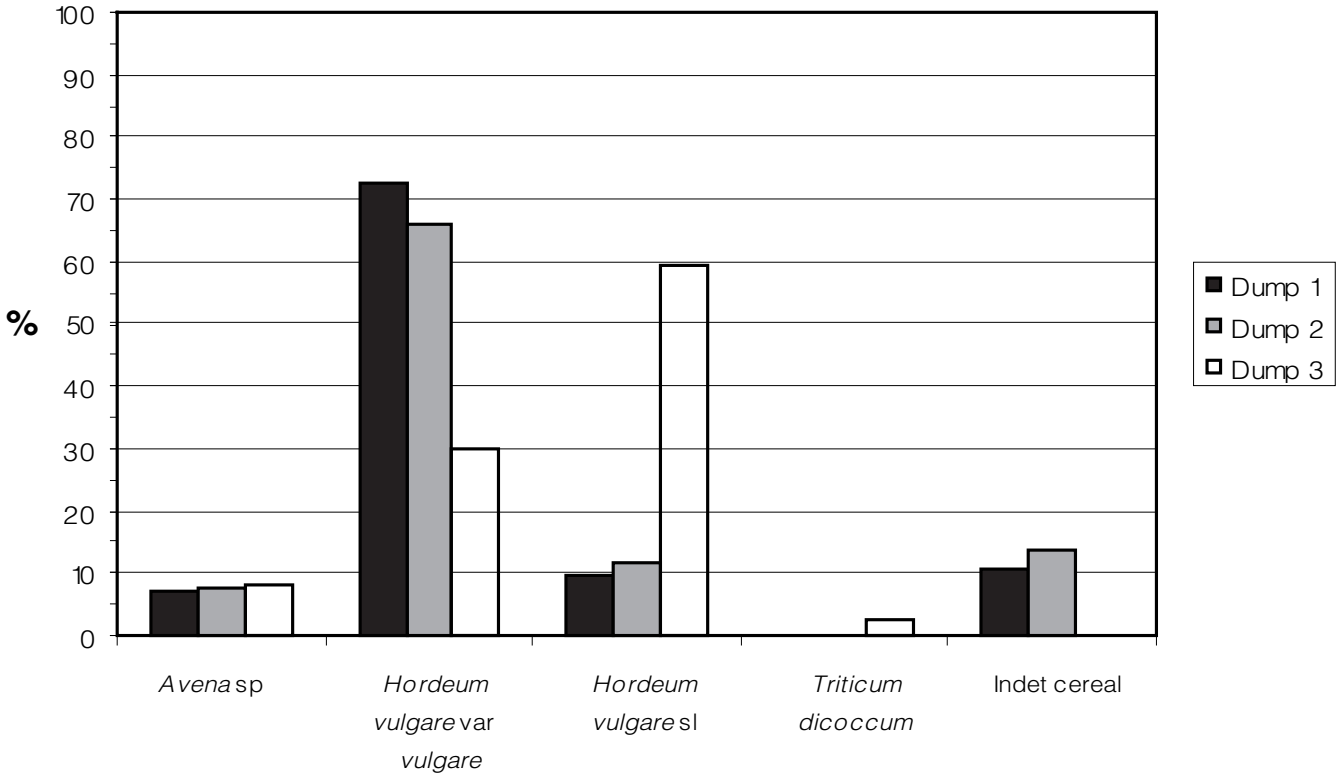
Samples were taken from context 001 (topsoil) in both Areas 1 and 2 for botanical analysis. Each sample contained only a single type of charcoal, either alder (*Alnus*) or hazel (*Corylus*), which may have originated as single fragments of charcoal within the topsoil. These may be of any age and cannot be added to the interpretation of the site with any confidence.

Layer 003 constituted an occupation level extending into both Areas 1 and 2. The carbonized assemblage from Layer 003 (Sample 053) contained charcoal of alder, hazel and willow (*Salix*), together with indeterminate cinder which Dickson tentatively identified as burnt meat. This combination would suggest waste material from a domestic hearth at this location.

Context 108 (Sample 103) represented the lower, sticky gravel fill of a pit (109) in the south corner of Area 1. Charcoal and calcined bone are recorded as being present in context 108. Closer botanical analysis indicated that charcoal of alder and hazel was present in moderate quantities, but nothing else.

Several fills of post-holes in Area 1 were examined for botanical remains. Post-holes 1, 22, 25, 28 and 43 came from putative House 1. Post-holes 36, 38, 46 and 50 came from possible House 2. As a group, charcoal of alder, birch, hazel and oak was recovered from these post-hole fills, with Post-holes 22, 25, 36 and 43 containing charcoal of a single taxon only. This suggests that they may contain evidence for the original upright itself, *in situ*. This is further indicated by the fact that much of the identified charcoal was from roundwood, which may have constituted part of a wattle structure. Post-holes 1, 46 and 50 disclosed a more mixed assemblage which may contain a scatter of material from occupation deposits or from other posts during a conflagration.

Dickson recorded oak (*Quercus*) as the only charcoal taxon from Post-holes 28 and 38, but the records and material have been misplaced since the first studies were undertaken in 1986. However, 68 cereal grains including oats (*Avena* sp) and hulled six-row barley (*Hordeum vulgare* var *vulgare*) remain as part of the record for Post-hole 38, and Dickson observed that Post-hole 28 also contained cereals, although without specifying numbers or types. Post-hole 28 is from House 1 and Post-hole 38 from House 2, although the post-hole circles overlap and these two features may be spatially fairly close. The notable presence of cereals in these two fills, at least in Post-hole 38, and not in any of the other post-hole deposits named above, must suggest that they were at some stage close to an area involved in the preparation or storage of cereal crops. This may have been a corn-drying or storage area, or have been related to food preparation at a hearth.



Illus 29 Relative percentages of cereal types from dumps 1, 2 and 3

Ditch sections

Context 406 was thought to represent a possible wall or revetment along the inner face of the ditch complex. The charcoal assemblage from context 406 consisted entirely of hazel roundwood and oak. Many of the hazel fragments were fairly large in size, and more than 10 years of age when collected. This suggests that a substantial wattle structure may have formed part of a revetment, perhaps in addition to a wall, to consolidate the inner face of the ditch.

Material from context 407, representing backfill of the ditch, contained only a few pieces of oak charcoal, which may have originally formed part of the revetment, or from another, indeterminate source.

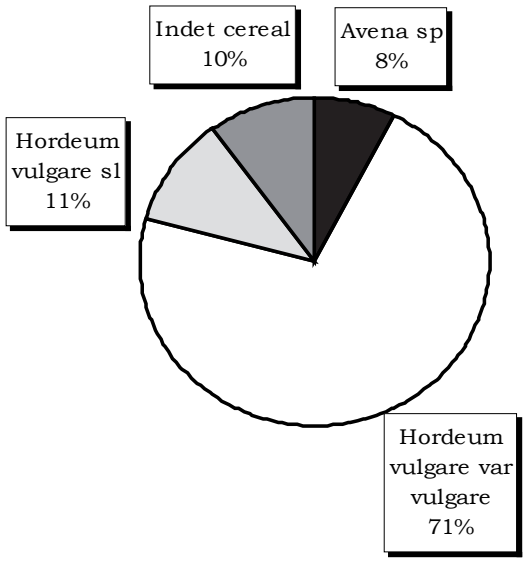
Context 409 represents an unusual stone-built structure in Ditch Section 3 which Cregeen interpreted as a possible oven or water-collecting feature. Samples 046 and 048 from context 409 contained very similar carbonized finds, primarily alder charcoal. Unfortunately, the presence of significant quantities of alder charcoal cannot help in the interpretation of the possible function of this feature, because alder is favoured for construction of features which will be subject to intermittent wetting and drying, as well as providing excellent quality charcoal for use in furnaces. However, it can be stated that the absence of a more random charcoal assemblage, or cereal grains, may suggest that a domestic oven is a less plausible interpretation for Structure 409.

Debris pits

Fills (502 and 504) of two large pits (501 and 503) in the north-east of settlement Area 1 contained large quantities of carbonized grain, together with charcoal and numerous daub fragments. The daub contained impressions of wattle, cereals and monocotyledonous leaf material, the latter of which may have been evidence of tempering. Most of the wattle work impressions were of 1–2cm diameter. Some of the daub had evidence of charring, although these fragments were in the minority.

More than 15,000 carbonized cereal grains were identified from three dumped deposits, mostly from Pits 1 and 2. The relative percentages of each type of grain are shown in Illus 29 below.

From this chart it is clear that Debris Pits 1 and 2 contain remarkably similar percentages of cereal types, dominated by hulled six-row barley (*Hordeum vulgare* var *vulgare*), with small quantities of indeterminate six-row barley (*Hordeum vulgare sl*), oats (*Avena*) and trace levels only of emmer wheat (*Triticum dicoccum*). Similar percentages of cereal grains in Debris Pits 1 and 2 were not further identifiable to type. An initial impression of Dump 3 is that the cereal assemblage is not consistent with Debris Pits 1 and 2. Unfortunately it is not clear from the site records where the Dump 3 material came from, though it was possibly from squares B1 and B2 in the area of the Houses 1 and 2. However, Dump 3 grains were sorted and identified by Dickson and the disparity observed can probably be explained



Illus 30 Relative percentages of cereal types from Bruach an Druimein

by a variation in the methodology employed rather than representing a true difference between the assemblages. It is suspected that indeterminate grains were not recorded for Dump 3 and that many of the grains noted as *Hordeum vulgare sl* may be further identifiable to *H. vulgare* var *vulgare*.

Assuming that all three dumps represent the same assemblage, the results can be combined to show the cereal assemblage for the site as a whole. This is shown in Illus 30 below, and indicates that the main cereal utilized was barley, with oats present as a minor crop component. It should be noted that wheat has been omitted from this diagram as it constitutes only 0.01% of the total sum. Oat grains were generally very small, with many floret bases showing characteristics indicative of wild oat (*Avena fatua*). This suggests that the oats were wild oats, growing as weeds within the barley crop, rather than cultivated/black oats (*Avena sativa*/*A. strigosa*) being grown as a crop in their own right.

A further, large deposit of grain and scorched soil was identified (context 504, Debris Pit 2). This material appeared at first sight to be a massive lump of clay *c* 30 x 20 x 20cm, with a light surface scatter of carbonized grain on the upper surface. However, closer inspection revealed it to be a massive deposit of grain and heat-reddened soil, densely compacted and dry. Light surface brushing of the grain deposit loosened more than 1200 cereal grains, and close inspection confirmed that they are present throughout the material. It cannot be said with any certainty whether this is a result of loose soil thoroughly mixed with grain becoming heated and compacted, or whether this material represents the remains of an earth floor from some domestic construction, perhaps a corn-drying kiln. What can be observed, though, is that there was a higher percentage of more poorly preserved grains than other grain contexts have shown, although obviously this value may be biased as only the outermost layers of grains have been examined. Cereals in the inside may be far better preserved, whether as a result of slower heating, or by the better protection afforded by the surrounding soil mass. As there are no processing records available to the authors to indicate whether other cereals had initially come from similar such contexts, albeit perhaps not on such a large scale, it cannot be stated whether this is unusual or normal for this site. Nevertheless, the find is a remarkable artefact in itself, and deserves preservation as such, no matter whether it has been formed by natural or anthropogenic means.

Miscellaneous contexts

Several contexts cannot be provenanced due to absent or poor labelling. Although the carbonized material within these contexts has been identified and included within the tables, results from these contexts will not be discussed further within this report as they are entirely consistent with the site as a whole and do not provide any information which cannot be obtained from better documented material.

9.1.4 Discussion

This discussion includes material from the initial botanical report written by the late Camilla Dickson (Dickson 1986).

Charcoal

The charcoal assemblage from this site includes alder (*Alnus*), birch (*Betula*), hazel (*Corylus*), oak (*Quercus*) and willow (*Salix*), with trace levels only of apple type (Maloideae), cherry type (Prunoideae) and elm (*Ulmus*). This is entirely consistent with the collection of wood from the type of lowland mixed deciduous woodland which is known to have grown in the Kilmartin Valley environs throughout the last few thousand years (Rymer 1974; Housley *et al* 2004). Alder and hazel were the most frequently identified taxa outwith the Debris Pits 1 and 2. This implies that alder and hazel were either intentionally selected for use, or perhaps were more frequently available in the local woodland. Pollen analysis from a meander of the River Add within the Kilmartin Valley would tend to suggest that they were indeed the dominant taxa within the local woodland, particularly on the damper soils of the valley floor (Miller *et al* forthcoming). However, hazel is particularly useful due to its ability to respond well to coppicing, producing long straight rods which can be utilized in a variety of ways, most notably for wattle. The majority of the larger hazel charcoal fragments were roundwood, mainly representing seven to 12

years of growth. This is entirely consistent with a managed system of coppiced woodland. The impressions on daub fragments from Debris Pits 1 and 2 were of 1–2cm diameter roundwood, which corresponds to a similar age of rod. Furthermore, Dickson records that wattle was observed in situ in some daub fragments. The original source material cannot be found, but Dickson noted in 1986 that:

> Also from debris pit 2 a piece of burnt daub has wattle preserved *in situ*, it measures 150 x 90 x 90mm. ER Cregeen's notes state that 'five pieces of wood lie roughly parallel and in a row, and each measures 0.3″–0.35″ (7.5 – 9.0mm).' These pieces are of hazel roundwood. Mr Cregeen's notes continue 'below this row can be made out a row at right angles to it, of possibly heavier calibre.' This wood is of alder and the existing fragments appear to be of more substantial wood than the wattle. Mr Cregeen noted possible evidence of interweaving and also that 'the ends of smaller twigs .15″ (4mm) diameter are visible below the broken ends of the first row and may be the bindings.' Other pieces of daub have channels on one or both sides, impressions from the wattle, ranging from 10 to 17mm wide (Dickson 1986).

Oak charcoal was recovered in moderate quantities from several contexts representative of post-holes and ditch deposits, but was most pronounced in the assemblage from the Debris Pits 1 and 2. In these samples, oak was recovered from nearly all deposits examined. This is relevant and may indicate the utilization of oak for a particular purpose in the original pits, although whether this was structural or artefactual cannot be stated with any confidence. Nevertheless, Dickson did tentatively suggest an oak storage box, and this explanation, or perhaps an oak-lined storage facility, are both reasonable interpretations. However, a diversity of charcoal taxa as well as daub within the debris pit deposits would imply that the assemblage recorded includes structural debris and possibly also hearth waste from the clearance of the site after it was destroyed by fire.

The charcoal assemblage from nearby Dunadd hillfort was identified (by Boyd 2000). He found evidence of the same utilization of alder, hazel, oak and birch as was found at Bruach an Druimein. He identified wattle structures and hearths, with mainly small diameter branches employed. This may indicate utilization of resources from open, scrub woodland rather than from a mature woodland stand. Hearth features, most notably those for metalworking, appeared to have no specificity of taxon selection, and the assemblage as a whole is remarkably similar to that found at Bruach an Druimein. This is thought to reflect the availability of local woodland resources.

Cereals

The main cereal type identified at Bruach an Druimein was six-row barley (*Hordeum vulgare sl*), of which an extensive proportion were well enough preserved to be confidently identifiable as the hulled type (*H. vulgare* var *vulgare*) (see Illus 30, lower). It is most likely that the great majority, if not all, the barley was of the hulled type. Six-row barley has always been the main crop on mainland Scottish archaeological sites, an accolade due to the ability of this cereal to be spring sown and produce a good infield crop, fairly independent of the vagaries of the Scottish weather (Dickson & Dickson 2000). The state of preservation of cereals at Bruach an Druimein was remarkable, which may indicate that the grain had been heated for a prolonged period in an enclosed area, rather than having burned quickly, such as would have happened if the grain had been subjected to an open fire. This may suggest that burnt grain was not dumped into the pits, but that it burned there in situ. Furthermore, none of the grains had the characteristic 'frothy' appearance which results from the combustion of damp grains during parching prior to storage. This fact, together with the remarkably low levels of chaff and weed seeds, are strong evidence towards the accidental destruction of a stored cereal cache which had been parched and gleaned previously. Unfortunately, the extremely low numbers of carbonized weed seeds in the cereal deposits means it is not possible to infer whether the crops were harvested by ear picking or by cutting/pulling lower down the culm.

Hulled six-row barley was also the dominant cereal type at the seventh- to ninth-century site of Dunadd hillfort (Milles 2000), which is in close proximity to Bruach an Druimein in the Kilmartin Valley, although at Dunadd a few naked grains (*H. vulgare* var *nudum*) were also recorded. It is not clear exactly what percentage of the total cereal assemblage at Dunadd was of the naked type of barley, although it is suspected that this cereal may have been present as a 'weed' or relict of earlier cultivation preferences.

Slightly less than 10% of the total cereal assemblage at Bruach an Druimein was oats (*Avena*), although whether these are of the cultivated (*A. sativa*/*A. strigosa*) or wild type (*A. fatua*) remains inconclusive. However, many of the identified grains were very small and the few glume bases recorded were more akin to those of *A. fatua*. This suggests that wild oat is at least the main component of the oat assemblage. Because wild oats are edible and of a somewhat similar size to cereal grains, it may be that they were not gleaned prior to storage, but kept in to boost the nutritive value of the crop as a whole, ie as a speirochore. This contrasts with the size descriptions available for Dunadd (Milles 2000) where the oats were thought to have been of a similar size to cultivated types. However, as with Bruach an Druimein, the lack of well-preserved glume bases at Dunadd means that was is not possible for Milles to be more conclusive.

Only eight wheat grains were identified from the site, of which seven were identifiable as emmer (*Triticum dicoccum*). Emmer has been recorded in

Britain from the Neolithic onwards, but the Bruach an Druimein examples are from an Iron Age context (GU–11096). Other Early Historic records include Barhapple Loch, Wigtownshire (Jessen & Helbaek 1944) and Dunadd (Milles 2000), but here they were believed to be from Iron Age contexts. Both of these sites also contained barley, and emmer cannot be claimed to be anything other than a minor component of the assemblage. The wheat in the two sites from Kilmartin Valley may be interpreted as relicts of earlier cultivation on good infield land, or trade.

It is regrettable that the 16-year differential between the initial botanical post-excavation analyses and the present study have meant that a good deal of information and sample labels have been lost or have become difficult to interpret. Nevertheless, enough material has remained to provide a good indication of the construction and arable agricultural practice of this site, together with an indication of the exploitation and management of the wider valley area with regard to woodland resources.

9.2 Mammal bone

Jennifer Thoms

9.2.1 Aims

The animal bones and the associated archive notes were submitted for re-analysis in order to consolidate the two sets of previous analyses. These analyses were conducted in 1961 and 1985, and consisted mainly of an attempt to identify the few bone fragments not rendered unidentifiable by the burning and fragmentation they had been subjected to. There have been several theoretical and methodological developments since the bones were examined, particularly since 1961, when the late Ian W Cornwall carried out the work. It was anticipated that the re-analysis of the material in the light of recent developments in the understanding of taphonomy (eg Binford 1978; Meadow 1980; Brain 1981; Hesse & Waspnish 1985; Lyman 1994; Reitz and Wing 1999; O'Connor 2000) might aid in the interpretation of site formation processes. The archive notes were mainly hand-written, and the work of several different people, so the data were collated and put onto a computer database. The possibility that some of the bone might represent ritual deposition, or 'special animal deposits' (Hill 1995) was considered throughout the re-analysis.

9.2.2 Methods

The bones retrieved can be regarded as belonging to two categories. The bones from the first excavation season were identified to species and element by the late Ian W Cornwall in the Institute of Archaeology at the University of London. These bones are no longer within the site archive, so were not re-examined.

Lin Barnetson identified faunal material retrieved from the second season of excavation in the Department of Prehistoric Archaeology in the University of Edinburgh. These bones were available for further examination and were studied for any taphonomic indicators such as gnawing, signs of burning and butchery marks.

Information from the paper archive was added to the database and is of two types. Firstly, the archived data relating to the bones are listed, including the number on the bag (ID no) the species and elements present within the bag and the condition the bones were in. Secondly, the location information present on the bag was listed in the most concise form possible in the first instance. Because there were often notes explaining further the bones' exact location within a trench, these are also listed. In some cases the precision level was felt to be to fine, statistics about distance from the top of a partially demolished wall are essentially meaningless and were not recorded. The very detailed contextual information is generally recorded on the bag in which the bones are contained, so will not be lost completely should they play any currently unforeseen role in the future. Many of the archive notes are copies of each other, hand-written and typed up, for example, and the production of a database will allow some of the notes to be discarded.

The other information presented in the database refers to the bone fragments. They have been identified as far as possible to element and species. In the case of some bones, such as ribs and vertebrae, it is generally only possible to categorize them by size. They are described therefore as being 'cattle sized' or 'sheep sized'. Bone fragments that cannot be identified to element and/or species are recorded as indeterminate ('indet').

The column 'ID no' refers to the number on the bag containing the bone sample, while the column 'find no' refers to any other information that distinguishes that bone sample from others; for example, one ID no (113) had two samples, 'a' and 'b'.

Use of a database allows specific questions to be asked of the information and the relevant data can be accessed quickly. Tables 1–10 in the MS Access Reports show the data on the bones from each context. These tables do not show any of the information about the exact location of the material, which can be accessed on the MS Access Table 'Bones'.

9.2.3 Results

The results are presented in Table 13 below.

9.2.4 Discussion

In all the above contexts the small amount and poor condition of the bone present precluded

Table 13 Results of the bone analysis

Context	Description	Description of bones
001	Topsoil	Fragmented and mainly calcined through burning
003	Burnt layer in Areas 1 and 2	Considerable amount of burned and fragmented bone
405	Burnt layer 003 in the outer Ditch 404	One bag of burnt, fragmentary bone was retrieved, containing a pig phalanx and a rib from a sheep-sized mammal.
406	Collapsed wall along the inner Ditch 401	Burnt fragments of a skull from an unidentifiable species.
407	Backfill of the Ditches 401 and 404	Calcined bone and a complete unburnt upper molar from cattle
409	Possible 'oven' or bore hole	Burnt bones, some crumbs. Some non-calcined bone including a fragmented cattle mandible and some tooth enamel
416	Hearth in context 407	Burnt and fragmented bone (and six carbonized barley grains)
502	Fill of debris Pit 501	Fragment of sheep calcaneum and some indeterminate burnt bone fragments
11	Post-hole 011	Burnt and fragmented bone and charcoal

further detailed analysis. As the overwhelming majority of the retrieved bone was burnt and very fragmentary, it suggests that unfavourable conditions prevented bone preservation, most probably due to the acidic soils in the area. Tooth enamel and burned bone are more resistant to chemical destruction and so taphonomy has been of prime importance in determining which bones survive. Natural processes can be said to have masked cultural processes, so it is unlikely that much can be learned about the culture of the site from the bone assemblage; even without the compounding factor of the difficulties encountered during the excavation. In addition, burnt, fragmented bone was common over the site, including in the topsoil (context 001); this reflects the acidic soil conditions and also suggests many of the bone-bearing contexts might be redistributed deposits. It is not advisable to attempt to investigate economy or culture from such an assemblage. The bone samples are, however, of interest in interpreting site formation processes.

The material present in context 003 does reflect what might be expected within an 'occupation layer'; small fragments of burnt bone derived from domestic animals. The bone may have been burnt during the cooking process, or, arguably more likely, it may represent bone material used as fuel. It is not possible to ascertain whether the bone fragments in context 003 are in a better state of preservation than those in context 405, because the bones from the two contexts were identified by the two different faunal workers. Some are therefore not available to the present worker to be assessed for preservation state.

Samples from the contexts from the ditch were very small and showed little variation in the state of preservation of the bone fragments. The sample from the possible hearth (context 416) includes barley grains and the bones are calcined and fragmented so the admittedly small sample does not refute the hypothesis that this is a hearth. There may be a bit of a circular argument here, however, as the 'hearth' might have been recognized because of the burnt bone and charred plant remains near it. The same may be true of the occupation layer.

The bones for which context information was not available were all calcined apart from one cattle molar tooth, again reflecting taphonomic agencies.

Bones from sheep, cattle and pig were present among the assemblage, as was one fragment of fish vertebra, the only one in the examined assemblage. Pig bones are comparatively well represented in the assemblage and there are several reasons why this should be so. All pig bones retrieved are structurally dense bones, such as patella, metapodials and phalanges, which may have survived the taphonomic processes better than other bones. It is possible that pig bones were favoured for use as fuel because of their high fat content.

Fish bones are greatly under-represented on sites where no sieving has taken place, also the acidic soils would tend to destroy them very quickly. Furthermore, fish bones, due to their delicate structure and small size, will fail to survive in redeposited soils.

9.2.5 Conclusion

The faunal material retrieved from Bruach an Druimein was mostly highly fragmented and calcined as a result of burning and due to being in this state they survived the acidic soils of the area. However, as these fragments have been selected for survival through their exposure to taphonomic agents, mainly fire, they do not lend themselves to further analysis of the cultural, economic processes of the site's occupants. The faunal remains are of some use in understanding site formation

processes, particularly as their ubiquity over the site indicates considerable re-deposition of material, also indicated by the archaeology of the site.

10 Discussion

10.1 Neolithic/Bronze Age

The evidence for this phase of occupation is mainly in the form of lithic artefacts recovered from the series of excavations. The artefacts have been examined on two occasions: first by Armand Lacaille in an unpublished report, which was written around 1964/65 and more recently by Graeme Warren (this volume). Although Lacaille had interpreted the lithic assemblage as being the result of a Mesolithic industry, analysis by Warren has made it clear that the assemblage has a later origin.

The lithic assemblage comprises 95 pieces mainly recovered from topsoil and late contexts, and is clearly redeposited or disturbed and is most likely to be Later Neolithic or Bronze Age in origin but possibly later. The majority of the assemblage was recovered from an area measuring 10m by 8m and on the immediate north-west of the roundhouse features (Area 1) spreading into the possible metal-working area (Area 2). Some of the lithics recovered in this area were in better condition than much of the rest of the assemblage. This led Warren to postulate that, although disturbed, the assemblage originated close to this area. The assemblage is broadly homogenous in character and probably derived from the use and maintenance of stone tools, as opposed to large-scale tool production or ceremonial, funerary or votive activity. Although occasional lithics were also found randomly distributed across the site, nothing more to suggest a random distribution was recovered from inside the roundhouse features. Cregeen had proposed that, after these structures were burnt, the debris from this event was cleared. There is no reason to dispute this but it is now apparent from Warren's findings that this clearance appears to have been limited to the area containing the roundhouses.

A number of coarse stone tools such as hammer-stones and pounders were also recovered. Although potentially prehistoric, chronologically these tool forms could be much later and none were from potentially prehistoric contexts. However, two prehistoric stone tool types were identified (Section 8.1). A pot

Illus 31 Possible pivot stones (missing); larger (SF 219) recovered from Ditch Section 2, smaller (SF 223) from Ditch Section 1

lid (SF 99) was found in the final backfill from the ditch system and a mattock fragment (SF 210) was found next to one of the cists discovered during this series of excavations (Cregeen & Harrington 1981).

Two fragments of stone decorated with depressions (SF nos 219, 223) were recovered from the final backfill of the ditch system (context 407) at its south-east end (Illus 31). Although these bear some similarity to cup-marks, they are deeper, and are here interpreted here as pivot stones, though if they were cup-marks, they could have come from a destroyed Bronze Age cist. Currently there are nine recorded Bronze Age cists (Craw 1929; Campbell & Sandeman 1961; Cregeen & Harrington 1981) on the Bruach an Druimein terrace, several of which are decorated with cup-marks and have rebated grooves down their sides. There is no doubt that other cist sites would have been on this terrace and probably removed in the past. During the construction of the ditch system enclosing the site, several cist sites could have been disturbed. Numerous cists were also discovered on the Poltalloch estate over the course of agricultural improvements in the 19th century. The possibility of further cists surviving at Bruach na Cuirte at the north end of the terrace has already been raised (Craw 1929). This area and others on the terrace that are unaffected by quarrying could contain further cists or evidence of prehistoric activity.

Possible prehistoric rock art was also encountered on a small rectangular boulder, which had been used as one of the foundation stones for the buildings in Area 2. A detailed description of it does not exist but it was photographed (Illus 32). Close examination of the photographs suggest it was not rock art, but plough or other casual damage to the stone surface. There are apparent lozenges, though this appears to be coincidental. There are other lozenge-decorated slabs in the Kilmartin area. A side slab of a cist with interlinked multiple lozenge designs cut by two later rebates was discovered at Badden (Campbell *et al* 1961), and a rectangular slab of similar dimensions to the Bruach an Druimein stone with a lozenge design was recovered from a cist in Carn Ban cairn, Cairnbaan (RCAHMS 1986, 57). These two examples are of Neolithic carved stones being reused and incorporated into Bronze Age burial context.

Although in the past finds of lithic artefacts in the Kilmartin area have been rare in comparison to the wealth of prehistoric monuments, mainly from cists and burial chambers, an ongoing programme of research and fieldwork based in the Kilmartin Glen has so far located five surface lithic scatters (Abernethy 2000). They are broadly comparable in character to the lithics located at Bruach an Druimein. It also seems apparent that the current pattern of surface lithic scatters in the glen is limited to areas not affected by peat stripping and

Illus 32 Fragmentary slab with incised lozenge ornament (missing), found in foundations 202, Area 2

major agricultural improvement, is also applicable to the Bruach an Druimein terrace.

10.1.1 Possible cooking pits

Cregeen proposed that the group of features comprising the series of shallow oval pits (107, 115, 116, 117 & 118) and burnt-stone filled trough (109) represented a complex of possible cooking pits. He also proposed that they were the earliest features encountered during the series of excavations and they were contemporary with the deposition of the lithic artefacts. The pits are between 5m and 10m south-east of the main concentration of artefacts. No lithic artefacts were recovered from the fill of the pits, and the few that were recovered from the vicinity were from disturbed contexts. The pits are thought to pre-date two possible roundhouses because two of the cooking pits are cut by post-holes.

Whether these pits represented the remains of burnt mounds or associated activity was considered. Burnt mounds can comprise a clay-lined trough dug into the ground, surrounded by a mound of heat-shattered stones and blackened, burnt-silt and charcoal. It is generally thought that the trough was used for holding water, which was heated by the addition of hot stones. There are numerous interpretations as to the use of these sites, but it is usually accepted that many were used for cooking or as saunas (Barfield & Hodder 1987, 370).

Many burnt mounds have been recorded throughout Britain and Ireland. Although they have a wide chronology, these mounds are predominantly dated to the second millennium BC (Buckley 1990, 9). Sites on Bute, Arran and Islay have produced radiocarbon dates in the third and second millennium BC (Barber 1990, 102). However, these sites are sparse on the mainland but 'undoubtedly many burnt mounds remain to be discovered in Argyll' (Ritchie 1997, 49).

Although several hollows containing burnt material were encountered at Bruach an Druimein, only one of them (context 109) had classic burnt mound characteristics: it comprised a clay-lined trough filled with burnt stone and charcoal. This particular feature had been recut and reused on a number of occasions with a series of hearths in its upper fills. A sample from the upper fill of this feature, context 112 (GU-11095), produced a date range of 390–200 cal BC and its possible use as a boiling trough clearly pre-dates this.

There are two comparable sites nearby, on the opposite side of the Kilmartin Glen and currently easily visible from Bruach an Druimein. A burnt mound was also discovered during the construction of a car park at Lady Glassery 1km to the north-east (NR 8299 9760) (Anthony *et al* 2000). The investigation at Lady Glassery revealed a feature that exhibited many of the characteristics of a prehistoric burnt mound, including its form, location and lack of associated features and artefacts.

No finds were retrieved but samples from this site were dated using two methods. Luminescence dating was applied to samples of both burnt quartz and feldspar (SUT L472, 473, 475, 476), giving a mean date of 2800 ± 300 BC (Anthony *et al* 2000). After calibration, the radiocarbon date obtained (GU-7865) produced an age range of approximately 2800–2400 cal BC, which closely correlates with the luminescence age.

Another site, 1.3km to the south-east, was located by fieldwork and consisted of a lithic scatter in association with geophysical anomalies suggestive of a complex of burnt mounds (Abernethy 2001). The setting of this particular site is very similar to Bruach an Druimein. They lie on opposite sides of the Glen, both are located near the edges of fluvio-glacial terraces and command virtually the same view. Both are in the zone suitable for cultivation between the flood plain and the uplands but in a position to take advantage of all three given a range of seasonal activity.

10.1.2 Ditch complex

The ditch complex has a considerable history of recutting, expansion and backfilling. Current research and fieldwork (Abernethy 2001) suggests that earthworks were also an important component of the prehistoric monumentality in the Kilmartin Glen but have not survived in such a recognizable state as the upstanding stone monuments. It is also suggested that prehistoric monument complexes were incorporated into naturally bounded areas of landscape, and palaeo-channels were sometimes recut in order to enhance monument location and create boundaries between the areas of landscape occupied by the living and those occupied by the ancestors. As the Bruach an Druimein terrace contains at least three Bronze Age cist cemeteries, prehistoric rock art both from graves and on exposed bedrock, a surface lithic scatter and a possible prehistoric burnt mound complex, the possibility that the ditch complex was originally associated with these sites or was originally a paleo-channel should not be overlooked. It should also be noted that Craw recorded a low curvilinear bank at the site (Craw 1929). Cregeen noted that during his excavations the bank was no longer visible, but Craw's plan of the bank followed the line of the ditch on its northern side.

10.1.3 Discussion

Although the occupation of Bruach an Druimein over a probable 5000-year period is one of the most important aspects of this site, the lithic artefacts from this site are best understood in how they relate to the rest of the known prehistoric archaeology in the area. Consequently, they should be recorded as an additional lithic scatter that is in close proximity

to Bronze Age funerary activity, cup-and-ring marks, and a probable prehistoric burnt mound, rather than part of an assemblage of finds from a multi-period settlement.

The discovery and identification of burnt mounds and prehistoric earthworks in Kilmartin not only contributes to our understanding of the overall distribution of these types of monument, but raises the likelihood of the existence of more of these sites in the Kilmartin area and their possible associations with more widespread activity throughout the landscape. Recent fieldwork suggests that, despite the abundance of upstanding prehistoric archaeology in the Kilmartin Glen, it represents only a fraction of the remains that would have originally been present (Abernethy 2001). Throughout prehistory, monuments were constantly modified and reinterpreted, and so was the landscape they occupied. The excavation, dating and palaeo-botanical study of settlement and ritual sites is crucial to their interpretation, and also to the wider understanding of their relationship with the landscape of the Kilmartin Glen.

10.2 Iron Age

Six closely correlating radiocarbon dates were obtained from burnt botanical remains recovered from Bruach an Druimein, all falling in the second half of the first millennium BC (see Section 7.5). The samples comprised charcoal or burnt grain from various parts of the site and the burning that affected them may be the result of one major conflagration at the site. Due to the shallow depth and level of disturbance in the stratigraphy of the excavated areas, some sequencing activity of the site has had to rely on information revealed in the ditch sections.

An Iron Age radiocarbon date (GU-11093) was obtained from backfill (context 407) from the inner Ditch 401. There were considerable stratified deposits below this level and it is clear that several episodes of natural silting and possibly recutting occurred before its deposition. The date is similar to those from the occupation layer (context 003) across the site and suggests the ditch was in use at the same time as the main Iron Age occupation of the site.

Almost 60 post-holes were recorded in Area 1, some 10m from the line of the ditch, many of which were overlain by the burnt layer (context 003). Cregeen postulated that the concentration of post-holes represented two main phases of roundhouse construction. Due to the distribution, character and fills of the post-holes it seems apparent that two main phases of round timber buildings are represented. House 2 seems certain to be iron age in date, as a radiocarbon date of the fourth to second centuries cal BC (GU-11093) was obtained from the remains of a burnt post in one of its post-holes. As we have no date from House 1, it remains a possibility that it could date to the Early Historic period of occupation, rather than Iron Age.

It was suggested by Cregeen that these houses suffered a conflagration and the resulting burnt material was cleared from the site and dumped into the ditch. In Area 2, two test pits had also found post-holes beneath a significant deposit of burnt material. This indicates that the Iron Age timber structures were probably much more extensive across the terrace than indicated by the limited area of excavation.

The identification of these structures as Iron Age is important for two reasons. Firstly, these are the first certain Iron Age roundhouses to have been discovered by excavation in Argyll, and secondly because they add to the repertoire of site types in the Iron Age landscape. In Argyll, discussion of Iron Age settlement has been dominated by the stone-walled duns, brochs, forts and crannogs (eg Harding 1997). The existence of open, or slightly defended settlements, has been suspected from the presence of a few scattered hut circles (RCAHMS 1988, 203–5), but confirmation by excavation is welcome, and shows that low-lying arable areas were occupied as well as craggy hilltops and lochs. Although Iron Age roundhouses are well-represented in other areas of Scotland, the stone-walled Atlantic roundhouse tradition has been believed to have dominated the western seaboard. Recognition of both traditions in the Kilmartin Glen could imply contact with eastern Scotland or southern Britain, but could also be due to environmental factors (cf Henderson, Jon 2000, 119). The previous lack of evidence for timber buildings of this period may be due to lack of excavation in suitable environments, combined with difficulties of finding sites through aerial photography.

After the site had been burnt, and material resulting from this event deposited in the inner ditch, a revetment or wall was constructed along the inner edge of the inner ditch. The inner ditch was subsequently completely re-dug on at least two occasions, with each of these episodes undergoing natural silting before renewal. There are also numerous features on the site that post-date the conflagration. It may be the case that the phase of rebuilding activity represented by the various stone features set into context 003 are contemporary with some of the ditch recuts but the original cutting of the ditch and its earliest use could be contemporary with the construction of House 1 or possibly considerably older.

Outside the main concentration of post-holes were three evenly spaced post-holes (29, 30, 31) in alignment with, and 1.5m from, the inner edge of the inner ditch. Cregeen postulated that this represented the remains of a palisade running parallel with the ditch. Despite further investigation no other post-holes were located along the line of the ditch but he suggested the possible post-hole encountered in the standing stone area could be further evidence of the existence of such a structure. Post-holes 29, 30 and 31 averaged 0.4m in diameter and 0.5m

deep and were some of the largest encountered on the site. A more plausible explanation may be that these features represent the stanchions for a bridge across the ditch complex.

A number of pits were located on the opposite side of the ditch from these post-holes and within a few metres of its outside edge (the 'debris pits'). Two samples of burnt grain from the pits gave calibrated date ranges from the fourth century BC to the first century AD (see Section 7.5). This area was removed by quarrying before any examination and the debris pits only came to light during their destruction, so the possibility that there were more extensive Iron Age features in this area should not be overlooked. Certainly a bridge at this point would have provided easy access between the timber buildings and the debris pits on the opposite side of the ditch.

The fully excavated area is only a small proportion of the full extent of the settlement area, possibly between 0.25 and 0.36ha, and enclosed by a substantial multiphase ditch. A trial trench excavated in Area 2 revealed archaeological features including a post-hole (055) stratigraphically below the building foundations (context 202). Excavation of the standing stone area also revealed a number of earlier features including a possible post-hole. Therefore it is probable that the Iron Age occupation is more extensive and represents a considerable domestic settlement containing a range of buildings, partially enclosed by a ditch but also with activity external to the defences.

10.2.1 Environmental and artefactual evidence

The grain on the site represents material that had been sorted and stored and was mainly six-row barley, which tends to be the dominant crop on Scottish mainland Iron Age sites. There is nothing in the charcoal assemblage to suggest anything other than normal management and exploitation of local woodland resources for fuel and building material. Unfortunately, there are few small finds that reflect Iron Age activity on the site, and metalwork and pottery are both absent. Some coarse stone tools represent finds possibly attributable to the Iron Age occupation at the site. These include hammerstones and pounders (SF nos 31, 97, 10, 145, 161, 166, 190) and a possible pivot stone. Although pivot stones are difficult to date when out of context, this one was found in the fill from one of the debris pits. Further evidence of building detritus was also found in the debris pits in the form of pieces of burnt wattle and daub and considerable quantities of burnt clay.

Due to the poor condition and level of redeposition affecting the bone assemblage it is not possible to comment on the social processes leading to their original deposition other than they represent domestic activities associated with a general occupation layer. The lack of any other occupation debris or a floor pattern suggestive of a living space is probably a result of the clearing of the site into the ditch. Evidence for a central hearth in House 2 could have been destroyed by the insertion of the later stone slab (context 101) with its chocking stones beneath. It is probable that the hearth in the upper layers of Pit 109 was used as a central hearth for House 1 (context 113). The date from a layer beneath Hearth 112 correlates with the other Iron Age dates.

10.2.2 The Iron Age in Argyll

Iron Age sites in Mid Argyll are mainly present in the form of isolated duns and forts and little is known of the wider landscape occupation and of more ephemeral structures. Duns are sub-circular stone-walled enclosures, mainly between 10m and 15m in diameter, and usually located on the summits of hills, knolls and crags in the vicinity of low-lying farmable coastal land. Forts are often very similar to this category of monument applying, to enclosures that contain over 375sq m (RCAHMS 1971, 18). Although abundant – the RCAHMS inventory for Mid Argyll lists 63 duns and 30 forts – few of these sites have been excavated and even less of them to modern standards. Most are severely ruinous, but better-preserved examples show variation in architectural detail and ground plans. Where dates are available, they demonstrate a wide range of occupation and debate has centred on the chronology of the various forms of enclosure, with Iron Age interpretation often being associated with the defensive settlement of a warlike hierarchical society. Dates from duns/forts in Mid Argyll that correlate with the Bruach an Druimein dates include some of the earlier occupation at Dunadd which lies some 7km to the south-east. Although a nuclear fort with a long sequence of occupation, the structure on the summit had once been a dun. Two samples from this area produced calibrated radiocarbon dates in the second half of the first millennium BC (Lane & Campbell 2000, 84, Table 3.1). Seventeen kilometres north-west of Bruach a Druimein, excavation of a fort/dun on Eilean an Duin recovered charcoal from below the rampart with dates of 404 BC to 40 BC (Nieke & Boyd 1987).

Although not as abundant, there are other settlement forms attested to for this period in Mid Argyll including crannogs, timber roundhouses and caves. Like forts and duns, they also have a broad chronology and few have been excavated, but some of them have produced date ranges similar to Bruach an Druimein. Ten kilometres north-east of Bruach an Druimein at Loch Ederline, a date of 2320 ± 45 BP was obtained from a structural timber from a crannog (RCAHMS 1988, 205). Slightly further afield, excavations at a multi-phase settlement and hillfort at Balloch Hill in Kintyre produced a series of dates from 2690 BP to 1970 BP (Peltenburg 1982) and MacArthur's Cave in Oban produced a range of dates in the second half of the first millennium BC (Saville & Hallen 1994). Although Duntroon Fort

has not been scientifically dated, its main construction and occupation has been attributed to the later first millennium BC (Nieke 1990). This site is 4km south-west of Bruach an Druimein, has evidence of grain production and its heavily vitrified wall debris is testimony to the site being affected by a major fire. Within a relatively small area there appears to be a wide range of architectural forms in use at the same time. It is also the case that certain architectural forms introduced during the Iron Age and earlier, such as timber roundhouses, duns and crannogs, continued to be used in later periods.

It is interesting that the Iron Age occupation of Bruach an Druimein represents a roundhouse settlement enclosed by a substantial ditch complex situated in a low-lying area of landscape when the dominant architectural form for this period in Mid Argyll is the hilltop dun. Although the architecture and setting are somewhat different, a number of comparisons can be made. Duns are often in locally defensible and strategic locations close to the coast and areas of farmland. Although Bruach an Druimein is located on a low-lying terrace on the side of a valley it is also in highly visible strategic location, commanding extensive views over the extent of the Kilmartin Glen. The enclosing ditch and its proximity to the edge of the promontory with steep sides down to the valley floor also suggest maximizing the defensive potential of this location and the defensive nature of this site could have been more complex than revealed by partial excavation. However, in this case, the possibility that the defences were more psychological than physical should not be overlooked.

Several writers (including Ritchie 1997, 58) have commented on the unsatisfactory nature of certain inventory classifications and advise caution when fitting partial archaeological remains into pre-existing models for Iron Age occupation. Ritchie also notes that the impressive nature of duns and forts has focussed attention away from other Iron Age settlement forms (Ritchie 1997, 59). Harding stresses the need to understand how the different classes of monuments relate to each other and the developing landscape within the context of Iron Age settlement in Atlantic Scotland and beyond (Harding 1997, 118).

The amount of different types of settlement form and the deviations of conformity in forts and duns does suggest that there could be a wider variation in the character and distribution of Iron Age sites in Argyll, and such structures await discovery. The one thing that most of these sites have in common though, is the tendency for them to be associated with elements of defence or refuge, as well as control and exploitation of the surrounding landscape. Although defence is an important element in many of these sites, viewing solely on these grounds only hinders attempts with further interpretation. Excavations at Duntroon Fort (Christison 1905) and Balloch hill (Peltenburg 1982) have revealed evidence more associated with subsistence farming rather than warfare, and some Iron Age sites were clearly open to easy attack. The Bruach an Druimein Iron Age settlement could fit this pattern and it is probably the case that the defendable nature of some Iron Age sites in Argyll is more symbolic than functional.

10.3 Early Historic

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Bruach an Druimein was clearly an important settlement site during the Early Historic period, but it is difficult to certain about the nature of the occupation due to the disturbance of the stratigraphy. A substantial number of artefacts which can be ascribed to the Early Historic, or early medieval, period were recovered, and these give a number of pointers as to the type of activities taking place on the site. It is unfortunate that none of the structural evidence can be related certainly to these finds, as the site is unique in the area at this period in being an open settlement rather than a hilltop dun or fort. As such, the site fills a major gap in our understanding of the overall settlement pattern at an important period of transition. In the later part of the Early Historic period, a millennium-long tradition of stone-walled hilltop settlement was giving way to a pattern of open dispersed settlement typical of the medieval period, a pattern which persists to the modern period. Both the status and chronology of Bruach an Druimein are therefore vital to an understanding of this process, but the finds also give some indication of the extent of the cultural contacts available to the inhabitants.

10.3.1 The metalworking area

The finds of the period can be listed as certain and probable. Those certainly belonging to the period include the two beads (SF nos 077 & 201), the shale motif piece (SF 28), the double spiral-headed pin (SF 119) and the mould fragment (SF 33). Probable items include the seven iron knives (SF nos 013, 093, 094, 125, 140, 185, 213) and four punches (SF nos 149, 193, 239, 240), the crucible fragments (SF nos 045, 049, 085), the shale bangle (SF 202), and two missing items, a copper alloy cylinder (SF 128a, b) and a lead strip (SF 92). Although this seems a small assemblage, in comparison to other first-millennium sites in Argyll, it is substantial, both in its range and quantity (Campbell & Crone 2005, Table 4).

In terms of chronology, none of the items can be ascribed to a precise date, but there does seem to be a range of dates in the material, suggesting a fairly sustained period of occupation. The beads have been dated to the eighth/ninth and seventh/ninth centuries, the motif piece possibly to the late ninth/10th centuries, and the spiral-headed pin has a seventh/ninth century date. The other material is less chronologically sensitive, but the knives, the

bangle and the mould technology are closely paralleled in the seventh-century metalworking deposits at Dunadd. These dates are important as they suggest that occupation was contemporary with the main *floruit* of Dunadd in the seveth to ninth centuries (Lane & Campbell 2000, 97, phases D & E).

In terms of the function of the site, some information can be gained from the type of activities taking place there. The mould and fragments of three crucibles point to the production of fine metalwork, and chemical analysis shows that silver was being worked. One of the fragments (SF 49) is from a tiny crucible probably similar to Dunadd Type D which was used for gold and silver casting (Lane & Campbell 2000, 206). There is considerable evidence that silver personal ornaments, particularly brooches, were the preserve of the upper echelons of nobility at this period (Nieke 1993), and large-scale production of these items was found at Dunadd (Lane & Campbell 2000, 201–11). It has been claimed that production of precious metal brooches in particular was restricted to royal sites such as Dunadd (Campbell 1996, Table 4.1). However, recent analytical work has shown that silver was being utilized on a wide variety of site types, many of which were not high status (Campbell & Heald 2007). As a local example, the crannog at Loch Glashan has a crucible with indications of silver-working (Campbell & Crone forthcoming). It may be that metalworkers were not restricted to high status sites, even if the items they produced were worn by high status individuals. The motif piece fits into the idea of Bruach an Druimein as a craftworkers site. Motif pieces were used by craftworkers to try out designs to be expressed in metal, stone, wood or leather. It is interesting that the date of this piece shows that craft activities were continuing on the site into the Norse period, as it shows clear Norse influence in its style. This does not necessarily mean the presence of Norse settlers in the area, as by this period there was fluidity and interaction in art styles between Norse and Gael. The only other possible evidence for Norse in mainland Argyll is a late 10th-century hoard containing an Anglo-Saxon coin, which was discovered less than a kilometre to the north, hidden in a prehistoric cairn (RCAHMS 1988, 35), and a bead and axehead from Loch Glashan (Campbell & Crone 2005). The iron tools found on the site, mainly knives and punches, back up the view that craftworking was a major activity on the site, but the lack of weapons differentiate it from royal sites such as Dunadd or Dunollie (Section 8.8). Finally, the very fine perforated whetstone, SF 135, could be associated with this phase of the site if it is of the Norse period rather than medieval.

The other early medieval material from the site consists of personal adornments: a shale bangle, two beads and an iron pin. Analysis of the beads show they are closely comparable to some from Dunadd, perhaps suggesting they were manufactured there, or perhaps obtained there. The bangle is made from a material which is not local in origin, but again there was working of this material at Dunadd (Lane & Campbell 2000, 192–5), perhaps suggesting this was where this object was obtained. However, two missing objects were described in the catalogue as 'lumps of lignite', so may indicate shaleworking on the site. The pin is interesting as it is similar to a seventh/eighth century type widespread in Anglo-Saxon areas, but also found less commonly in Wales (Campbell & McDonald 1995, 92), though it is formed in a different manner, not by splitting a pin and twisting out the two strands on opposite sides, but by coiling a single strand across both sides. Similar forms are also found in Irish contexts, but it is possible that this is a local copy of an Anglo-Saxon form, especially given the known presence of Anglo-Saxon objects at Dunadd (Lane & Campbell 2000, 241–7).

Taken as a whole, the finds assemblage indicate a site which has access to high status material such as silver for craftworking purposes, but was otherwise not of particularly high status. Metalworking, both of iron and non-ferrous metals, seems to have been the main focus of activity. The finds show close links with the nearby major royal site of the kings of the Dál Riata at Dunadd, and suggest that the site was closely linked to activities there. Hints of wider contacts are given by the Norse-style ornament in the motif piece, and the possible Anglo-Saxon influence in the double spiral-headed pin.

As far as the structures on the site are concerned, the only indication as to whether any are of Early Historic date comes from the overall distribution pattern. It is noticeable that almost all of the finds discussed above come from a very restricted area, squares B2, B3, B9, B12 and B13, the area around the Area 2 structures. A few others come from the ditch sections to the north, probably where midden material from these activities was dumped. The structures, though insubstantial, are close in size and appearance to the stone and turf structures on the seventh-century metalworking site at Dunadd (Lane & Campbell 2000, 73–4, illus 2.38). It is possible that these are indeed of early medieval date, and represent the remains of small bothies for metalworking. The actual habitations of the metalworkers would then lie elsewhere in the vicinity. If this is accepted, it is possible that other finds concentrated in this area belong to the Early Historic phase. Thus some of the flints, which were noted as being similar to the assemblage from the metalworking site at Dunadd, could belong to this period. There is much uncertainty about flintworking at this period, but there does seem increasing evidence for an early medieval tradition which has tended to have been ignored in the past (Healey 2000, 200). As House 1 is effectively undated, it remains a possibility that it could date to the early medieval period, but there is no confirmation of this in the distribution of artefacts.

10.3.2 The long-cist cemetery and wider aspects of the site

In 1929, four long-cist graves were excavated at the then edge of the gravel pit, about 20m to the south of the Area 2 (Craw 1929, 157–8, Appendix B). No finds were recorded at the time, but two years later Craw revisited the site and found a broken ogham-inscribed stone which he suggested derived from one of these graves (Craw 1932, 448–50). Long-cists are characteristic of the second half of the first millennium AD, though they may have an origin in the first half of the millennium (Ashmore 2003, 40). The ogham has been read as the Irish name *Cronan*, and may date to around the ninth century (Forsyth 1996, 443–56). However, despite Craw's comments, it seems just as likely that the inscription was never part of one of the cists, but was from an upright pillar stone associated with one of the graves, or a small piece inserted in a cist.

What is the context of these graves? The only indication we have of an early Christian site is the disused placename Kilchiarain (*Kill y Kiaran*) (Campbell & Sandeman 1961, 69), which is associated with the site. *Kil-* placename elements are often ancient, and can be associated with churches or monasteries, though no trace of either now remains. This raises the possibility that the site had a religious function, rather than purely secular. Craftworking activities are often found on early monastic sites, and there would be no question that monks could have access to precious metals. The enclosing bank and ditch could then be interpreted as a monastic *vallum*, even if it originated in the Iron Age. However, a burial site does not necessarily imply either a monastery or a church at this period, and it is possible given our lack of knowledge of open settlements of the period, that a secular settlement could have a closely associated cemetery. There does seem to be a plethora of *kil-* placenames in the Kilmartin area (Lane & Campbell 2000, illus 1.35), and it seems unlikely that all could be churches, so some may be just burial grounds. However, a monastic interpretation cannot be ruled out, and the use of ogham does imply literacy in the inscriber. If the site is an open, secular settlement, then it would the first so identified in Argyll at this period. As with the preceding Iron Age settlement, it provides a counterbalance to the view that all settlement at the time was on hill-tops.

10.4 Medieval

Evidence dating to the medieval period is in the form of a small assemblage of 24 pottery sherds, two of which are now lost. Examination of the full assemblage (by Cambell 1986) and 22 sherds (by Will 2003) has them broadly dating from the late 12th through to the 15th centuries. The sherds are mainly small, abraded and mostly came from the topsoil. Severe disturbance from ploughing was evident in the excavated areas and it is probable that some sherds had been redeposited from the occupation layer (context 003). The majority of the medieval sherds were recovered from topsoil in the vicinity of the building remains (context 202) in Area 2, four from the final backfill of the ditch system, one from above the paving over this backfill and one from the topsoil in Area 1. It should be noted that Area 2 was only partially excavated. None of the pottery finds in this area were from a secure context. Other small finds potentially dating to this period include whetstones and some of the iron artefacts. None of these items were recovered from a secure context and it is not possible to assign a particular period to these artefacts on typological grounds as their form has a long chronology.

10.4.1 Ditch backfill

During excavation of the ditch sections, small finds from various periods were encountered, from topsoil or the final backfill in Ditch Sections 1, 2 and 3. The most recent finds from the final ditch backfill were four sherds of medieval pottery, all from Ditch Section 2. One sherd (SF 170) is recorded as being found beside or immediately above the paved walkways (context 408) running over the top of the Ditch 3 in grid square A11. The final backfilling of the ditch system, and possibly the laying of the paving, must have occurred during or later than the medieval period, possibly in two stages. Unfortunately, the paved walkways were not investigated further by excavation, but it was noted that the stones were not weathered and where they were located the ditch fill had soft earth on each side. It was also suggested that the level they were at could correspond to the level in Area 2 where the foundation stones were set.

10.4.2 Paving

There was evidence for paving elsewhere on the site, some of which may be the result of activity during the medieval period. Only one pottery sherd was located in Area 1 and it is possible that some of the paving in this area may be associated with the use of the Iron Age timber buildings or contemporary with the revetment/walling along the inside of the inner ditch. Where paving overlies House 2, it appears to have been laid soon after the clearance of the burnt debris (context 003) as, apart from a thin layer of occupation deposits, there is no apparent build up of stratified contexts between the post-holes and the paving. In and around Area 2 the paving is at a level where there are considerable stratified deposits below. None of the remains of paving outside of Area 1 appeared to represent a domestic floor or be associated with building remains, but some did represent the remains of a complex of paths and others could

be the remains of external floors. Therefore the paving could possibly be the result of work associated with agricultural or other outdoor activity.

10.4.3 Area 2

Several finds of iron slag and cinder were encountered in Area 2 that suggest a degree of metalworking in the vicinity. There was also a deposit of heated sand (Classified Material no 62) surrounded by the foundation stones of one of the buildings. There is a possibility that the exposed archaeological remains in Area 2 represent two main phases of activity, firstly during the Early Historic (discussed earlier), possibly associated with metalworking and then during the medieval period possibly as a smithy and/or bloomery. Unfortunately, this area was only partially excavated and records are sparse, so the relationship between the building remains (context 202) and the layer of cobbling (context 201) is unclear. The stratigraphy has also been disturbed and medieval, Early Historic and prehistoric finds are intermingled throughout the upper archaeological layers. Earlier features were encountered during test pitting in this area but no finds were encountered and no further investigation took place. It cannot be ascertained whether the cobbling and foundations stones are broadly contemporary and probably medieval or later, or whether the cobbling is medieval and the stone foundations Dark Age. It should be noted that the two houses adjacent to the site both have names associated with metalworking activity – *Balnagoun* (Gaelic = house of the smith) and *Cnoc an Teallaidh* (Gaelic = hill of the forge) – that suggest a remembered history of metalworking in the vicinity.

10.4.4 Medieval background

The archaeological record in Mid Argyll from the 12th to 15th centuries is mainly represented by ecclesiastical and associated monuments: chapels, carved grave slabs and free-standing crosses. The grave slabs and crosses tend to have been moved and their original sites are not always known. There are also a small number of castles that were in use at this time (Duntroon, RCAHMS 1998) but others were not built until after this period. Other sites from Mid Argyll in use at this time can be found on small islands on both sea and inland lochs. Excavation of the now submerged island settlement at Loch Glashan (Fairhurst 1969) revealed that the complex of buildings constructed on top of an artificial terrace on the island shore was occupied during the 14th century. Some of the Argyllshire island dwellings are represented on Pont's map of about 1590, for example Loch Leathan and Dubh Loch (RCAHMS 1998, 23) and may have been in use earlier. As the Loch Glashan site is not recorded on Pont's map it may already have been abandoned by this time. The crannog site adjacent to the island settlement in Loch Glashan was occupied during the first millennium (Campbell & Crone 2005), and in other parts of Scotland crannogs have produced dates from the early Iron Age to medieval periods (Barber & Crone 1993), so this type of architecture may also have been in use in Argyll during the medieval period. The known Argyllshire medieval sites can be seen to be associates with high status, religion, places of refuge or defence and possibly sites for specialist activity/industry and little is known of the wider rural settlement pattern of Argyll. Current ongoing work on the deserted settlement of Mid Argyll has identified both the longevity of some of these sites and possible medieval building forms (James 2003).

The overall evidence for medieval settlement activity at Bruach an Druimein is very sparse. The paved areas and paths may relate to the use of this area as a smithy with a few medieval pottery sherds becoming mixed with later deposits as a result of later cultivation of the terrace.

10.5 Post-medieval

There were two significant features encountered during the excavation with associations to the post-medieval period. The first major feature encountered during topsoil stripping was a large slab of stone (context 101). When lifted it was found to rest on a D-shaped arrangement of chocking stones. Its function was never discerned and it was referred to as a workbench or table located in the centre of the Iron Age House 2. As this stone and the chocking stones beneath it were unaffected by burning it was clearly later than the use of House 2, but it had been cut from a higher level into the top of the natural gravel. Other than post-dating the fire affecting this part of the site its age is undeterminable but there is a possibility that it could be medieval or later in origin.

At a distance of 43m WNW of this feature stood a tapered and dressed stone of epidiorite 1.65m in height. Excavations in this area exposed a cobbled platform extending around the stone to form a square with rounded corners. Both the platform and stone were partially overlying the inner ditch of the ditch complex, therefore later than its medieval backfill. It was also revealed that the stone had been set into a shallow cradle of flat slabs amongst the cobbles. A piece of modern glass and a ceramic marble, both possibly 19th-century, were found in these contexts. The stone fell in 1974 and its socket was excavated on behalf of HBM: SDD (Historic Scotland) by Ashmore and Hill. A post-medieval date for the stone suggests that it was a cattle rubbing stone, but could have been erected at the time of layout of the Poltalloch estate as a piece of conscious antiquarianism, similar to the ruined follies commonly constructed in the landscaped parks of this date elsewhere.

10.6 Ditch complex

Whereas the stratigraphy in Area 1 is shallow, disturbed by ploughing and the recognizable layers are badly truncated, the sections through the ditch system revealed a long and complex history of reuse, which has been essential in contributing to our understanding of the overall site formation. Finds from the investigation of the ditch sections are sparse and only one sample suitable for radiocarbon dating was obtained, but these have considerably furthered our understanding of the chronology of the ditch.

The sample recovered from burnt debris in the backfill of the inner and earliest ditch in the sequence of ditch renewals (Ditch 401) gave a date range of 390–90 cal BC. This deposit is essentially the same in character to the burnt layer across the site (context 003) from where a correlating date was obtained (370–50 cal BC). It seems likely that after House 2 burnt down the site was cleared and burnt debris dumped into the ditch, as Cregeen proposed. A revetment or wall (406) was built directly above context 405, which could be contemporary with some of the paving in Area 1 (contexts 102, 103), as contexts 102 and 103 are immediately above context 003. Other than being able to decipher a sequence of ditch renewal, the only datable activity from the ditch system is its final backfill.

During excavation of the ditch sections, small finds from various periods were encountered that are representative of all of the main phases of occupation at the site and included lithic artefacts, metalwork and pottery. These finds were only encountered from Ditch Sections 1, 2 and 3 and almost exclusively from the final backfill of the ditch system or the topsoil above it. Part of a broken iron nail (SF 238) is recorded as being found level with the base of the wall constructed along the inner edge of the inner Ditch 406. Its exact find spot is not recorded and in the finds book is entered at the end of the list amongst several other late, unstratified or stray finds. It is probably the case that this was a stray find from the vicinity of the wall base and level with it, but probably from the fill of the final ditch. The latest finds from the final ditch backfill were four sherds of medieval pottery (SF nos 072 x 2, SF 83, SF 216) all from Ditch Section 2. One sherd (SF 170) is recorded as being found beside or immediately above the paved walkways running over the top of the ditch in grid A11. Therefore the final backfilling of the ditch system must have happened during or later than the medieval period.

The relationship, if any, between the ditch and the Craw Bank can only be speculated but the possibility that it represents a bank, constructed from the fill of one or other of the ditches, should not be ignored. Unfortunately, it is not possible to determine if there was another ditch running parallel on the exterior of the bank. The two tributary ditches in the northern face of the quarry would have been located on the route of the Craw Bank and if the third one continued on its projected course it would have crossed the path of the Craw Bank and enclosing ditch system. Unfortunately, it is now impossible to determine whether the tributary ditches cut through, went under or abutted the Craw Bank, or how they relate to the history of the enclosing ditch system. The tributary ditch on the north-west, like the inner ditch of the enclosing system, had a stone wall along its western edge so these ditches could be contemporary.

11 Conclusions

The results of the Bruach an Druimein excavations are significant in a regional context, despite the problems caused by the rescue nature of the excavations, and the lack of modern recording and excavation techniques employed. There is some evidence to suggest a possible early prehistoric occupation of the site, in the form of burnt mound material and lithic scatters, though the lack of contemporary pottery and access to a nearby water source could mitigate against this explanation of the material. Such settlement would fit in with an emerging picture of settlement contemporary with the well-known ritual funerary monuments of the Kilmartin Glen. On the other hand, there is clear evidence for prehistoric burial, in the form of a series of previously excavated cists. The major importance of the site, however, lies in the Iron Age post-built roundhouses, a type of structure characteristic of eastern and southern Britain. These are the first such structures to be excavated in Atlantic Scotland, and provide an important clue that the characteristic hilltop drystone structures of this province may have been supplemented by timber structures in low-lying areas. Whether these are unique to the Kilmartin area, or remain to be discovered elsewhere in the region, is a research question for future work. The evidence for hazel coppicing shown by the wattle charcoal samples is important confirmation of prehistoric woodland management. The site is also important in the Early Historic period, as a unique example of a low-lying undefended settlement. The nature of the occupation is debatable, with the long-cist burials, ogham inscription and *Kil-* placename hinting at ecclesiastic use, but the lack of a church, and clear signs of secular metalworking, perhaps point to secular use. In either case, the site adds a new type of site to a pattern of early medieval settlement in the Kilmartin Glen revealed by the recent publication of Dunadd (Lane & Campbell 2000), Loch Glashan (Campbell & Crone 2005) and Ederline crannogs (Henderson, pers comm). The small collection of medieval pottery is important in an area with very little reported medieval wares, and shows that a variety of wares were reaching this rural area from lowland Scotland and possibly the Continent. Overall, despite the problems of interpretation the site poses, the excavations at Bruach an Druimein add substantially to our understanding of settlement in Argyll over the last three millennia.

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Appendix 1 Lithic Pieces Illustrated By Lacaille

by Graeme Warren

Lacaille	SF no	Cat no	Warren classification
1	82	61	Scraper: end, straight
2	29	62	Flake, regular, fragment
3	188	63	Flake, regular, fragment
4	60	64	Scraper: steep end
5	160	65	Scraper: thin convex
6	27	66	Knife/scraper
7	118	67	Knife
8	114	68	Indeterminate edge retouched
9	45	69	Bipolar core
10	176	70	Scraper: convex, end
11	168	71	Indeterminate edge retouched
12	19	72	Scraper: convex, dentic base
13	108	73	Scraper: irregular
14	44	74	Indeterminate edge retouched
15	114	75	Scraper: concave
16	16	76	Borer?

Appendix 2: Lithic Concordances, Location, and Previous Comments *by Graeme Warren*

Previous comments are those typed on the site catalogue.

Catalogue no	Previous ID	Location	Previous comments
1	SF 206	Cluster A (circular setting) under small flat stone at south edge where an upright has collapsed	Tiny flake of flint, probably worked
2	SF 241	Picked up on gravel surface of site 7 April 1962 by a boy on …	Flint flake with secondary working along one edge
3	SF 71	Square A4, 4′6″ from east towards south, 4′4″ out, in ditch, against outside of wall, and 4″ below top of wall	Is pitchstone? Prof George says this slag or fire affected
4	SF 236	? A2 found 1961	Not sent to Dr Lacaille
5	SF 236	? A2 found 1961	Not sent to Dr Lacaille
6	SF 236	? A2 found 1961	Not sent to Dr Lacaille
7	SF 236	? A2 found 1961	Not sent to Dr Lacaille
8	SF 236	? A2 found 1961	Not sent to Dr Lacaille
9	SF 236	? A2 found 1961	Not sent to Dr Lacaille
11	SF 236	? A2 found 1961	Not sent to Dr Lacaille
12	SF 236	? A2 found 1961	Not sent to Dr Lacaille
12	SF 236	? A2 found 1961	Not sent to Dr Lacaille
14	SF 236	? A2 found 1961	Not sent to Dr Lacaille
15	SF 236	? A2 found 1961	Not sent to Dr Lacaille
16	SF 236	? A2 found 1961	Not sent to Dr Lacaille
17	SF 236	? A2 found 1961	Not sent to Dr Lacaille
18	SF 109	Square A6, 6′ from west post towards south and 1′ into square	Stone ?thumb scraper type of tool. Data and drawing given by Prof G thinks natural. Tin reads ‘ all naturally scarred not artefacts’
19	SF 90	Square B2, north-west extension, 8′ from A300 towards west post, 4′9″ out, Layer 1, 6″below surface	Tin reads ‘ all naturally scarred not artefacts’
20	SF 22	Square B2, Area 3	Rock crystal fragment. Tin reads ‘ all naturally scarred not artefacts’
21	SF 63	Square A4 (somewhere near SF 64) surface, in association with charcoal and grain (from dump?)	Small flint chip. Tin reads ‘ all naturally scarred not artefacts’
22	SF 184	Square A8, filling of ditch, c 23″ deep	Tin reads ‘ all naturally scarred not artefacts’
23	SF 195	Square B12, 3′7″ from west-south line, 2′9″ from south-east line, 13″ deep	Flint with worked edge and flint flake. Matchbox reads ‘7 flints/natural and chips’
24	SF 55	Square A2, Layer 1	Flint reads ‘55a. Flints. One ?worked and three fragments’. Matchbox reads ‘7 flints/ natural and chips’
25	SF 196	Square B12, 2′4″ from west-south line, 2′1″ from south-east line, 12″ deep	Flint ?worked. Matchbox reads ‘7 flints/ natural and chips’
26	SF 159	Square B9, 5′5″ from north-east line, 4′7″ from east-south line, 9″ deep	Lump of grey flint, ?worked. Matchbox reads ‘7 flints/natural and chips’
27	SF 192?	Square B12, 7′9″ from east-south line, 7′4″ from west-south line, 10″ deep	Flint, ?worked. Matchbox reads ‘7 flints/ natural and chips’

Catalogue no	Previous ID	Location	Previous comments
28	SF 111	Square A2, east quarter, outside habitation area, though in subsoil with minute flecks of charcoal	Piece of chert, 4/5 of an inch long, irregular shape. Appears to have been worked, then whitened and bent by fire. Matchbox reads '7 flints/natural and chips'
29	SF 50	Square B2, 2′ from south-east line, 4′3″ from the north-east line, Layer 2, 3″ above gravel	Broken flint. Matchbox reads '7 flints/ natural and chips'
30	SF 65	Square A5/AI baulk (no further recorded), Layer 2	Small flint shaving. Matchbox reads: 'workshop chips A'
31	SF 54	Square BI, baulk in east corner, Layer ?	Small flint waster. Honey-coloured
32	SF 181	Square B9, 5′6″ from north-east line, 7′6″ from south-east line, 10″ down	Flint fragment. Unworked. Matchbox reads: 'workshop chips A'
33	SF 66	Square A2, Layer 2 (no further recorded)	Two fragments flint Matchbox reads: 'workshop chips A'
34	SF 53	Square B2, Area 6, baulk (ie halfway along north-west side of square)	Flint spall. Matchbox reads: 'workshop chips A'
35	SF 81 or 018	Neither number exists	Light brown flint fragment unworked. Matchbox reads: 'workshop chips A'
36	SF 39	Square B2, north-west extension, 3′ from west post on north line, and 8″ in, charcoal-rich soil, Layer 2	
37	SF 41	Square B2, north-west extension, 2′ from west post in north line, and 1′3″ out, Layer 2, 6″ below grass roots	Quartz flake Matchbox reads: 'workshop chips A'
38	SF 88	Square B2, north-west extension, 7′8″ from A300 towards west and 10″ in, Layer 2, 3″ above gravel	Flint flake. Matchbox reads: 'workshop chips A'
39	SF 236	? A2 no further details	Flint chips Matchbox reads: 'workshop chips A'
40	SF 61	No record of this find	Matchbox reads: '5 flints, natural and chips'
41	SF 23	Square B2, Layer 2, between Areas 3 and 6	Worked flint broken and two fragments. Matchbox reads: '5 flints, natural and chips'
42	SF 17	Square B2, Area 6	Broken flint or chert with signs of secondary trimming on one side. Matchbox reads: '5 flints, natural and chips'
43	SF 133	Square A7,. No location	Piece of flint, possibly burnt (dimensions given) Matchbox reads: '5 flints, natural and chips'
44	SF 156	Square A, north corner, 6″ deep in topsoil	Flint fragment. Broken arrowhead. Matchbox reads: '5 flints, natural and chips'
45	SF 70	Square A5, Layer I	Matchbox reads: 'Chips and Natural C 10 two small flint chips'
46	SF 122	Square A7, 6′2″ from west-north line, 5′5″ from east-south line, 2″ below turf	Matchbox reads: 'Chips and Natural C 10 small flint frag. Pinkish. 4/10 inch long, roughly triangular'
47	SF 178	Square B12, 3′8″ from west-south line, 5′1″ from west-north line, 7″ deep	Matchbox reads: 'Chips and Natural C 10. Worked grey-blue flint; broken (data given)'
48	SF 73	Square B2, north-west extension, 20″ from west post towards north and 17″ out	Matchbox reads: 'Chips and Natural C 10. Flint fragment'
49	SF 89	Square B", north-west extension, 3′3″ towards west post from A300 and 18″ out (north-west) in red Layer 2, 2″ above gravel	Matchbox read: 'Chips and Natural C 10. Broken flint ?worked'
50	SF 132	Square A7, 8″ deep, no location	Matchbox reads: 'Chips and Natural C 10 Fragment of pale flint shaped like section of orange (dimensions given)'
51	SF 86	Square A5, ditch, 20′ from west post and in main trench section, 7″ below present	Matchbox reads: 'Chips and Natural C 10 Pointed flint fragment'

Catalogue no	Previous ID	Location	Previous comments
52	SF 194	Square B9, 12″ from north-east line, 5′ from west line, 11″ deep, on stone foundations	Matchbox reads: 'Chips and Natural C 10Flint flake, worked on one edge'
53	SF 179	Square B12, 2′7″ from north-east line, 1′5″ from north-west line and 92″ deep (identical 179/182, check Day Book)	Matchbox reads: 'Chips and Natural C 10Frag of white flint with secondary trimming, broken'
54	SF 26	Dump south-west of B2, probably deriving from B2	Matchbox reads: 'Chips and Natural C 10 Flint. ?worked'
55	SF 37	Square B2, north-west extension, 2′ north of west corner post, Layer 2, 6–7″ below modern	Matchbox reads: 'artefacts, 5, B 'Black flint' (Prof G says typical
56	SF 55c	Square A2, Layer 1	Matchbox reads: 'artefacts, 5, B Flints. One ?worked and 3 fragments'
57	SF 58	Square S2 A2, 9″ from east corner towards north, 8″ out, top of Layer 2	Worked flint
58	SF 59	Square A5, 2′ diagonally from west corner towards east, top of Layer 2	Matchbox reads.: 'artefacts, 5, B Flint ?worked'
59	SF 67	Square A2, north-west baulk, 16″ from west post towards north, 6″ out (extension into baulk near west corner), beside flat	Matchbox reads: 'artefacts, 5, B Red flint edge trimmed' (Prof G says may be jasper found Perthshire)
60	SF 205	Square B9	Lump of grey flint. Unworked
61	SF 82 (ADL #1)	Square B12, from wall, on south-east line and 5′6″ from south post, 6″ deep	Flint with patina (also see Lacaille report)
62	SF 29 (ADL #2)	Square B2, north-west extension, 2′9″ north-west of square and 4′ along north-west line, Layer 1, 4″ down	Chert or flint blade (also see Lacaille report)
63	SF 188 (ADL #3)	Square B12, 5′10″ from west-south line, 6′3″ from west-north line, 7″ deep	Worked flint; and with flint chip (also see Lacaille report)
64	SF 60 (ADL # 4)	Square A4, Layer 1, no further details	Flint ?worked (Prof G says burnt; aAlso see Lacaille report)
65	SF 160 (ADL #5)	Square B9, 6′2″ from east-north line, 7′ from west-north line, 12″ down	Small flint flake (also see Lacaille report)
66	SF 27 (ADL #6)	Square B2, north-west extension, 5′2″ from north post and 3′8″ out, 10″ away from decorated slate (ref no 28), Layer 1 4″ down (ie just under turf)	Flint blade (Prof G thinks Mesolithic)
67	SF 118 (ADL #7)	Square A2, west quarter 1′ in and 3′ along north-west line. It was lying loose on surface of the gravel and had not been… [ed note: rest of text was illegible]	Dark red flake of flint worked on one edge. Drawing and location sketch dimensions given (also see Lacaille report)
68	SF 114 (ADL #8)	Square B3, south-east half, 4″ deep	Grey flint flake (data given) with two unworked fragments, grey and with patina
69	SF 45 (ADL # 9)	Square B2, north-west extension, 3′6″ from west post (towards west) and 4″ in, Layer 1, 3″ below turf	Flint tool (Prof G suggests Mesolithic; also see Lacaille report)
70	SF 176 (ADL #10)	Square B12, west corner, 2′ from west-south line, 2′4″ from west-north line, 5″ deep	Worked flint (also see Lacaille report)
71	SF 168 (ADL # 11)	Square B9, 3′9″ from east-north line, 5′ from east-south line, 9″ down in v bony soil	Grey flint tool (data given) (also see Lacaille report)
72	SF 19 (ADL #12)	Square B2, extension (cluster of stone, 2′ square at corner post A 300), the worked flint was 5″ below grass roots	Worked flint and two frags (spalls)
73	SF 108 (ADL #13)	Square A5, beside stone in post-hole at south corner	Small worked flint. Black. Data given
74	SF 44 (ADL # 14)	Square B1, 6″ from south post towards east post and on line north-south, Layer (upper) 2	Worked flint (also see Lacaille report)

Catalogue no	Previous ID	Location	Previous comments
75	SF 114 (ADL #15)	Square B3, south-east half, 4″ deep	Grey flint flake (data given) with two unworked fragments, grey and with patina
76	SF 16 (ADL #16)	Baulk square B2, Layer 2, 3′6″ from A300 measuring towards west post' 7″ in, 9″ deep, 3′4″ above gravel by cluster of small stones in charcoal and… [ed note: rest of text was illegible]	Small red flint of borer type (also see Lacaille report)
77	SF 182	Square B12, 2′7″ from north-east line, 1′5″ from north-west line, 9″ deep	Piece of quartz probably worked (also see Lacaille report)
78	SF 198	Square B3, 5′1″ from west-south line, 5′4″ from south-east line, 13″ deep	Arran Pitchstone (also see Lacaille report)
79	SF 64	Square A4, beside wall in exploratory trench, Layer 2, 1′ down	Black pitchstone nodule (identified by Prof G; also see Lacaille report)
80	SF 116	Square B3, west quarter; 5′9″ from west post towards north post and 3′1″ in, 8″ deep in brown topsoil among the small stones of wall foundations	Tool of Arran Pitchstone with white flecks (Prof G thinks from Eigg)
81	SF 171	Square B9, 6′11″ from east-north line; 7′7″ from east-south line, 12″ deep	Flint blade; grey with white patina. 'Flint struck by a modern steel
82	SF 43	Square B2, north-west extension, Layer 1–2	Flint fragments. From large box
83	SF 51	Square B2, south-east baulk, 6′ from north-east line, 11″ from south-west line, Layer 2, just above… [ed note: rest of text was illegible]	Flint fragment. From large box
84	SF 55d	Square A2, Layer 1	Flints: one ?worked and 3 fragments From large box
85	SF 30B	Square B2, north-west extension, near SF 29, Layer 1, 4″ down	4 small fragments of unworked flint. From large box
86	SF 30	Square B2, north-west extension, near SF 29, Layer 1, 4″ down	4 small fragments of unworked flint. From large box
87	SF 30a	Square B2, north-west extension, near SF 29. Layer 1, 4″ down	4 small fragments of unworked flint. From large box
88	SF 19c	Square B2, extension (cluster of stone, 2′ square at corner post A300), the worked flint was 5″ below grass roots	Worked flint and two fragments (spalls). From large box
89	SF 20	Square A1, Layer 2, found 6″ east and level with top of east end of big slab	Small flint fragments. From large box
90	SF 19B	Square B2, extension (cluster of stone 2′ square at corner post A300), the worked flint was 5″ below grass roots	Worked flint and two fragments (spalls). From large box
`	SF 24	Square B2, Layer 2, between Areas 3 and 6	Flint ?worked. From large box
92	SF 35	Square B2, north-west extension, 6′ north from west corner and 2′ out, 9″ down, Layer 2	Flint fragment. From large box
93	SF 23C	Square B2, Layer 2, between Areas 3 and 6	Worked flint, broken; and two fragments
94	SF 38	Square B2, north-west extension, midway along line between north and west posts, near charcoal and quartz	Small orange flint worked at one end.
95	SF 43	Square B2, north-west extension, Layer 1–2	Flint fragments. From large box
96	SF 56	No details	No details from large box
97	None	Unknown	Unknown
98	SF 114	Square B3, south-east half, 4″ deep	Grey flint flake (data given) with two unworked fragments grey and with patina
99	SF 191	Square B12, 8″ from west-north line, 6′8″ from west-south line, 11″ deep	Flint ?worked. From large box

Catalogue no	Previous ID	Location	Previous comments
100	SF 180	Square B12, 5′1″ from north-east line, 2′9″ from north-west line and 9″ deep	Piece of honey-coloured flint, probably with secondary working. From large box
101	SF 208	Cluster A in soil filling	Pieces of quartz. From large box
102	SF 208	Cluster A in soil filling	Pieces of quartz. From large box
103	SF 208	Cluster A in soil filling	Pieces of quartz. From large box
104	SF 96	Square A3, 5′ from east post towards south 2′11″	Small nugget of black flint or similar in; topsoil 6″ down substance (Prof G things pitchstone but not certain). From large box
105	None	None	From large box
106	SF 11	Square B2, Layer 2, 7′ along south-west baulk, 3′10″ out from baulk	Flint frag and frag burnt bone. From large box
107	SF 209	Cluster A, from pebble area on east side, interior	Flint fragment, patinated. From large box
108	SF 36	Square B2, north-west extension, near south-west corner, Layer 1, 3″ below modern turf	Brown flint. From large box
109	SF 231	Square B2, 3′3″ from north-east line, 5′5″ from south-east, 9″ deep	Small flint (data and sketch). From large box
110	SF 233	Square B2, on south-east line, 3′ from north-east line, 9″ deep in subsoil	Quartz chip. From large box
111	SF 230	Square B4, 2′ from south-west line, 2′9″ from north-west line, 14″ deep	Small piece flint unworked (data and sketch). From large box
112	Unknown	No location	None from large box
113	Unknown	Square B2, north-west extension	Flint chips. From large box
114	Unknown	Square B2, north-west extension	Flint chips. From large box
115	Unknown	Square B2, north-west extension	Flint chips. From large box
116	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen
117	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen
118	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen
119	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen
120	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen
121	None	Grave	‘Flint chippings etc from grave? At Bruach an Druimen

Appendix 3: Lithic Catalogue

by Graeme Warren

Abbreviations: RM, raw material; Col, colour; Bl, blank; Sub-Bl, sub-blank; Con, condition; ED, edge-damaged?; Mod, modified?; RedSeq, reduction sequence; Br, broken?; L, length; W, width; T, thickness

ID	Qty	RM	Col	Bl	Sub-Bl	Con	ED	Mod	RedSeq	Br	L	W	T	Name
1	1	Flint	Honey	Chip		Abraded	No	No	Tertiary	No	0	0	0	
2	1	Flint	Grey	Core		Abraded	Yes	No	Secondary	Yes	38	29	14	Core: plat
3	1	Pitchstone	Grey	Chunk		Abraded	Yes	No	Indet	Yes	23	16	6	
4	1	Flint	Grey	Natural		Fresh	No	No		No	20	14	10	
5	1	Quartz	Grey-clear	Natural		Fresh	No	No		No	13	14	8	
6	5	Flint	White	Chunk		Burnt	No	No	Indet	Indet	0	0	0	
7	1	Flint	Grey	Flake	Irreg	Abraded	No	No	Secondary	No	12	14	4	
8	1	Flint	Grey	Flake	Irreg	Fresh	Yes	No	Secondary	Yes	15	9	4	
9	1	Flint	Grey	Chunk		Abraded	Yes	No	Tertiary	Indet	17	7	6	
10	1	Flint	White-grey	Flake	Irreg	Patinated	Yes	No	Tertiary	Yes	15	13	5	
11	1	Flint	Grey	Chunk		Fresh	Yes	No	Tertiary	Yes	14	13	8	
12	1	Flint	Grey	Flake	Irreg	Fresh	No	No	Secondary	Yes	11	6	6	
13	1	Flint	Grey	Natural	Fresh	No	No	No		No	13	10	7	
14	1	Flint	Honey	Chunk		Fresh	Yes	Indet.	Tertiary	Yes	16	7	6	Indeterminate
15	1	Flint	Honey	Flake	Irreg	Fresh	Yes	Yes	Tertiary	No	18	11	7	?Scraper
16	1	Flint	Pale honey	Flake	Irreg	Fresh	Yes	Yes	Tertiary	Yes	11	14	7	Scraper: convex
17	1	Flint	Grey	Flake	Regular	Fresh	No	Yes	Tertiary	Yes	15	9	2	Notch
18	1	Schistose grit	Pink	Natural		Fresh	No	No		No	39	34	21	
19	1	Quartz	White-grey	Natural		Fresh	No	No		No	22	16	10	
20	1	Quartz	Clear	Natural		Fresh	No	No		No	17	11	10	
21	1	Quartz	Clear	Natural		Fresh	No	No		No	35	21	15	
22	1	Quartz	White	Natural		Fresh	No	No		No	27	31	15	
23	1	Flint	Grey	Natural		Fresh	No	No		No	15	13	12	
24	1	Flint	Grey	Natural		Fresh	No	No		No	11	7	7	
25	1	Flint	Grey	Indet		Abraded	Yes	No	2	Indet	19	15	9	
26	1	Flint	Grey	Indet		Abraded	Yes	No	2	Indet	27	19	16	
27	1	Flint	Honey	Indet		Abraded	Yes	No	Secondary	Yes	11	26	9	
28	1	Flint	White	Chunk		Burnt	Yes	No	Tertiary	Yes	24	20	9	
29	1	Flint	Grey	Flake	Irreg	Abraded	Yes	No	Secondary	Yes	24	18	7	

ID	Qty	RM	Col	Bl	Sub-Bl	Con	ED	Mod	RedSeq	Br	L	W	T	Name
30	1	Flint	Honey	Flake	Regular	Abraded	No	No	Tertiary	Yes	9	12	2	
31	1	Flint	Honey	Flake	Irreg	Fresh	Yes	No	Tertiary	No	11	10	4	
32	1	Flint	Grey	Flake	Regular	Abraded	Yes	No	Tertiary	No	10	13	3	
33	1	Flint	Grey	Flake	Regular	Fresh	Yes	No	Secondary	Yes	16	12	5	
34	1	Flint	Grey	Flake	Regular	Fresh	No	No	Tertiary	Yes	11	15	4	
35	1	Flint	Grey	Flake	Irreg	Abraded	No	No	Secondary	No	14	12	2	
36	1	Flint	Honey	Indet		Abraded	Yes	No		Yes	14	11	7	
37	1	Quartz	Grey	Indet		Fresh	No	No		No	14	10	3	
38	1	Flint	Grey	Flake	Regular	Burnt	No	No	Tertiary	Yes	7	16	2	
39	1	Flint	Honey	Flake	Irreg	Abraded	No	No	Tertiary	No	10	11	4	
40	1	Unk	Green	Natural		Fresh	No	No		No	19	17	6	
41	1	Flint	Grey	Flake	Regular	Abraded	Yes	Indet.	Tertiary	Yes	24	21	9	
42	1	Flint	Cream	Flake	Regular	Abraded	Yes	Yes	Tertiary	No	36	28	7	Scraper: convex
43	1	Flint	Cream	Chunk		Patinated	Yes	No	Tertiary	Yes	31	17	5	
44	1	Flint	Honey	Indet		Fresh	Yes	No	Tertiary	Indet	32	22	10	
45	1	Flint	Grey	Chunk		Abraded	Yes	No	Tertiary	No	13	5	3	
46	1	Agate	Red	Chunk		Fresh	Yes	No	Tertiary	No	11	10	4	
47	1	Flint	Grey-blue	Chunk		Patinated	Yes	Indet.	Tertiary	No	26	18	14	?
48	1	Flint	Honey-grey	Flake	Irreg	Abraded	Yes	No	Tertiary	No	13	22	9	
49	1	Flint	Grey	Core		Abraded	Yes	No	Secondary	No	20	18	18	Core: blade/flake
50	1	Flint	Honey	Flake	Irreg	Abraded	Yes	No	Secondary	No	33	17	10	
51	1	Flint	Grey	Flake	Irreg	Abraded	Yes	No	Secondary	No	11	17	7	
52	1	Flint	Honey	Flake	Regular	Fresh	Yes	No	Secondary	No	32	15	10	
53	1	Flint	White	Flake	Regular	Fresh	Yes	Yes	Tertiary	Yes	18	8	4	Ret flake
54	1	Flint	Grey	Natural	Fresh	No	No		No	15	13	6		
55	1	Flint	Brown	Flake	Regular	Abraded	Yes	No	Tertiary	Yes	16	20	4	
56	1	Flint	Honey	Flake	Irreg	Abraded	Yes	No	Secondary	No	19	12	5	
57	1	Flint	Honey	Flake	Regular	Fresh	Yes	No	Tertiary	Yes	16	9	4	
58	1	Flint	Honey	Flake	Regular	Abraded	Yes	Yes	Tertiary	Yes	24	14	6	Point
59	1	Flint	Red	Flake	Regular	Fresh	Yes	Yes	Tertiary	Yes	19	18	4	Unk retouch

ID	Qty	RM	Col	Bl	Sub-Bl	Con	ED	Mod	RedSeq	Br	L	W	T	Name
60	1	Flint	Grey	Natural		Fresh	No	No	Secondary	No	0	0	0	
61	1	Flint	Grey-white	Flake	Regular	Patinated	Yes	Yes	Secondary	Yes	29	18	12	Scraper: end, straight
62	1	Flint	Grey	Flake	Regular	Patinated	Yes	No	Tertiary	Yes	29	44	9	
63	1	Flint	Honey	Flake	Regular	Abraded	Yes	No	Tertiary	No	26	14	5	
64	1	Flint	Grey	Flake	Regular	Abraded	Yes	Yes	Secondary	Yes	29	9	12	Scraper: steep end
65	1	Flint	Cream	Flake	Regular	Patinated	Yes	Yes	Tertiary	Yes	20	16	5	Scraper: thin, disc
66	1	Flint	Grey	Blade	Abraded	Yes	Yes	Secondary	Yes	44	24	12	Knife?	
67	1	Flint	Red	Flake	Regular	Abraded	Yes	Yes	Tertiary	Yes	38	32	8	Knife
68	1	Flint	Grey	Flake	Regular	Fresh	Yes	Yes	Tertiary	Yes	24	28	10	Indeterminate
69	1	Flint	Honey	Bipolar core	Abraded	Yes	No	Tertiary	No	24	14	6	?	
70	1	Flint	Grey	Flake	Regular	Abraded	Yes	Yes	Tertiary	No	27	28	12	Scraper: convex, end
71	1	Flint	Grey	Flake	Irreg	Abraded	Yes	Yes	Tertiary	No	22	21	10	Indeterminate
72	1	Flint	Grey	Flake	Regular	Abraded	Yes	Yes	Tertiary	No	28	21	11	Scraper: convex
73	1	Flint	Grey	Flake	Regular	Abraded	Yes	Yes	Secondary	No	20	12	4	Scraper
74	1	Flint	Honey	Flake	Regular	Abraded	Yes	Yes	Tertiary	Yes	22	12	8	Unk retouch
75	1	Flint	Grey	Flake	Regular	Abraded	Yes	Yes	Secondary	No	26	26	10	Straight/ concave
76	1	Flint	Red	Flake	Regular	Abraded	Yes	Yes	Tertiary	No	20	12	4	Borer?
77	1	Quartz	Grey	Flake	Irreg	Fresh	No	No	Secondary	No	21	27	4	
78	1	Pitchstone	Green-black	Flake	Regular	Abraded	Yes	No	Tertiary	No	20	15	4	
79	1	Pitchstone	Green-black	Core		Abraded	Yes	No	Tertiary	No	19	18	14	Core
80	1	Pitchstone	Black	Flake	Regular	Abraded	Yes	Yes	Tertiary	Yes	34	33	11	Scraper: concave

ID	Qty	RM	Col	Bl	Sub-Bl	Con	ED	Mod	RedSeq	Br	L	W	T	Name
81	1	Flint	Grey	Flake	Regular	Fresh	No	No	Secondary	No	40	27	7	
82	1	Flint	Grey	Chip		Burnt	No	No	Tertiary	No	0	0	0	
83	1	Flint	Grey	Flake	Irreg	Patinated	No	No	Tertiary	Yes	13	14	5	
84	1	Flint		Natural		Fresh	No	No		No	0	0	0	
85	1	Flint	Grey	Chunk		Fresh	Yes	No	Tertiary	No	14	13	12	
86	1	Flint	Grey	Flake	Irreg	Fresh	No	No	Secondary	No	16	16	6	
87	1	Flint	Grey	Chunk		Fresh	No	No	Secondary	No	11	8	6	
88	1	Flint	Grey	Chunk		Burnt	No	No	Tertiary	Yes	13	10	4	
89	1	Flint	Honey	Chunk		Abraded	Yes	No	Tertiary	No	21	11	10	
90	1	Flint	Grey	Chunk		Burnt	No	No	Secondary	No	19	14	9	
91	1	Flint	Grey	Chunk		Fresh	Yes	Indet.	Secondary	Yes	18	11	6	?Scraper
92	1	Flint	Grey	Chunk		Fresh	Yes	No	Secondary	No	19	17	9	
93	1	Flint	Honey	Chunk		Abraded	Yes	No	Tertiary	Yes	17	9	6	
94	1	Flint	Honey	Bipolar core		Abraded	Yes	No	Tertiary	No	16	7	5	
95	1	Flint	Grey	Chunk		Burnt	No	No	Tertiary	No	11	10	3	
96	1	Flint	Grey	Chip		Burnt	No	No	Tertiary	No	0	0	0	
97	1	Flint	Grey	Chip		Burnt	No	No	Tertiary	No	0	0	0	
98	1	Flint	Grey	Flake	Regular	Fresh	Yes	No	Secondary	No	21	12	6	
99	1	Flint	Grey	Natural		Fresh	No	No		No	22	16	12	
100	1	Flint	Honey	Chunk		Fresh	Yes	Yes	Tertiary	Yes	17	16	9	Scraper: irreg
101	1	Quartz	Clear grey	Chunk		Fresh	No	No	Tertiary	No	24	10	8	
102	1	Quartz	Clear grey	Flake	Regular	Abraded	Yes	No	Tertiary	Yes	21	13	7	
103	1	Quartz	Clear grey	Flake	Irreg	Fresh	No	No	Tertiary	No	18	14	8	
104	1	Pitchstone	Green-black	Core		Fresh	Yes	No	Secondary	No	19	18	3	
105	1	Pitchstone	Green-black	Chunk		Abraded	Yes	No	Indet	No	34	29	18	
106	1	Flint	Grey	Flake	Irreg	Burnt	Yes	No	Tertiary	No	36	15	7	
107	1	Flint	White	Blade		Burnt	No	No	Tertiary	Yes	15	13	4	
108	1	Flint	Honey-grey	Chunk		Abraded	Yes	No	Tertiary	Yes	14	4	4	
109	1	Flint	Grey	Chunk		Burnt	Yes	No	Tertiary	No	11	10	6	

ID	Qty	RM	Col	Bl	Sub-Bl	Con	ED	Mod	RedSeq	Br	L	W	T	Name
110	1	Quartz	Grey	Natural		Fresh	No	No		No	20	10	4	
111	1	Flint	Honey	Chunk		Abraded	Yes	No	Tertiary	Yes	14	7	5	
112	1	Flint	Grey	Natural		Fresh	No	No		No	0	0	0	
113	1	Flint	Grey	Chunk		Fresh	No	No	Tertiary	Indet	14	7	4	
114	1	Flint	Grey	Chunk		Fresh	No	No	Tertiary	No	16	9	7	
115	1	Quartz	Grey	Natural		Fresh	No	No		No	10	15	3	
116	56	Varied		Chips		Fresh	No		No	No	0	0	0	
117	11	Flint		Chip		Fresh	No		No	No	0	0	0	
118	1	Flint	Cream	Bipolar core		Patinated	No	No	3	No	23	14	8	
119	1	Flint	Tan	Chunk		Rolled	No	No	2	No	13	9	8	
120	1	Flint	Grey	Chunk		Fresh	No	No	1	Indet	11	8	4	
121	1	Flint	White	Indet		Patinated	No	No		No	23	21	5	

Appendix 4: Worked Stone Catalogue

by Beverley Ballin Smith

Coarse stone artefacts	SF no	Context	ML (mm)	MW (mm)	MT (mm)	M depth	M diam	Weight	Description
Pivot stone?	260		173	160	103			3464g	Irregular block of vesicular stone. One side flat. Base flattish with iron staining. Other three sides irregular but showing banding of the rock. Upper face with indented conical hollow. May have been chipped to shape, but banding of rock most visible. One side of hollow is visibly chipped as is come which is off- centre. One large chip visible to upper surface and possibly some adjacent and parallel incised marks. Texture of the rock makes marks associated with working difficult to detect. However, one roughened area lies between the hollow and the flattish side. Possibly an anvil but more likely a largely unworked pivot stone
Hollow			62	62		21			
Cobble tool	31	B2/B3	121	46	36			344g	Elongated quartzite cobble with an area of polish on one surface. Otherwise unworked.
Perforated stone	52	B3/S, B2	12	10	7		3	1g	Epidote? Olive-green in colour. Triangular shaped piece of stone with an off-centre, irregular perforation. May have been enhanced on convex surface
Whetstone fragment/ Hone	68	B1/E	113	18	18			88.7g	Slightly curved bar of micaceous schist, broken across shaft. Square to rectangular section. Three faces worn smooth to the tapering tip but all suffered post-depositional damage of incised lines. One face dominant with sharp edges to sides. Tip has slight facetting on opposed sides. Tip flat
Perforated stone	82		23	17	10		4	5g	Chlorite schist pebble fragment. Unworked pebble with what appears to be part of a natural perforation
Cobble tool (from illus-tration)	97	A4	103	83	33				Rounded cobble of fine-grained sandstone, with one end pecked, the other end ground. Areas of pecking in centre of both faces, and possibly on one edge
Circular stone	96	S3/E. A3	34	33	6			14.1g	Thin, almost circular pebble, with slight area of polish on one edge, at flattest area of circumference
Stone roundel	99	A8	116	111	22			264g	Identified as altered gabbro. Thin sliver of grounded rock. Has three chips on the edge of the upper surface. May have also been smoothed on edge. Possibly a pot lid
Pebble tool	101	B4	84	55	28			279g	Identified as silicified mudstone. Rounded and slightly elongated pebble. Both long edges show evidence of working and slight polish. One edge is facetted and ridged at an angle to the edge. Marks on the second edge are less noticeable. One face has slight faint central indentations. May have slight polish and pecking at ends
Stone piece	102	A4/N	194	110	42			928g	Wedge-shaped block of micaceous schist. Loss of stone along a bedding plane in one face of the stone gives the appear-ance that the stone has a V notch. This stone is however, unworked
Ball	103	B5/Stg.					19	11.1g	Irregularly spherical porcelain ball

Coarse stone artefacts	SF no	Context	ML (mm)	MW (mm)	MT (mm)	M depth	M diam	Weight	Description
Ball	103x	St. NW					18	8.8g	Irregularly spherical ball, possibly ceramic. Marble sized
Quern (from illus)	107	DPI			72		350		Circular upper stone to quartz-mica chlorite schist. Lower surface drawn flat, but whether worn or pecked is unknown. Upper surface curved with areas of chipping, possibly pecking and polishing. A central hole with a splay of 60mm is pecked through the surface. The remainder of the hole shaft seems to be ground and only 18mm in diameter
Perforated whetstone fragment (from illus)	135	B3/W	53	8	9	8	5	8.7g	Fragment of thin and worn whetstone of micaceous?sandstone. Very fine grained. Perforated 6mm from the rounded end. Hole slightly off centre and angled from the left on both faces. Worn on all faces and sides towards the broken end
Stone fragment	148	B3/S	132	84	27			451g	Irregular small block of?basalt with deep incised line on upper face. This line may be natural as it is not pecked or smoothed. Its profile is irregularly curved. 73mm ML, 7mm MW, 3mm MD
Stone ball	163	A7/?	25	26	24			23.6	Roughly spherical natural stone ball
Cobble tool (from illus)	190	B12	150	53	37				Elongated cobble of slightly felspathic sandstone with discrete areas of pecking at both ends, down one side and towards the tip of one face
Mattock fragment? (from illus)	210	B3/W	130	95	24			241g	Mica schist. Broken and thin piece of stone, thicker in the middle than at the edges. Both faces largely unaltered, but both edges are chipped. Evidence of three chipped notches survive on each edge, not all are bifacially chipped. This may be the central portion of a rough mattock where the notches may have been for hafting the tool
Perforated stone	214	B13	22	21	4		6	3.6g	Banded schistose sandstone. Sub-circular, flat stone with central perforation. Edges slightly ground. Hole slightly splayed on both faces. Bead
Pivot stone? (from illus)	219	A14	48	30	6				Rectangular boulder of quartz-mica chlorite schist, with five ground 'cupholes' in an arc along two edges. Possibly a reused pivot stone. Identified from a photograph. No measurements given for the depth or diameter of the circular indentations
Pivot stone? (from illus)	223	A18							Triangular fragment of unidentified stone but might be a quartz- mica chlorite schist. With one partial grooved indentation. No measurements for the stone or its indentation. Identified from a photograph
Incised stone (from illus)	202?								Boulder with three incised lines on upper part. Lines have been scored into the upper part of one face of the stone. Upper edge of the stone has many small linear abrasions. Although only identified from photographs it is possible that the marks are the plough damage. The crossed lines being the result of being hit by the plough from different directions

Notes on the original catalogue

It would appear that lists and notes on the finds from the site were drawn up and written as early as 1960. These were supplemented by additional work and information, mainly petrology, in 1985–87 and more recently in 1990. Three files exist which contain handwritten and typed notes on the artefacts. The information from each find seems to have been initially accumulated on an A5 sheet of paper (a catalogue card) which included its general category, ie stone, its sub-category, a provisional catalogue number, a basic description, the context, a small find number, its present whereabouts and whether the find was illustrated. Originally the 'card' was written in blue ink with the main entry in pencil, and often dated, eg 4/8/61. Supplementary notes were added both in pencil and in red biro, usually of information to be checked. These additional entries were often dated. However, many of the notes are hard to read. Other information on finds can be gleaned from letters and lists from specialists, many of these either hand written or typed, or from the original packaging.

Cregeen began to gather information on the 'flaked stone' on a yellow 'table' which was informative on providing a complete listing of stone artefacts with small finds number, descriptions, petrology and site information. This was expanded in a second yellow paper, initially typed but with additional handwritten notes in 1987. There appears to be at least two white paper lists where the artefacts had been subdivided into categories, and which can be considered as draft finds catalogues. It is from these papers and from Cregeen's Supplementary List that the following catalogue has been compiled. Cregeen's Catalogue includes 35 stone artefacts from a maximum of 13 categories.

A comprehensive investigation of the existing papers has not been made, but it is hoped that sufficient information has been gleaned to provide an understanding of the stone tools from the site. In spite of the difficulty in working through this material and interpreting the writing it is apparent that in 30-year period from excavation to the last entries on the papers in 1990 that some finds were lost. An attempt has been made in the updated catalogue to include these lost finds. Over that 30-year period Cregeen consulted may geologists and other finds specialists on the petrology and importance of the stones. These included Professor George?, Dr Holgate, Dr Weedon, Dr HS Macpherson and Dr A Livingstone, from the Department of Geology, The Royal Society Museum, Chambers Street, Edinburgh.

It is not made explicit why so many geologists were consulted but loss of notes over the years and problems with identification may have been some of the reasons. Another factor which affects the quality of information is conflicting information in the notes. The location of stone artefacts may vary from one list to another. Where there is variation this appears in the catalogue.

Some of the artefacts were illustrated by ADL (?), the remainder by Marion O'Neal. The illustrated artefacts are: 28, 52, 68, 97, 98, 99, 101, 102, 103, 103x, 107, 135, 148, 163, 190, 214.

Cregeen's original stone catalogue, taken from his notes

Hammers, pounders etc

SF 31 Smooth, long, quartzite pebble. Rubber. From B3 (or B2 north-west extension).
SF 97 Anvil of fine-grained sandstone, pitted with small dents in the middle of each face, abraded and smoothed at the ends and edges. From A4 outer wall tumble. Plotted.
SF 101 Pounder-rubber of silicified mudstone, pitted on one side, worn on one edge and on sloping sides by rubbing. From B4. Plotted on big plan.
SF 145 Long oval pebble 0.9 by 0.5 cm long, broader end hollowed by pounding, other end abraded by rubbing along side. From B3 etc.
SF 161 Similar oval pebble hollowed at broader end 0.6 by 0.5 cm. From B? etc.
SF 166 Oval pebble 0.6 by 0.4cm broader end hollowed as last two. From?B3 etc.
SF 190 Hammer of sandstone, slightly felspathic but with occasional detrital muscovite flakes; cement non-calcareous, probably siliceous. From B12. Plotted.

Whetstones

SF 68 Haunch hone of quartz-chlorite schist. From BI/E.
SF 135 Small whetstone of drumstick form, perforation at broader end, broken at narrower tip. Siltstone (mostly quartz, a little mica). From B3/W.
SF 165 Schistose pebble may be used for hammering. From B9/N.

Discs

SF 98 Thin circular counter or gamesman of smooth schistose. From S3/E or A3.
SF 99?Potlid of (Mica-schist or) altered gabbroic rock. From A8/ditch filling.
SF 181 and 183 Two flat stones with rounded edges and apparently worked. From B12/centre.
SF 187 Fine-grained mica-schist. Flat stone with rounded edge. No description or details on card except possible flat stone worked. From B12/ north-west.
{C} Balls
SF 103?Chert 'marble', cream–coloured cortex with single linear scar. Natural pebble. From B5/Stg.St. north-west.
SF 103x 'Marble' with darker ring markings, unscarred, possibly also chert or flint. Not determined. No context.
SF 163 Roughly spherical stone apparently worked to ball shape. Petrology not determined. From A7/?

Querns

SF 107 Upper stone of bun-shaped rotary quern of quartz-mica green chlorite schist. A smooth-wearing of surface round part of the hopper continues as tongue towards the (recent) peripheral fracture, on shallower side, as if from

Table 14 Comparative categories of coarse stone tool types

Category (BBS)	SF no	Category (SC)	SF no
		Stone balls	103, 103x, 163
Circular stone	98	Discs	98, 99, 181, 183, 187
Pot lid	99		
Cobble & pebble tools	31, 97, 101, 190	Hammerstones/pounders	31, 97, 101,145, 161, 166, 190
Perforated stones/beads	52, 214	Perforated stones	82, 214
Whetstones	68, 135	Whetstones	68, 135, 165
Mattock	210	Grooved stones	102, 148, 210, X
Pivot stone	No number, 219, 223	Slabs with surface holes	46, 219, 223, X
Shale armlet	202	Shale armlet	202
Motive Piece	28	Trial Piece	28
Unworked stone	82, 102, 148, 163		
		Holed stone	212
		Axehead	139
Quern	107	Querns	107, X
Ceramic balls	103, 103x		

The table also highlights the missing numbers (italicized) and categories of finds which are no longer available for study.

wear of the handle there, rather than on central pin. From DPI.
SF? Possible saddle quern. From the south-east section of the ditch but was not recovered. Appears on photographs. From DI fill/SE.

Roundels with central perforation

SF 82 Chlorite-schist pebble broken across perforation. From A5(ditch).
SF 214 Small lightweight whorl of schistose sandstone (semi-pelite). Perhaps counter. From B13.

Beads

SF 52 Green conical bead, horizontally perforated, of serpentine. From B3/S or B2.
SF 82 From supplementary list.
{C} Jet armlet
SF 202 Arc fragment of a D section of a *c* 0.4–0.5cm diameter circlet. From B9.
{C} Trial piece
SF 28 Flat square fragment of a slightly spotted slate, showing part of an incised interlacing pattern. From B3/S or B2.

Slabs with surface holes of cup form

SF 46 Block of schistose grit,?6 x 4 ‘ with (bored?) hole. With shallow round depression. From B3/W or Deb Pit 2.
SF 219 Rectangular fragment *c* 48 x 30 x 6cm of quartz mica chlorite schist, bearing five ground cupholes along an arc. Pivot stone successively reused. From A14/ditch.
SF 223 Triangular fragment, c. x? cm of . . . with one ground cup hole. From A18/ditch. Top filling.
Pocked stone fragment. From Debris Pit 1–not recovered – possibly an anvil.

Surface grooved slabs

SF 102 Possible utilized fragment of psammite (very abundant in quartz and mica) with tapering groove of wine-angled V section, a feature which can be due to natural cleavage. Flat underside is spotted with small brown encrustations. A4/N (ditch filling).
SF 148 Flat slab fragment, in a mica-rich schistose rock, with straight groove expanded at one end, pecked across it. From B3/S.
SF 210 Small fragment of mica-schist (nearly phyllite schist), with surface scores. Probably from B3/W.
SF? Small grooved green pebble discarded. Serpentenite.

From Cregeen’s Supplementary List

SF 139 Axehead (probably not). Described as a pear-shaped coarse stone breaking up. 2.25″ long, 1.75″ across blade and 0.75″ thick. From Area 2, Square B9. Lost by June 1965.

Holed stone

SF 212 A flat stone with a small hole. No further data. From Square B9 found August 1961.

Appendix 5: Catalogue of Metal Objects
by Fraser Hunter & Andrew Heald

The objects are grouped in functional categories: tools, ornaments, fittings / mounts, nails and miscellaneous. For some objects the function is unclear or spans a range of possibilities. Measurements (in millimetres) are largely taken from X-rays, using the abbreviations: L length, W width, T thickness, H height, D diameter.

Tools - Knives

Seven intact or fragmentary knives were recovered. Most show signs of re-sharpening, sometimes extensive. Their fragmentary nature causes problems for standard typologies which rely on complete objects (eg Laing 1975; Cowgill *et al* 1987; Goodall 1990; Ottaway 1992). Only three of the Bruach an Druimein knives can be classified using Ottaway's typology (probably the most useful): two fall into type A and one into type D. One (SF 13) preserves traces of an organic sheath, probably of leather.

Knife types can only be dated within broad parameters. Several of the types familiar in the Early Historic period have Roman antecedents (see Duncan 1982, 3; Ottaway 1992; Manning 1985, 116, types 17–20) – for instance, a knife with an angled back is known from Roman Iron Age levels on Traprain Law, East Lothian (Burley 1956, no 433). Equally some types continue into the medieval period (Goodall 1990, 835–60; Duncan & Spearman 1984, 354, illus 25.1; Ford 1987, 132, illus 65, no 80 & 81). However, while individual types may have a wide date range, from the overall composition of the assemblage it is possible to get a feel for the date. The best parallels for the Bruach an Druimein knives come from Early Historic sites in Scotland, Wales and Ireland (eg Munro 1882, fig 129, 226–7; Hencken 1937, 130, fig 6, C–D; Alcock 1963, 116, fig 21; Duncan 1982, 3; Alcock 1987, 105, fig 5.3; Nicholson 1997, 426–9; Lane & Campbell 2000, 161–3).

The interpretation of knives is a difficult subject. Even when they can be classified, the reasons behind the typological variation are often unclear, and a wide range of shapes and sizes were in use concurrently: Alcock has suggested that 'the form of knives was governed rather by the skill and fancy of individual smiths than by any strong typological tradition' (Alcock 1987, 107). There will presumably have been functional variation according to size, but the knife is the classic multi-functional tool and attributing detailed uses is difficult.

Illus 26 compares key dimensions of the Bruach an Druimein knives to intact specimens from Dunadd. They fall within the range of variation seen in Dunadd's much larger assemblage; specimens from the broadly contemporary sites of Buiston (Ayrshire) (Crone 2000, fig 199) and Bostadh (Lewis) (Neighbour in prep) show the same range. Some of the small, fine knives may have been intended for specialist tasks, as has been suggested for Dunadd (Lane & Campbell 2000, 161–3). Two knives (SF 93 and SF 94) are notably smaller (blade height 9–11mm) than the other more robust examples.

SF 13 Knife, tip and tang broken. Straight cutting edge and upward-angled back, the blade broken before the return to the tip. Central broken tang, rectangular-sectioned; the blade/tang division is weakly defined with the tang expanding gradually to the blade. At the broken end of the blade the corrosion has flaked off, revealing orange-brown corrosion products on the blade surface which are the remains of an organic sheath, probably leather. No traces of the handle survive. Angled-back knives are typically Early Historic (eg Ottaway 1992, fig 229–30); there is a good parallel from Dunollie, Argyll (Duncan 1982, 4, fig 1; Alcock & Alcock 1987, 139 ill 8.14; SF 87, 019). Overall L: 74.5mm; surviving blade L: 50mm; H: 15–18mm; T: 5mm; tang section 7.5 x 6.5mm. Area 2, context 003, grid B2.

***SF 93** Knife blade. Intact parallel-sided blade with angled tip; vestigial stump of central tang. Ottaway (1992) type A. L: 62mm; H: 11mm; T: 2mm. Blade L: 54mm. Ditch section 3, context 405, grid A8. Illus 26.

SF 94 Knife with rectangular-section stepped tang tapering to a point. The blade is mostly lost but its width and the concavity of the cutting edge show it has been heavily re-sharpened. L: 57mm; H: 9mm; T: 5mm. Tang L: 37mm, W: 5mm, H: 7.5mm. Ditch section 3, context 407, grid A8.

***SF 125** Knife, intact. Convex curved back with slightly concave tip. Concave cutting edge implies resharpening, while the X-ray indicates the cutting edge was welded on. Stepped tang tapering to a point. Ottaway (1992) type D. Similar curved backs with stepped tangs are known from Dunadd, Argyll (NMS HPO 289 & 292; Duncan 1982, 4, figs 2 & 3), Lochlee, Ayrshire (Munro 1882, 124, fig 129), Buiston, Ayrshire (Munro 1882, 222–3, figs 227–8, 230) and Kildonan Bay, Argyll (Fairhurst 1939, 210, plate LXXVII, no 2). L: 111mm; H: 16mm; T: 4mm. Blade L: 78mm, tang L: 33mm, H: 6mm. Area 2, context 001, grid A7. Illus 26.

SF 140 Knife blade fragment, lacking tip. Straight back and cutting edge. Badly corroded. L: 58mm; H: 18mm; T: 5mm. Area 2, context 202, Grid B9.

SF 185 Knife with tapering rectangular-section stepped tang. Little of the blade survives, although its concave shape shows that it has been re-sharpened. L: 35mm; H: 10mm; T: 3mm. Area 2, context 001, grid B12.

***SF 213** Knife,?intact. Straight back with angled tip, concave cutting edge, stepped and slightly tapering tang. Ottaway (1992) type A. Overall L: 80mm. Surviving blade L: 46mm. H: 11mm; T: 4mm; tang L: 34mm. Area 2, context 003, grid B13. Missing; described from drawing. Illus 26.

Tools - Punches

Four objects are probably punches, though three lack the working tip. One has an integral head,

two were probably tanged and one lacks the head. Punches such as these were commonly used in metalworking, especially blacksmithing for tools of this size; tanged punches could have a range of functions (Ottaway 1992, 517) although the size of this one would be consistent with iron working. The fineness of SF 239 suggests it was for non-ferrous metals.

***SF 149** Punch with rounded top for striking. Square section, changing to round at the broken tip. The shaft is slightly expanded below the head. Similar tools are known from Dunadd (Lane & Campbell 2000, 161, 163–6, fig 4.71, no 1298) and Whithorn, Galloway (Nicholson 1997, 421–3, fig 10.102). L: 95mm; W: 8mm; T: 9mm. Area 2, context 001, grid B9. Illus 26.

***SF 193** Punch, parallel-sided rectangular-sectioned bar, broken at one end, with tip rounded in one plane. L: 58mm; W: 7mm. Ditch section 3, context 407, grid A8. Illus 26.

***SF 239** Fine tanged punch, both ends damaged. The sub-Square shaft is slightly expanded below the head, suggesting it was tanged, and tapers towards the tip. L: 70mm; W: 5mm; T: 6mm. Area 2, context 001, grid B12. Illus 27.

***SF 240** Tanged punch, both ends missing. Heavy-duty cylindrical bar tapering to a damaged point. Broken rectangular-sectioned tang at the top. Compare Ottaway 1992, fig 198. Tanged punches are less common on Early Historic sites than non-tanged examples (e.g. only five out of 81 awls/punches from Whithorn, Galloway; Nicholson 1997, 422–3, illus 10.102, nos 50.43; 50.54). L: 132mm; W: 12mm; T: 12mm. SE end of ditch, unstratified. Illus 26.

Ornaments

An unusual iron double loop-headed pin was recovered from the site. After initial conservation this was tentatively identified as a La Tène I brooch, but X-rays make it clear this was wrong. The head of the pin spirals into two coils in the same plane, the end comes to a rounded point rather than a fracture and is coiled back on itself, while the terminal loop is tighter than the initial one. None of this is consistent with a distorted spring. The item is clearly the head and part of the shank of a stick pin. Similar pins come from Cahercommaun, Co. Clare, where the site is dated to the ninth century (Hencken 1938, 37–8). It is also paralleled at the Early Historic crannog of Lough Faughan, Co. Down, here looped in a figure-of-eight (Collins 1955, 59–61); the pin is unstratified but the site is broadly dated mid seventh to late 10th century from parallels to Lagore. An undated parallel in copper alloy wire comes from Gallanach, Coll (Beveridge 1903, 38 & illus facing p133; NMS HD 347), while Dunadd has produced a single-looped pin (Lane & Campbell 2000, illus 4.77, no 1954). It may be related to spiral-headed copper alloy types where the shank was split and the ends formed into loops (eg Laing 1973, 62–5; Laing 1975, 327; Nicholson & Hill 1997, 363, BZ13.4) for which seventh- to eighth-century dates are suggested. Presumably all these western examples are derived from the widespread Middle Saxon double spiral-headed type, which is usually of copper alloy. These are now dated from the sixth to eighth century or later (Hinton 1996, 29–30). A broad seventh–ninth century bracket for this pin seems safest on current evidence.

***SF 119** Double loop-headed pin made from round-sectioned wire. The shank is broken, but the diameter increases from the head down the shank (from 1.5 to 3mm), indicating the shaft was slightly swollen to hold the cloth better. At the top the wire is twisted to form two loops perpendicular to and flanking the shank. One is tighter than the other, with the end tucked in. L: 39mm, head W: 13mm, H: 8.5mm. Area 2, context 001, grid A7. Illus 27.

{C} Fittings/mounts

Ten fittings or mounts were found. Their exact function is unclear, as all except one are fragmentary, but they are probably from furniture or domestic fittings. All are chronologically undiagnostic.

***SF 15** Thin bar, broken and damaged at the edges, slightly curved longitudinally. L: 55mm; W: 6mm; T: 2mm. Dump 3, unstratified. Illus 26.

***SF 74** Flat rectangular strip, one end?intact, the other expanding and broken. Wood traces in the corrosion on one side imply use as some form of mount or fitting. L: 41mm; W: 5.5–7mm; T: 2mm. Area 2, context 003, grid B2. Illus 26.

SF 120 Bar fragment, plano-convex section. L: 21mm; W: 12mm; T: 6mm. Area 2, context 001, grid A7.

SF 126 Fine broken hook, lacking ends; section varies from sub-rectangular to triangular. Head width 16mm, surviving arm length 24mm. L: 43mm; W: 3mm. Area 2, unstratified.

SF 134 Bar fragment, plano-convex section. L: 26mm; W: 13mm; T: 5mm. Area 2, context 001, grid B12.

***SF 147** Bent bar, one end bent through 90°, perhaps original; the other end is distorted. Sub-rectangular section, broken at both ends. Possibly a large U-shaped staple, one arm now extended. Surviving arm length 44mm; overall L: 124mm; W: 5mm. Unstratified, 100–150 yards north-east of excavation area. Illus 26.

SF 153 Substantial bar fragment, one edge partly inturned, both ends broken. L: 45mm; W: 25mm; T: 4mm. Area 2, context 001, grid B9.

SF 155 Riveted bar fragment. Heavily corroded but there appears to be a sub-rectangular head of a rivet through a?rectangular strip. L: 30mm; W: 18mm; T: 4mm. Area 2, context 001, grid B9.

***SF 177** Mount, perhaps decorative. Sub-rectangular sheet with rounded ends and a sub-square hole at one end for a nail. L: 79mm; W: 32mm; T: 3mm. Perforation 10 by 7mm. Ditch section 3, context 407, grid A8. Illus 27.

SF 199 Bent bar, tapering, sub-rectangular section, ends broken. L: 31mm; W: 9mm. Area 2, context 003, grid B12.

Nails

The most common iron finds from the site were nails, with 19 examples. Square-sectioned rod fragments with no other distinguishing features were assumed to be nail fragments. A full catalogue can be found in the archive: only the key points are outlined here.

All of the nails had square-sectioned shanks. Only seven had surviving heads; all were flat and either sub-square or circular in plan. Only three nails survived intact (SF 34, 154a & 154b), with another two (SF 31 & 069) lacking only the tips; lengths varied from 16–74mm. One (SF 31) had surviving wood traces. Without more intact nails, further dis-

cussion is difficult, but a range of sizes are present, with head size varying from 10 to 23mm.

Such nails are chronologically undiagnostic. None were associated with buildings or structures, and only SF 218 and 238 (from Fill 405 and collapsed Wall 406 in the ditch section) came from a secure context. However it is worth looking at wider Early Historic parallels. Nails are rare on Early Historic sites, although in part this relates to selective retention by older excavators. There are only 57 from Dunadd (Craw 1930; Duncan 1982, 18–20; Lane & Campbell 2000, 169) and 12 from Dunollie, Argyll (Duncan 1982), where they occur only in post-tenth/eleventh century deposits (Alcock 1987, 141). At Whithorn the vast majority of the 3857 nails post-date the eighth/ninth centuries: only 156 were recovered from Period I deposits (sixth to eighth centuries).

This scarcity of nails is a clue to building traditions. Nails are surprisingly rare finds from crannogs (Munro 1882) and duns, while at Whithorn they were largely absent from the timber and wattle buildings (Nicholson 1997, 405–6). Clearly Early Historic building traditions did not make extensive use of nails, and those we have may come from internal fittings and furnishings rather than buildings. This dearth is even more marked in the Iron Age (Hunter 1998, 366–7). Exceptions are few and specific: the quantities recovered from Dundurn, Perthshire were linked to their use in timber-framed ramparts (Alcock et al 1989, 217–18, illus 15, nos 1, 18 & 49).

Miscellaneous objects

Eleven fragmentary objects cannot be identified. Unidentifiable iron objects are a recurring issue: from the recent Dunadd excavations, 44% of the iron objects fell into this category (Lane & Campbell 2000, 160).

SF 62 Lump. L: 22mm; W: 19mm; T: 14mm. Area 1, context 003, grid A2.

SF 120 Sheet fragments (2), lacking diagnostic features. L: 39mm; W: 27mm; T: 2mm, and miscellaneous lump, L: 20mm; W: 18mm; T: 10mm Area 2, context 001, grid A7.

SF 121 Lump. L: 40mm; W: 30mm; T: 10mm. Area 2, context 001, grid A7.

SF 131 Sheet fragment, two surviving perpendicular edges with a semi-circular concavity at the corner with a raised lip. Function unknown. L: 33mm; W: 29mm; T: 5mm. Hole: 10mm. Area 2, context 202, grid B12.

***SF 152** Tapering fragment, missing one end. Oval section. L: 22mm; W: 10mm, T: 6mm. Area 2, context 001, grid B9. Illus 26.

SF 197 Miscellaneous sheet fragments, no diagnostic features. 4 individual pieces. Area 2, context 003, grid B12.

***SF 200** Fragment of a thick sub-rectangular object. L: 41mm; W: 35mm; T: 8mm. Area 2, context 003, grid B13. Illus 26.

SF 211 Sheet, thin. L: 43mm; W: 35mm; T: 2mm. Area 2, unstratified, grid B13.

SF 250 Miscellaneous fragment. L: 42mm; H: 22mm; T: 3mm. No context.

***SF 251** Broken sub-rectangular fragment. No diagnostic features. Found along with three pieces of unclassified iron slag. L: 28mm; B: 25mm; T: 10mm. No context. Illus 26.

SF 252 Sheet fragments x 21, no diagnostic features. No context.

Missing items ***(descriptions taken from site records)***

***SF56** Rod with expanded head, possibly nail. Grid A2. Illus 26.

***SF151** Rectangular bar. Grid B9. Illus 26.

SF 158 Lump. Grid B12. Missing in June 1965.

SF 169 Lump. Grid B9.

SF 185 Portion of an iron artefact. Grid B3.

SF 207 Iron fragment, about 1″ long, slightly bent, round section. Grid B13.

Non-ferrous objects

***SF 92** Rectangular lead strip, rolled into a cylinder and flattened. L: 21mm; B: 11mm; T: 6mm. Ditch section 2, context 405. Illus 26.

***SF 128** Copper alloy cylinder (SF 128a), apparently broken at both ends. Now missing; site records describe it as a 'bone or wooden point in a cylindrical copper case' (SF 128b) but it looks too crude to be a case and is more likely to be binding from the edge of an organic object. L: 23mm, D: 8mm. 'Oven trench', Square A8, topsoil. Illus 26.

Appendix 6: Catalogue of Early Historic Artefacts *by Ewan Campbell*

SF 201 Small barrel-shaped herring-bone bead, broken, about half remaining. Complex structure: core of apparently black (actually dark green) glass, wound round with three bands of multi-coloured reticella glass. The middle is of clear body with three twisted strands of opaque white and opaque yellow laid alternately Z- and S-twist to produce a herringbone pattern. The ends of the bead have collars made from single twist bands having a semi-opaque light green body full of bubbles, also with opaque white and opaque yellow trails. All are marvered flush. H 9.5mm, D 10mm, perforation D 4mm. Context 003 Area 2. 'Square B9/13. Occupation layer with charcoal beside burnt stone'.

SF 77 Cylindrical herring-bone bead, broken, about one third remaining. Badly decayed, especially the opaque yellow parts. Two strand of twisted reticella rod laid alternately Z- and S-twist to make herring-bone pattern. Body semi-opaque light yellow-green with opaque yellow trails. There are traces of a red deposit on the inside surface of the perforation. H 9mm, perforation D 5mm, D *c* 9mm. Context 003, Area 1. 'Square B2 in sticky charcoal-rich soil 3′ above gravel'.

SF 91 & SF 91x Two lost beads 'of brown? clay'. It is just possible these could be the two parts of 33, which resembles a clay melon bead and was found in the same area. (B3)

SF 33 Fragment of lower valve of mould. Outer edge of mould with three keying marks of parallel-sided grooves. The only trace of the cast object is a circular edge of a thick object of unidentifiable type of about 2cm diameter. Fabric soft, silty clay, buff on exterior, grey where in contact with metal on inside surface. Context 003, Area 2.B3 south-west quarter, Layer 1–2.

SF 28 Small piece of phyllitic slate, with carved decoration. Sub-rectangular fragment, broken on all edges. One surface has edge of hand-drawn incised design consisting of two intersecting double arcs, probably parts of rings and traces of a third on one broken edge. The middle ring has a Y-shaped line extending from the inner ring towards the centre. The upper ring has a small circle with another line radiating towards the middle ring. There is one or two dots in the middle ring. One line has been redrawn where the engraving tool has slipped. Context 001, Area 2, Square B3.

Modern

SF 221 Sherd of green glass bottle. Surface abraded 25 x 20mm. Modern. 7g. T 7mm. Context 303, beneath cobbling around standing stone. 'From on standing stone'.

Appendix 7: Catalogue of Crucibles

by Andrew Heald

SF 45 Small body fragment of crucible. Broken on all sides and lacking diagnostic features (rim, base etc). Deposits in interior. 15mm x 13mm x 4mm. Zn**, Pb, Ag, Sn, (Cu). F126740B. Context 001, Area 2, B2.

SF 85 Body fragment and?base of crucible. Broken on all sides. Deposits on inside and outside. 25mm x 26mm x 8mm. Cu, Pb, (Sn). F126741B; F126742B. Context 001, Ditch 2, A5.

SF 49 Tiny body fragment of small thin-walled crucible. Broken on all sides, lacking diagnostic features. 11mm x 10mm x 2mm.

Appendix 8: Catalogue of Medieval Pottery
by Bob Will

SF no	Context	Area	Grid square	Description
072	001	Ditch 1	A5	1 base angle sherd, cooking pot, fuming on base and walls, very thin fabric 1 body sherd, cooking pot, fuming on wall, very thin fabric (3.5g)
083	001	Ditch 2	A5	1 body sherd, pale orange fabric thin wall, some fuming, pronounced rilling marks, pale grey reduced interior (2g)
117	001	Area 2	B3	2 body sherds, orange fabric with reduced core and external green glaze, jug (3g)
123	001	Area 2	A7	1 rimsherd, white gritty fabric? (4g)
124	001	Area 2	A7	1 base angle, orange fabric, fuming burning, possibly secondary, very thin walls (2g)
129	202	Area 2	B12	Missing
136	001	Area 2	B12	1 body sherd, orange fabric with reduced core and external green glaze (2g)
137	001	Area 2	B12	1 rimsherd, orange fabric, abraded surface (4g)
139	001	Area 2	B9	1 body sherd, orange fabric with some fuming, cooking pot, thin walled (2g)
141	001	Area 2	B9	1 body sherd, orange fabric, reduced core, abraded external glaze (3g)
142	001	Area 2	B9	1 body sherd, pale orange fabric, reduced core, abraded external surface (4g)
144	001	Area 2	B9	1 base angle, orange fabric, reduced black core (5g)
150	001	Area 2	B9	1 body sherds, orange fabric, fuming on exterior (2g)
157	003	Area 2	B9	1 base angle sherd, orange fabric, external fuming (2g)
162	001	Area 2	B9	2 body sherds, bright orange fabric, some external fuming, cooking pot (2g)
170	408	Ditch 3	A11	1 rimsherd, orange fabric, joins with SF. 215 (4g) Not particularly abraded
174	001	Area 2	B12	1 body sherd, white gritty fabric, reduced grey core (3g)
175	003	Area 2	B12	1 body sherd, pale orange/pink fabric with reduced core, external green glaze (3g)
189	003	Area 2	B12	1 rimsherd, white gritty fabric, reduced grey core, badly abraded exterior glaze (2g)
215	001	Area 2	A7	1 rimsherd with conjoining body sherd, pale orange/ pink fabric, small globular storage jar or cooking pot (26g), possibly Low Countries
216	407	Ditch 2	A14	1 base angle sherd, pale orange fabric, internal burning (5g), not particularly abraded
225	003	Area 1	B11	1 body sherd, white gritty fabric (3g), total weight of sherds 87g