

6. BALURE DUN

6.1 Archaeological background

The site at Balure, until relatively recently, was unrecognised as a dun structure, although it had been noted by Forestry Commission operatives as an enclosure and/or cairn and recorded as such on the Forestry Commission's Heritage database for North Knapdale Forest.

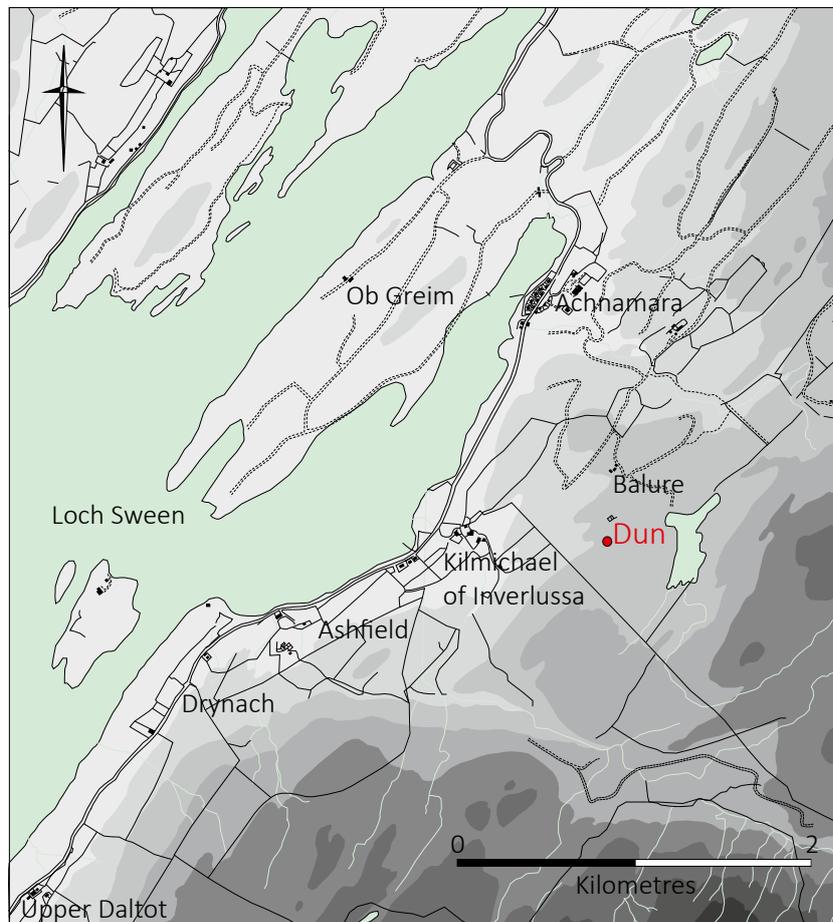
In 2004 as part of an archaeological survey of North Knapdale Forest undertaken by Kilmartin Museum the site was briefly surveyed and identified as a likely dun structure (Regan 2005). Further survey and archaeological evaluation work undertaken in 2006 as part of the Dalriada Project enhanced the picture of the dun as consisting of a sub-circular inner enclosure with a series of outworks to the north and south (Regan 2006).

Two phases of excavation (totalling six weeks) were funded by the Dalriada Project and undertaken in October 2008 (Site Code BAL 08) and May 2009

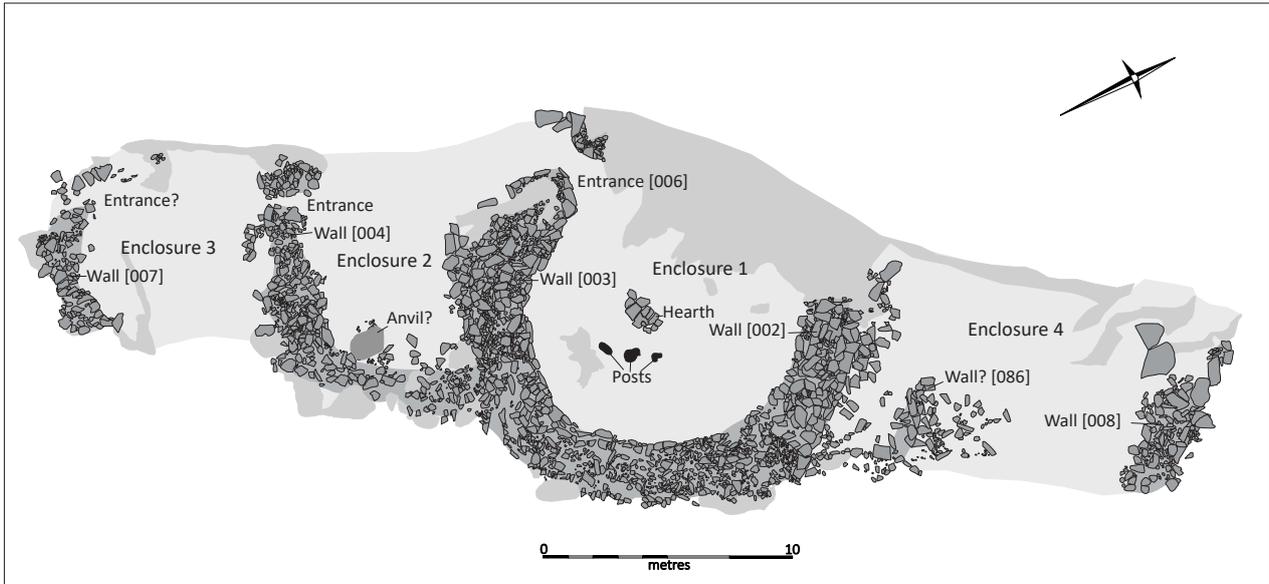
(Site Code BAL 09). The preliminary results of these excavation phases appeared in the subsequent Data Structure Reports, where more extensive descriptions of the contexts and features mentioned below can be found (Regan 2008, 2009).

6.2 Site location

The dun occupies the southern end of a steep-sided south-west/north-east oriented natural knoll occupying a commanding position above the sloping glens to the east and west situated about 500m south of the deserted settlement of Balure and 300m west of Loch Laraiche (Centred NGR: NR 78270 85750, 142m OD) (Illus 71). Approach from the north is relatively easy along a natural ridge lying above wet and marshy ground to the north-east. The site has a good vantage point with extensive views west and south over Loch Sween towards Jura. The outcrop rises from level boggy ground in the north-east narrowing



Illus 71 Balure, site location in North Knapdale. (Image by Roddy Regan, © Kilmartin Museum)



Illus 72 The layout of the four enclosures at Balure. (Image by Roddy Regan, © Kilmartin Museum)



Illus 73 Balure dun, Enclosure 1 pre-excavation, looking south-east. (Image by Roddy Regan, © Kilmartin Museum)

and becoming steep-sided to the south (Illus 72). The west side below the dun is a near vertical slope. The south and east sides of the outcrop are less steep and descend from the summit in a series of rock escarpments.

The summit of the knoll is defined by a humpbacked rise to the west with more level but sloping ground to the east. The steep scarp on the west side negates the need for any walling on this side. This defensive advantage was obviously enough

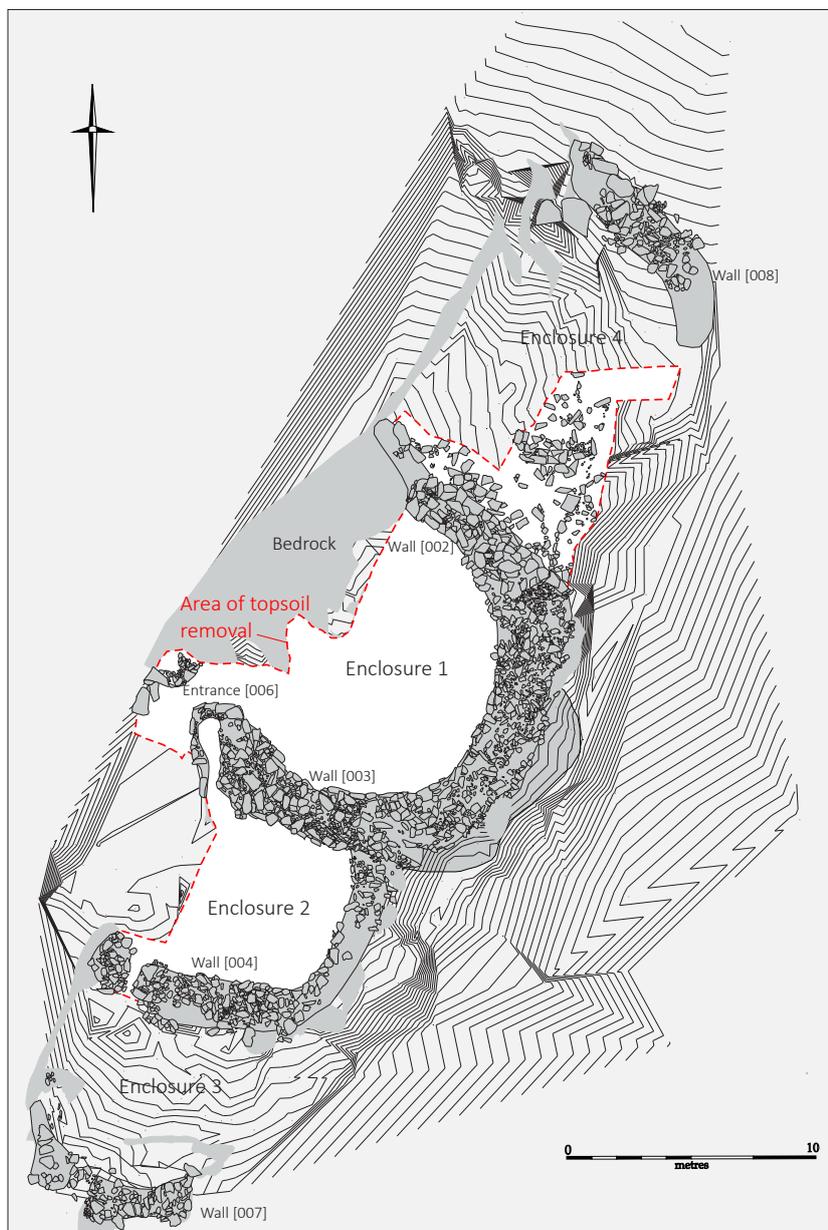
to overcome the relative disadvantages of the more easily accessible sides on the east, south and north, which were defended by lower works on the north and south sides. The dun layout utilises a natural rise to the east of the entrance. The upper soils across the site were badly disturbed by the presence of bracken roots and the planting and subsequent clearance of trees across the site (Illus 73). The roots of several mature trees had caused substantial damage to the remaining structural elements of the dun and these have also probably disturbed the upper stratigraphic sequence. Much of the walling

material was tumbled and the walls appeared to have been extensively robbed in the past (there is a post-medieval estate wall *c* 150m to the south).

6.3 The structures

6.3.1 The dun structure

The upper enclosed area, Enclosure 1, is interpreted as the main enclosed area, while the outworks effectively divide the ridge into a series of smaller outer enclosures (Enclosures 2–4, Illus 74).



Illus 74 Balure dun site plan. White denotes area of excavation. Dashed red line shows limit of excavation where there are stratified deposits; elsewhere the walls of the structures delimit the excavation. Wall tops (grey) were cleaned but not excavated. (Image by Roddy Regan, © Kilmartin Museum)

The enclosed area of the dun lies easily within the range of dun enclosures across Argyll, although its outworks increase its overall internal dimensions. While not complicated in layout, the outwork walls effectively control access to the summit along the less steep slopes of the ridge. If constructed at the same time as the dun, the outworks might suggest a relatively sophisticated layout, perhaps for defence or display. However, it is likely they developed in a more piecemeal fashion. Other duns in Mid Argyll with similar outworks have been noted, including; Dun A' Chrannag (Canmore ID [39053](#)), Dun Rostan (Canmore ID [39107](#)), Dun Cragach (Canmore ID [38968](#)) and Dun Bhronaig (Canmore ID [39098](#)). The outer enclosure walls at Balure were not obvious before excavation and it would not be surprising if further outworks came to light through more intensive survey and/or excavation work, especially around the more denuded dun sites.

The entrance to the dun lay on the south side, where two entrance gaps were identified, accessing Enclosures 1 and 2. It is still possible an entrance lay to the north but none was positively identified

during the excavation work. As will be seen below, there is evidence that both Enclosures 1 and 2 contained some form of structure. The uneven and more rugged ground within Enclosure 3 possibly precludes the presence of any substantial structure within the enclosed area and this might similarly be the case within Enclosure 4, although there is enough level ground within both to contain smaller structures.

All the enclosure walls were constructed in drystone rubble, mainly blocks of chlorite schist (epidiorite), the stone probably locally sourced, given that there is evidence of quarrying into the natural rock outcrops (see 6.4.1 'Enclosure 1': 'Phase 1a' below). The walls appear to have been extensively robbed and stand no higher than 0.9m.

Enclosure 1 (Illus 75)

Within Enclosure 1 both internal and external faces of the enclosure could be discerned on the north and south sides, with only the internal face apparent on the east side (Illus 76). Internally the enclosure had a maximum width of 11.7m between the south and north walls and 8m between the east wall and the



Illus 75 Enclosure 1 under excavation, looking south-west. (Image by Roddy Regan, © Kilmartin Museum)



Illus 76 Enclosure 1, wall (003) internal face, looking south-east. (Image by Roddy Regan, © Kilmartin Museum)

steep natural rock outcrop forming its west side. The north side of the enclosure wall (002) was aligned north-west/south-east and ran in a relatively straight line from a raised natural ridge on the west to a steep escarpment at the east. The wall measured between 1.85m and 2.3m wide and stood 0.7m high in three irregular courses. From here the enclosure wall then turned sharply to the south along the upper escarpment on the east side. Here the ridge was less steep and the external edges along the east arc were less easy to determine among the mixture of rubble and structural footings revealed below the scrub cover. Footings were constructed over or along natural rock-ledges on this side, the eastern extent lying some way down the slope of the ridge, the majority of the remaining stones appearing to be in situ and probably structural. These relatively wide footings (*c* 5m) might indicate that the wall was originally battered on this side, as noted at Druim an Duin and as argued at Glashan (Henderson & Gilmour 2011: 81).

From the east the enclosure wall turned to the west where it incorporated a natural outcrop east of

the entrance, where the wall was recorded as (003). The thickness of these southern footings varied but they were generally between 1.8m and 2m thick, widening to just over 3m at the entrance, where the wall stands up to 0.9m high. The entrance was located at the south-west of the enclosure and lay between a steep natural scarp on the west and a natural outcrop on the east (Illus 77). The entrance gap between these two outcrops had been narrowed by rubble walling, the surviving stones suggesting an original entrance gap of 1–1.3m. The largest stones within the wall appear to have been used on the external faces, these retaining smaller stones used as levelling and packing between the larger blocks. Within the core along this part of the wall there was an alignment of stones that possibly suggest the south side of the escarpment was closed off with a relatively straight wall section prior to the construction of a more curvilinear wall (Illus 78). It may be that this was also the case with the north wall but without excavation of the walls on these sides these relationships remained unproven.

An alternative explanation for this alignment may



Illus 77 Enclosure 1, wall (003) internal face and entrance, looking south. (Image by Roddy Regan, © Kilmartin Museum)



Illus 78 Enclosure 1, wall (003), looking south-east. (Image by Roddy Regan, © Kilmartin Museum)

be a deliberate construction technique to counteract slumping within the wall core. Within the wall mass, particularly on the east side, there could be discerned 'rows' of larger elongated stones that also give the appearance of 'medial faces'. These 'rows' appear to be integral to the primary construction of the wall rather than representing consecutive building phases and, as has been noted before, may have functioned to counteract internal slumping of the wall mass (see 7, 'Discussion of the two dun sites' below). The same building technique appears to have been used within the wider foundation on the east side, where larger stones have been used to retain or consolidate smaller stones or rubble within foundation 'blocks', a construction technique Harding (2004a) refers to as 'quasi-casement'.

The walls of the outworks appeared to be less substantial, although these again had been extensively robbed and disturbed, with only the footings surviving.

Enclosure 2

The wall of Enclosure 2 (004) consisted of an arc of rubble springing from the south-east of Enclosure

1, running south then curving west before abutting a natural rock outcrop (Illus 79). As with Enclosure 1, a steep escarpment to the west negated the need for walling on that side. The wall circuit created an internal space 7–10m east/west by 8m north/south. Near the western edge what was initially a dip in the rubble turned out to be an entrance, although only the basal courses of this survived, suggesting a width of between 0.8 and 1m. The ruined nature of the walls meant it was difficult to ascertain the original width of wall (004) but it probably ranged between 1.8 and 1.9m.

Enclosure 3

A tumbled wall (007) lay 7m to the SSW of Enclosure 2, indicating a further blocking wall lying across this lower access to the dun (Illus 80 & 81). Only scrub was removed from along the rubble circuit, which runs from a steep natural drop at the east to a near vertical natural cliff at the west. A slight dip in the rubble within this circuit might indicate an entrance, although this was far from conclusive. No further deposits were excavated within the enclosure.



Illus 79 Enclosure 2, wall (004) and anvil? stone, looking east. (Image by Roddy Regan, © Kilmartin Museum)



Illus 80 Enclosure 3, wall (007), looking south-west. (Image by Roddy Regan, © Kilmartin Museum)



Illus 81 Enclosure 3, wall (007), looking east. (Image by Roddy Regan, © Kilmartin Museum)

Enclosure 4

Scrub was removed from a length of the rubble circuit on the north side of the dun ridge. A tumbled wall (008) springs from a steep natural outcrop at the north-west and runs east towards another steep rise on that side, although tree growth prevented the exposure of its eastern limit (Illus 82). The wall utilises natural tumbled rock within its build and it is possible some of these blocks may have been levered into position away from the natural rock face. Removal of scrub immediately to the north of Enclosure 1 revealed a relatively extensive spread of collapse and rubble. Within this rubble spread there was the outline of another possible wall (086). This appeared to be only a short length of walling springing from a natural scarp at the west and running towards a steep cliff to the east. As the surrounding deposits remained unexcavated, the function of this possible structure remained unclear. No further deposits were excavated within the enclosure.



Illus 82 Enclosure 4, wall (008), looking south-east. (Image by Roddy Regan, © Kilmartin Museum)

6.4 The excavations

The deposits within Enclosure 1 have been grouped within three broad phases, these based on the presence of three superimposed hearths. The majority of the deposits lying away from the hearths could not be stratigraphically linked to the hearths, so the sequence of hearths in relation to these deposits is for the most part speculative and their phasing is based on cruder depositional sequencing. Similarly, the phasing for Enclosure 2 is represented in the figures as a depositional sequence rather than as correlation to the phasing in Enclosure 1.

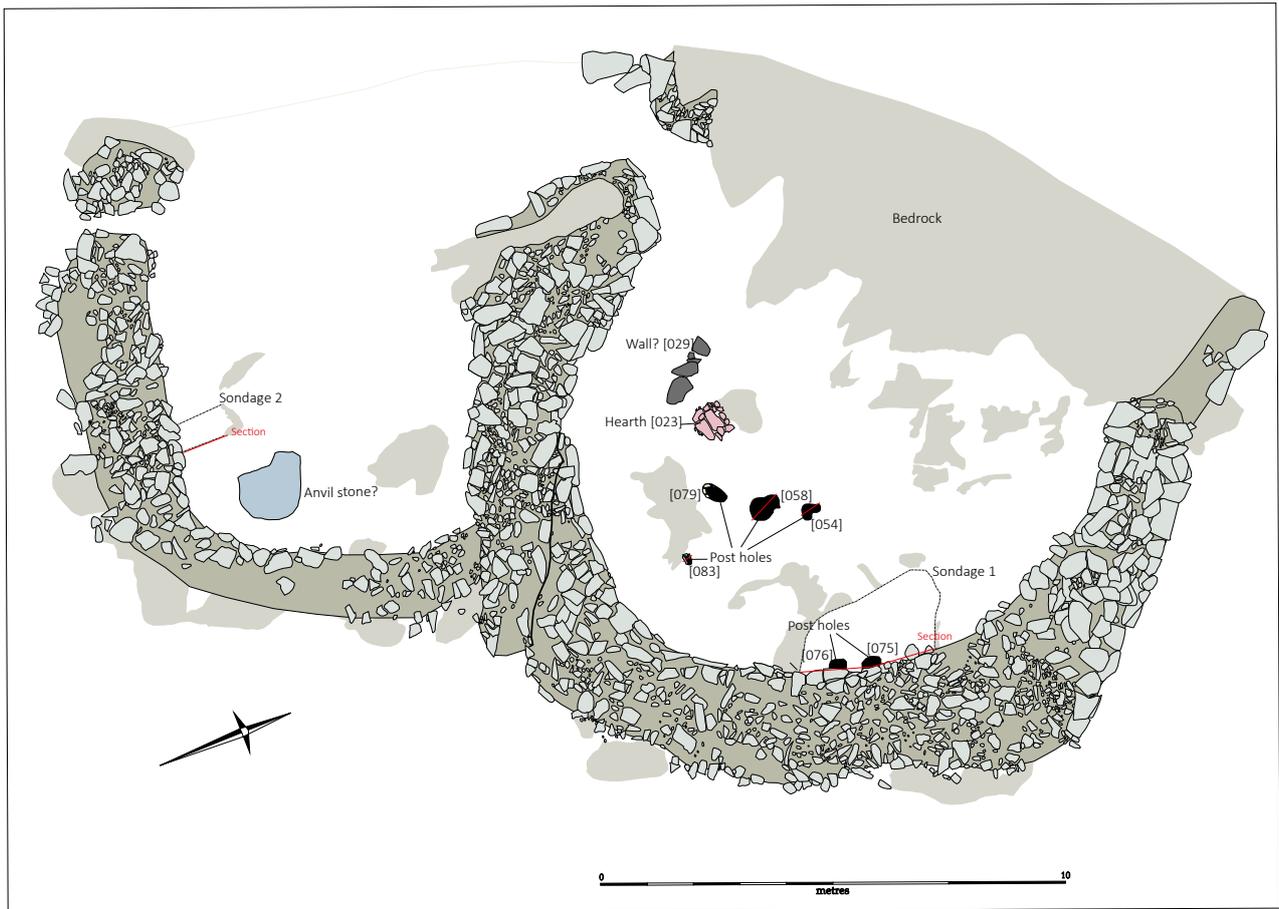
6.4.1 Enclosure 1

The depositional sequence within the enclosure reflected the natural slope of the ground from west to east, with the deposits at the east generally deeper, as reflected in the depositional sequence encountered within Sondage 1 excavated against the inner face of the dun wall at the north-east.

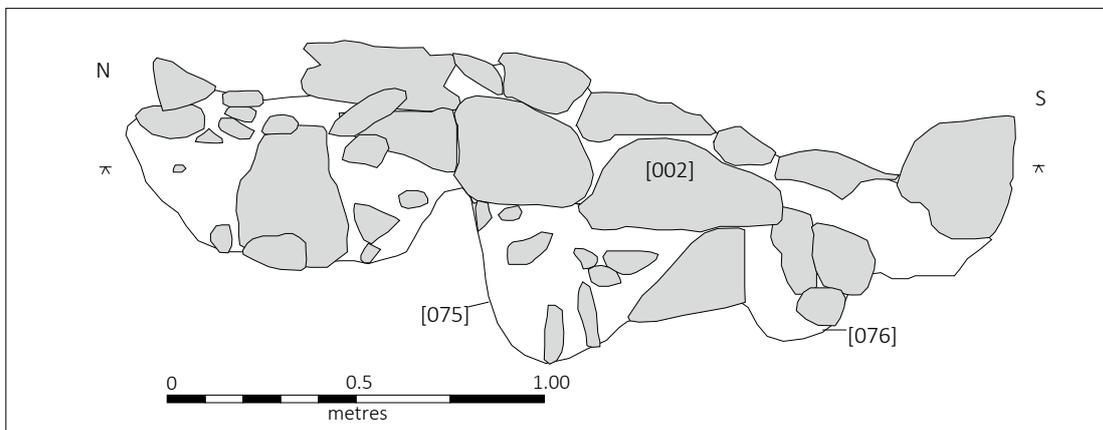
Phase 1a (Illus 83)

Outcrops of bedrock occurred across the site and some of these showed evidence of having been quarried. This was most apparent along the east face of the natural knoll that formed the west side of the enclosure, the angular quarried surface plainly evident when compared to the more naturally smoothed rock on the rest of the exposed rock surface. Similar evidence of quarrying was also seen in the base of Sondage 1 on the east side of the enclosure where again the surface profile of the rock was very sharp and angular. On the east side of the enclosure these angular outcrops lay beneath the enclosure wall, suggesting the quarrying occurred prior to or during its construction, with blocks prised away from the exposed rock face used as the raw material for the enclosure walls.

The deepest deposits encountered within Enclosure 1 were lying against the internal face of the east enclosure wall. These consisted of accumulations of dark brown soils (C072) and (C077) that probably represented dumps of midden material, with (C072) containing frequent small fragments of burnt animal bone, fragments of fire-cracked stones and charcoal. Situated against the inner face of the enclosure wall were post placements (075) and (076)



Illus 83 Balure, Phase 1a. (Image by Roddy Regan, © Kilmartin Museum)



Illus 84 Enclosure 1, section against north-east wall (002). (Image by Roddy Regan, © Kilmartin Museum)

(Illus 83, 84 & 85). These only became apparent when natural bedrock was encountered because the post-hole fills were very similar to the surrounding deposits, making it unclear if the posts cut the soils or the soils formed around the posts. A number of possibilities suggest themselves as to the function

of the post settings, ranging from an early palisade, construction scaffolding, wooden floor supports or outer posts of a roofed structure. Without further excavation their function remains speculative.

The presence of burnt animal bone and charcoal in (C072) and (C077) suggests the possible presence



Illus 85 Enclosure 1, post settings (075) and (076), looking east. (Image by Roddy Regan, © Kilmartin Museum)

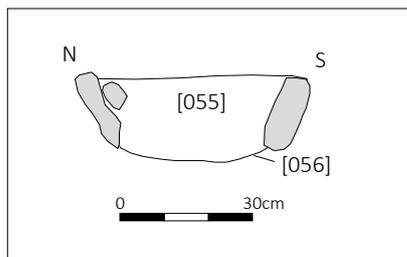
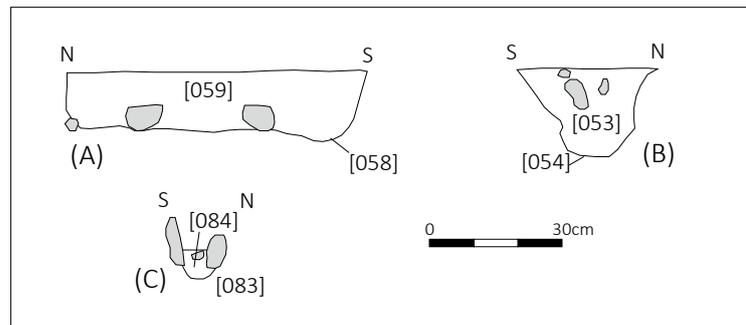
of a hearth or cooking area within the enclosure and these might be tentatively linked to hearth (023) (Illus 83 & 86). This hearth setting was comprised of a group of horizontally laid stone slabs set against a natural sloping rock at the west. The stones on the west side were reddened from burning. Probably also early in the occupation sequence of Enclosure 1, was a north-east/south-west alignment of post holes (079), (058) and (054) (Illus 83, 87 & 88). These were irregular in shape, suggesting that they had held more than one post (up to three in (054) for example) and represent a series of post replacements utilising the same position over time. The posts suggest that the internal space within the enclosure was divided, and being centrally placed these may have provided support for a roof, perhaps hinting that the enclosure was wholly covered. Another post setting (083) lay to the south of the post alignment, again suggesting some form of internal division or wooden support within the enclosure.

Phase 1b (Illus 89)

Around the hearth and probably associated with its use was a dark grey deposit (C068) that appeared to have been trampled forming a rough surface. A few carbonised barley seeds along with some burnt bone were recovered from this deposit and may indicate food preparation in and around the hearth area. This deposit, as with other deposits and surfaces associated with the later hearth sequence, lay north of a rough arc of larger stones (029) that may represent a wall or internal division, the deposits noticeably different and lighter in colour beyond to the south. Possibly contemporary with the use of hearth (023) and its associated deposit (C068) was surface spread (C064/052) associated with ashy dumps (C065) and (C045), these situated in the northern half of the enclosure. Possibly related to deposit (064) but separated by a natural rock outcrop was surface (071), comprising a slightly sloping layer of rubble and smaller stones within a dark brown matrix sealing the posts and the dark midden-like deposits. Some of the stones were fire-



Illus 86 Enclosure 1, hearth setting (023) looking north-west. (Image by Roddy Regan, © Kilmartin Museum)



Illus 87 Sections of post holes (054), (058) and (083) in Enclosure 1; post hole (056) in Enclosure 2. (Image by Roddy Regan, © Kilmartin Museum)



Illus 88 Enclosure 1, post holes (054), (058) and (079) looking south-west. (Image by Roddy Regan, © Kilmartin Museum)

reddened but mixed within unscorched stones, suggesting a dump of collected material used to make up this rough surface.

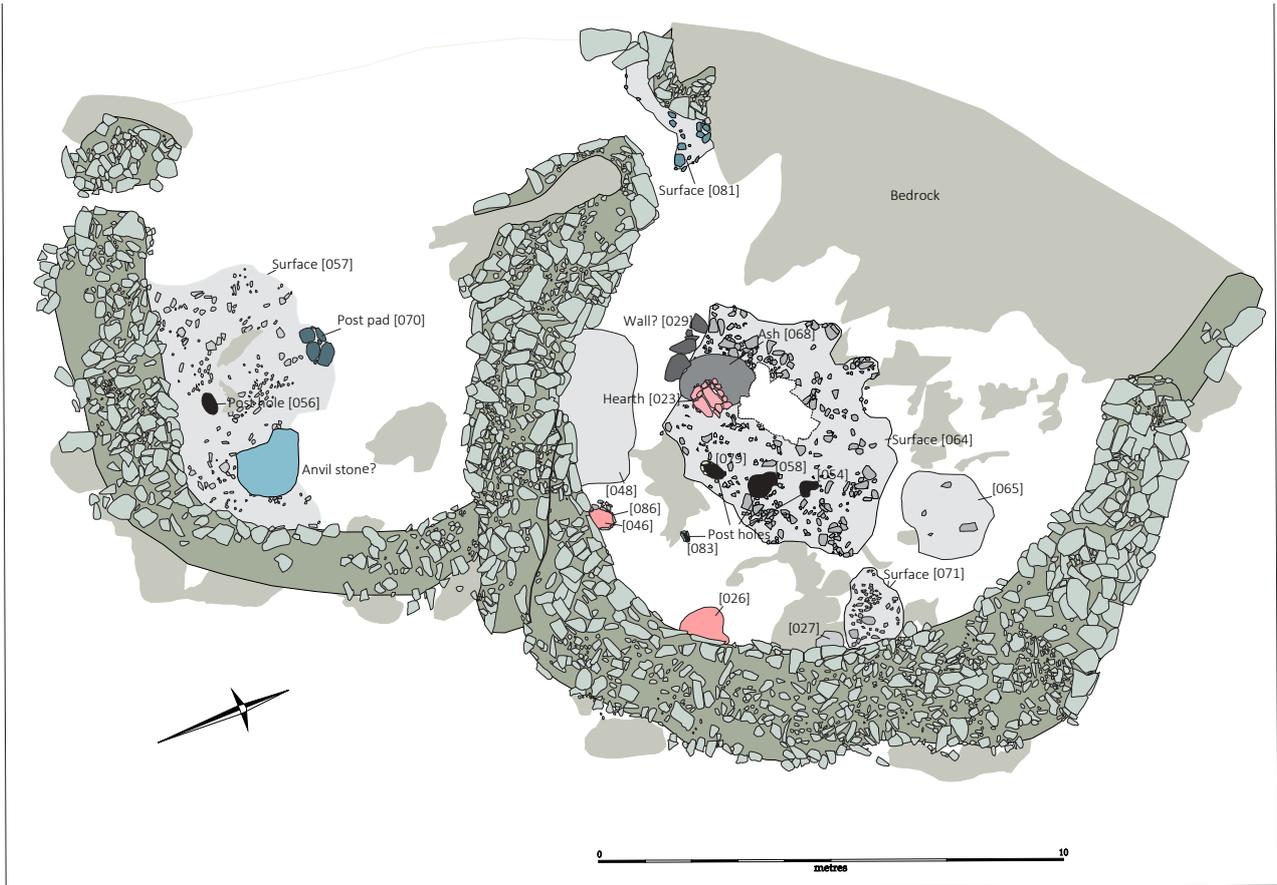
The undulating nature of the natural bedrock and the uneven or patchy nature of the later deposits within the enclosure meant that discrete deposits or localised deposit sequences could be only tentatively related. Against the south-west wall of the enclosure lay rough surface (048), and possibly contemporary with this surface was burnt ash and charcoal deposit (046) that lay within a stone setting (086) interpreted as the remnants of a small hearth or fire setting (Illus 90). The charcoal from (C046) produced a date of 200–0 cal BC (95.4% probability; SUERC-31664).

Evidence of another fire setting or hearth against the east wall of the enclosure was interpreted from deposit (026) which was fire-reddened and contained large fragments of charcoal. These remnants of fuel were dominated by hazel with minor oak and birch. Deposit (027) to the north may have been an associated dump of burnt wood ash and charcoal.

The presence of large rubble blocks within the entranceway to the enclosure meant that any surface/s could be only partially revealed. A lower rough cobbled surface (081) was sealed by a dump or build-up of occupation material (C080) situated along the west side of the entrance. The east side incorporated an upper rough cobbled surface (028) (Illus 91). Both surface and occupation deposit were sealed by a mid-brown clay silt (C009) that also contained the rubble collapse situated within the entrance.

Phase 2 (Illus 92)

Sealing hearth (023) were dark ashy deposits (C043) and (C051) and rough stone surface (050), these likely contemporary with stone hearth setting (022/049). As with the deposits surrounding the lower hearth, these later hearth-derived deposits also contained small amounts of burnt barley seeds, hazelnut shells and bone. This hearth was only partially revealed (because later stone setting (021) was left in situ), with the horizontally laid stones being fire-reddened on the south side.



Illus 89 Phase 1b plan. (Image by Roddy Regan, © Kilmartin Museum)



Illus 90 Enclosure 1, hearth setting (086)/(046) looking east. (Image by Roddy Regan, © Kilmartin Museum)



Illus 91 Enclosure 1, entrance and surface (028) looking east. (Image by Roddy Regan, © Kilmartin Museum)

Several dispersed deposits were recorded across the enclosure, (C018), (C019), (C063) and (C067), all of which contained lenses of pinkish peat ash and quantities of charcoal, likely representing mixed hearth-derived dumps/spreads. A fire-reddened deposit (C037) lying against the south wall of the dun is interpreted as an area of in situ burning with an associated dump (C036).

Phase 3 (Illus 93)

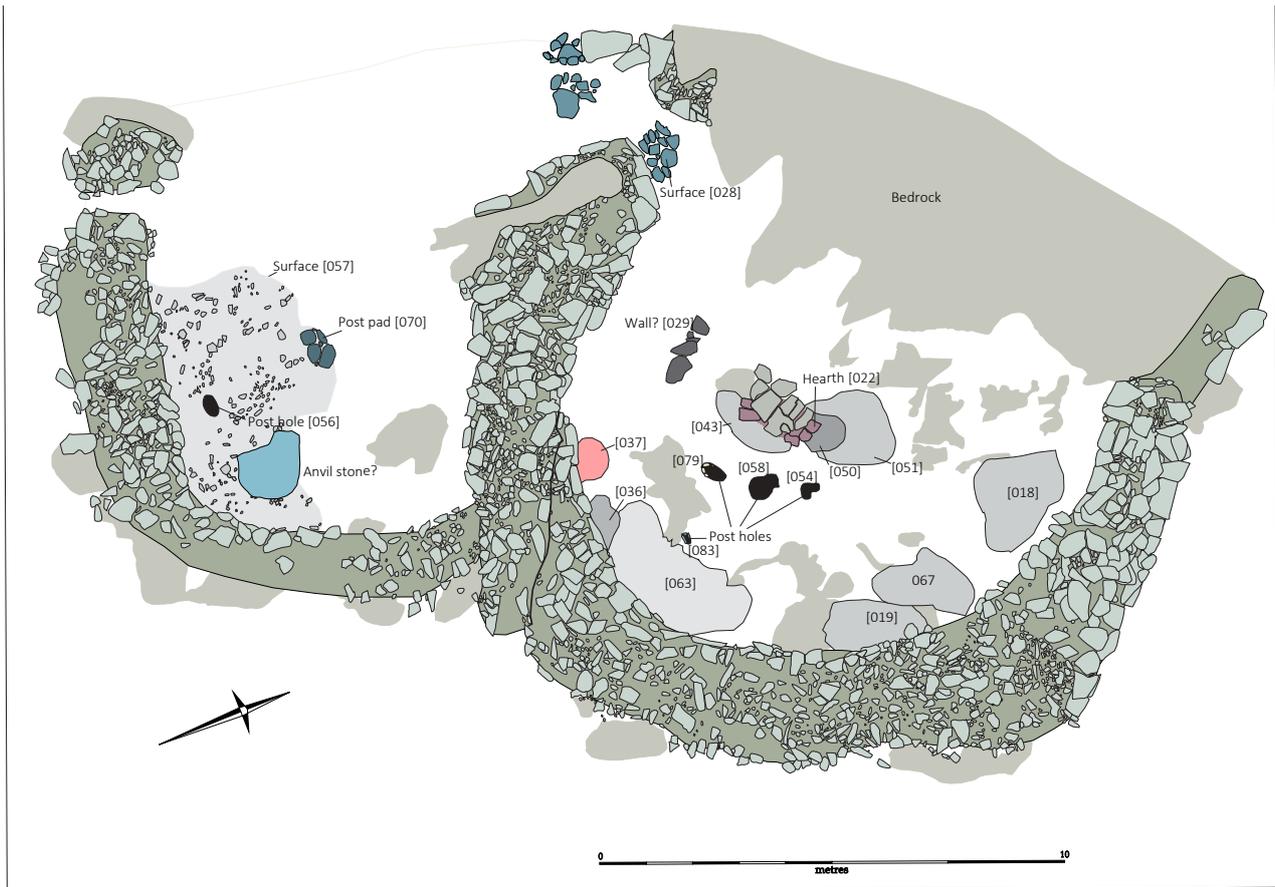
The stones of hearth (022) lay under a third and final stone setting (021) neatly constructed from closely fitted horizontally laid chlorite schist fragments (Illus 93 & 94). Despite there being no obvious discolouration of the stones by fire, it is likely that this was also a hearth, given its position and that it was surrounded by a series of dark accumulations (C035/038), (C040), (C042) and (C016), interpreted here as trampled hearth rake-out. Probably contemporary with these later deposits, although noticeably darker in colour, were deposits (C013/014), which lay to the west of the stone hearth (020/021). This dark humic deposit

is interpreted as the remnants of midden or hearth material dumped against the natural rock scarp within the western part of the enclosure.

Mixed within the lower wall collapse were a series of deposits, (C009/010/031/034), interpreted as the disturbed upper deposits in the enclosure sequence. A dark red-brown silty loam (C010/034) covered much of the north and east of the enclosure, and was deeper to the east. This deposit was equivalent to deposit (C009) recorded within the entranceway and (C031) within the south of the enclosure. Within deposit (C034) was a small cluster of stone objects – a quern <133> (Illus 95) along with two unutilised rounded cobbles <108> and <109>.

Deposit (C034) was sealed by deposit (011/033), which the excavator suggested was the possible remnants of collapsed turf walling, surviving against the rock ridge at the west of the enclosure. Any similar deposits were absent along the internal wall lines of the rest of the enclosure.

All of these later deposits appeared to be relatively homogeneous and no discrete occupation horizon, surface or floor could be discerned within them.



Illus 92 Phase 2 plan. (Image by Roddy Regan, © Kilmartin Museum)

They did, however, contain a relatively high quantity of artefacts, particularly deposit (C010), which contained two glass beads <002> and <206>; a third bead <015> was recovered from the same area during initial cleaning of the trench. This deposit also contained fragments of pottery <010> and <092>: crucible fragments <011>, <012> and <020>; slag <017, <019> and <021> along with 25 utilised stones <025>–<039>, <041>–<047>, <051>, <052> and <119>. These deposits may represent a mixing of upper occupation sequences and/or colluvial accumulation (particularly to the east). Deposit (009) contained one pottery sherd <095> along with utilised stones <032> and <114>, while (031) contained one pottery fragment <098> and utilised stones <124>, <125> and <129>.

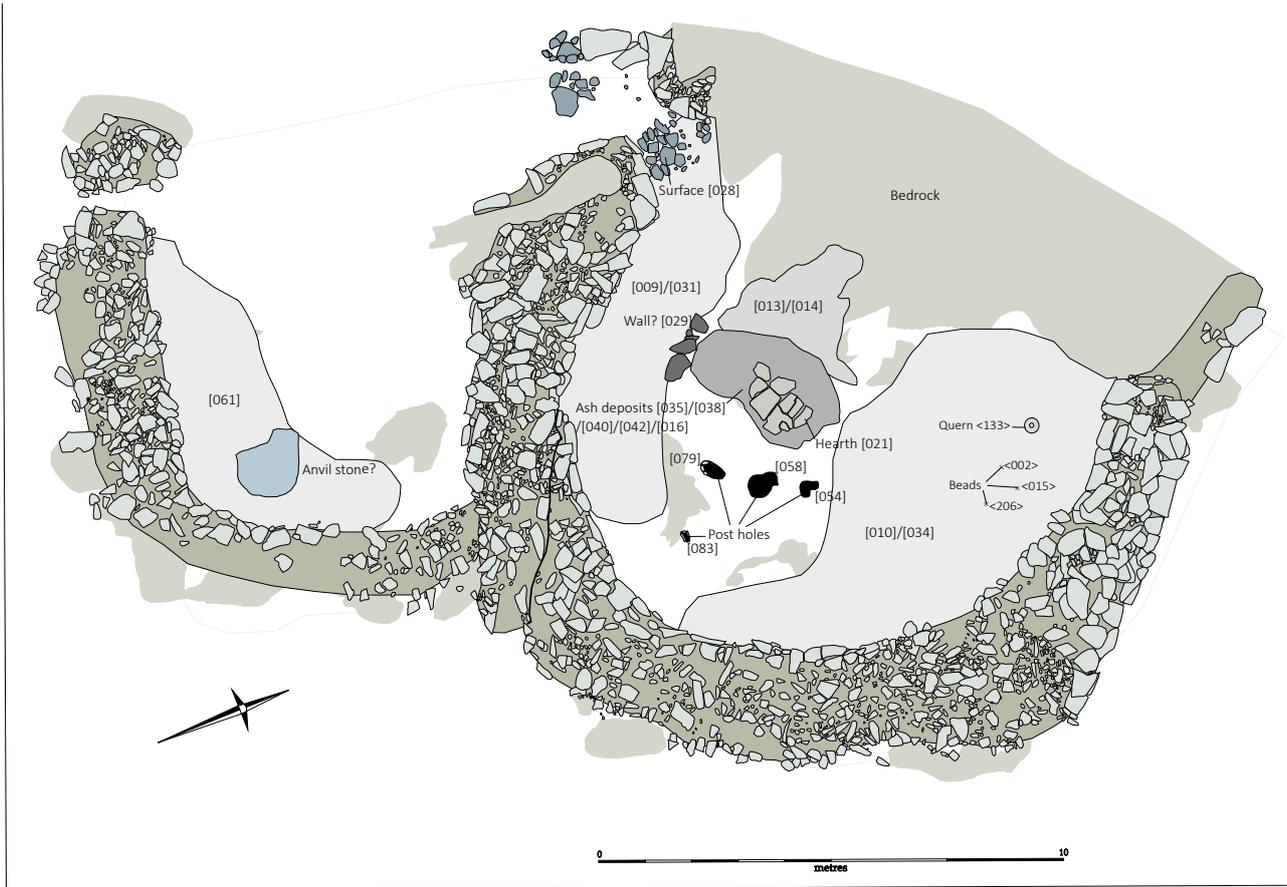
Given the recognisable disturbance across the site through wall robbing, bracken, tree planting, felling and regeneration, it is perhaps not surprising that any upper occupation horizons, if they existed, have been mixed, and it is impossible to determine whether the recovered artefacts derived from midden

accumulation or disturbed floors.

These upper disturbed occupation deposits were sealed by a ring of rubble lying against the inner face of the enclosure, (C020) in the north and (C047) in the south. The quantity of rubble within the collapse, if repositioned within the walls, would have added a height of only one, or at most, possibly two courses to the existing wall heights. It is of course possible that the walls of the enclosure did not stand to any great height or that any upper walling consisted of a less robust material, such as turf, although it seems more likely that any apparent lack of stone collapse within the enclosure was due to later robbing. All deposits within the enclosure were sealed by dark brown topsoil and vegetation cover (C001).

6.4.2 Enclosure 2

The earliest deposits within the enclosure were revealed within a small trench (Sondage 2) excavated against the south wall of the enclosure, (004) (Illus



Illus 93 Phase 3 plan. (Image by Roddy Regan, © Kilmartin Museum)



Illus 94 Enclosure 1, hearth setting (021) looking south-east. (Image by Roddy Regan, © Kilmartin Museum)

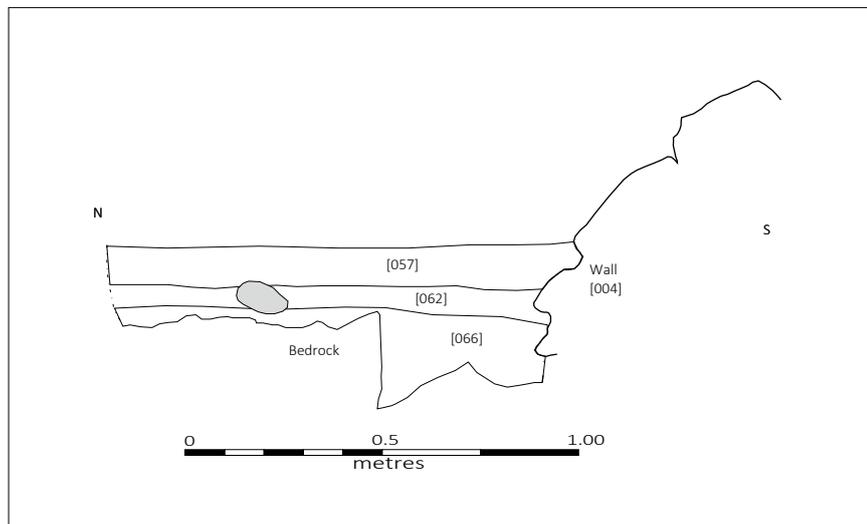
96). The natural bedrock sloped down to the south and, like that exposed in Enclosure 1, appeared very angular and may have been quarried prior to the formation of the dumped deposits above. Sealing the bedrock was mixed deposit (C066) that contained numerous compacted schist fragments, some fire-



Illus 95 Enclosure 1, stone cluster within (C034) with quern <133> looking west. (Image by Roddy Regan, © Kilmartin Museum)

reddened. The deposit also contained charcoal and burnt barley seeds, a seed returning a radiocarbon date of 50 cal BC–120 cal AD (95.4% probability; SUERC-31665) and burnt fired clay. This deposit ran under the lower course of wall (004) and could either be an earlier midden accumulation or a deliberate dump of mixed midden material (as suggested by the presence of small quantities of burnt barley and oats) and ‘hardcore’ material to level the area prior to the wall being constructed. This interpretation would suggest that the outwork was an addition to an already occupied site. Of similar nature was deposit (C062), although this had formed or been dumped against the enclosure wall, again perhaps indicating a deliberate attempt to level this area of the enclosure. Sealing this dump was surface (005/057), forming a rough cobbled and trampled area that appeared to be contemporary with two post settings, post hole (056) (Illus 87& 97) and post pad (070) (Illus 98). The post settings are another indication of the presence of a roofed structure. Joining crucible fragments <100> were found in (C057). This surface was sealed in part by a mixed occupation deposit (C061) situated along the south-east of the enclosure.

The surrounding surface deposit contained a number of burnt stones along with flakes of hammerscale detected by the use of a magnet. Where exposed, this deposit lay close to a large flat natural outcrop and it is attractive to see this stone as being used as an anvil base (Illus 79). Lying over this was an extensive spread of rubble across the



Illus 96 Enclosure 2, west-facing sondage section. (Image by Roddy Regan, © Kilmartin Museum)



Illus 97 Enclosure 2, post hole (056) looking east. (Image by Roddy Regan, © Kilmartin Museum)

internal area of the enclosure, recorded as (C060) and (C069). Sealing the rubble in the east and south area of the enclosure was dark humic deposit (C012/025), while to the west of the excavated area the soil was redder and less humic in content; this recorded as (C015/024).

6.5 The artefacts from Balure

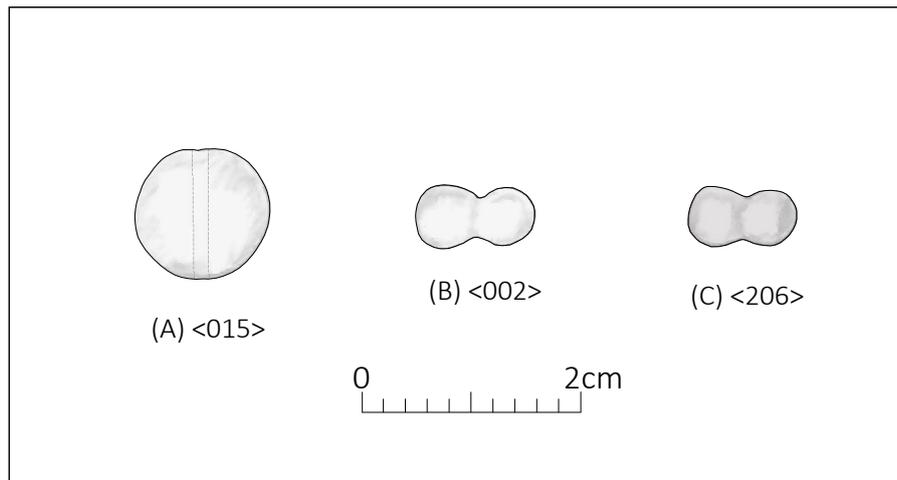
6.5.1 Glass, metal, metalworking debris and utilised stone

Ewan Campbell

The range of finds from Balure is typical of Argyll duns: three glass beads, an iron tool, a stone quern and spindle whorl, a range of metalworking debris, and fairly numerous utilised pebbles. With the possible exception of the beads, all the material is likely to be of local origin and manufacture. The picture that emerges is of a self-sufficient agricultural community. As far as chronology is concerned, all of the material fits comfortably into a Middle Iron Age tradition (*c* 200 BC–AD 400), and there is no indication of early medieval occupation. Many Argyll duns have indications of early medieval use,



Illus 98 Enclosure 2, post pad (070) looking east. (Image by Roddy Regan, © Kilmartin Museum)



Illus 99 Glass artefacts. (Image by Roddy Regan, © Kilmartin Museum)

even if they may have been constructed much earlier (Alcock & Alcock 1987: 131; cf Harding 1997: 122–33), but there is nothing in the assemblage that would indicate later occupation at Balure.

Glass

The glass beads are an interesting group. A spherical bead of Guido's Group 7(ii) or (iii) <015> (Illus 99a & 100), is in a colour shared by much Roman glass, and is probably of Roman date and manufacture, though few examples are well stratified. Rather surprisingly, Roman beads are quite rare on native Highland Scottish sites, but there is a similar one from Cletraval, North Uist (Scott 1948: 66).

Two other glass artefacts, (Illus 99b & c, 101 & 102) are toggles, an unusual type that is not perforated and is shaped like a dumb-bell or two spherical balls cinched in the middle (Beck 1973: 40). Because they are unperforated some specialists consider them not to be beads, though others describe them as toggle or dumb-bell beads. The form is known in other materials such as copper alloy and bone. One, <206>, is of transparent aquamarine glass, which is the commonest colour, and the other, <002>, is of opaque green glass. Iron Age glass toggle beads from Scotland represent a rare group of artefacts, with 11 previously recorded prior to the two recovered at Balure. Since then further beads have been discovered from the site of Kilninian on Mull (Ellis pers comm), Blackspouts ring-fort, Pitlochry (Strachan 2013) and Culduthel, Inverness (Hunter 2021: illus 6.69). Elsewhere, 21 toggles have been discovered in Ireland and four

on the Isle of Man, which has led to the suggestion that these are predominantly of Irish manufacture (Jordan 2009, 2010). However, there is now good evidence of manufacture of the type in Scotland (see below). The Scottish examples, along with the Irish and Isle of Man beads, indicate a clear western bias in their distribution, though there may be a separate cluster in north-east Scotland associated with the Culduthel manufacture site. In Scotland, artefacts of this type are generally found throughout the Atlantic region, with few exceptions, occurring on sites with evidence of Iron Age and/or early medieval occupation, although few are derived from well-dated deposits (Hunter 2021: 200).

One of the Balure glass toggles and 13 other examples were examined by Martina Bertini to assess the evidence of how these objects were manufactured, and to examine their chemical make-up in order to provenance the raw glass (Bertini & Ellis 2015; Bertini & Ellis forthcoming). This was achieved by using Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS). Examination of the bead found within a hearth at the above-mentioned site at Kilninian has shown it was almost certainly produced at the site, and charcoal from the hearth dated between 206 and 51 cal BC. Of the 15 beads examined all were of similar manufacture, produced by heating small fragments of recycled vessel glass (cullet) on the end of an iron rod or pontil in a low-temperature fire and probably using small tongs to shape the glass. The glass toggle from Blackspouts was made



Illus 100 Glass bead <015>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 101 Glass toggle <002>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 102 Glass toggle <206>. (Image by Roddy Regan, © Kilmartin Museum)

by a different method, by grinding down a single piece of Roman bottle glass (Strachan 2013). Once shaped, the toggles are broken off from the pontil, leaving a scar on the beads, which, as in the case of both Balure beads, were subsequently ground down. The LA-ICP-MS analysis has shown that 14 of the 15 beads examined, again including the Balure beads, contained the same soda-lime-silica (natron) derived from eastern Mediterranean coastal sands. As the Balure beads came from the uppermost (disturbed) occupation deposits, it is possible given the radiocarbon dates for the site that the glass could have been obtained by trade with Roman sites in Britain. The distribution of sites, from Shetland to the Isle of Man and Ireland, supports the idea of sea-borne trade up the Atlantic façade. Most of the sites with these beads were forts, brochs and duns, suggesting these beads had a fair degree of status. However, the Kilninian site, where at least one bead was manufactured, was an open settlement, perhaps the site of an itinerant craftworker. Culduthel, near Inverness, is another open site which has produced a glass toggle, in this case multi-coloured, and also evidence of glassworking and other craftworking. Analysis of the Culduthel toggle suggested it was made on the site, alongside other types of bead (Davis & Freestone 2021: 213). The toggle came from a context with a calibrated radiocarbon date of 40 BC–AD 120 (Hunter 2021: 203), and glassworking on the site was dated slightly earlier, from the 2nd century BC to the 1st century AD (Hatherley & Murray 2021: 65). It seems likely that the Balure toggles were made in Scotland and formed items traded along the Atlantic coasts.

As Jordan (2009, 2010) has pointed out, there has been little discussion as to what toggles might have been used for or how they may have been worn or displayed, if one assumes they were decorative objects. Examples of the possible use of such objects are rare and include tin toggles that were found woven into a plaited cowhair arm band from a Bronze Age cist burial at Whitehorse Hill, Dartmoor (Jones 2016). At Knowth in Ireland a glass toggle bead was located around the neck of a skeleton, suggesting it was used as a pendant (Eogan 1974: 80–7). The wear pattern around the central constriction on one of the Balure beads (<002>) suggests this may have been worn in a

similar way to the Knowth example, although there are other decorative possibilities, such as their use as small fasteners, like modern duffle-coat toggles.

► **<002> (010) SF57:** Glass toggle, unperforated, complete. Dumb-bell shape, wear in central constriction showing attachment. Opaque, blue-green, bubbly. 10 × 6 × 6mm.

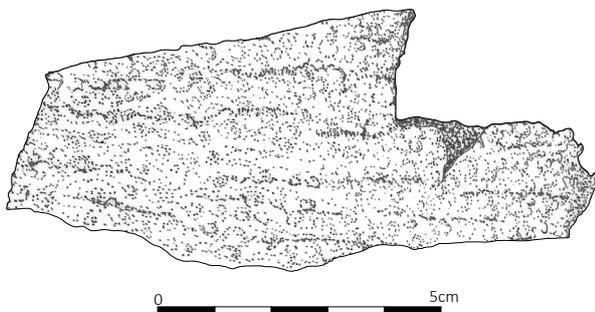
► **<015> (001) SF56:** Spherical, wound, perforated glass bead, one half missing. Transparent pale aquamarine colour, good metal quality, few bubbles. Some wear around perforation, showing stringing with other beads. Guido's Group 7(ii/iii). Diam: 12mm, perforation 1mm.

► **<206> (010) SF83:** Glass toggle, unperforated, complete. Dumb-bell shape, knocked-off at one end. Transparent, pale aquamarine colour, good metal, bubbly in layers. 12 × 6 × 6mm.

► **<207> (015):** Modern glass, thin flat sheet. 25 × 14 × 1mm.

Iron

The only iron object, <213> (Illus 103 & 104), was a fragment of a substantial blade, bent and damaged. The straight cutting-edge and curved back initially suggest a knife, but it is very broad-bladed for a knife. Another possibility is that the fragment is from the straight part of a billhook or reaping-hook. Iron Age reaping-hooks had such straight edges and curved backs (Manning 1976: fig 8.1). Iron agricultural implements are very rare on western Scottish Iron Age sites (Hunter 2006), due to poor preservation and recycling of broken



Illus 103 Iron blade <213>. (Image by Roddy Regan, © Kilmartin Museum)

tools. An almost complete example from Culduthel shows the possible form (Hatherley & Morris: illus 6.45, SF0510).

► **<213> (013) SF71:** Iron blade fragment, bent and broken at both ends, heavily corroded. Curved back and straight cutting-edge. Blade W: 42mm; Th: 2–7mm; L: 100mm.

Metalworking debris

Three crucible fragments were recovered from the site. One crucible fragment, <020>, is straight-sided, so probably comes from a triangular-shaped crucible of common Scottish Iron Age form (Lane 1987: 55–6). This crucible is relatively large, and appears to have tongs-marks around the rim similar to one from Dunadd (Lane & Campbell 2000: illus 4.43, 1352/1). There are no signs of metal deposits in the interior, but it was heated from below and probably used for copper alloy melting. The other two fragments, <100>, refit and had vitrified residues on their inner sides. This was analysed non-destructively by XRF (X-ray fluorescence, see Appendix 1) to check for inorganic residues, the results showing that none were present. Later Iron Age and early medieval crucibles have a wide variety of forms (Lane & Campbell 2000: 204–7, illus 4.40), but the simple triangular form continued in use, for example at sites such as the Mote of Mark (Laing & Longley 2006: 26–7), so the Balure example is not easily datable. There is only one possible mould fragment, <212>. One edge survives, but there are no surviving surfaces of the object being cast.

There are two fragments of furnace lining, with external vitrification. One, <063>, may be from near a bellows opening or tuyère. The size of the fragments suggests a substantial furnace, possibly associated with ironworking. There are several small pieces of smithing slag, and some hammerscale, proving that iron smithing took place on the site. Some vitrified fuel ash slag could also come from this activity, though it could also have been the product of domestic ovens.

Most of this metalworking debris comes from the latest occupation deposits, but one crucible came from the early deposits, as did hammerscale, which shows smithing was taking place during the earlier occupation. Evidence of ironworking is widespread,



Illus 104 Iron blade <213>. (Image by Roddy Regan, © Kilmartin Museum)

but copper alloy working is less common, though on many older excavations mould fragments may have been unrecognised or uncollected (Lane & Campbell 2000: 30–1).

- ▶ <017> (010) SF30: Smithing slag. 13g.
- ▶ <018> (010) SF39: Lump of corroded iron or iron slag. 87g.
- ▶ <019> (010) SF64: Vitriified fuel ash slag. 13g.
- ▶ <020> (010) SF58: Fragment of large crucible wall. Simple rim and straight side. Exterior with glassy vitrification, interior slaggy. Fabric heavily quartz-tempered. Signs of tongs-marks near rim. Estimated height greater than 40mm. 41 × 48 × 8mm. 18g.
- ▶ <021> (010) SF60: Vitriified fuel ash slag. 18g.
- ▶ <050> (010) SF38: Stone coated in glassy vitrification.
- ▶ <063> (012) SF40: Furnace lining with external vitrification. Fabric heavily quartz-tempered. Signs of an opening at one edge. 35g.
- ▶ <064> (012) SF37: Smithing slag. 53g.
- ▶ <090> (061): Hammerscale. 5g.

- ▶ <100> (057) SF116: Two pieces of crucible with vitreous slag adhering.
- ▶ <208> (057) SF119: Furnace lining. Exterior with glassy vitrification. Th: 22mm. 50g.
- ▶ <209>: Smithing slag.
- ▶ <210> (012) SF76: Vitriified fuel ash slag. 50g.
- ▶ <211> (057) SF57: Smithing slag. 5g.
- ▶ <212> (013): Possible mould fragment. One rounded edge. Fine fabric, orange to grey exterior. 21 × 18 × 8mm. 20g.

Utilised stone

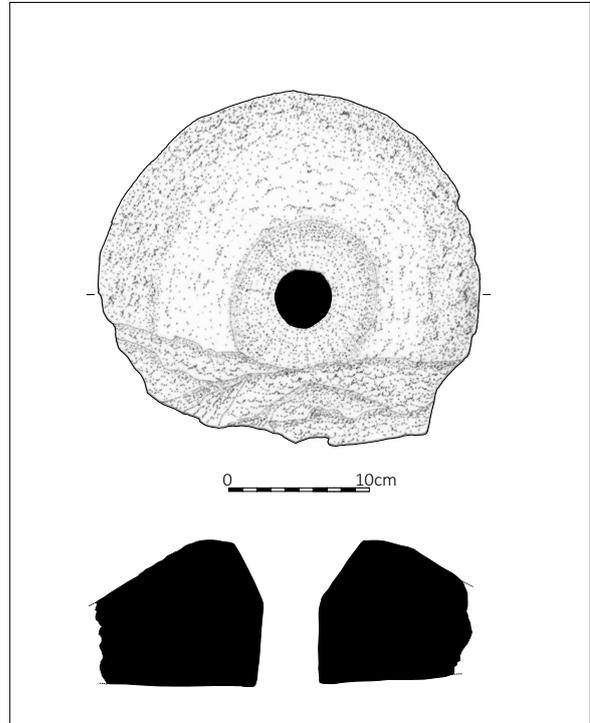
The utilised stone from the site shows that the inhabitants of the site had a good appreciation of the benefits of particular lithologies for specific functions. The quern is made from schistose grit, which is an excellent quern material as it has hard grits in a softer matrix. The rounded river pebbles have been carefully selected with quartzite the favourite lithology. Quartzite is extremely hard (harder than steel), and evenly textured, making it ideal for grinding and polishing. It takes a very high polish without wearing out. Slabs of bedded quartzite were also utilised, as palettes for grinding and smoothing. The softer phyllites and schists have been used to produce the spindle whorl and other items, some unfinished. These lithologies can be cut with a knife. The fire-cracked pebbles, used in cooking, are almost all of igneous rock types, which retain heat and do not splinter or explode when subjected to high heat. All of these resources can be located within the immediate area of the site. A similar range of stone use was recovered at Dunadd (Lane & Campbell 2000: 177–8). As at Dunadd, few specific whetstones were found, though the unusual quartzite palettes, for example <143> (Illus 105), may have been used for this purpose. These palettes have been mined from an outcrop of a very thin band of quartzite, presumably locally, but I know of no parallels. It is probably a fortuitous use of a naturally flat-shaped rock. Many of the quartzite pebbles show signs of organic deposits alongside areas of very high glossy sheen. This suggests these were used as slickstones in the final stages of leather production (Singer et al 1956:

148). Similar finds have been made at Dunadd and other sites (Lane & Campbell 2000: 179), but have not been widely recognised. Others seem to have iron staining on some surfaces, perhaps due to grinding down of minerals for colouring material – indeed, one piece of iron ore has signs of this type of use (<025>). Some of the pebbles with no signs of usage may have been intended for use as slingstones.

The quern, <133> (Illus 106 & 107), is a bun-shaped form typical of the Middle Iron Age. The quern has been deliberately broken, which is not easy to accomplish. Unfortunately, the breakage makes it difficult to say where the handle hole was positioned, a potentially diagnostic feature. The breakage and/or ritual deposition of querns is a recurring feature of Iron Age sites in Scotland, for example at Sollas, North Uist (Campbell 1991: 133) and Broxmouth, Lothian (Büster & Armit 2013: 185; McLaren 2013) and are often found reused in thresholds, hearths and walls, or in closure deposits. A similar feature is widespread on early medieval Irish sites, where deliberately deposited broken querns and other material have been interpreted as closure deposits (O’Sullivan et al 2014: 98–100). As with the quern from Barnluasgan, this quern was found in the latest occupation deposits, so there is the possibility that it was deliberately broken and deposited as an act of closure when the site was abandoned. It was found in a cluster of objects, with two cobbles, and close to the three glass beads. This context

produced almost one-third of all the finds from the site.

The only other shaped items are a spindle whorl <027> (Illus 108 & 110) and an enigmatic



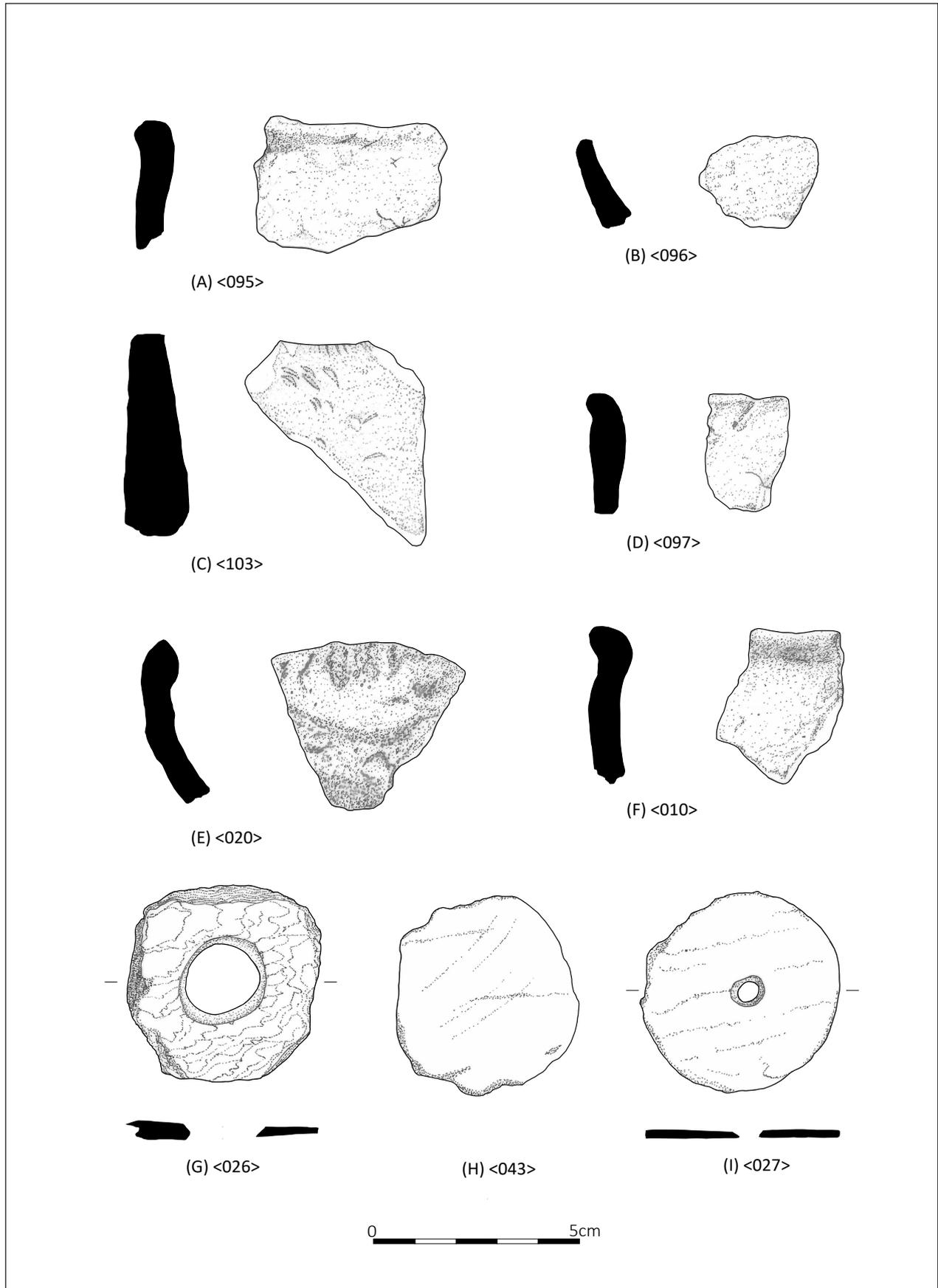
Illus 106 Quern <133>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 105 Quartzite palette <143>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 107 Quern <133>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 108 Stone and ceramic artefacts. (Image by Roddy Regan, © Kilmartin Museum)

perforated object <026> (Illus 108 & 109), neither of which is diagnostic of any particular period. Other phyllite objects may be unfinished discs or whorls: <043>, <062>, <066> and <180>.

▶ **<025> (010) SF29:** Earthy iron ore (limonite). Signs of wear on one place – possible use as colouring material.

▶ **<026> (010) SF19:** Sub-square slab of phyllite with large central perforation. Edges roughly worked. Hole knife-trimmed, hour-glass profile, 23 × 20mm. One face spalled off. 47 × 47 × 5mm.

▶ **<027> (010) SF22:** Circular spindle whorl of schist. Knife-trimmed edges. Central perforation hour-glass shaped oval, 6 × 5mm. Diam: 50mm; Th: 4–6mm.

▶ **<028> (010) SF6:** Quartzite river pebble, oval. One end burnt.

▶ **<029> (010) SF7:** Quartzite river pebble, oval. One face polished. ?Whetstone. 120 × 68 × 35mm.

▶ **<030> (010) SF8:** Unworked quartzite river pebble, oval.

▶ **<031> (010) SF9:** Quartzite river pebble. One edge with possible polishing.

▶ **<032> (010) SF12:** Quartzite river pebble. One face highly polished. 60 × 40 × 28mm.

▶ **<033> (010) SF10:** Quartzite river pebble. One end hammered, the other broken. 60 × 65 × 32mm.

▶ **<034> (010) SF11:** Quartzite river pebble. One surface flat, polished over a large area. 127 × 75 × 33mm.

▶ **<035> (010) SF15:** Epidiorite river pebble, one corner hammered.

▶ **<036> (010) SF17:** Fragment of fire-cracked cobble of quartzite. Both flat faces with signs of polishing.

▶ **<037> (010) SF18:** Slab of quartzite. One face smoothed and polished. 105 × 90 × 18mm.



Illus 109 Perforated disc <026>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 110 Schist spindle whorl <027>. (Image by Roddy Regan, © Kilmartin Museum)

▶ **<038> (010) SF21:** Quartzite river pebble. One face highly polished, with traces of brownish red colouring. Possible slickstone. Patch of polish on other side. 90 × 75 × 30mm.

▶ **<039> (010) SF23:** Oblong cobble of quartzite, one end with wear facet and hammering. 110 × 47 × 35mm.

- ▶ **<041> (010) SF25:** Ovoid river pebble of quartzite, one end hammered.
- ▶ **<042> (010) SF26:** Slab of quartzite, one face smoothed, broken.
- ▶ **<043> (010) SF27:** Possible unfinished disc of schist.
- ▶ **<044> (010) SF28:** Rectangular river pebble of quartzite, broken, one face with smoothing, dished, with slight iron staining.
- ▶ **<045> (010) SF32:** River pebble of quartzite, broken, one face with smoothing, dished, with iron staining.
- ▶ **<046> (010) SF33:** River pebble of quartzite, one face smoothed.
- ▶ **<047> (010) SF34:** Ovoid river pebble of schistose grit. One face burnt, the other with iron deposits.
- ▶ **<051> (010) SF47:** Slab of quartzite, rectangular, one face with smooth area, slight staining.
- ▶ **<052> (010) SF51:** Slab of quartzite, one face smoothed.
- ▶ **<062> (012) SF20:** Phyllite disk. Sub-square, trimmed, one corner broken – unfinished whorl?
- ▶ **<065> (012) SF42:** River pebble of quartzite, one face dished and polished.
- ▶ **<066> (012) SF48:** Phyllite, one quarter of disc with small pierced hole. Unfinished spindle whorl?
- ▶ **<067> (012) SF49:** Broken pebble of diorite. Traces of smoothing and staining on one face.
- ▶ **<072> (014) SF3:** Oval quartzite river pebble. Three faces polished, one with black deposit – slickstone.
- ▶ **<073> (014) SF4:** Flat river pebble of quartzite, one face polished.
- ▶ **<074> (014) SF5:** Irregular quartzite pebble, one face dished and polished.
- ▶ **<078> (017) SF16:** Broken river pebble of schistose grit. One face dished and polished – whetstone.
- ▶ **<080> (018) SF31:** River pebble of speckled diorite. One face polished.
- ▶ **<081> (018) SF41:** Flake of quartzite river pebble. Pounding and flaking at one edge.
- ▶ **<088> (024) SF44:** Flat slab of quartzite. One face polished. 123 × 95 × 12mm.
- ▶ **<104> (032) SF67:** Schistose grit river pebble, one face highly polished.
- ▶ **<108> (033) SF73:** Pounder.
- ▶ **<109> (033) SF74:** Pebble, polished and stained.
- ▶ **<110> (035) SF77:** Quartzite river pebble, one face with glassy polish and staining.
- ▶ **<111> (034) SF80:** Quartzite river pebble, one face with slight polish.
- ▶ **<112> (034) SF81:** Flat river cobble of quartzite, one face polished and stained.
- ▶ **<114> (009) SF86:** Flat slab of quartz-schist, one face polished and slightly dished.
- ▶ **<115> (036) SF90:** Quartz river pebble, broken, one face possibly polished.
- ▶ **<116> (036) SF91:** Cobble of schistose grit, oblong, broken, some hammering at one end.
- ▶ **<119> (010) SF99:** Broken flake of quartz river pebble, black deposit on one face.
- ▶ **<124> (031) SF110:** Quartzite river pebble, one face with polish, the other with black deposits.
- ▶ **<125> (031) SF111:** Quartzite river pebble, two faces with glassy polish.
- ▶ **<126> (039) SF122:** Broken boulder of quartzite. Dished and smoothed area, with some black staining.
- ▶ **<129> (031) SF115:** Quartzite river pebble, one face with slight polish.
- ▶ **<133> (033) SF72:** Damaged upperstone of bun-shaped rotary quern of schistose grit. One

third missing, outer edges chipped off all round. Bun-shaped form, with wide hopper off centre. Lower face concave and smooth. Hopper 85mm in diameter at top, V-shaped, funnelling down to 40mm diameter vertical lower perforation. H: 85mm; size 240 × 190mm.

- ▶ **<134> (068) SF41:** Small schistose grit disc, polish on one face.
- ▶ **<135> (042) SF82:** Broken quartzite river pebble, slight polish one face.
- ▶ **<141> (048) SF96:** Quartzite river pebble, very smooth, with organic staining – slickstone.
- ▶ **<143> (057) SF120:** Large flat thin slab of quartzite. Both faces with patches of smoothing. 210 × 80 × 13mm.
- ▶ **<144> (057) SF121:** Quartzite river pebble, one face with glossy polish and organic staining – slickstone.
- ▶ **<147> (063) SF124:** Quartzite river pebble, broken, one face flat and highly polished, possible staining.
- ▶ **<152> (063) SF129:** Broken quartzite pebble. Possible smoothing on one face.
- ▶ **<154> (063) SF131:** Broken pebble of dolerite, possibly fire-cracked.
- ▶ **<155> (067) SF132:** Boulder of dolerite, possibly fire-cracked.
- ▶ **<158> (067) SF135:** Fire-cracked fragment of diorite pebble.
- ▶ **<159> (072) SF136:** Fire-cracked boulder of dolerite.
- ▶ **<160> (068) SF144:** River pebble of quartzite, one end hammered.
- ▶ **<161> (072) SF145:** Fire-cracked fragment of diorite boulder.
- ▶ **<164> (073) SF139:** Small quartzite river pebble with gloss on one face.
- ▶ **<165> (072) SF146:** River pebble of quartzite, glassy polish on one face.
- ▶ **<179> (042):** River pebble of quartzite, signs of polish.
- ▶ **<180> (044):** Partially worked disk of phyllite, broken.
- ▶ **<183> (063):** Slab of phyllite with notch on one side.
- ▶ **<185> (067):** River pebble of quartzite, one face smoothed.

Unutilised stone

Most of the unutilised stones found on the site were highly rounded river pebbles which had been brought to the site from nearby streams or the seashore. While the majority of the utilised river pebbles were of quartzite, a significant number of the unutilised pebbles were of other lithologies, mainly epidiorites and igneous rocks. It seems that some selection of pebbles took place on site, with the pebbles best suited to particular functions, such as polishing or slickstones, being preferentially used, while the others may have been kept as potential slingstones. The other material, mainly irregular pieces of phyllite and chlorite schists, were derived from the local bedrock, and may have been intended for working into whorls and discs.

▶ **Phyllite/schist**

<003>, <004>, <055>, <058>, <069>, <105>, <118>, <121>, <123>, <127>, <167>, <168>, <169>, <171>, <173>, <176>, <177>, <178>, <181>, <182>, <184>, <187>.

▶ **White vein quartz**

<048>, <057>, <113>, <172>.

▶ **Slab quartzite**

<049>, <120>, <140>.

▶ **Quartzite river pebbles**

<040>, <106>, <122>, <128>, <132>, <136>, <137>, <138>, <139>, <148>, <157>.

▶ **Other river pebbles**

<007>, <008>, <053>, <054>, <084>, <107>.

<108>, <109>, <117>, <131>, <140>, <142>, <145>, <146>, <149>, <150>, <151>, <153>, <156>, <162>, <166>, <168>, <174>, <175>.

6.5.2 The lithic assemblage

Torben Bjarke Ballin

From the excavations at Balure, 18 lithic artefacts and 12 (mainly burnt) pebbles were recovered. They are listed in Table 3. In total, 67% of the assemblage is debitage, whereas 5% are cores (one), and 28% are tools. The definitions of the main lithic categories are as follows:

- *Chips*: All flakes and indeterminate pieces, the greatest dimension (GD) of which is $\leq 10\text{mm}$.
- *Flakes*: All lithic artefacts with one identifiable ventral (positive or convex) surface, $\text{GD} > 10\text{mm}$ and $L < 2W$ (L = length; W = width).
- *Indeterminate pieces*: Lithic artefacts which cannot be unequivocally identified as either

flakes or cores. Generally, the problem of identification is due to irregular breaks, frost-shattering or fire-crazing. *Chunks* are larger indeterminate pieces, and in the case of quartz, for example, the problem of identification usually originates from a piece flaking along natural planes of weakness rather than flaking in the usual conchoidal way.

- *Blades and microblades*: Flakes where $L \geq 2W$. In the case of blades $W > 8\text{mm}$, in the case of microblades $W \leq 8\text{mm}$.
- *Cores*: Artefacts with only dorsal (negative or concave) surfaces – if three or more flakes have been detached, the piece is a core, if fewer than three flakes have been detached, the piece is a split or flaked pebble.
- *Tools*: Artefacts with secondary retouch (modification).

Table 3 Balure: lithic assemblage list

	Flint	Quartz	Rock crystal	Total
Pebbles (mainly burnt), including fragments				
	12			12
Debitage				
Chips	1			1
Flakes	2	6	1	9
Indeterminate pieces		2		2
<i>Total debitage</i>	3	8	1	12
Irregular cores				
	1			1
Tools				
Short end-scrapers	1			1
Side-scrapers	1			1
Double side-scrapers	1			1
Notched pieces		1		1
Pieces with edge-retouch	1			1
<i>Total tools</i>	4	1		5
<i>Total artefacts</i>	8	9	1	18
<i>Total, including pebbles</i>	20	9	1	30

Raw materials – types, condition and sources

The collection from Balure dun includes 12 small pebbles in flint. The artefacts of the assemblage embrace eight pieces of flint, nine pieces of quartz and one piece of rock crystal.

The flint is mostly grey, fine- to medium-grained material with smooth abraded cortex. The character of the cortex suggests that the flint was procured from a pebble source, most likely from beaches along the Sound of Jura, where this raw material is being washed in from offshore deposits (Trewin 2002: 351). Other attributes of the flint – such as colour, texture and impurities – are consistent with material collected along the shores west of Balure.

All recovered quartz is white milky quartz. As all quartz artefacts are tertiary pieces, it is not possible to determine whether this raw material was procured from pebble or vein sources, but it would have been possible to obtain quartz from a variety of sources in the local area. The solitary flake in rock crystal, <205>, is in a very pure and translucent form of this raw material. It retains dorsal specks of abraded cortex, suggesting that it was picked up from a shore, possibly in connection with the procurement of flint.

The pebbles

Usually, pebbles are not collected from prehistoric archaeological sites, but in the present case it was found pertinent to retain 12 small pebbles (including fragments), as this group of objects is quite informative. Two intact pebbles measure 26 × 12 × 10mm and 19 × 18 × 9mm, respectively, and minuscule pebbles like these were obviously of no use as raw material for tools. The pebbles and pebble fragments reveal the following:

- As flint is not present in the local natural environment, flint must have been deliberately collected along nearby shores.
- As 11 of 12 pieces are visibly, albeit slightly, burnt, they inform of activities which took place at the site.
- It has been possible to refit a number of fragments, and as several refitting pieces are from different contexts, they most likely inform of disturbances, such as bioturbations (eg rabbits, moles, tree

roots, etc). <001> conjoins with <070d> and <191>, thus linking Contexts (001), (013) and (034). Other burnt pebbles were recovered from Context 14, and it is possible that all four contexts may be linked.

Unmodified debitage and tool blanks

The unmodified debitage includes 12 pieces, namely one chip (flint), nine flakes (two in flint, six in quartz, one in rock crystal), and two indeterminate pieces (quartz). Three of the flakes were identified as hard-percussion flakes, but it was not possible to technologically define the remainder. Four of the collection's five tool blanks are also hard-percussion flakes, with one being an indeterminate flake. Bipolar flakes are not present. The number of flakes with surviving platform remnants is low, but these pieces generally suggest low-level core preparation, if any. <024>, for example, has a broad and deep cortical platform remnant. Due to the high level of fragmentation, it is not possible to define the flakes and flake blanks precisely, but <024> measures 42 × 25 × 10mm. This flake is probably one of the larger blanks produced at the site.

The core

The site's solitary flint core <192> is an irregular (or multi-directional) core. It is based on a thick hard-hammer flake, and it has a pronounced bulb-of-percussion on the face opposite the main flaking-front. Technically, it is a so-called 'flaked flake'. One face was clearly used as the main striking platform, and a number of small flakes were detached from the associated flaking-front. No signs of core preparation are present. The apex is crushed, and the ripples of the flake (?unintentionally) detached from the apex show similarities to the ripples of bipolar flakes. This indicates that the core was worked by placing the core on an anvil, and then detaching flakes by strikes to a traditional flat platform. The core is small and measures 28 × 20 × 20mm.

The tools

Five implements were recovered at Balure dun, four of which are in flint, while one is in quartz (Illus 111). Three pieces are scrapers, with one (in quartz)



Illus 111 Lithic artefacts. Clockwise from top left <061>, <013>, <024>, <060>, <009>. (Image by Roddy Regan, © Kilmartin Museum)

being a notched piece, and one an edge-retouched piece.

► **<009> (009) SF50:** Proximal fragment (33 × 23 × 8mm) of a notched piece on a hard-hammer flake. It has at least one small notch in either lateral side, proximal end, possibly to facilitate hafting. It is impossible to determine whether the piece was modified in other ways, as parts of the dorsal face have been shed due to the exposure to fire.

► **<013> (010) SF2:** Burnt fragment (20 × 34 × 9mm) of a flake which, judging from the differently oriented ripples of ventral and dorsal faces, was detached from an irregular core. It has semi-acute, clearly used retouch along its distal edge. It is not possible to determine whether this piece was used for scraping or for cutting hard materials.

► **<024> (010) SF55:** One double side-scraper is intact (42 × 25 × 10mm). It is an elongated hard-hammer flake with full steep retouch of both lateral sides. One straight lateral side was formed by retouch from the ventral face, and one convex lateral side by retouch from the dorsal face. Although the two modified sides meet at the distal end to form a point, no use-wear suggests a supplementary piercing function.

► **<060> (012) SF59:** A very small left-side fragment (21 × 12 × 7mm) of a short end-scraper. It has the remains of a convex, steep (and worn) scraper-edge at the proximal end. At the distal end, ventral face, it appears to have been worked, possibly in an attempt to detach small flakes from an exhausted tool. It split along its long axis, but in contrast to CAT <061> (below) which split accidentally as a result of excessive force directed towards its platform, circular impact scars on the ventral face of CAT <060> suggest that this piece was split deliberately as a result of strikes to its ventral face. Use-wear along all edges, including those of the break facet, suggests that the broken-up implement was then used for cutting hard materials.

► **<061> (012) SF54:** Proximal fragment of a side-scraper (30 × 30 × 10mm) based on a hard-hammer flake. It has the remains of a straight and steep scraper-edge along one lateral side, but as the piece also split along its long axis (Accident Siret), it is not possible to determine whether it may have had a second working-edge, like <024> (above).

Summary and discussion

During the excavations at Balure dun, 18 lithic artefacts and 12 pebbles were recovered. They are summarised in Table 3. Twelve (two-thirds) of the site's lithic artefacts were found in Enclosure 1, as were all flint pebbles and pebble fragments (Contexts (001), (009), (010), (013), (014), (033), (034) and (038)). Four lithic artefacts were retrieved from Context (012) in Enclosure 2. Apart from Context (001) (topsoil) and (033) (re-deposited soil, possibly representing a collapsed turf roof and wall collapse), all the above Enclosure 1 contexts represent more or less discrete occupation layers, middens or hearth surroundings. However, the fact that it was possible to refit fragmented (mostly burnt) flint pebbles from Contexts (001), (013) and (034) (two non-conjoinable burnt flint pebbles were found in Context (014)) suggests widespread disturbances, probably – as suggested by the excavator – by root activity.

The presence of the flint pebbles is slightly enigmatic, as they are too small to have been useful as lithic raw material for the production of tools.

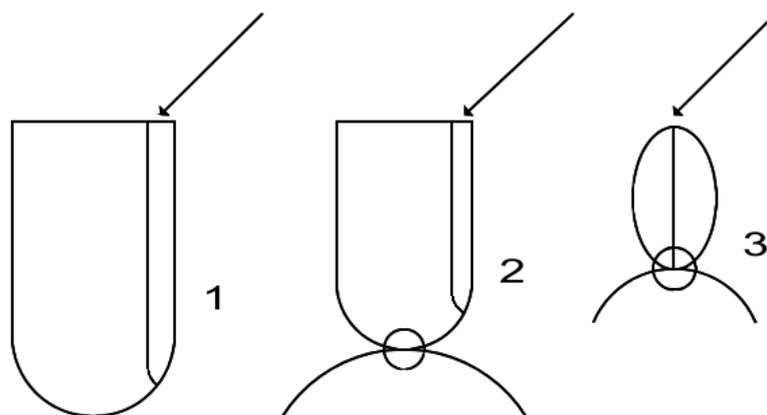
They could have been used as paving material, but suitable material for this purpose would have been available in the dun's surroundings, whereas the flint must have been collected along the shores of the Sound of Jura. Furthermore, if collected from a beach (as general paving material), pebbles in other raw materials should also have been present, as flint is generally a relatively rare commodity, even in beach walls. Most likely, these small, smooth flint pebbles were collected on a beach for presently unknown purposes (gaming pieces?), probably as a 'by-catch' in connection with procurement trips, the focus of which was flint (and quartz?) pebbles. It is uncertain why and how all the flint pebbles were exposed to fire.

The lithic artefacts, which are roughly equally distributed across pieces in flint and quartz (eight and nine pieces, respectively, supplemented by one flake in rock crystal), were generally produced by the application of hard percussion, with bipolar technique apparently not having been used. It is thought that the pebbles may have been rested on an anvil during the reduction process. Illustration 112 shows the differences between the three main percussion techniques, platform technique, platform-on-anvil technique and bipolar technique (where an anvil is also used).

The implements are mainly in flint (four out of five tools), which is commonly seen in connection with mixed flint-quartz assemblages (at Rosinish on Benbecula, quartz had a tool ratio of 1%, whereas flint had a ratio of 62%; Ballin 2008). This most

likely reflects the fact that flint flakes in a much more controlled manner than quartz, and that it provides much sharper and more regular working-edges. It may be assumed that, at Balure, flint was perceived as a highly valuable commodity. This is supported by <060> (a recycled end-scrapers), which has a complex biography: it was initially shaped into a small end-scrapers, which was then (unsuccessfully) used as a core, and at the end of its 'life-span' it was deliberately split, and the edges of the final, very small implement were then used for cutting or scraping/planing/shaving hard materials. The character of the implements' working-edges, as well as the use-wear of unmodified and modified pieces, indicates that most of the formal and informal tools were used for scraping, cutting and possibly planing/shaving hard materials (wood, bone, antler).

The assemblage includes no strictly diagnostic artefacts but, as a whole, the lithic finds suggest a late date, probably in the later Bronze Age or even in the earliest part of the Iron Age. The complete lack of soft percussion indicates a date after the onset of the Late Neolithic period, and the lack of invasive retouch indicates a date after the Early/Late Bronze Age transition. Clark (1936: 47) and Young & Humphrey (1999) presented a technological profile which they dated to the Early Iron Age period but, as pointed out by Ballin (2002), this profile also seems to cover the later Bronze Age period. At this moment in time, it is not possible to date the present assemblage



Illus 112 The three main percussion techniques, platform technique, platform-on-anvil technique and bipolar technique. (© Torben Bjarke Ballin)

more precisely than to the general later Bronze Age/Iron Age period.

6.5.3 Ceramics

Alison Sheridan

The sherds of at least two vessels were recovered from the the site and, while others may also be present, these are represented by small featureless body sherds. Two fragments, <094> and <103> (Illus 108c & 113), are from one vessel and indicate a small undecorated pot (rim diameter *c* 160mm) with a flat squared off rim (the vessel is coil made with a possible flat base); sherd <096> (Illus 108b) also comes from a similar, if not the same, flat-based vessel.

The second vessel, <010> (Illus 108f), <095> (Illus 108a) and <097> (Illus 108d), was a possible thin-bodied undecorated globular pot (rim diameter *c* 180–190mm) with an unevenly folded everted rim (Illus 114).

► **<005> (001) SF1:** Featureless abraded body sherd, 25.7 × 21.5mm, max Th: 8.5mm. Fairly hard. Exterior and core pinkish, interior mid-grey-brown. Exterior surface abraded and pitted; interior smooth. No obvious inclusions.

► **<010> (010) SF61:** Rim sherd and body sherd from undecorated, probably globular pot with uneven surfaces. Rim sherd conjoins with <095> (see below). Sherd sizes: rim sherd: 28.4 × 39.5mm; max Th: 8.7mm. Body sherd: 34.2 × 31.0mm; max Th: 10.0mm. Exterior dark grey; core slightly reddish-brown; interior dull to bright salmon pink. Both the interior and exterior of the body sherd are uneven. The rim sherd has traces of where a coil joint has been smoothed over on its interior. Inclusions: as in <095>.

► **<011> (010) SF62:** Featureless abraded body sherd, 21.5 × 21.6mm, max Th: 8.3mm. Medium hard. Exterior heavily abraded; light brown. Core pink-brown; interior pink-grey. No inclusions visible except for minute mica platelets, probably naturally occurring in the clay.

► **<012> (010) SF63:** Two featureless spalls of abraded but hard pottery, lacking external surfaces. Core: medium grey-brown; interior red-brown,



Illus 113 Ceramic vessel rim <103>. (Image by Roddy Regan, © Kilmartin Museum)



Illus 114 Ceramic vessel rim <095>. (Image by Roddy Regan, © Kilmartin Museum)

fairly smooth. Sizes: 20.2 × 19.1mm; max Th: 6.0mm; and 11.75 × 8.1mm; max Th: 5.7mm. Inclusions: sub-angular fragments of rotten brown stone up to *c* 5.5 × 3mm; also minute mica platelets.

► **<091> (026) SF022:** Small featureless sherd (22.75 × 18.2mm; max Th: 11.6mm) and two fragments, of dull grey-brown and mid-brown, slightly sandy pottery. It resembles the crucible fragments SF116, but there are no traces of slag adhering.

- **<092> (010) SF65:** Small featureless abraded body sherd, 19.1 × 14.9mm, max Th: 7mm. Exterior bright salmon pink; core and interior slightly duller pink. Interior seems carefully smoothed. Undecorated. No inclusions visible.
- **<093> (041) SF104:** Undecorated featureless body sherd, 26.5 × 26.1mm, max Th: 10.0mm, from pot with uneven surfaces. Abraded; fairly hard. Exterior pink-buff; core pinkish-buff (but obscured by sediment); interior bright salmon pink. Angular, sub-angular and rounded lithic inclusions up to *c* 3 × 3mm, density *c* 3–5%, of whitish and dull grey-brown stone; tiny mica platelets in clay.
- **<094> (034) SF75:** Two sherds from same pot as <103>. One (38.0 × 10.1mm; max Th: 10.9mm) has broken along a coil joint line; the other (26.75 × 20.0mm; max Th: 9.65mm) may have come from near a flat base. Both are abraded.
- **<095> (009) SF84:** Rim sherd from thin pot with uneven surface. Sherd size: 45.9 × 31.5mm; max Th: (at bottom of rim) 9.1mm; estimated rim diameter 180–190mm. Rim everted and unevenly folded over; may have been from a globular pot. Abraded. Exterior blackish-grey over pink-brown; core pinkish-buff; interior bright salmon pink. Interior surface particularly uneven, with fingertip depressions. Sherd undecorated. Hard fabric, with sub-angular and rounded inclusions of grey-brown stone up to *c* 5 × 2.5mm, at a density of *c* 7%. There are also tiny mica platelets in the clay which give the surface a slightly glittery appearance. Note: sherd <097> is from the same pot.
- **<096> (041) SF92:** Sherd from just above the base of a flat-based, thin-walled pot with gently splaying wall. Size: 25.7 × 27.8mm; max Th: 8.4mm. Sherd too small to estimate diameter of vessel at this point. Abraded; fairly hard. Exterior blackish over red-brown; core and interior red-brown. The only visible inclusions are tiny platelets of mica, probably present naturally in the clay.
- **<097> (041) SF106:** Small rim sherd from same pot as <095>; 20.9 × 28.15mm; max Th: 8.9mm.
- **<098> (031) SF107:** Featureless undecorated body sherd, 30.8 × 28.4mm; max Th: 11.75mm. Uneven surfaces. Abraded; fairly hard. Probably burnt. Exterior buff; core pinkish-buff; interior pale grey-buff. Angular and sub-angular inclusions, up to *c* 3 × 2.5mm, density *c* 5–7%, of dark glittery mineral and hard grey-brown stone.
- **<101> (059) SF118:** Featureless body sherd, superficially similar to <093> but not from same pot; surfaces uneven. Size: 26.0 × 27.9mm; max Th: 8.9mm. Abraded; fairly hard. Exterior medium brown with grey patch; core reddish-buff; interior salmon pink. A few sub-angular lithic inclusions, up to *c* 4 × 3mm and at a density of *c* 3% of hard grey stone.
- **<102> (015):** Possible fragment of burnt potter's clay, or else highly abraded and featureless burnt fragment of pottery, with rounded edges (except in area of recent fracture). Size 11.5 × 9.3 × 7.25mm. Soft. Exterior grey-red-brown; interior light salmon pink.
- **<103> (041) SF103:** Rim sherd from small undecorated pot. Sherd size: 50.4 × 45.4mm; max Th: 13.6mm; estimated rim diameter *c* 160mm. On one side, broken diagonally along a coil joint line. Rim flat and squared off. Abraded. Exterior blackish over pink-buff; core pink-buff to mid-grey; interior dark grey. May have been slipped; interior crazed. Superficially hard but interior fairly soft. Slightly uneven exterior; small indentations below rim may well be accidental marks (possibly from nail impressions) rather than decoration.

6.5.4 Macro plant remains

Michael Cressey

All but one of the 24 processed samples contained charcoal, with small quantities of carbonised seeds recovered from Contexts (035), (040), (043), (062), (066) and (068). Apart from (062), which also contained oats, all the identified grains were barley. Birch, oak and hazel charcoal were identified within several deposits, (026), (046), (065), and (067). Three of the most abundant samples were more fully assessed as to their environmental potential.

Samples comprising the 4mm and 1mm sieve fraction from three contexts were submitted to CFA for assessment. The assessment was carried out to determine the species abundance and potential for AMS dating within the three samples.

Methodology

Identifications were carried out on the 4mm charcoal fragments using a binocular microscope at magnifications ranging between $\times 10$ and $\times 200$. Charcoal fragments from the 1mm size fraction are below the level of identification (BLOI); these were scanned to determine the presence or absence of cereal grains.

Anatomical keys listed in Schweingruber (1992), Gale & Cutler (2000) and CFA Archaeology's reference charcoal were used to aid identifications. The charcoal was identified to species level to 25 individual counts per sample. Observations on the condition of the charcoal were recorded, including the presence of any vitrified material.

Individual samples for AMS dating were not selected at this stage, but samples in which there are sufficient quantities of unabraded charcoal present are noted in Table 4, with an assessment of the potential for AMS dating.

Results

Three species are represented within the 4mm charcoal assemblage (Table 4) with *Corylus avellana* (hazel) the most dominant species. This is followed by *Quercus* sp (oak) and *Betula* sp (birch) respectively.

The 1mm fraction is below the level of identification (BLOI) and is dominated by amorphous fragments. Roundwood (small branchwood) is present in Sample 26 but it is very fragmented. Blocky fragments are abundant in Samples 21 and 26 and this represents charcoal that is firm and fresh, having undergone no taphonomic reworking.

6.6 The radiocarbon dates

Two radiocarbon dates were obtained from Balure dun, confirming a general Middle Iron Age date (Table 5). From Phase 1b of Enclosure 1 a fragment of hazelwood was dated from (C046), a burnt deposit from a small fire installation constructed against the wall of the enclosure. This returned a date between the 2nd and 1st centuries BC. This context was early in the sequence of deposits within Enclosure 1 and probably gives a date near the construction of the enclosure.

The second date was obtained from a mixed deposit that probably represents a dump or levelling

Table 4 Balure: charcoal assessment results

Context no. and setting	026 Debris in fire setting	062 Dump deposit	067 Dump of hearth material
Sample no.	26	17	21
Identifications			
<i>Quercus</i> sp	7 (4.5g)	–	7 (0.5g)
<i>Betula</i> sp	2 (0.2g)	2 (0.2g)	3 (0.7g)
<i>Corylus avellana</i>	30 (4.5g)	10 (0.7g)	15 (1.3g)
<i>Hordeum</i> sp (barley)	–	5	–
Vitrified	1 (0.7g)	–	–
BLOI (1mm fraction)	50g	0.3g	1.9g
Amorphous fragments	****	****	****
Blocky fragments	***	*	***
Roundwood	**	*	*
AMS Dating Potential for charcoal	Good	Poor	Good

deposit prior to the construction of the wall of Enclosure 2 (C066). A burnt grain of barley from this deposit produced a date between the late 1st century BC and the early 2nd century AD. This provides a *terminus post quem* for the construction of Enclosure 2, and shows it clearly post-dates Enclosure 1.

Table 5 Balure: radiocarbon dates, calibrated in OxCal 4.4 using IntCal 20 curve

Context	Laboratory code	Material	$\delta^{13}\text{C}$ ‰	Radiocarbon age BP	Calibrated at 1 σ (68.3%)	Calibrated at 2 σ (95.4%)
066	SUERC-31665	<i>Hordeum vulgare</i>	-22.8	2000±30	40 BC–AD 60	50 BC–AD 120
046	SUERC-31664	<i>Corylus avellana</i>	-27.9	2090±30	150–50 BC	200–0 BC