
The excavation of a souterrain at Shanzie Farm, Alyth, Perthshire

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with contributions by Richard Conolly, Katherine Eremin, Mhairi Hastie, Andrew Heald, Catherine McGill, Suzanne Miller, Alan Saville and Colin Wallace

Introduction (Illus 1)

Shanzie Farm lies some 3.5km north-east of Alyth, in Perthshire (NGR: NO 279 507). The souterrain itself occupies a small knoll in undulating land at the boundary of two fields on the north side of the B952 (Illus 2). The site was re-discovered, as it will emerge, in early 2000 when ploughing dislodged one of the side slabs of the main chamber of the souterrain. A trial excavation was organised by Mark Hall, Perth and Kinross Museums Service, John Sherriff, Royal Commission on the Ancient and Historical Monuments of Scotland and Archie Dick, a local archaeologist with considerable knowledge of souterrains. The area they chose to excavate indicated that the structure had largely been ploughed out and that only the basal courses of the side walls and paved floor survived. A charcoal-rich deposit overlying the paved floor did, however, offer some potential for environmental analysis and radiocarbon dating and some late prehistoric pottery was also recovered.

A more extensive evaluation, funded by Historic Scotland, confirmed that the souterrain had largely been ploughed out, although it was better preserved near the terminal (north-east end). The evaluation also determined the form and extent of the souterrain, which included a small side chamber, and established that no associated settlement survived. Nevertheless, the Shanzie souterrain had the potential to provide information about Iron Age settlement in this part of lowland Eastern Scotland and more specifically the structure, function and chronology of souterrains. It was therefore decided to proceed with full excavation and recording of the souterrain rather than preserve the monument for future research through scheduling.

On completion of the excavation, the unstable parts of the structure were made safe and partially backfilled in such a way that the site remains visible (Illus 3).

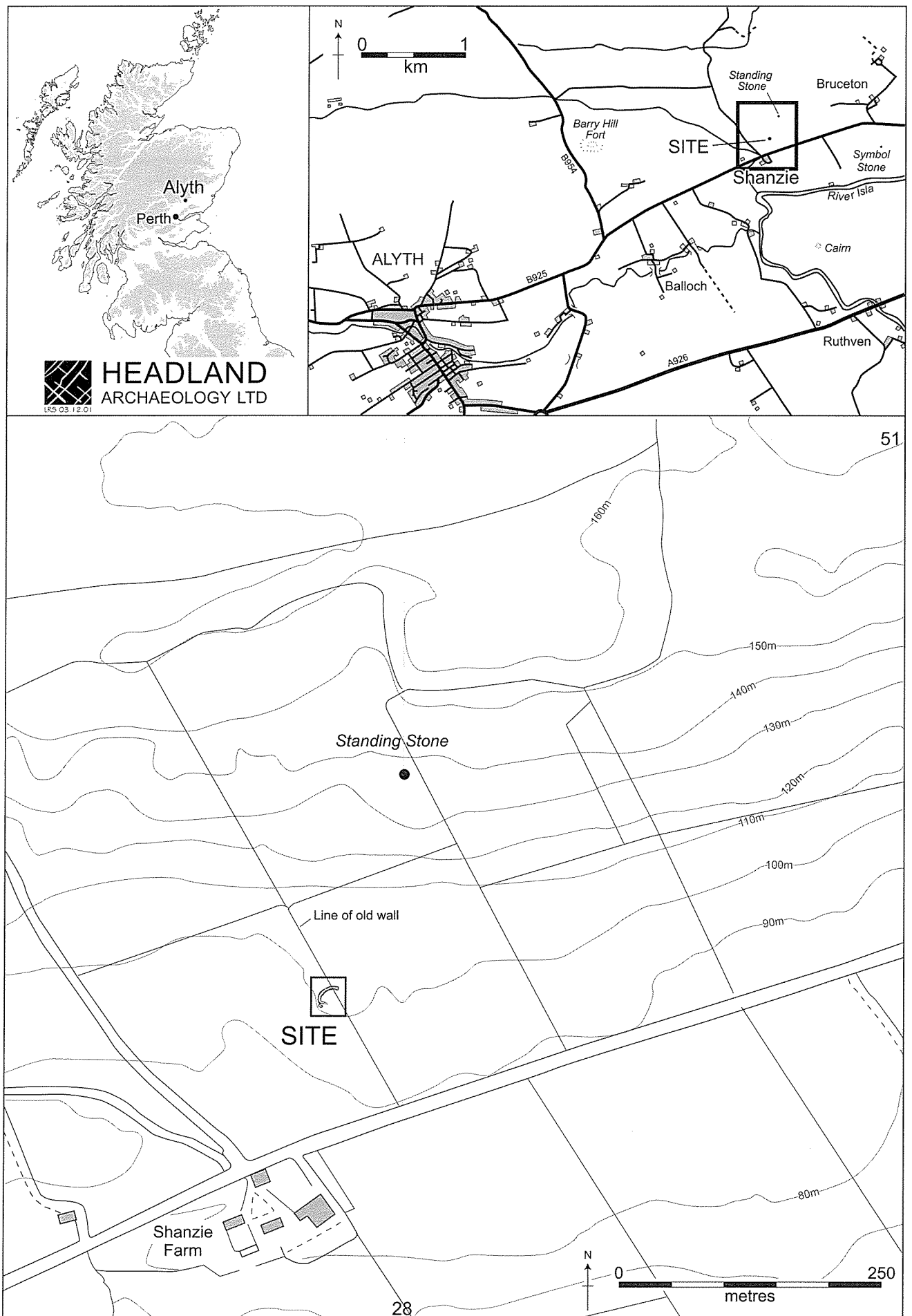
Shanzie and the souterrains of 'southern Pictland'

with a contribution by Richard Conolly

Souterrains are a common feature of unenclosed settlements of Iron Age date in lowland Eastern Scotland and it is therefore reasonable to assume that most mark the site of small farming communities. The souterrain

at Shanzie is typical of those that Wainwright termed the 'southern Pictland' group (Wainwright 1963). Clustered in the prime agricultural land of Perthshire, Angus and Fife, with a few outliers to the south, they are geographically and typologically distinct from those in the rest of Scotland (for example, those in the Northern Isles, Skye, the Outer Hebrides, Sutherland and Ross and Cromarty). In 1994, the Royal Commission listed 67 examples in south-east Perthshire alone (RCAHMS 1994). The Shanzie souterrain lies in an area of good agricultural land (although improved ground today this was still good land in relative terms in prehistory) which supported many souterrains; some 15 known and probable sites can be found within a 5km radius. Of these, eleven have been found by chance, mostly in the 18th and 19th centuries, with the remainder identified by aerial photography. Today, more than 200 are known from southern Pictland, the vast majority identified as cropmarks during aerial reconnaissance. Given that the substantial remains of the Shanzie souterrain did not appear on aerial photographs (despite a shallow topsoil) and the tendency for souterrains to occur in clusters, it is probable that the current picture of souterrain distribution in southern Pictland is far from complete. However, suprisingly few souterrains have been excavated in modern times. For example, between 1963, when Wainwright published his list of sites, and 1981 only three examples were subject to any recording in the field (Barclay 1980, 200). In the last few years, however, a number of souterrains have been excavated and are awaiting publication.

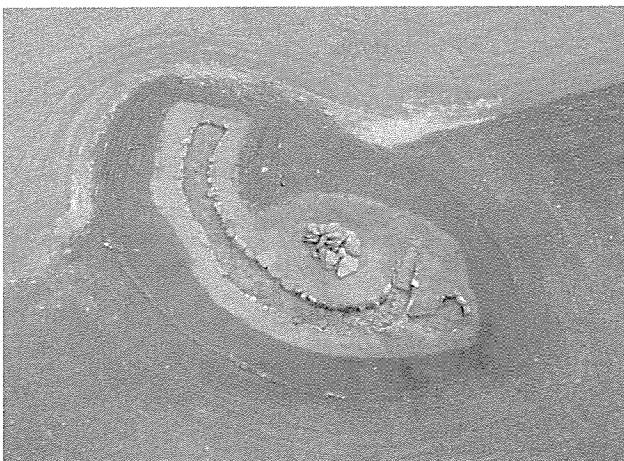
The souterrains of 'southern Pictland' typically consist of a curving subterranean passageway, sometimes with small side chambers. They range in form from simple tapering arcs to complex groups of intersecting chambers and in size from 15m to 60m in length and up to 4m in width. Usually there is a single axial entrance though additional side entrances are not unknown. At the time of Wainwright's classification all known souterrains were stone built which were easily recognised when turned up by the plough. In recent years, timber-roofed and wholly timber-built structures have been identified reflecting the advances made in archaeological field techniques. One such souterrain was found at Red Castle, Angus (Alexander and Rees 1997, 13–14; Alexander 1998, 15). Here, pairs of posts appear



Illus 1 Site location.



Illus 2 The souterrain looking south: Shanzie Farm is top right of the photograph. Note the field boundary which runs down the hill and cuts across the souterrain.



Illus 3 The souterrain after reinstatement.

to have supported wooden revetting and clay found on the floor may be the remnants of daub lining.

Stone lined souterrains produce very distinctive cropmarks, dark in the middle with light parch marks at the edges, making them readily identifiable (RCAHMS 1994, 63–68). As the majority of new souterrain discoveries in recent years have been through aerial photography, it is likely that timber souterrains are still under-represented. In most cases the cropmark souterrains have been recorded as isolated features, or as small groups, but in a minority of sites they appear along with cropmarks of circular buildings. It is probable that the souterrains will create cropmarks more readily than the slighter traces of associated buildings, and it is possible that only the souterrain has survived subsequent erosion in some cases.

Evidence for associated surface settlement is limited, but again this reflects the fact that many souterrains are known through antiquarian activity when the surrounding area was rarely the subject of investigation. In the few modern investigations, there has often been evidence for associated settlement. At Newmills, for example, the axial entrance to the souterrain appeared to lead from inside a large circular house, while the side entrance lead directly to the outside (Watkins 1980b, 196). Aerial photographs of several sites, such as Glencarse (RCAHMS 1994, 65), show souterrains leading away from circular cropmarks, presumably the remnants of associated buildings.

Evidence for the function of souterrains remains elusive. Barclay (1980, 206) dismissed Wainwright's interpretation as livestock shelters as largely impractical and supported his dismissal of any suggestion that they may have served as places of refuge. Instead, he suggested that the cool conditions would have been ideal for the storage of foodstuffs, such as grain, meat and cheeses, and perhaps ale (author's suggestion!). Present opinion is that the conditions within souterrains were much too damp for grain storage. Even the more recently excavated souterrains such as Newmills, the timber examples at Dalladies, Kincardineshire (Watkins 1980a) and Red Castle, Angus (Alexander and Rees 1997), have failed to yield positive evidence for function. Nevertheless, the building of these structures would have taken considerable effort and skill, and must have provided an important focal point for these small farming communities.

Precise dating of souterrains has also proved problematic. In general, souterrains produce few artefacts—

typically querns, Roman artefacts and small quantities of local pottery. Only the Roman and Roman influenced material is closely datable. Souterrains do, however, seem to have been a relatively short-lived phenomenon in this area. Radiocarbon dates generally fall within the first and second centuries AD and the dates from artefacts, in particular the Roman material, fall almost exclusively within the second century AD. There is presently little evidence of any souterrains being occupied far into the third century; in contrast, the associated settlements appear to have remained in use.

Dating based on the Roman artefacts is, however, far from straightforward and the apparent simultaneous start and end of the 'southern Pictland' souterrain phenomenon might, therefore, be illusory. Armit (1999) argues that, while there are problems with using the Roman material for dating, they are significant for understanding the function of souterrains. He argues that most of the 'southern Pictland' souterrains have their roots in the Roman occupation and suggests that, while some were in existence in the first century AD and earlier, the majority were built in the second century AD as the Antonine occupation provided a new market and impetus for surplus food production. Souterrains would have served as small (but secure) warehouses for this surplus which might be traded for luxury goods such as samian and the contents of amphorae (wine and oil, for example). The Roman withdrawal to the south in the AD 160s may have brought an end to this brief economic boom; at any rate souterrains seem to go into terminal decline at about this time, with few, if any, appearing to have been occupied in the third century AD.

Armit also argues that there is considerable evidence that many souterrains were decommissioned 'with a degree of ceremony and care' (ibid, 587). This decommissioning is characterised by deliberate infilling, frequently with charcoal-rich material, or in antiquarian accounts 'rich black mould'. Balloch, also known as Hill of Loyal, located 2 km to the west of Shanzie, is one such site. It was found c 1790 and described as being 'full of ashes' (OSA 1797, 406). Balloch was roofed when discovered, but there are examples where the roof had been removed at the time of decommissioning.

Wainwright was first to notice the deliberate dismantling and infilling of the souterrains he excavated at Ardestie and Carlungie 1, although at Ardestie he thought this was due to problems of drainage. The carefully excavated souterrain at Newmill, Perthshire perhaps offers the most convincing evidence (Watkins, 1980b). Many other sites offer a similar picture including recently excavated examples such as Red Castle (Alexander and Rees 1997, 13). Only Hurly Hawkin appears to have been left open (Armit 1999, 586). The body of evidence does not suggest destruction as a result of attack or any scorched earth policy on the part of the inhabitants (ibid, 584–586).

The initial evaluation of the souterrain at Shanzie, though showing it to be a largely ploughed-out structure with no evidence of an associated settlement, did identify a charcoal-rich deposit overlying the floor of the main chamber. Several sherds of Iron Age pottery were recovered in addition to the potential for environmental remains and for radiocarbon dating. The excavation at Shanzie, therefore, offered an opportunity to further our understanding of the souterrains of this part of Scotland; in particular, how, why and when they went out of use, providing a test for Armit's model (Armit 1999). This paper, therefore, looks at how the souterrain went out of use by focussing on the accumulation of deposits within the souterrain, the nature and distribution of finds and environmental remains and, more specifically, whether it had been deliberately backfilled.

The excavation

The evaluation undertaken by Headland Archaeology comprised the machine trenching of a cruciform trench to establish the general extent of any associated settlement whilst exposing the souterrain at its centre. The cross-arms of the trench, 1.6m wide, extended some 100m from the top of the knoll down the slope, to the north, south and west, to the lower parts of the field; the field immediately to the east had just been re-seeded and was, therefore, inaccessible. Once the souterrain had been fully exposed in plan, a total of four slot trenches were excavated (one within the entrance passage, one within the side chamber and two within the main chamber) to assess the nature of the deposits and their potential for further research, particularly environmental analysis. In addition, the original trial-trench, which had since become choked with weeds, was re-cleaned.

During the subsequent excavation, c 1m of loose rubble fill was removed by machine from the central and northern end of the main chamber. Two distinct concentrations of much larger sandstone boulders and flat slabs were identified and these were recorded prior to being lifted by machine using a sling.

The remaining deposits within the souterrain were excavated by hand. The main chamber was subdivided into one metre blocks (Blocks 1–31), the sequence starting at the entrance. From each block, a 10 litre soil sample was retained for environmental analysis and the rest of the deposits hand excavated and bulk sieved for finds on site. Seven baulks were retained to provide profiles of the stratigraphic sequence within the souterrain before all but one was removed. The whole structure was recorded, both in plan and in elevation, by a combination of EDM and hand drawing. None of the stone structure was removed, so the cut for the building and any foundation deposits were not examined.

The results

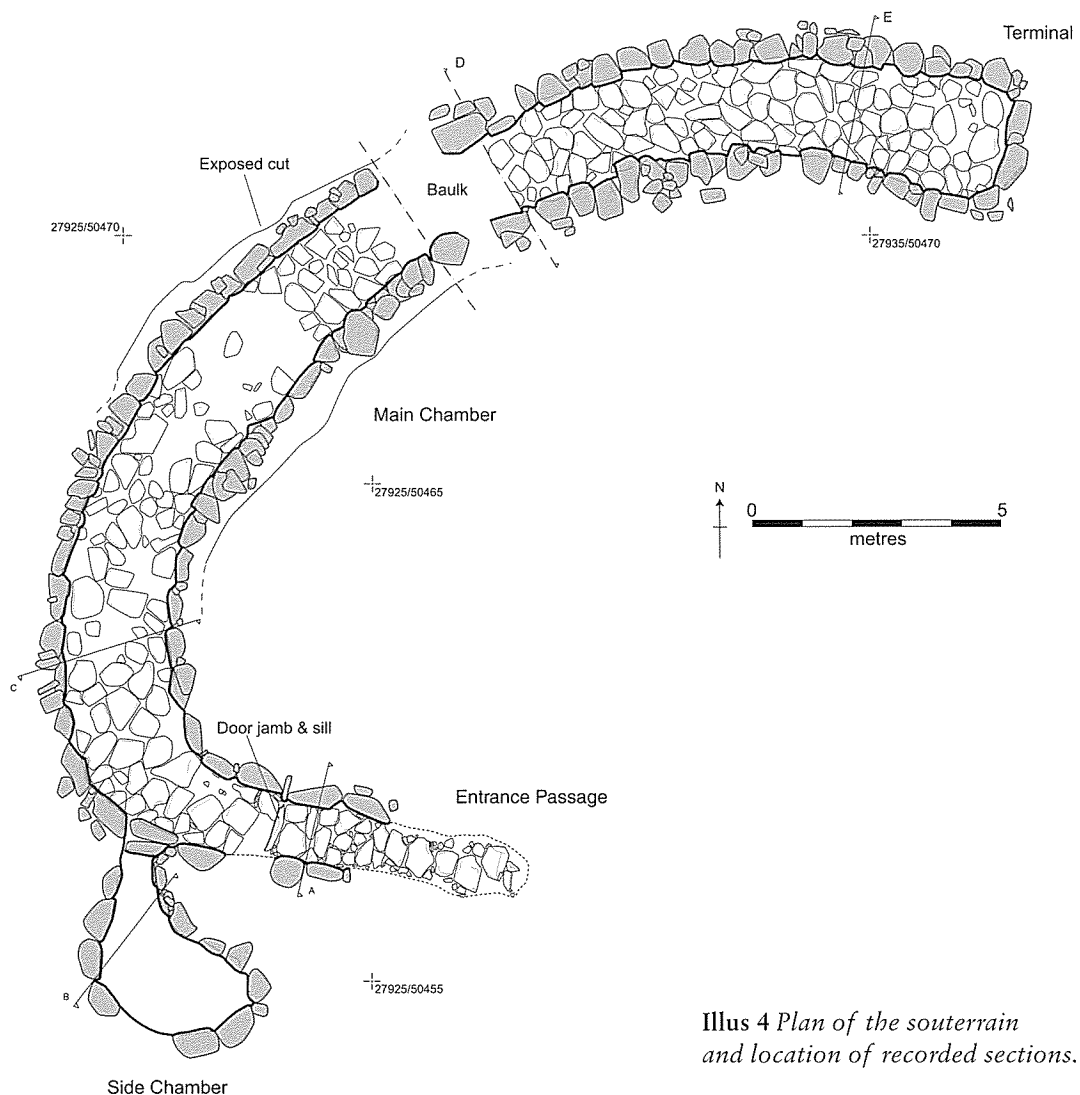
The settlement

Nothing remained of the settlement but there is evidence for it in the finds and environmental remains recovered from the souterrain. There was no surviving evidence that the souterrain led from an above ground structure or that it lay at the centre of a surrounding settlement but one is assumed to have existed. The location of the souterrain, however, on the crest of a small knoll in an undulating field, makes it susceptible to soil loss. The walls of the souterrain survived predominantly as a single course, indicating severe truncation through erosion, and it has been estimated that between 1.5m and 2m of the upper parts of the souterrain (roof and wallhead) has been lost over the centuries. It is therefore not surprising that nothing survived of the settlement.

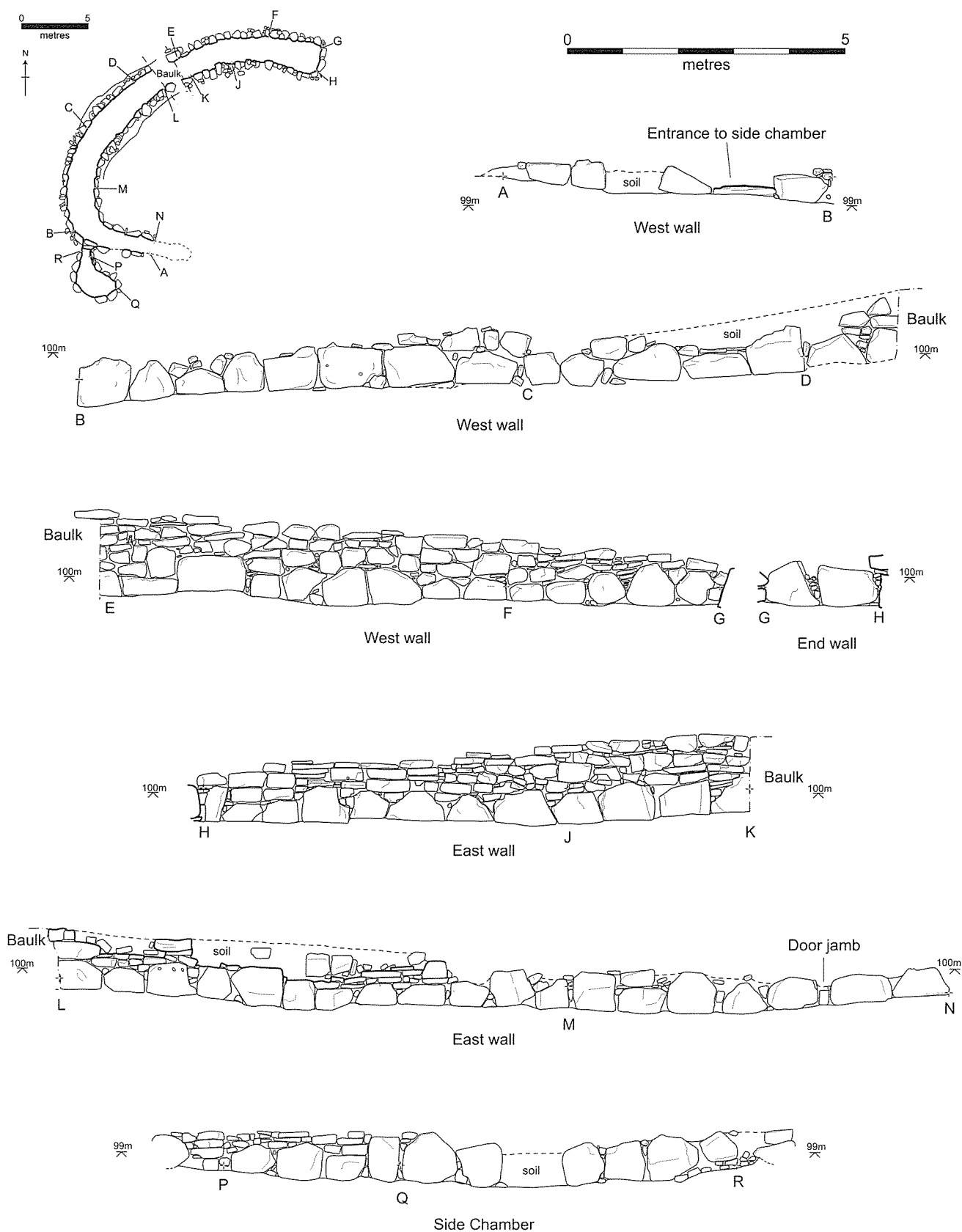
The only evidence, then, for the people who lived at Shanzie are from the finds and environmental remains recovered during the excavation and other stray finds from the immediate area. The finds assemblage was typically small for a souterrain but still far from ordinary (see *The Finds* and *Discussion* below).

Phase 1: the plan and form of the souterrain (Illus 4 and* 5)

Curvilinear in plan with a single, kidney-shaped side chamber, the souterrain measured c 35m in length internally from the end of the entrance passage in the south-east around the curving main chamber to the terminal in the north-east (Illus 3 and 4). The souterrain was built of angular sandstone rubble over a basal course of mainly large sandstone boulders but with some bluish green schist boulders, and had been set into a large trench cut into the natural sub-soil (Illus 6). The main chamber and entrance passage were roughly surfaced with sandstone paving (Illus 7). The doorway, as evidenced by door jambs and a sill, lay c 5m from the surviving end of the entrance passage. Given the erosion of this knoll, the entrance passage is likely to have been much longer and there may even have been steps down into it. Approximately 2.5m from the doorway, off the main chamber (and down the slope) to the south-west, was the side chamber (Illus 8). The entrance into the side chamber comprised a narrow opening with two large flat stones forming a



Illus 4 Plan of the souterrain and location of recorded sections.



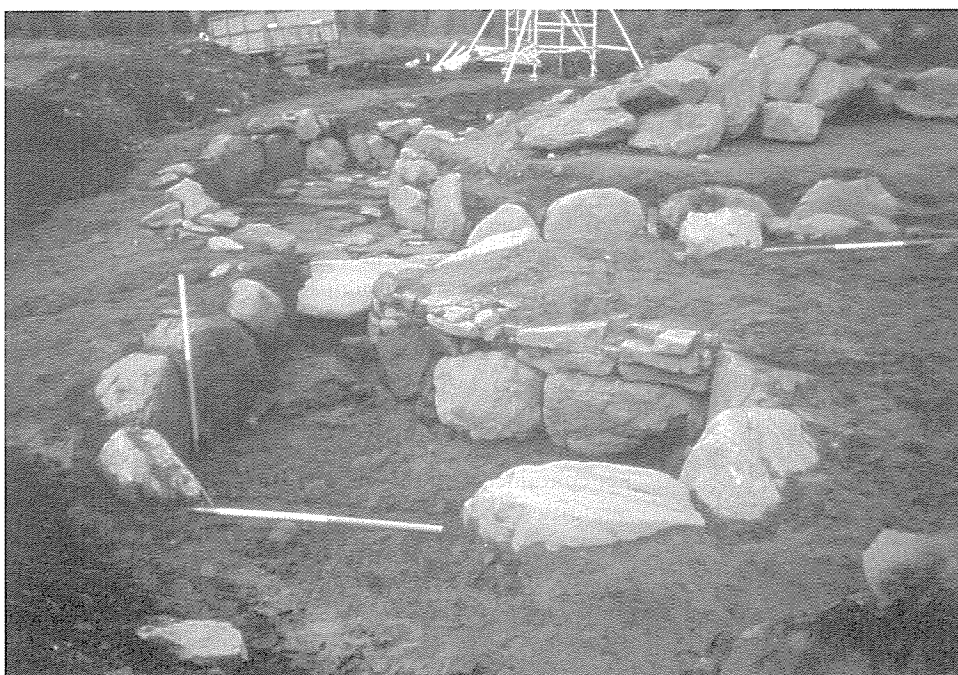
Illus 5 Elevations.



Illus 6 The main chamber with side chamber and entrance passage in background. Note the missing flagstones in the foreground.



Illus 7 The terminal.

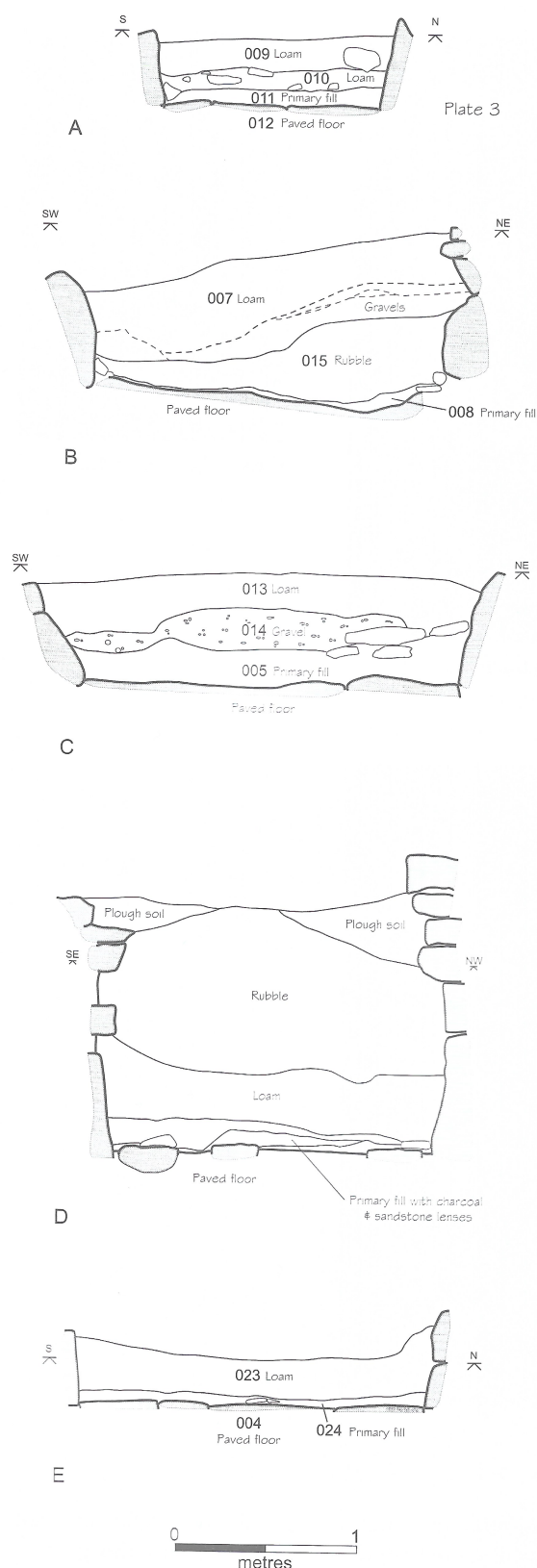


Illus 8 The side chamber.

threshold into the chamber which lay at a lower level; the first threshold was a granite slab. The side chamber was not paved but may have been robbed out in antiquity.

For much of the length of the souterrain, only the basal course of the side walls survived (Illus 5). Although the roof and wallhead were both missing, there was evidence of how the souterrain would have looked and how it would have been roofed. Approximately

11m from the terminal, where a drystone dyke once cut across the souterrain (effectively preserving this part from plough damage), the side walls survived to a height of c 1.6m (Illus 5). Here the beginnings of the corbelling for the roof were clearly evident (Illus 9: D). In addition, the remains of the collapsed roof structure itself, comprising massive sandstone slabs, were found in two places within the main chamber (see *Accumulation of deposits within the souterrain* below).



Phase 2: the primary fill of the souterrain (Illus 9–11)

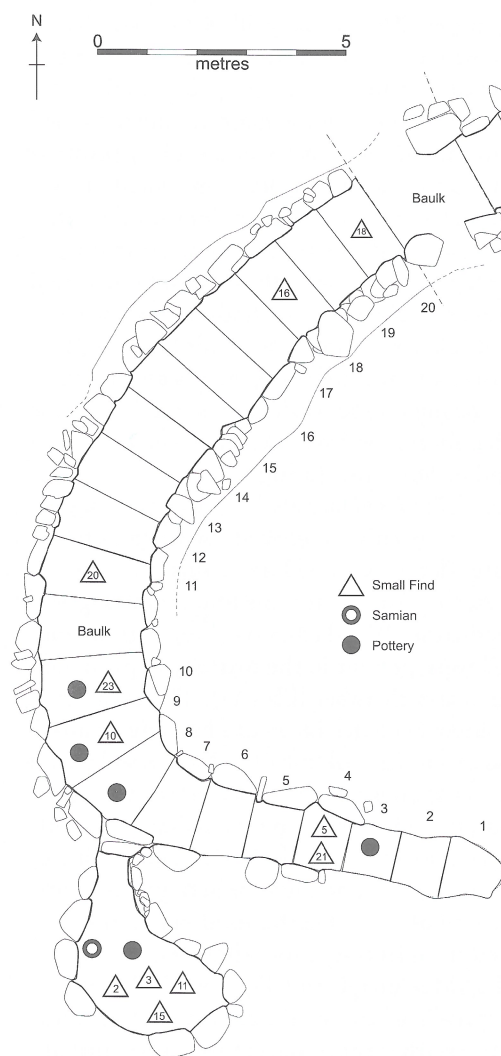
The primary deposit in the main chamber, which lay directly over the paved floor, was a charcoal-rich dark grey/brown silty clay loam, up to 0.2m thick, with frequent small sandstone fragments and occasional small fragments of burnt bone (Illus 9, A and C–E; Illus 12 and 13). Virtually all of the securely stratified small finds and pottery were recovered from this layer (or from its equivalent in the side chamber), most from within c 10m of the entrance (Illus 10). The finds include 15 sherds of late prehistoric pottery, a knife, an amber ring, a copper alloy lentoid mount (belt slider), a glass bead, a nail fragment, lumps of poorly fired clay from a hearth lining and two worked flints (one Mesolithic). There were also very small quantities of ferrous and non-ferrous metalworking debris present including fragments of a possible crucible, iron smithing slag and hammerscale (see *The finds* below).

Overlying the floor of the side chamber was a very thin layer (on average 50mm or less) of grey/brown silty clay with occasional gravel inclusions and charcoal flecks (Illus 9: B). All the finds recovered from the chamber derived from this layer (Illus 10) and include a large copper alloy ring, probably from a bridle bit, a pair of copper alloy tweezers, three sherds of late prehistoric pottery, one burnt sherd of South Gaulish samian pottery and one worked flint (see *The finds* below).

Environmental analysis of the primary fill of the main chamber identified the presence of mostly wood charcoal, the majority of which comprised small fragments (less than 2mm in diameter) of oak, alder and birch (see *The Plant Remains* below). Some larger fragments were recovered and these are thought to have come from round wood averaging 60mm diameter. There were also small quantities of carbonised cereal grain (mostly hulled barley with some oats), hazelnut shell and burnt bone. The primary fill of the side chamber contained a similar assemblage but in much smaller quantities. Spatial analysis of the concentrations of these materials through the main chamber and side chamber showed no marked concentrations of wood charcoal or hazelnut shell (Illus 11). There was, however, one concentration of carbonised cereal grain, c 15m from the doorway, which is discussed in more detail below (see *Secondary re-use of souterrain*). Radiocarbon dates were obtained using carbonised grain (hulled barley) from points at 4m, 9m, 20m and 25m along the main chamber. The dates are set out below in Table 1.

Table 1 *The radiocarbon dates from the primary fill of the main chamber.*

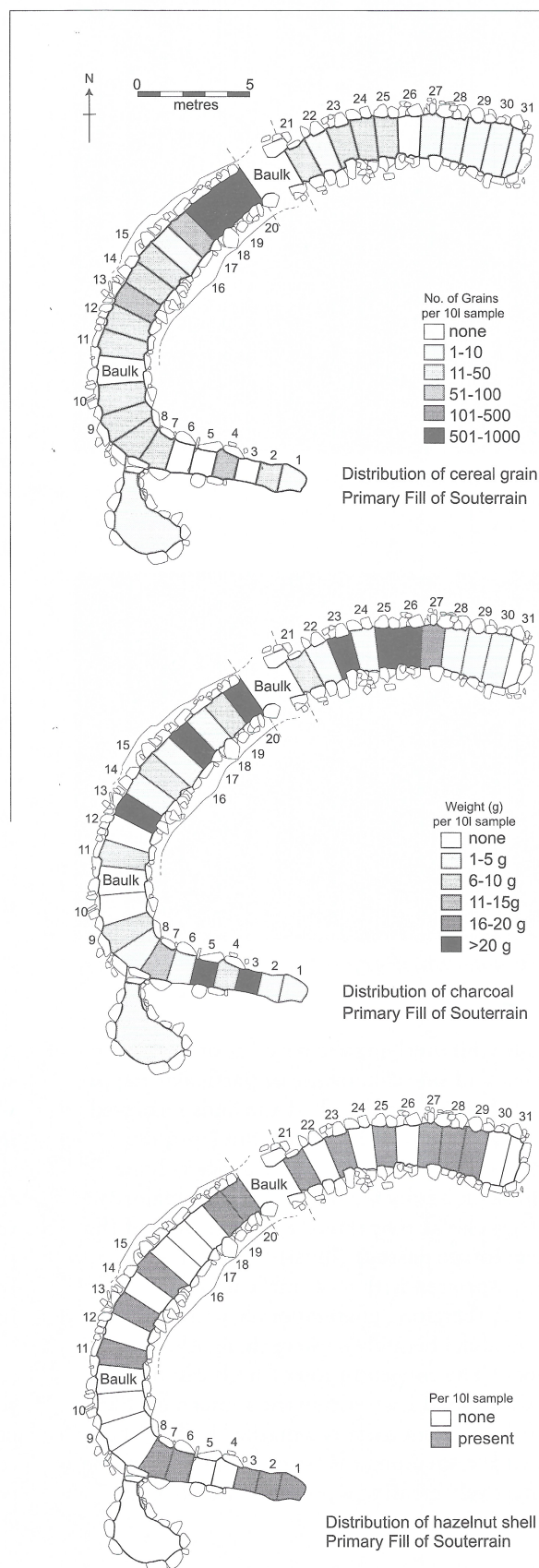
sample	lab code	years BP	δ ¹³ C rel. PDB	calibrated dates	
				1 sigma	2 sigma
context 5	GU-9713	1835 ± 65	-22.6%	AD 120–260	AD 20–350
context 5	GU-9714	2065 ± 50	-23.4%	170 BC–0 AD	210 BC–AD 60
context 5	GU-9715	1075 ± 45	-21.7%	AD 950–1020	AD 880–1040
context 5	GU-9716	1880 ± 55	-23.6%	AD 70–220	AD 0–260



Illus 9 (left) Sections through the fills of the souterrain. (See Illus 4 for locations).

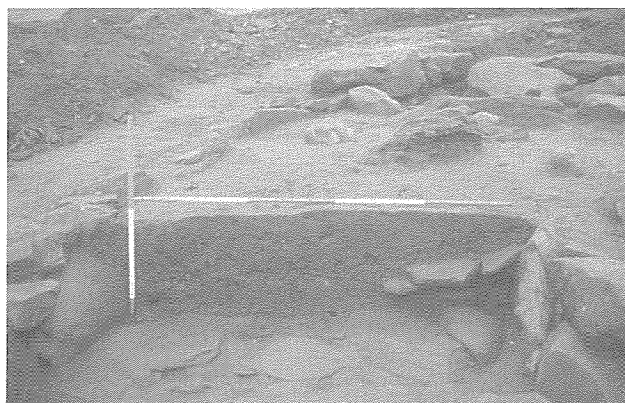
Illus 10 (above) Distribution of finds within the primary fill of the souterrain.

Illus 11 (right) Distribution of environmental remains within the primary fill of the souterrain.





Illus 12 *The entrance passage under excavation.*



Illus 13 *Accumulation of deposits in the main chamber.*

The primary fill overlying the paved floor of the main chamber and side chamber is of particular importance (Illus 9, A–E). Virtually all of the finds recovered during the excavation were from this thin layer, yet there was between 0.25m and 1.6m of deposits lying above this fill with hardly any finds. The vast majority of the artefacts can also be traced to within 10m of the start of the entrance passage (Illus 10). Was this material trample associated with foot traffic into the souterrain and, therefore, contemporary with its use, was it backfilled deliberately or were there other processes at work? The concentration of finds can be explained by the ground level within the souterrain (Illus 5); this is fairly even but there is a marked hollow, the base of which is c 4m along the main chamber from the doorway, effectively creating a pool into which finds

were being trapped. The primary fill of the side chamber was extremely thin, 50mm, yet produced a number of finds. How these finds entered the side chamber is not quite as clear as those in the main chamber as the threshold into the side chamber stood slightly proud of the paved floor and as such may have prevented finds being washed in from the main chamber into the side chamber. However, as deposits formed in the main chamber and lapped up against the threshold, it would have been progressively easier for finds to have been washed over it. Of course there need not be a single process at work, and while the arguments above suggest most of the finds were washed in, some (like those in the side chamber) may have been subsequently moved around or been lost during use.

The primary fill was relatively homogenous, suggesting that it had been well worked (by worms etc) and whilst later deposits lapped up against the side walls in places, the primary fill was level, implying water-borne deposition. Wood charcoal, cereal grain and hazelnut shell were present in the primary deposits of the main souterrain chamber (Illus 11). The excavation provided no direct evidence of *in-situ* burning or any internal features but the volume of debris introduced is probably greater than would be expected from mud and other material adhering to boots, animals or clothing. Such charred material would be consistent with domestic debris from a settlement or activity area close to the site. A similar mix of carbonised material has been recovered from Iron Age roundhouses, for example at Lairg (McCullagh and Tipping 1998), and comparable spreads of charcoal were recovered from the roundhouse settlements adjacent to souterrains at Dalladies (Watkins 1980a) and Cyderhall (Pollock 1992).

All the evidence, then, suggests that this material was not deliberately deposited, and did not accumulate through use but instead was washed in from the adjacent settlement after the souterrain had gone out of use.

Phase 3: secondary re-use of the souterrain

The entrance passage of the souterrain—which may have had a flight of steps leading down into it and which may or may not have been roofed—must have filled up relatively quickly. Lying above the primary fill in the entrance passage was a very stoney mid brown silty sand layer, c 0.1m thick, with occasional charcoal fragments (Illus 9: A). The uppermost fill in the entrance passage comprised a c 0.2m thick deposit comprising dark brown silty sand with moderate charcoal fragments and occasional fragments of burnt bone, hammerscale and vitreous mass/fuel ash slag.

There had clearly been secondary use of the souterrain. Approximately 15m from the doorway, a somewhat irregular and discontinuous surface of cobbles covering an area of some 1m², had been laid on top of the primary fill overlying the paved floor. This part of the main chamber may also have been disturbed

during this secondary use as a number of the primary paving stones were missing (Illus 6). In more recent times the roof had collapsed into this same area and some of the larger stones had punctured through to the floor of the souterrain, disturbing the fills and paving below (Illus 15). On top of the secondary paving was a thin (60mm) layer of grey brown silty sandy clay with small stones, charcoal flecks and gravel inclusions. Above this silty deposit was a thin spread of almost pure carbonised grain (hulled barley) covering a distance of some 3m within the main chamber, samples of which were submitted for radiocarbon dating. The dates obtained are set out in Table 2 below.

The dates for the spread of burnt grain (Table 2) are clearly much later than those obtained from the primary fill of the souterrain (Table 1). However, it can be seen from Table 1 that of the four dates obtained from the primary fill, one was much later than the others (GU-9715); three of the dates fell within the period second century BC – third century AD, the anomaly being a single ninth/tenth century AD date. The anomalous date from the primary fill came from Block 20 (ie 20m from the start of the entrance passage) and directly below the spread of carbonised grain. The grain had migrated downwards through the silty deposit and secondary paving and contaminated the primary charcoal-rich fill below.

Quite how this quantity of burnt grain got here is not clear. The usual explanations for the presence of large quantities of charred cereal grain on archaeological sites are a) cereal grain burnt through corn drying accidents or b) the burning of a stored crop. There are no surviving signs of *in situ* burning or structural elements that could be unequivocally linked to a kiln or storage structure. The paucity of direct evidence relating to these deposits at Shanzie does not, therefore, enable us to advance either possibility further.

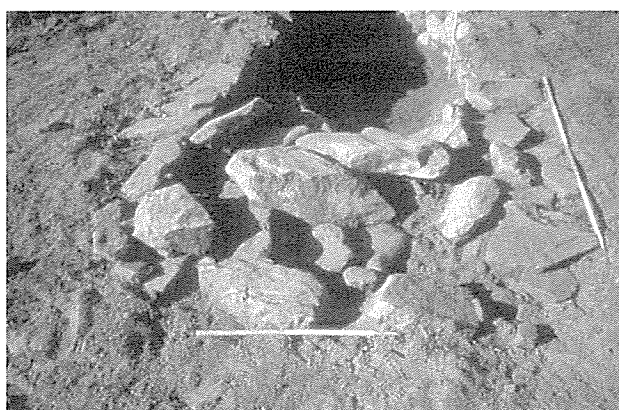
If the washing-in of the primary fill of the souterrain indicates that it was abandoned but not dismantled or infilled, then the re-use of the souterrain provides incontrovertible evidence that it was still open, and with its roof intact, some seven hundred years later in the ninth or tenth century AD. In the intervening period, no new sediments had accumulated as the small area of paving and the burnt grain lay directly over the primary fill on the souterrain floor. It is still not clear why the person or persons who had found and entered the souterrain had laid the paving and dumped the burnt grain. Nevertheless, the radiocarbon dates provide the crucial evidence that the souterrain was not deliberately backfilled when it was abandoned.

Phase 4: the accumulation of deposits within the souterrain

Parts of the souterrain roof collapsed on two separate occasions. The first collapse may have been in the medieval period. At the terminal, a concentration of large boulders filled the chamber and was clearly distinguishable from the small rubble and soil deposits filling this end of the souterrain (Illus 14). These large sandstone blocks, remnants of the collapsed roof structure, lay directly below the ploughsoil. A strap handle of a medieval Redware jug of thirteenth to fifteenth century date was discovered beneath the boulders. It seems most likely that this sherd had fallen into the chamber when the roof collapsed rather than being left behind by someone who had broken into the chamber. The abraded nature of the sherd suggests it may have been lying within the plough soil for some time before it got into the main chamber and would perhaps date this collapse to the late medieval or early post-medieval period.

A similar event was recorded around the mid-point of the souterrain, c 20m from the entrance. Projecting through the uppermost fill of the main chamber was a second, more extensive concentration of very large sandstone blocks, again remnants of the collapsed roof of the souterrain (Illus 15). Lying beneath these boulders was the base of a wine bottle. This type of hand finished olive green glass bottle is thought to date to between 1770 and 1820. Again how it entered the chamber is not clear but it most likely fell into the chamber when part of the roof collapsed.

Once the roof had collapsed, any open voids would have quickly filled up with plough soil. The exposed souterrain would also have provided a useful quarry.



Illus 14 *The collapsed roof at the terminal.*

Table 2 *Radiocarbon dates for the secondary use of the souterrain.*

sample	lab code	years BP	$\delta^{13}\text{C}$ rel. PDB	calibrated dates	
				1 sigma	2 sigma
context 19	GU-9717	1120 $\pm$ 35	-23.7%	AD 890–980	AD 810–1000
context 19	GU-9718	1105 $\pm$ 40	-23.1%	AD 935–985	AD 860–1020



Illus 15 *The collapsed roof in the main chamber.*



Illus 16 *The side chamber under excavation.*

Above the primary fill in the northern part of the chamber was a thick deposit of dark brown silty loam with occasional small stones and charcoal flecks which noticeably lapped up against the north-facing side wall to a depth of 0.45m. Fragments of a triangular crucible, and small quantities of iron slag and hammerscale were recovered from these deposits (see Finds below). Sealing this was a deep deposit of small rubble fragments, c 0.9m deep, derived from the robbing out of the souterrain where good building stones were taken and the smaller rubble left behind.

The deposit overlying the primary charcoal-rich fill in the southern half of the main chamber was a c 0.2m thick dark brown silty sand with numerous lenses of gravel (Illus 9, Section C; Illus 13). Occasionally, large boulders were found lying on top of the primary fill of the souterrain. Several large sandstone fragments marked the interface between the two layers. The uppermost fill in this part of the main chamber, measuring between 0.2m and 0.3m, was another dark brown silty sand deposit with moderate small stones, lenses of gravel and charcoal fragments. This latter deposit appears to have developed in and around the large roof slabs that lay within the souterrain after the roof had collapsed in the late 18th/early 19th century (Illus 15).

The nature and accumulation of deposits within the side chamber again suggests it survived with its roof intact until relatively late on before it was robbed out (Illus 9: Section B). All the deposits, apart from the primary fill, sloped from the east down to the west and from north down to south mirroring the natural gradient of the hillside into which the side chamber had been cut. Above the primary fill was a deposit of loose, small, sandstone rubble fragments and gravel in a dark brown clay silt matrix, 0.4m thick at the east end thinning to 0.1m thick at the west end. A sequence of laminated layers of dark brown silty clay, c 0.4m thick, with lenses of gravel overlay the rubble below. An iron nail tip and a small quantity of iron slag were recovered from this layer (see Finds below). Lying above this, in the eastern half of the chamber was a thick (0.6m) deposit of rubble in a matrix of clayey subsoil and plough soil (Illus 16).

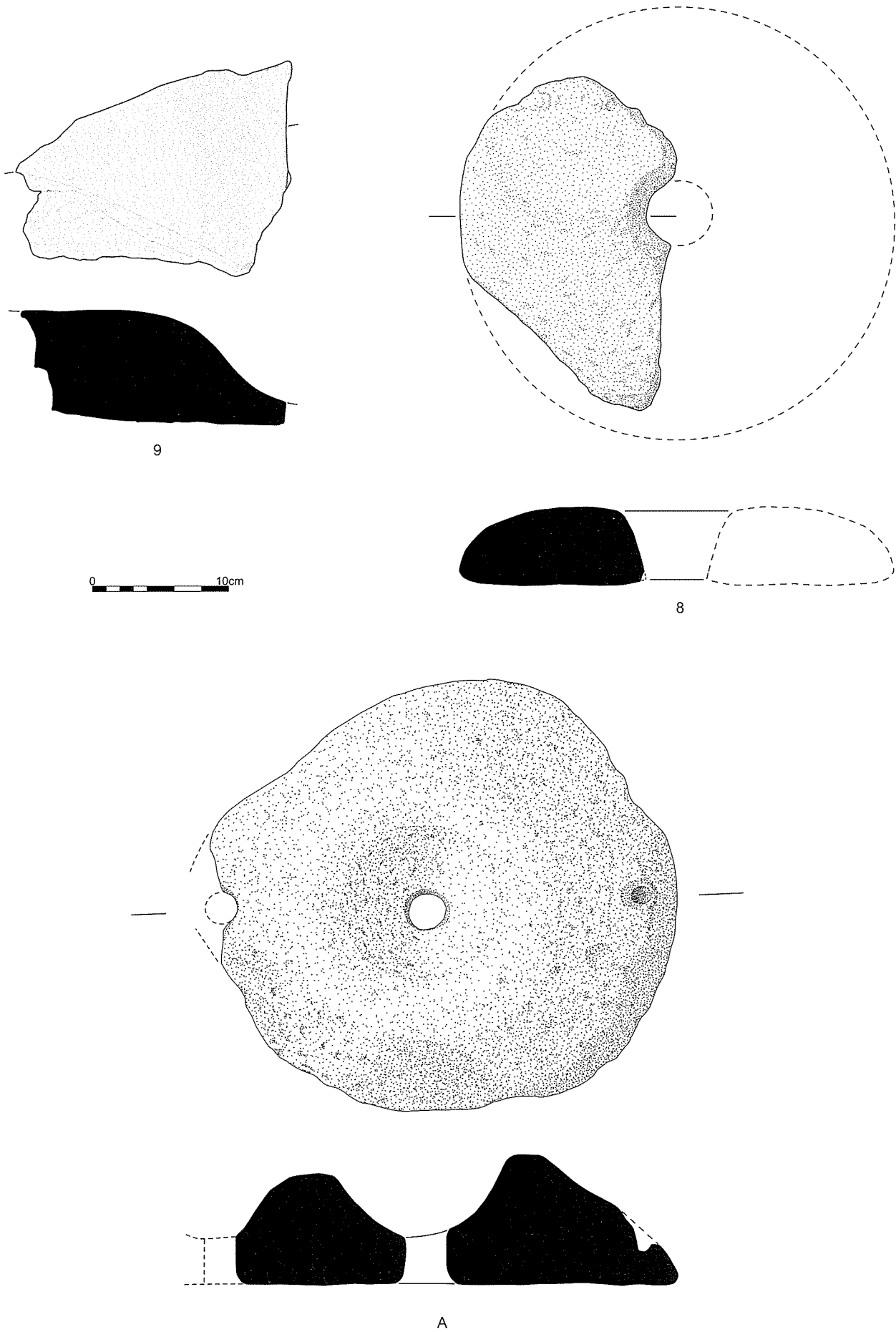
The finds (Illus 17–19)

Catalogue

Stone (Illus 17–18)

with geological identifications by Suzanne Miller

- A Upper stone of a bun quern** of granodiorite, found by the farmer around 1995 at the bottom of Wemyss Hillock field, c 200m SW of the souterrain and likely to derive from the settlement associated with the excavated site. Irregular shape, with an angular asymmetrical profile and sub-circular plan; some plough damage. Off-centre large cupped hopper c 125mm D over cylindrical feeder pipe 30mm D. The lower end of the feeder is slightly worn but no clear wear marks are visible on the underside. Two vertical handle placements: the first was a protrusion from the side, almost perforated through (cylindrical, 25mm D); when this broke a second hole was drilled diametrically opposite in the side of the quern (slightly tapering, 20mm D, 23mm deep). Both sockets show use polish. The outer margin of the second hole broke, and a hollow near this may be an abandoned attempt to create another socket. D 350 x 330mm, H 92mm.
- 8 Upper stone fragment of a disc quern** of mica schist. Tapering feeder hole of max D 70mm, min 50mm. Estimated diameter 300mm; surviving 260 x 180 x H 62mm. Unstratified—given its fragmentary condition it may have been reused as building stone.
- 9 Fragment of a Roman architectural moulding** of old red sandstone; only one original surface and no edges survive. The block had a flat surface tapering towards the edge in an S-curve. It is very well finished, notably the concave curve which must have been the most visible feature in its original form. L 206mm, W 157mm, H 78mm. Unstratified from spoil heap.
- 10 Amber finger ring**, broken in antiquity, with c 50% surviving. D-sectioned with flattened edges and gently curved outer surface. Hand-carved with some smoothing marks internally, well finished externally. D 22mm, W 5mm, H 9.5mm. Context 5 block 9, primary deposit in souterrain.



Illus 17 Worked stone (all at scale 1:4).

Copper alloy (Illus 18)

with XRF analysis by Katherine Eremin

2 Pair of tweezers. Folded bronze strip, the centre bent into a loop; the arms splay and widen, with the ends down-turned to meet one another. Near one tip are two perforations 2 x 2.5mm D, the centres 6mm apart; the upper one is teardrop-shaped, its upper edge rounded from wear. These are a very unusual feature of uncertain purpose. L 42.5mm, W min 3.3, max 6, T min 0.5, max 1.3. Alloy: leaded bronze (trace arsenic). Context 8, primary deposit in side chamber.

5 Lentoid mount, plano-convex in section with the ends turned under by 5mm to grip an ?organic medium; the thickness (2–2.5mm) suggests leather. Cast, with diagonal file scratches on the rear and fine longitudinal ones on the front. Intact apart from the tip of one terminal. L 43.5mm, W 6.5mm, plate T 2.5mm, overall T 7.5mm. Alloy: leaded bronze (trace arsenic). Context 11, primary deposit in entrance.

11 Ring, probably from a bridle bit. Deposited intact but now in three joining fragments with one small piece missing. Circular section, max 4.3mm D; worn thinner by use in two diametrically opposed areas (3.0 and 3.6mm D), which suggests it is the ring of a snaffle bit. External D 38mm, internal D 29.5mm. Alloy: leaded bronze (trace arsenic). Context 8 slot 2, primary deposit in side chamber.

12 Ring, distorted and fragmentary; the damage is ancient. Its dimensions are similar to find 11, although it is slightly thicker (circular section, D max 3.9 x 4.6mm, min 3.1 x 4.0). There is also evidence of wear, although obscured by corrosion, and it may be the second ring from the same bridle bit. Diameter (as preserved) 30–33mm. Alloy: leaded bronze (trace arsenic). Unstratified metal-detecting find from spoilheap.

13 Slightly oval spiral, of 1½ turns in two joining pieces as it survives; circular section (1.5mm D), overall 12 x 11mm. Alloy: leaded bronze. This may be the suspension ring for the tweezers. Unstratified metal-detecting find from spoilheap.

Iron

14 Square nail head (10.5mm square) with square shank (3 x 3mm); surviving length 8mm. Found unstratified by metal-detecting on spoilheap; need not be Iron Age, although the type is consistent with such a date.

15 Nail tip. L 33mm, section 4.5–5mm square. Context 7, side chamber.

16 Broken tool, probably a knife. Tapering tang with wood traces from handle. Blade broken and heavily obscured by corrosion; the visible section at the fracture is apparently rectangular, but X-rays suggest it is a knife, with a slightly stepped back, the tip broken and the cutting edge corroded or worn away from use. L 78mm; handle L 45mm, W 8mm, H 15mm; blade L 33mm, W 4mm, H 11mm. Context 5 block 18, primary deposit in souterrain.

17 Nail, lacking head, with cross-grain wood traces in corrosion on shank. L 63.5mm, section 5 x 5mm. Context 5 trial trench, primary deposit in souterrain.

The small quantity of nails is typical of Iron Age sites; it has been argued they were only a minor part of carpentry at the time (Hunter 1998c, 366–7). They probably derive from internal fittings or furniture.

Glass (Illus 18)

18 Annular yellow glass bead of Guido (1978, 73–6) class 8.

Like many such beads, the opaque yellow is a surface coating over a dark blue glass core (visible in the perforation). D 3.5mm, H 2mm, perforation D 1mm. Context 5 block 20, primary deposit in souterrain.

The Roman sherd (Illus 19)

Colin Wallace

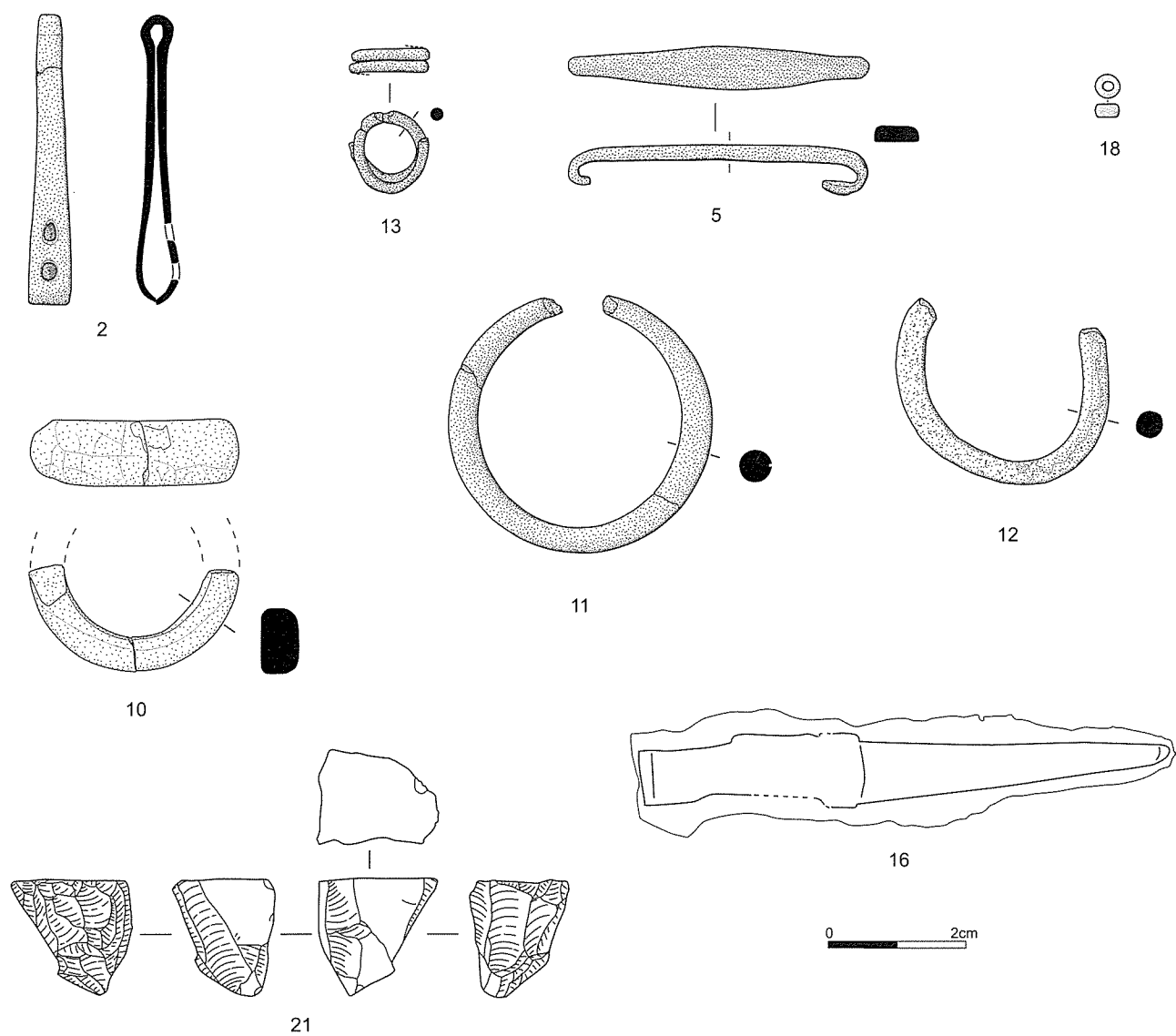
7 Burnt sherd of decorated Flavian South Gaulish samian (National Roman Fabric Reference Collection, LGF SA: Tomber and Dore 1998, 28 and pl. 17). Very small trapezoidal sherd (longest dimension 27mm), m 3.3 g, burnt after breakage. Fabric slightly micaceous, slip preserved on both surfaces; form Dragendorff 37 or 29. The motif preserved (a plant) can be matched in the basal part of zoned decoration of South Gaulish bowls of c AD 70–90 (Atkinson 1914, pl XI.57 & XV.77): compare Newstead (Curle 1911, 211 no 5 and 213 no 7), Inchtuthil (Hartley, in Pitts and St Joseph 1985, fig 98.D22) and Carlisle (Dickinson, in Caruana 1992, fig 5.1). It also appears on 'free-style' schemes (Knorr 1919, taf 26A). From the side chamber (context 8, the primary fill).

Prehistoric pottery (Illus 19)

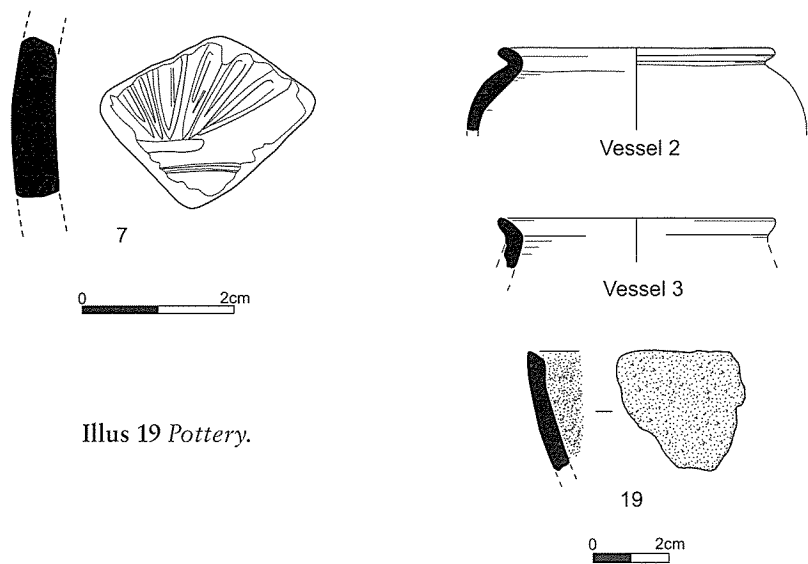
Catherine McGill

The assemblage from Shanzie consists of 17 sherds of relatively unabraded pottery weighing a total of 256 g. Fourteen of the sherds were recovered from the primary fill overlying the paved floor of the souterrain and are likely to represent material washed down into the souterrain post-abandonment. The remaining three fragments came from primary fill of the side chamber. The material was analysed following PCRG (1997).

The sherds come from a minimum of three hand-made vessels, constructed from very similar sandy fabrics which lacked large rock inclusions. The vessels were of broadly similar form, shouldered and with everted rims, although the single rim sherd representing Vessel 3 is cruder in appearance, having a roughly flattened rim and more upright walls. Only Vessel 2's diameter could be estimated, at approximately 200mm. One sherd from the side chamber might represent a fourth, poorly fired vessel, but is more likely to be an unformed lump of clay with a fortuitously flattened side. Fragments (57 g) of poorly-fired clay from the primary fill probably represent poorly-constructed hearth lining.



Illus 18 Small finds (all at scale 1:1).



Illus 19 Pottery.

Vitrified material

Andrew Heald

Fired clay objects (Illus 19)

Four ceramic objects and some wet-sieved fragments derive from pyrotechnic processes, but only one can be attributed to a specific activity, the crucible fragment from non-ferrous metalworking. The objects were analysed non-destructively by X-ray fluorescence (EDXRF) to ascertain if they were indicative of specific activities, and to give a broad characterisation of the metals used. Only two pieces were identifiable.

19 Corner, rim and body fragment of a triangular crucible. This form was used from the first millennium BC to the mid- to late- first millennium AD and is the most common type recovered from Scottish Iron Age sites (Tylecote 1986, 98–9; Lane 1987, 55–6). Although the crucible has clearly been heated to a high temperature and has a vitreous appearance, EDXRF analysis revealed no traces of any metal. This is unusual as the majority of crucibles have metal droplets within their fabric. The sherd had not been washed, so over-enthusiastic cleaning cannot be blamed, and the crucible may not have been used. Coarse sandy fabric with limited inclusions (less than 0.7mm) typically of quartz and mica. Reduced grey fabric distorted by heating, particularly on the lower inside. H 34 mm, W 34mm, B 9mm. Context 023 baulk 1, overlying primary fill.

20 Rim and body sherd, possibly from a crucible. The fabric differs from other pottery on the site, and the thinness suggests it may be a crucible. EDXRF analysis produced no evidence of use. Coarse reduced grey sandy fabric with very few inclusions. H 14mm, W 17mm, B 4mm. Context 005 block 11, primary fill.

Fuel ash slag and fused stone

9 fragments (45 g). Two pieces of vitrified slag were found. Such residues can be formed during any high temperature pyrotechnic process and are not necessarily indicative of industrial activity (McDonnell 1986).

Ferrous metalworking

Very small quantities of slag, hammerscale and slag spheres were recovered, indicative of ferrous metalworking. The slag (m 131 g) most probably derives from blacksmithing; the hammerscale and slag spheres confirm this took place on the site.

As with the rest of the finds, the majority of the vitrified slag and ferrous metalworking debris was recovered from the primary deposit in the main souterrain chamber and the side chamber, and represents material from around the souterrain washed down post-abandonment. Debris was also recovered from secondary contexts, with the crucible (19) coming from a deposit above the primary charcoal-rich layer.

Lithics (Illus 18)

Alan Saville

A small collection of 21 pieces of flint and quartz was recovered from excavation and sieving. The four pieces of flint comprise a microblade core (21), an edge-trimmed flake (22), and two unretouched flakes (3 and 23). The two unretouched flakes are heavily burnt and discoloured, the edge-trimmed flake partially so.

Of the 17 quartz pieces collected, only three are identifiable as definitely struck flakes, though none have any further modification or signs of use.

*Discussion of the finds**The small finds*

The stone types used for the artefacts would have been locally available with the exception of the amber. The sandstone and schist are local to the area; the ultimate source of the granodiorite lies beyond the Highland Boundary Fault, but it could easily have been carried into the area as an erratic. The disc quern is typical for the southern souterrains (Taylor 1982, 237 (from the broch); Wainwright 1953, 68; 1963, 132–4, 143–4; Watkins 1980a, 157–9; 1980b, 190–1). However the bun quern is the first recorded from such a site, albeit spatially rather than stratigraphically associated. The type is more common in southern Scotland (Henshall 1982, 237), although the raw material indicates this is a local product. However the significance of quern type variation, whether cultural, chronological or functional, remains unclear.

The Roman stone fragment is an unexpected find. This chunk of a well-made architectural moulding was presumably brought from the Flavian fort at Cardean, some 5 km away: since the fort was timber-built, it must have come from the bathhouse or perhaps a tomb or temple. Reused Roman stonework has been found in three of the souterrains south of the Forth (Welfare 1984, 314–5), but this is the first from the Tay group. Sadly it was found on a spoil heap, and while it is most likely that it came from the souterrain structure, implying a post-Agricolan construction date, it could potentially derive from repair or from some other structure on the site. As a constructional *terminus post quem* it must retain an air of doubt, but it does demonstrate post-Agricolan activity on the site.

Why was this stone reused? There was no shortage of local building material, and Hingley (1992, 29) has argued that such reuse of Roman sculpture was as much symbolic as pragmatic, a point demonstrated more broadly by Eaton (2000). This may seem implausible with the rather unimpressive Shanzie fragment; the more southerly examples are substantial pieces of some architectural pretension. However given the distance involved in its transport it should be seen as significant rather than expedient, imbued with a greater value than its appearance suggests as a token of Rome's presence or passing. This finds parallels in the Early Historic

reuse of Roman building stones, perhaps symbolising the assumption of Rome's mantle of power (eg Close-Brooks 1986, 139–40; Foster 1998, 14). Most striking is the example of Dundurn, Perthshire, where Roman stone was brought from Dalginross (7 km away) or Strageath (20 km) to be used in building work (Alcock et al 1989, 203). At Shanzie, if it did indeed come from the souterrain as seems likely, there was no overt display element to this reuse, as the stone would not be very visible underground: it would only be seen publicly when the souterrain was built, and its significance may lie in the rituals of construction.

The amber finger ring is unique in the Scottish Iron Age. Indeed had it been a stray find, it would have been seen as Norse, but it appears to be securely stratified; the rogue date from context 5 indicates disturbance rather further along the chamber. Although unique in amber, there are Iron Age parallels for similar plain finger rings in jet-like materials (eg Castlelaw, Midlothian (Childe 1933, 385); Dunagoil, Bute (Mann 1925, pl 35); Lairg, Sutherland (Sheridan et al 1998, 124–5); Lochspouts, Ayrshire (Munro 1882, 12–13, fig 1)). It is a valuable addition to the limited evidence for Iron Age amber, which is an important indicator of exotic contacts with its thin but far-flung distribution (listed in Hunter 1998b, 391; add Dun Vulcan, S Uist [Parker Pearson & Sharples 1999, 88]; Castlehaven, Kirkcudbright [Barbour 1907, 78]).

Analysis of the copper alloy artefacts showed that all are leaded bronze, a typical Iron Age alloy, with zinc, silver and antimony at trace levels and some with traces of arsenic. The low levels of zinc could occur naturally from the ore, and do not suggest the reuse of Roman brasses or gunmetals. Since it seems zinc from Roman alloys rapidly contaminated the metal pool once it became available (eg Dungworth 1998), this suggests that the metalworkers producing the Shanzie alloys had little access to Roman material. Sadly the crucible fragments did not preserve any metal traces to confirm this. However this fits the Flavian date of the Roman finds; occupation spans the first contact with

the Romans, with little Roman metal yet in circulation.

The two bronze rings come from bridle bits, perhaps the same one given their similar size and alloy. They cannot be classified more closely but are not from derivative three-link bits (where the ring and first bit link are cast in one). Copper alloy bridle bits are relatively rare (Mac-Gregor 1976, nos 11–14; add two similar rings from Birnie, Moray (unpub), one from Traprain, E Lothian (Burley 1956, no 366), and bit fragments from Hurly Hawkin, Angus and Middlesknowe, Roxburghshire (Henshall 1982, 228 and fig 7.22; DES 1999, 78)). Such ornate horse equipment was probably of some status, with everyday bits being in iron or organic materials.

Tweezers are another rare find in the Scottish Iron Age. In many ways they are a typical Roman object, part of toilet sets connected with personal hygiene. However there are rare Iron Age precursors (eg from East Yorkshire burials: Stead 1979, 84), while the classic Roman types appear in southern England in small numbers shortly before the Conquest (J D Hill 1997) as part of a suite of changes concerned with personal appearance. In a Scottish context there are a few Bronze Age toilet instruments (eg in the St Andrew's hoard: Cowie et al 1991, 50), but the habit seemingly did not continue and simple tweezers like Shanzie are best seen as Roman-period introductions. A further complication is that, unlike most Roman items, they were taken up and manufactured locally. This is demonstrated most strikingly by the massive pair from Kettleburn broch, Caithness, whose impractical scale and showiness emphasise the role of personal appearance in displaying status. Their popularity continued into the post-Roman period (eg at Whithorn: P Hill 1997, 377–8), and it can be difficult to distinguish Roman Iron Age from post-Roman products. Of the two pairs from the Howe, Orkney, for instance, the more unusual iron set come from Roman Iron Age deposits, while the copper alloy pair are in later (4th–7th century AD) layers, and it is unclear whether they are redeposited, had a long life, or are post-Roman products. Given this ambiguity, while it

Table 3 *Toilet instruments in Iron Age Scotland (copper alloy, unless stated).*

Finds from post-Roman sites excluded. Note also undated examples from Culbin Sands, Moray (NMS BI 25154); Castletown, Caithness (from a kitchen midden; NMS HR 907; PSAS 74 (1939–40), 148); and Cul na Muice, Vallay, N Uist (surface find from sand dunes; other metalwork from here is likely to be post-Roman).

site	county	find	reference
Keil Cave	Argyll	scoop	Ritchie 1967, 109, fig 2.14
Loudoun Hill	Ayrshire	tweezers	Atkinson 2000, 53–4
Kettleburn	Caithness	massive tweezers	MacGregor 1976, no 276
St Germain's	East Lothian	tweezers (repaired)	Hunter 1998a, 234–6
Traprain Law	East Lothian	6 tweezers, 7 nail cleaners, 3 'scratchers', 1 ear scoop	Burley 1956, 181–3
Buittle	Kirkcudbright	2 scoop/probes (ligulae)	Wilson 2001, 97, fig 3
Covesea	Moray	4 tweezers, 3 nail cleaners	Benton 1931, 196
Howe	Orkney	2 tweezers (1 iron)	Ballin Smith 1994, 217–8, 225
Shanzie	Perth	tweezers	This paper
Hownam Rings	Roxburgh	nail cleaner	Piggott 1948, 219

seems safe to refer to them as Roman-inspired, to term them Roman imports is less sure. The Shanzie pair are leaded bronze, which is consistent with either an Iron Age or Roman origin.

The Roman sherd (Illus 19)
Colin Wallace

The Shanzie samian needs to be seen in the context of other finds of Roman pottery from Iron Age sites north of the Antonine Wall and south of the Dee (summarised in the archive report and Appendix 1 of Wallace in prep). Samian certainly bulks large on these sites, and reused sherds (eg from Hurly Hawkin) remind us that it could have an extended life. However there is a range of other wares (eg finewares from Fairy Knowe and Keir Hill, and coarsewares from Dalladies, Hurly Hawkin, Camelon and Fairy Knowe). The simplest position is to accept that, just as in other parts of Roman Britain, Roman goods were obtained and used by the inhabitants of all sites when they could (a point originally made by Trevor Watkins (1980a, 157)). These people acquired and used Roman pottery when it was available and did not when it was not. Evaluating Shanzie against the pattern of samian supply to rural sites across Britain shows that it is part of the widespread distribution of early samian and no different from the overall picture (following Willis 1998).

Shanzie falls within the grouping of souterrains in 'southern Pictland' most recently discussed by Armit (1999, cf. figs 1 and 2), who claims the Roman finds from these sites are broadly second-century AD in date (op cit, 587). Reconsideration of the pottery shows that this is predominantly second-mid third century in date (sherds of amphorae, Central Gaulish samian and imported colour-coat). However Shanzie's Flavian sherd finds other local parallels (eg Auchlishie, Hurly Hawkin, Dalladies). It is worth pointing out that the apparent patterning in the dating evidence (cf. Armit 1999, 587–88) may reflect nothing more than differing availability of pottery through time, which is thought to distort ceramic dating (cf. Going 1992). There are also clear biases in the data: a review by the writer shows that the dateable finds from older work are largely mid-Roman while those from more recent work favour an earlier date-range, perhaps suggesting that only large and distinctive pieces were kept by the nineteenth-century excavators.

Prehistoric pottery (Illus 19)
Catherine McGill

This small assemblage is closely comparable to ceramics from souterrain and broch sites in non-Atlantic Scotland, such as Hurly Hawkin (Taylor 1982), Red Castle (McGill forthcoming a), Hawkhill (McGill forthcoming b) and Ardestie (Wainwright 1963), and also to sherds from Traprain Law (McGill forthcoming c) and Cardean (McGill forthcoming d). The ceramics

from this group of sites have been provisionally characterised as part of the author's on-going research by four recurring features. These are: (1) shoulders and everted rims, often pronounced enough to create an s-shaped profile, on (2) carefully handmade vessels of (3) fairly small diameter (<250mm), normally constructed from (4) sandy fabrics with few or no well-sorted rock inclusions. The vessel walls are commonly, although not consistently, less than 10mm thick.

These assemblages are currently dated by artefact association to the Roman period/first few centuries AD (eg Taylor 1982, Wainwright 1963). Despite the presence of some intrusive material in context 5 at Shanzie, the majority of the radiocarbon dates associated with the pottery assemblage support this broad date.

Ferrous and non-ferrous metalworking (Illus 19)
Andrew Heald

Non-ferrous metalworking

In his discussion of the inhabitants of the 'southern Pictish' souterrains Wainwright (1963, 119) stated that 'the working of [bronze] metal ranked high among their activities and that it is likely that the souterrain workshop was used for these crafts'. This was a rather sweeping generalisation, based only on the stone mould from Carlungie, Angus (Wainwright 1963, 142, pl xxxix). Four decades later, this and Shanzie are the only southern souterrain sites with evidence for non-ferrous metalworking. Other local sites have produced limited evidence of Iron Age non-ferrous metal-working (ingot mould, Finavon, Angus (Childe 1935, 78); crucibles, W Mains of Ethie (Wilson 1980) and Hurly Hawkin, Angus (Taylor 1982)). The writer's ongoing research suggests that such debris indicates a site of some status.

Ferrous metalworking

Ironworking evidence is more prolific on souterrain sites. For example, excavations at Newmill, Perthshire and Dalladies, Kincardineshire produced evidence for ironworking associated with burnt pits, perhaps suggesting that primary ironworking took place with these pits acting as bowl-furnaces (eg Watkins 1980a, 161; 1980b, 189). Excavations at Auchlishie, Angus also revealed ferrous metalworking evidence (Dick 1994).

The small quantity and redeposited nature of the Shanzie material hinders reconstruction of on-site metalworking practices. However the occurrence of detritus in such contexts is still informative as it aids the general recognition and mapping of non-ferrous and ferrous evidence in Iron Age Scotland, at least on a broad level.

Lithic artefacts (Illus 18)
Alan Saville

Only one piece, the Mesolithic microblade core, is technologically diagnostic as to period. The three other flints could be Mesolithic, but they could equally well

be Neolithic or Early Bronze Age, since they lack distinguishing features. Similarly the quartz flakes are undatable. The Mesolithic core could be residual from activity in the vicinity, or perhaps represents a curio collected from elsewhere by a later inhabitant of the Shanzie site.

The plant remains

Mhairi Hastie

The primary floor deposit and the secondary fills of the souterrain were systematically sampled. The main chamber was sub-divided into 1-metre blocks and a 10-litre soil sample retained from each. In addition samples were taken from the side chamber and from secondary deposits for palaeoenvironmental analysis. In total 44 samples were wet-sieved; the botanical remains form the basis of this report.

Each sample was initially scanned to assess the level of carbonised material; the majority of samples were found to contain wood charcoal, cereal grain and hazelnut shell. The cereal grains from a selection of the samples were identified to species level to determine whether there was any significant variation in plant composition along the souterrain and between phases (Table 4). These included the following:

- context 5* one in five of the bulk samples from the primary fill;
- context 8* primary fill of the side chamber; and
- context 19* secondary fill of main chamber.

The total number of cereal grains per 10 litre sample and the weight of charcoal from each 10 litre sample were plotted on a site plan (Illus 10). The presence and absence of hazelnut shell in each sample was also plotted to enable the identification of any significant spatial trends along the length of the structure. The majority of plant remains were recovered from the primary fill in the main souterrain and a secondary deposit overlying a paved area at the mid-point of the main chamber (Illus 1).

Cereal grain

Barley

The samples were dominated by barley (*Hordeum* sp.) with the majority being the hulled variety (*Hordeum vulgare*). A small number of grains were tentatively identified as naked barley but may just represent bloated hulled grain. Occasional twisted and straight grains were identified in a ratio of 1:1.6 straight to twisted. This suggests that six-row barley made up the majority of grain (a ratio of 1:2 straight to twisted grain would be expected for modern six-row populations). Fragments of rachis or other dense elements of chaff were scarce and were generally not in sufficiently good condition to improve upon the identification made on the basis of the grain morphology.

Oat

Grains of oat were recovered from Contexts 5 and 19. These were present in lesser quantities than the barley and could only be identified as *Avena* sp.

Wheat

Occasional grains and glume bases of wheat were recovered. The remains were generally badly preserved and in most cases could only be identified as *Triticum* sp. One glume base (from Block 25) of spelt wheat (*Triticum spelta*) was also identified.

Wild taxa

A low concentration and diversity of carbonised weed seeds were present in most samples. The majority are commonly associated with either waste or cultivated land and probably represent residual traces of field weeds amongst an otherwise clean grain.

Wood charcoal

Wood charcoal comprising oak (*Quercus* sp.) and smaller shrub material, such as birch and alder (*Betula* sp. and *Alnus* sp.) was present in many samples, the majority spread unevenly across the primary fill of the main chamber. Most fragments were small and less than 2mm in diameter but the few larger fragments suggested that it had come from round wood averaging 60mm diameter. Samples from the side chamber and from secondary deposits contained little charcoal.

Hazelnut shell

Low numbers of charred hazelnut shell fragments were recovered from the primary deposit of the main chamber with no distinct spatial pattern apparent. Few 10 litre samples contained more than 10 identifiable fragments.

Discussion

The souterrain itself was much damaged and there was no evidence (other than finds) of the associated settlement. Nevertheless, the primary charcoal-rich layer overlying the paved floor and the secondary use of the structure have yielded important dating, artefactual and environmental information which has added to our knowledge and understanding of souterrains of the southern Pictland type and of the settlements and communities to which they belong.

There are three topics which merit further discussion. Firstly, does this site fit a recently proposed model (Armit 1999) of southern Pictland souterrains being deliberately infilled and ritually 'decommissioned' in the second/third century AD, possibly as a result of changes in Roman frontier policy? Secondly, can the souterrain

Table 4 Composition of carbonised plant remains, Shanzie souterrain.

Original sample size 10 litres

key + rare ++ common +++ abundant n/a not applicable

	side chamber	representative selection from primary fill of main chamber										primary fill contaminated by secondary deposit	secondary deposit in main chamber
		5	5	5	5	5	5	5	5	5	5	5	19
		1	5	10	15	25	30				18	19	n/a
context no. block no.													
wild taxa													
Corylus avellana L.	++	+			+	++					++	++	6
Polygonum spp.	1			3	1								
Polygonum persicaria/lapathifolium L.	1					4							
Rumex sp.	1			3		2							
Chenopodiaceae indet.				2								5	
Chenopodium album	1					5							97
Atriplex sp.					1								
Raphanus raphanistrum L.													23
Raphanus raphanistrum L.				1									
Plantago lanceolata L.							1						
Galium aparine L.													
Stachys sp.												5	
cf. Stachys sp.												5	
Gramineae indet. (large)											18		6
Carex spp. (triconvex)							1						
Carex sp. (bi)	1												
indeterminate													
cereals													
cf. Triticum indet.													
Triticum spelta L.													
Triticum indet.													
Hordeum indet.	1	6	20	13	10	29	6				432	1206	629
cf. Hordeum indet.													
Hordeum vulgare L. (hulled)	2	3			8						300	414	282
Hordeum vulgare L. (hulled, twisted)	3			1							16	18	21
Hordeum vulgare L. (hulled, straight)	1												29
Avena indet.			12	1	1	2							11
cereal indet.				4	2	9	1				162	64	91

tell us anything about the ‘missing’ settlement and thirdly, what happened to this souterrain in the 2000 years since it was built?

Was this souterrain deliberately dismantled?

In a recent paper, Armit (1999) proposed that most souterrains in southern Pictland were deliberately destroyed or at least infilled and that none seems to have outlasted the early third century AD. This process of destruction was often associated with a degree of ritual activity. Armit postulates that the evidence would allow for a single episode of abandonment—a souterrain abandonment horizon—in the late second or early third century AD which might be related to a major reorganisation of social and political structures perhaps associated with changes in Roman frontier policy.

However the Shanzie souterrain was not deliberately dismantled or filled in, and the fragmentary and dispersed finds do not suggest any element of ritual in its ‘decommissioning’. The evidence suggests the souterrain lay open for 700 or 800 years before it was re-used, and natural processes were at play in filling it up.

Can we say when the souterrain went out of use? The radiocarbon dates from the primary fill were recovered from single entity samples—in this case, charred barley grain. Given that this grain had been washed in from the settlement, perhaps centuries old, there is nothing to be gained from averaging out these dates—the grain is likely to be from events separated both temporally and spatially. The dates suggest that the settlement could have been in existence from as early as the third century BC to as late as the fourth century AD.

Iron Age finds cannot refine this dating, but the Roman finds are of more assistance. The samian suggests contacts with Rome in the late first century AD, and the Roman stone is most likely to have been taken from the Flavian fort at Cardean after it was abandoned in c AD 86: there is no Antonine material. While the quantities of finds are small, this is at odds with the model proposed for the abandonment of most souterrains for which an Antonine date (second century AD) would be expected. In fact this ‘horizon’ is not well-defined: the glass from Tealing is also of first century date, while the Carlungie 1 amphora finds its best Scottish parallels in Severan (third century AD) contexts. This diversity suggests the sites as a whole cannot be so readily linked to specific aspects of Roman frontier history. In passing it is worth noting that Shanzie may have been the findspot of Roman *denarii* as well; the details of the antiquarian find noted by Small and Bateson (1995) make it as good a candidate as Drumderrach.

What happened to the settlement?

Though many souterrains may have been deliberately decommissioned, there must have been some, like Shanzie and Hurlly Hawkin, that went out of use for reasons which we can only guess at (war, plague, poor

harvests etc) and at different times. The doors of the souterrain must have been removed for the primary charcoal-rich fill to have washed in yet the almost complete absence of finds and evidence for secondary activity (before the early medieval period) after this material had been washed in suggests, by implication, that both souterrain and settlement had been abandoned at the same time, probably before the Antonine period on available evidence. Of the settlement at Shanzie we know very little. The finds assemblage, however, sheds some light on the people who built this souterrain and farmed the fields.

What is striking about Shanzie is the quantity of interesting finds and the relative absence of the prosaic. In functional terms the assemblage can be categorised as follows:

Table 5 Shanzie finds categorised by function and status.

Finds in *oblique* are not certainly Iron Age in date.

function	prosaic	unusual / status
food processing and consumption	pots querns	Roman decorated bowl
fixtures and fittings	nails bronze mount	reused Roman stone
tools	knife	
craft	blacksmithing	non-ferrous casting
transport		bridle bit
ornaments/personal	glass bead	tweezers (prob. Roman) <i>amber ring</i>

Given a relatively small assemblage we cannot expect a well-rounded picture of the lives of Shanzie’s inhabitants, but it is surprisingly illuminating. There was certainly rather more going on than subsistence farming: we see exotic contacts in the Roman finds and the amber, and evidence of some status in the bronze horse bit and the non-ferrous metalworking. The reused Roman stone is particularly significant: we argue it was brought some 5km from Cardean fort to be built into the souterrain, perhaps as a symbolic act claiming kinship with Rome or marking the builders out as inheritors of Rome’s legacy.

How does this assemblage compare to other souterrain sites? In discussing the material culture from the ‘souterrains of southern Pictland’, Wainwright (1963, 21) was rather dismissive of their poverty. While he clearly had a sympathy for the souterrain-dwellers as builders and farmers, he saw them as self-sufficient and the finds as rather disappointing—‘communities poor in material resources’. Yet this is largely a product of unrealistic expectations—a dearth of material culture is typical for lowland Scottish Iron Age sites, and is more to do with site formation processes, cultural attitudes to rubbish disposal and archaeological recovery strategies than any real poverty. Indeed several of the southern souterrains are relatively finds-rich, and even in

Wainwright's time the evidence could have been taken further. There is evidence for Roman contacts, other exotic connections (such as the Shanzie amber and the Carlungie lamp of west coast steatite), metalworking, and the possession of high-quality jewellery and horse gear (the spiral bracelet from West Grange of Conon, the Shanzie bit and an unrecognised terret from Carlungie; MacGregor 1976, 217; Wainwright 1963, 140–1, fig 40.116). While the finds are not abundant, they speak of a material wealth beyond that of subsistence, a degree of social complexity, and contacts beyond the immediate horizon.

Thus the general structure of the Shanzie assemblage finds ready parallel. Clearly the inhabitants were involved in similar exchange networks and social patterns to other souterrain users. Taking the overall regional picture, there are signs of differences between sites in material culture (and thus arguably in relative status); some, such as Newmill and Dalladies (Watkins 1980a, b) show evidence of little beyond subsistence activities. However these differences between souterrain sites are less marked than the contrast between the group as a whole and the rich assemblage from Hurly Hawkin, where there is a brooch as well as a souterrain (Taylor 1982). An analysis of access to Roman finds in the area (Hunter 2001, 297) found that most sites (such as Shanzie) received some Roman goods while a much smaller number (eg Hurly Hawkin) had access to a much wider range. This suggests that, while the inhabitants of souterrain sites were far from peasant farmers, the local power centres lay elsewhere.

The small amounts of plant remains also tell us something about the landscape and the diet of the people who lived here. The main crop was barley with the majority being the hulled variety. There was some oat being grown but even less wheat. The weed seeds found are commonly associated with either waste or cultivated land and probably represent residual traces of field weeds amongst an otherwise clean grain. Wood charcoal was the largest component of the plant remains: oak was predominant but smaller shrub material such as birch and alder were also present. Small amounts of charred hazelnut shell fragments were also recovered.

Lost and found

Although the souterrain at Shanzie was unknown at the time of its chance discovery during ploughing in 2000, there is clear archaeological and documentary evidence for a long history of loss and rediscovery. The first reference to Shanzie as a place, spelled *schangze*, is in the *Rentale Dunkeldense* dated 1506 x 1516 (Meikle 1925, 152–3) and the place (*Shangy*) is subsequently recorded on Gordon's map of 1636–52. The first detailed map of the area, however, is a plan of the estate by William Panton for the Earl of Airlie made between 1772–3. It could not be found during background research for this project in any of the national collections or local archives and it would seem that it remains in the ar-

chives of Airlie Castle. There is no archivist for the estate and no public access to the castle archives. Fortunately, however, the map was seen by James Meikle (1925) when he was writing his *Places and Place-Names Round Alyth* and from that and other maps we can construct a crude history of the Shanzie souterrain.

In 1772–3, when Panton surveyed this part of the Airlie estate, the area in which the souterrain lies was made up of three separate fields namely 'Wemyss Butts', 'Wemyss Ridges' and 'Six Rigs' (Meikle 1925, 152–3). Panton annotated the map, adding that the knoll on which the souterrain lies was 'said to be hollow' (Meikle 1925, 168). *Weem* derives from the Gaelic *uaimh* meaning a cave, and was a typical Scottish term for a souterrain. The souterrain was clearly known about but by the late 18th century nothing was visible on the ground. The next detailed map of the area was again by Panton, dated 1801, and shows the farm of Shanzie (RHP 5010/4) with the field around the site marked as 'Weems'. No souterrain is marked on the plan but the stone field boundary is present. The First Edition Ordnance Survey map published in 1867 (surveyed in 1863) shows the field boundary between the two fields but no other visible feature in this field. By the time Meikle was writing his *Places and Place-Names Round Alyth* the field had changed name and was now called 'Eastby Field (564)'. However, Meikle goes on to describe the knoll on which the souterrain lies as once being called 'Weems Hillock' and being '230 yards north-east of Shanzie' (Meikle 1925, 168). The stone field boundary continued in use until the latter part of the twentieth century when it was removed to create one larger field, but the remains of it can be seen further up the hill to the north.

In summary, this souterrain was built with considerable effort by a small farming community probably in the second century BC–first century AD and was a focal point for a flourishing settlement with clear contacts with the outside world. It was abandoned along with the settlement in the first or early second century AD but lay intact with its roof still in place. Rediscovered in the ninth or tenth century AD, it had been used, albeit temporarily, perhaps to dry grain which (fortunately for us) was accidentally burnt in the process. It is tempting to see the beginning of the tradition of the weem as dating to as early a period as this. Abandoned for the second time, the souterrain survived intact for another five or six hundred years until the roof partially collapsed at the terminal in the late medieval/early post-medieval period but the tradition of the cave somewhere in the field carried on. More of the roof collapsed in the late 18th/early 19th century. This was a time when fields were being enclosed—the dating of the glass bottle neatly fits in with this—and the souterrain would have provided a useful quarry to build dry stone dykes. With the better stone robbed out the souterrain would have filled up very rapidly and by the early 1900s even the traditional field name had gone out of use. It lay hidden until 2000 when it was unearthed, one would think, for the last time. The souterrain can still be seen today.

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Map evidence

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Abstract

This paper reports on the excavation of a souterrain, discovered during ploughing, at Shanzie Farm, near Alyth, Perthshire. An initial evaluation established that the souterrain was in a poor condition and no trace had survived of any associated settlement. A series of radiocarbon dates was obtained from material washed into the main chamber after it had been abandoned indicating activity in the last centuries BC and the first centuries AD. A small but important assemblage of finds suggests that its use ceased before the mid second century AD. The findings do not readily fit a recently proposed model of the abandonment and deliberate backfilling of souterrains in the late second or early third century AD. Interestingly, the souterrain was also shown to have been temporarily re-used in the ninth or tenth century AD and was rediscovered on two more occasions before it was found in 2000. After the excavation, the unstable parts of the structure were made safe and partially backfilled in such a way that the site remains visible.

Keywords

amber
cereal grain
Dark Age reuse
reused Roman stone
Samian ware
souterrain
tweezers

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