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# A prehistoric cremation burial at Duns Law Farm, near Duns, Scottish Borders

Sue Anderson<sup>1</sup>

with contributions by Ann Clarke<sup>2</sup>, Mike Cressey<sup>1</sup>, Mhairi Hastie<sup>1</sup> and Melanie Johnson<sup>1</sup>

## ABSTRACT

*A large prehistoric pit was uncovered during a watching brief on a water main installation. The pit was partially stone-lined and two small scoops were identified at the base. These contained one complete and one partial Beaker vessel. The fills of the pit produced a small quantity of cremated human bone which represented a minimum of four individuals (three adults and a juvenile). Also mixed into the fills were sherds of other Beaker vessels, a few lithics, a stone axehead, and fragments of Neolithic pottery. Radiocarbon determinations produced early Neolithic dates for four samples of human bone and a grain of wheat, and one human bone sample produced a Bronze Age date later than the generally accepted currency of Beaker pottery production in Scotland. Interpretation of this strange collection of material is discussed with reference to Neolithic and Bronze Age burial practices; the evidence for the use of this pit in the Neolithic for cremation burial is a rare find and provides a valuable contribution to our understanding of this period and type of monument.*

## INTRODUCTION

An archaeological watching brief during the topsoil strip for a new water main was carried out by CFA Archaeology Ltd (CFA) in June 2012. The location of the new water main lay in agricultural fields adjacent to, but outside, the Scheduled Monument of Duns Law Fort and Camp (Scheduled Monument No. 3939; Canmore ID 58640) to the north of the town of Duns (Illus 1). A stray find of a flint thumbnail scraper (Scottish Borders SMR Site No. 1090029) had previously been recovered from the field through which the new main was to be laid. The project was funded by Scottish Water.

## THE SITE

### SITE DESCRIPTION

The area stripped of topsoil measured 6–7m in width by approximately 400m long:

approximately 0.3m of topsoil overlay orange stony clay-silt and pinkish clay-silt natural substrate.

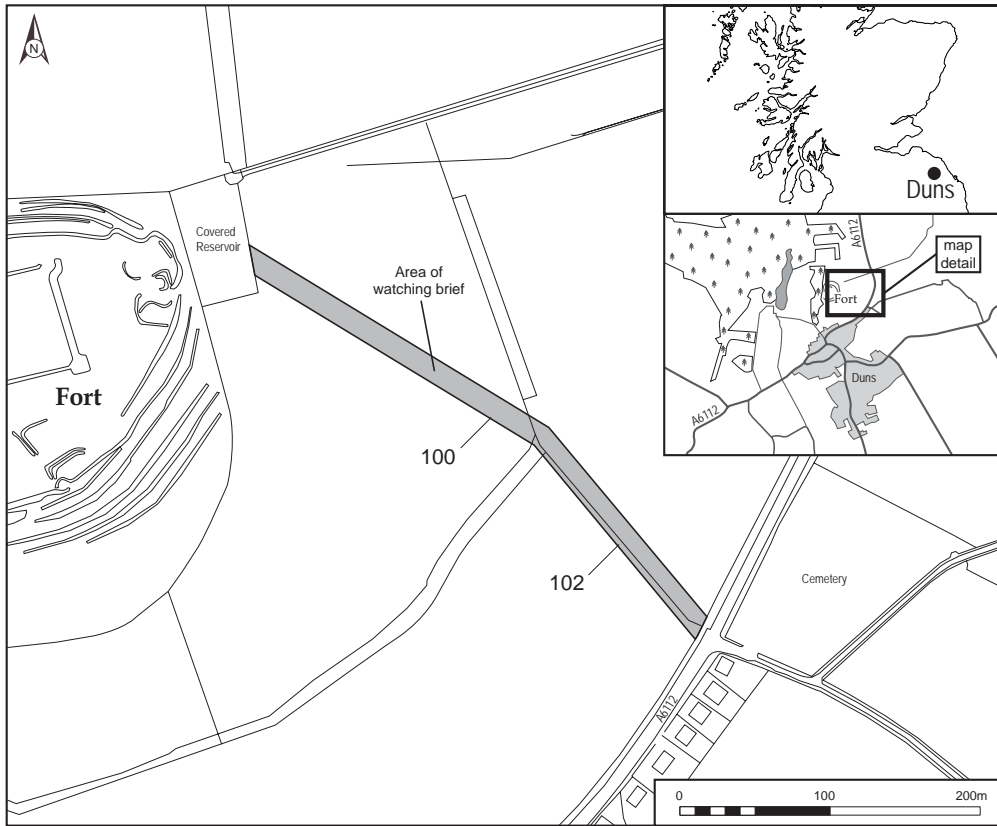
Two archaeological features were identified and fully excavated (Illus 1). One of these was a small pit (0.9m diameter, 0.5m deep) which contained a single sandy silt fill but no artefacts or other datable material (tiny quantities of carbonised plant remains and unidentified calcined bone were recovered from bulk sample sieving); this pit will not be considered further. The other was a large pit which contained cremated human bone, pottery and other artefacts.

### THE PIT CONTAINING CREMATED HUMAN REMAINS AND ARTEFACTS

The large pit (102) was sub-circular in plan, measuring 3.2m east/west × 2.6m north/south, and 0.75m deep. It had near vertical sides and a flat base (Illus 2). Cut into the base of the pit

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ILLUS 1 Location map (© CFA Archaeology Ltd)

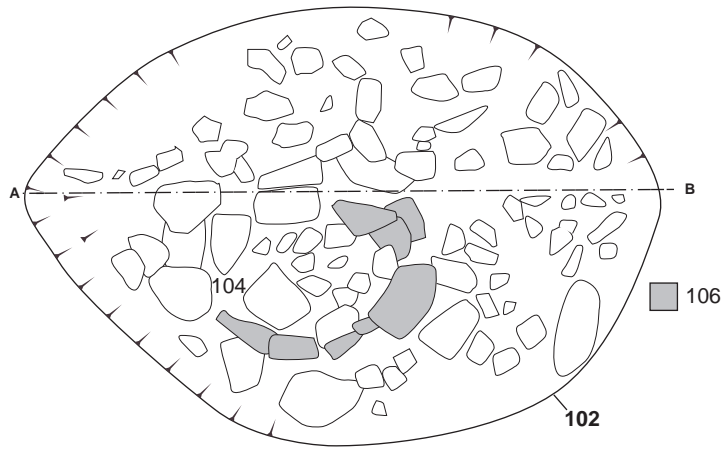
were two small shallow pits or scoops (108, 110) which were filled with orange-brown sandy silt (109, 111). Each scoop contained sherds of Beaker pottery.

Immediately overlying the fills of these scoops was a thin lens of dark greyish-brown silt (107) (not shown on the section). Overlying this and covering the base and sides of the pit was a deposit of mid-reddish-brown sandy silt (105) containing a few large angular stones, fragments of cremated bone and sherds of Beaker pottery.

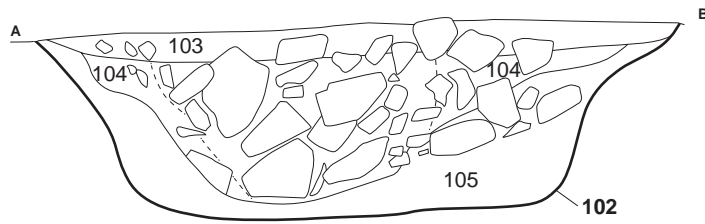
Overlying 105 was a deposit of angular/sub-angular stones in a matrix of mid-brown sandy silt (104), containing Beaker pottery sherds and burnt bone. Within this deposit a stone setting had been constructed (106) to create a partially

stone-lined cist-like feature, which measured 1.4m east/west × 1.1m north/south × 0.6m deep. This appeared to be filled with similar material to 104 but with less stone. A re-flaked stone axehead (SF23) was recovered from the fill of this cist-like feature along with a small quantity of Beaker pottery. The north side of the stone setting was well built (Illus 3) whilst the base and the south side comprised a mass of dumped stones making up Fill 104. The cist feature was located directly above the shallow pit (108) excavated into the base of the main pit (102).

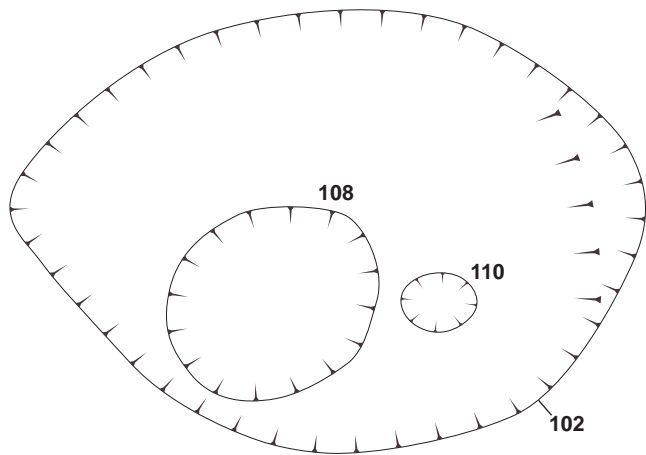
Sealing 104 was a thin deposit of mid-brown sandy silt (103). This contained sherds of Beaker pottery, cremated human bone and modern glass, suggesting that this context may have been affected by later ploughing.



Plan of Pit 102 showing 106



Section of Pit 102



Post-ex plan of Pit 102



ILLUS 2 Plan and profile of pit (© CFA Archaeology Ltd)



ILLUS 3 The stone lining (© CFA Archaeology Ltd)

## FINDS AND ENVIRONMENTAL EVIDENCE

## POTTERY

Melanie Johnson

*Method*

The assemblage was recorded in accordance with the Guidelines for Analysis and Publication set out by the Prehistoric Ceramics Research Group (2010). Sherds were grouped into families by

form, fabric and decoration and the minimum number of individual vessels calculated based on these groupings. The sherds were weighed and described and a full catalogue can be found in the archive.

*Introduction*

One hundred and eight sherds of pottery weighing 1392g were recovered from various contexts within Pit 102 (Table 1), both hand collected

TABLE 1  
Quantification of pottery assemblage

<i>Context</i>	<i>No. sherds</i>	<i>Weight (g)</i>	<i>Vessels</i>
102	1	2	P11
103	4	63	P2, P5, P6, P7
104	19	205	P3, P4, P5, P6, P7, P10, P11
105 = 113	4	44	P1, P8
106	1	15	P6
109	31	500	P6, P7, P8
111	48	563	P9

during excavation and subsequently recovered from soil samples. The assemblage comprises a maximum of nine individual Beaker vessels (P1–9) and sherds from two plain vessels which are likely to be of Early–Middle Neolithic date on the basis of their fabrics (P10–11).

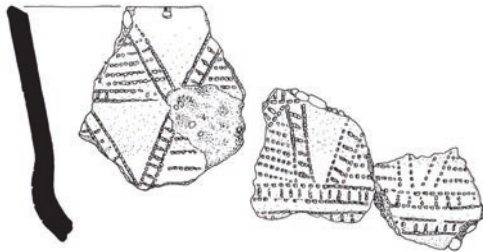
#### *Beaker vessel descriptions*

The Beaker fabrics are all well fired and fine with very few inclusions visible. They are primarily brown in colour with a darker core, with wall thicknesses of 5–7mm. There is very little sooting or charred residue, with only P5 displaying a

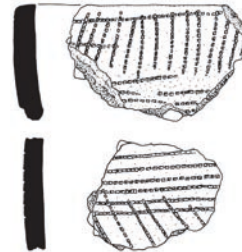
small amount of sooting on the interior. Surfaces are well finished. Some laminar fracture was noted.

P1 is a solitary upper body sherd recovered from Context 105. It is comb impressed, with parallel horizontal lines above a lattice. The horizontal lines are unevenly executed and the end of a line is seen to overlap. The comb was fine, with rectangular closely spaced teeth, and was not deeply impressed.

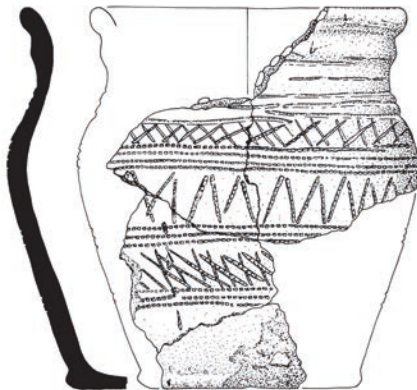
P2 is a solitary upper body sherd recovered from Context 103. It is comb impressed, with two panels of decoration separated by a blank



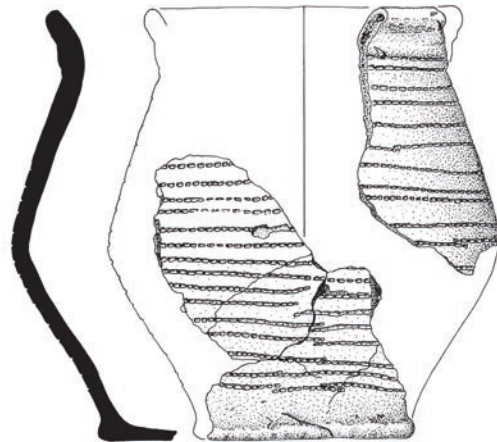
Pot 6



Pot 7



Pot 8



Pot 9





area; the overall motif is difficult to establish as the decoration survives only at the edges of the sherds, but the comb was deeply impressed and of two different types, one with elongated teeth forming the boundaries of the two panels, and one with rounded teeth forming parallel vertical and diagonal lines within the panels.

P3 is a small abraded base sherd recovered from Context 104, which does not appear to match the base sherds of P8 or P9 and therefore may represent another vessel. No decoration is evident.

P4 is a body sherd from Context 104, but it is unclear whether it was from the upper or lower body. The comb impressed decoration includes a ladder motif where the 'rungs' of the ladder are deeply impressed, and there are chevrons in the adjacent panel; a further panel on the other side of the ladder is at the broken edge of the sherd and seems to include both horizontal and diagonal lines of impressed comb. A comb with rounded teeth has been used.

P5 consists of a single body sherd each from Contexts 103 and 104. The sherd from 103 is plain, while the other has a gentle swelling indicating the presence of a shoulder, decorated with impressed comb in two narrow panels containing lattice bound by a horizontal line on each side. The bounding lines were made with a comb with elongated teeth while the lattice was made with a more round-toothed comb.

P6 (Illus 4) comprises a greater number of sherds, 11 in total, from Contexts 103, 104, 109 and within 106, with the majority found in 104 and only one sherd each in the other contexts. This vessel has an internally bevelled rim with a gently flaring neck and a pronounced shoulder, with a comb impressed motif of infilled triangles alternating blank triangles; a ladder motif bounds the triangles on either side of the shoulder. The vessel has a rim diameter of at least 20cm. It is likely to be a Long-Necked Beaker in Needham's (2005) scheme.

P7 (Illus 4) was found in Contexts 103 (one sherd), 104 (three sherds) and 109 (two sherds). This vessel has slightly thicker walls than the others at 8mm, and a rim diameter of 16cm. It consists of rim and upper body/shoulder sherds.

It is probably a long-necked vessel but there is no shoulder present or other sherds to give an indication of overall body shape. It is decorated with comb impressions forming a horizontal line at the top, parallel horizontal uneven lines below that, overlaid with vertical/slightly diagonal lines with short maggot impressions below; the body appears to have horizontal lines with adjacent and slightly overlapping diagonal lines forming unbounded panels.

P8 (Illus 4) is an almost complete vessel found in Context 109 (with three additional small sherds recovered from overlying Fill 105 and 113). It has a rim diameter of 11cm and a base diameter of 8cm, and it stands to a height of 13cm with a girth of 12cm at its widest point. It has a cordon on the neck and the vessel is likely a Short-Necked Beaker. The vessel is decorated with comb impressions and limited incision, arranged in panels across the whole vessel, beginning with three grooves along the neck below the cordon, then parallel diagonal comb which has been over slashed in the opposite direction along the neck, then four horizontal lines of comb along the shoulder. Below that, all in comb, is a tall zigzag, then three further horizontal lines, then diagonal parallel lines which in places seem to overlay vertical comb and/or be slashed, then three more horizontal lines to complete; the last part immediately above the base is blank. The comb has small square teeth and overlaps are visible on the horizontal lines.

P9 (Illus 4) is an almost complete vessel found in Context 111, comprising 48 sherds. It has a rim diameter of 11cm and a base diameter of 8cm, and it stands to a height of 15cm with a girth of 14cm at its widest point. It has a cordon on the neck and the vessel is most likely a Low-Carinated Beaker, with All Over Comb decoration. However, it should be noted that this vessel does not wholly fit within Needham's Low-Carinated group; its upper:lower body ratio is 55%, which is on the limit of Needham's (2005: 183) definition, the upper body is not concave, and the decoration is not particularly neatly executed. It is decorated all over with parallel horizontal lines of comb impressions. The comb has rectangular closely spaced teeth and is not particularly deeply impressed. The

lines of comb are unevenly spaced down the body and overlapping ends are visible in places. The interior edge of the rim has, in places, a row of what appears to be small, shallow fingernail impressions, aligned vertically and parallel. As this is not present all of the way round, it seems likely that this is a product of the potter holding and turning the vessel, rather than a deliberate decorative technique.

#### *Early Neolithic pottery*

Two groups of plain body sherds (P10, P11) have been identified as Early Neolithic in date, representing two different vessels. The sherds are plain body sherds, 6mm thick, with no diagnostic features except for the fabric: these are dark grey/black in colour, with carefully smoothed and polished surfaces. They are distinguished from the rest of the Beaker assemblage through their colour, their surface finish, and the presence of a white stone in their fabric; inclusions present are 3–5% density and measure up to 5mm in size. The sherds are abraded.

This Neolithic material would be expected to date to the period 3950–3600 BC (see Sheridan 2002 and 2007a for discussion of the dating and development of this ware).

Sherds from P11 were found in both Contexts 102 (ie unstratified within the pit) and 104, while the sherds from P10 were only found in 104. The sherds from 104 were mixed in with Beaker pottery.

The radiocarbon dating has resulted in dates ranging between 3942 cal BC and 3543 cal BC for material recovered from Contexts 104, 105 and 109 (Table 5, excluding SUERC-42418). This fits well with the expected date range for this small group of sherds and suggests that material from the Early Neolithic, which includes pottery, grain, cremated human bone and an axehead fragment, has become mixed in with the Beaker period pottery. It is not certain whether all of the cremated human remains belong to the Neolithic or whether some of them could relate to the later Beaker deposit.

#### *Discussion*

There have been a number of major categorisations of Beaker vessels – Clarke's

styles (1970), Lanting and van der Waals' steps (1972), Case's styles and stages (1977; 1993) – with a variety of regional, chronological and stylistic associations. Since the British Museum radiocarbon dating programme (Kinnes et al 1991), further dating programmes of Scottish Beakers have been undertaken (Shepherd 2005; Sheridan 2007b; Sheridan et al 2006 & 2007; Curtis et al 2007), and Needham (2005) has published a comprehensive review of Beakers, suggesting a new scheme for understanding their development. The vessel categorisations in the above Beaker descriptions follow Needham (2005).

It would seem reasonable to assume that the simple comb impressed Low-Carinated P9 belongs in the earlier part of the Beaker tradition, the third quarter of the 3rd millennium, although the carination on P9 is higher than on truly Low-Carinated Beakers (such as the example from Eweford West (MacGregor & Stuart 2007)), while the more complexly decorated vessels belong in the 'fission horizon' of the 23rd century BC (Sheridan 2007b: 92). These comb impressed Beakers are not fringed and motifs include lattice, chevrons, triangles, ladders and zigzags arranged in bounded zones. However, vessels P8 and P9 both have a neck cordon and are very similar in production, finish and fabric, and rim and base form which, along with the lack of dated parallels for P9 and the early dates associated with some Short-Necked Beakers (Curtis & Wilkin 2012), leads to the conclusion that the vessels are more likely to be contemporary. The overall date range for the Beakers is likely to be the 23rd–20th centuries BC, and it seems unlikely that there had been more than one episode of Beaker deposition within this feature.

P6 has some similarities with vessels from Ballymeanoch, Argyll (Clarke 1970: no. 1530, fig 711), Skateraw, East Lothian (Close-Brooks 1979), and West Heselton, North Yorkshire (Powlesland 1986), although none of these are an exact match.

The All Over Comb decorated Beaker P9 has similarities with a sherd found at West Water Reservoir, West Linton (Sheridan 2000, vessel 57), in a pit associated with a cemetery of inhumations in cists accompanied by Food



Vessels; the author suggested that this pit deposition could be interpreted as ‘ceremonial structured deposition’.

There are very few Beakers known from the area around Duns, the closest recorded by RCAHMS lying less than 2km to the south-east of Duns Law Farm, at Manderston House West Lodge; a cist containing an inhumation and a Beaker (recorded as a long-necked variant of Clark’s Late Northern Group (N3 (L); Clarke 1970: no. 1599), but now lost (and although not illustrated in Clarke, they probably belong to Needham’s Long-Necked group) was disturbed in 1882 (NMRS no. NT85SW 1). A little farther east, at Harelaw Hill, Chirnside, in 1906 another N3 (L) Beaker was recovered (Clarke 1970: no. 1591), along with human remains and a flint object, from a cist with a massive capstone under a cairn (NMRS no. NT85NE 2). Also to the east at Broomdykes, a cist was found in 1912 containing an inhumation and a Beaker (Craw 1913). However, these all appear to be examples of the more typical Beaker burial cist of an inhumation accompanied by a single whole vessel, and while attesting to the use of Beakers in funerary contexts in the general area, do not provide ready parallels for the more complex deposition at Duns Law Farm.

The deposition of the pottery within Pit 002 is very interesting. The two complete Beakers (P8, P9) found at the base of the pit were placed into separate shallow scoops within the base (109 and 111 respectively). However, only P9 was found completely alone and with none of its sherds recovered from elsewhere in the pit, unlike P8 which, while the majority was found in 109, also had two sherds in 105 and one sherd in 113. In addition, sherds from two other vessels, P6 and P7, were also found in Context 109, and both of those vessels had sherds in other contexts too. This suggests that the deposition of P8 in Context 109 was not the deposition of a whole, complete pot intended to be buried alone, and that some other process was occurring, leading to the mixing of sherds from other vessels (none complete and some just single sherds) within the pit. It is unusual for Beaker graves to contain more than one vessel, and very rare for there to be more than three

vessels, casting some doubt on whether this was a funerary deposition.

It is possible that this could relate to so-called ‘mourning practices’, ie activities and rituals which took place during or immediately after the deposition of the human remains within a grave. This idea has been previously discussed in relation to Beaker vessels found in unusual locations in relation to human burials. For example, at Dryburn Bridge a complete Beaker was found resting above the slabs of Cist 2 and had been backfilled on top, causing the pot to become squashed, leaving questions about whether it was intended as a grave good or votive offering. The human remains from Cist 2 were radiocarbon dated to between 2290–2030 cal BC ( $3755 \pm 35$  BP; SUERC-4078) and 2280–2020 cal BC ( $3720 \pm 35$  BP; SUERC-4079) (assays from 2005) (Dunwell 2007: 26; Sheridan 2007c: 112–13).

Other examples of fragmented Beakers being deposited over the top of graves include Chapelden, Aberdeenshire (Greig et al 1989), where a whole pot accompanied the burial within the cist and sherds from an incomplete second Beaker were found on top of the capstone. Both of these vessels were comb impressed. This was interpreted as some sort of final act in the burial ritual.

At Biggar Common (Sheridan 1997) a second Beaker was found, smashed into many pieces and distributed within a grave (Cairn 1) containing a complete handled Beaker, within the cairn covering it, and on top of the cairn. The interpretation was that it was deliberately broken and deposited as part of the funerary ritual and took place at the same time as the deposition of the body. Cairn 2 also contained more than one Beaker; one was almost complete and within the grave-pit while two other vessels were broken and scattered throughout the fill of the pit and over the cairn covering the grave-pit.

Parker Pearson et al (2016) have noted that the Beaker Phenomenon probably reached Britain after 2500 BC as there are no dateable examples before this point, with Scotland being the last area to start using them in a funerary context. The use of Beakers in this context also appears to have been relatively short-lived in Scotland, with the last use of Beakers in graves occurring

around 2130–2045 cal BC (95% probability), earlier than any other area of Britain. Dated Beakers from the early part of the 2nd millennium follow Needham's hypothesis of 'Beaker as past reference', with Beakers becoming hybrid and handled forms. The radiocarbon dating of cremated human bone from Context 109 produced a date of 1727–1527 cal BC ( $3337 \pm 29$  BP; SUERC-42418), which is a little too late, on current knowledge, to be associated with the date of production of the Beakers; the Beakers recovered from Pit 002 at Duns Law are certainly not of hybrid form and so would not be expected to date to the 2nd millennium. However, the possible funerary ritual, involving smashing and distributing Beakers alongside complete vessels associated with burials, does have similarities with that seen at Biggar Common, where the whole vessel was a handled vessel (Sheridan 1997), which typically would date to the late 3rd/early 2nd millennium, in line with the 'fission horizon' of c 2200 BC for such types.

#### FLAKED LITHICS AND STONE ARTEFACTS

Ann Clarke

##### *Flaked lithics*

Just five flaked lithics were recovered, of which four were from the topsoil. There was one tiny flint flake from Fill 104. The topsoil finds were all flint, three of which were burnt, and they comprised two inner flakes, a chunk and a core. None of these pieces are diagnostic of a particular prehistoric period though the core fragment (SF3), which bears the remnants of a single platform with blade and flake removals, suggests an earlier prehistoric date for its manufacture, therefore implying a previous occupation of the immediate area, perhaps even relating to the ceramic and cremation remains dating to the earlier Neolithic.

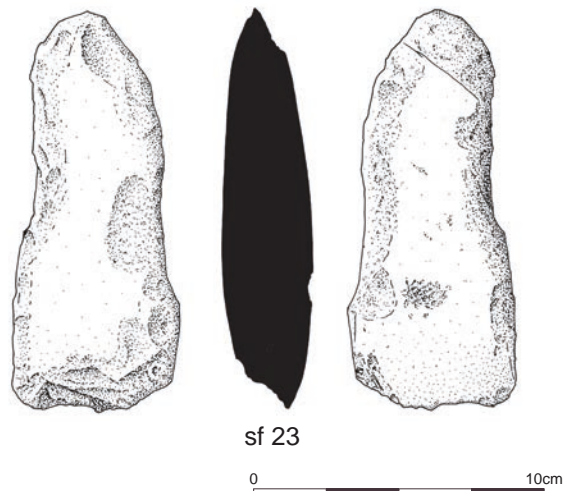
##### *Stone flake*

A rough primary flake from a sandstone cobble (SF24) was

associated with the pot in scoop Fill 111. The crushed platform indicates that it was detached with some force and patches of heavy pecking over the cortical face of the flake indicate that the original cobble was used as a hammerstone, so the flake was likely to have been detached through the use of a cobble tool.

##### *Stone axehead*

The ground stone axehead (SF23) is made from greywacke, which was probably obtained locally as it outcrops in the Southern Uplands (Dr Peder Aspen pers comm). The original axehead was ground on both faces, leaving some traces of deeper flake scars, and the sides bore flat ground facets. The traces of these flat facets survive at the blade end indicating that the original width of the axehead must have been about 47mm, which would mean that the original plan of the axehead was long and narrow. The axehead was subsequently reshaped by irregular flaking around the butt end and down the sides, and then by heavy pecking down both sides from just below the butt end to c 30mm from the blade end. These pecked sides are rounded in cross section and form a waist in the centre of the length of the axehead. There is also a localised patch of pecking in the centre of the upper axehead face c 30mm from the blade end, level with the end of



ILLUS 5 Stone axe SF23 (© CFA Archaeology Ltd)

the pecked sides. The intention of the significant reshaping appears to have been to enable the axehead to have been gripped in some form of haft – or even in the hand. The blade end is heavily flaked unifacially from the upper face, possibly as a result of the reuse, as demonstrated by the patch of pecking in the centre of one face, or else as part of the reflaking of the axehead. The type of rock used is prone to laminar fracture (Dr Peder Aspen pers comm).

Though it is not clear how the early and later funerary remains came to be incorporated, it is clear that they were formed during at least two different activities involving cremation and ceramics. Was the axehead residual from the Early Neolithic activity as demonstrated by the Early Neolithic pot and dates from the cremated bone, or was it deposited with the Beaker pot and/or the slightly later dated cremated bone? The axehead has clearly had a complex history: manufactured; used; considerably reshaped by pecking around the middle; reused; and then finally deposited in the pit, and it is possible that the axehead could have been part of the funerary rituals from both periods.

Little work has been done in Scotland on the contexts in which stone axeheads were deposited. However, in a recent synthesis of stone axeheads from Orkney it was observed that stone axeheads were found in the earlier Orkney–Cromarty tombs but not at the later Maes Howe tombs. They were instead part of the ritual at settlement sites of the Late Neolithic (Clarke 2011). We cannot extrapolate this observed ‘exclusive’ relationship of stone axeheads with Early Neolithic funerary remains across Scotland, but the axehead from Duns Law Farm was almost certainly a Neolithic artefact and there is reason to suppose that it could be contemporary with the earlier Neolithic pot and cremated bone, and therefore it may have originally been part of the funerary rites of this period.

Stone axeheads are occasionally associated with Early Bronze Age funerary rites: recently excavated examples include single and complete axeheads from Mousland and Knowes of Trotty in Orkney, as well as three axes from Early Bronze Age activity at Isbister chambered tomb (Clarke 2011). At Pitcairn, Fife, though none of the finds

were stratified, a broken and possibly reused stone axehead was found together with sherds of a Food Vessel and a perforated stone pendant from what was most likely to have been a cist underlying a cairn (Barclay 1978). A ground stone axehead was found beside a crushed Beaker inserted into Cairn 2 at Biggar Common (Johnston 1997) and there was a suggestion that it had been worked down from a larger axehead (ibid: 234).

Current evidence would therefore suggest that at some sites stone axeheads were a part of the Early Bronze Age funerary rites. There is no definite evidence that stone axeheads were still being made at this period and instead it seems likely that use was being made of previously manufactured axes: at Isbister, Orkney, the grouping of three stone axeheads in association with a macehead, jet button and ground knife suggested to Roy Ritchie that all of the objects were placed together in a bag (Hedges 1983: 45) and cached in the Bronze Age; this implies that earlier objects were being kept and valued. Alternatively, earlier Neolithic axeheads may have been reused as hammerstones, eg at Pitcairn, or else reshaped for other purposes as at Duns Law Farm. The inclusion of hammerstones in cist burials is occasionally observed, leading to the suggestion that they may have been incorporated after being used to crush the cremated bone, as at Carlinwell, Angus (Clarke 2012: 6); it is possible that the axeheads from Biggar Common and Pitcairn performed a similar role. However, analysis of the cremated bone suggests that this was not the case at Duns Law Farm (see below).

Stone axeheads were clearly part of both earlier Neolithic and Early Bronze Age funerary ritual and it is highly possible that the Duns Law Farm axehead was used in both periods; perhaps left with the cremated remains of the Early Neolithic and later found and reworked and used in the Bronze Age cremations.

#### CREMATED BONE

Sue Anderson

Bone from Pit 102 was partly hand-collected, and six bulk samples of the various fills were also retained. The latter were wet-sieved and sorted in fractions (<2mm, 2–4mm, 4–10mm

TABLE 2  
Total weights (g) of identified and unidentified bone by context

<i>Context</i>	<i>Skull</i>	<i>Axial</i>	<i>Upper limb</i>	<i>Lower limb</i>	<i>Unident</i>	<i>Total</i>
top fill 103	42.8	16.6	19.4	85.8	52.5	217.1
mid-fill 104 (upper)	32.7	13.0	31.7	46.8	100.2	224.4
mid-fill 104 (lower)	12.2	3.1	1.1	3.6	21.7	41.7
basal fill 105	8.8	4.4	25.2	23.1	0.4	61.9
basal pit fill 109	12.3	4.7	1.8	7.1	5.2	31.1
basal pit fill 111	0.0	0.1	0	0	0.9	1.0
<i>Totals</i>	<i>108.8</i>	<i>41.9</i>	<i>79.2</i>	<i>166.4</i>	<i>180.9</i>	<i>577.2</i>

and >10mm). The bone from each sample and fraction was sorted into five categories: skull, axial, upper limb, lower limb and unidentified. All fragment groups were weighed to the nearest tenth of a gram, and identified fragments were counted to provide an average fragment weight. Measurements of maximum skull and long bone fragment sizes were also recorded. Observations were made, where possible, concerning bone colour, age, sex, dental remains and pathology. Identifiable fragments were noted. Methods used follow the Workshop of European Anthropologists (Ferembach et al 1980) and McKinley (1994 & 2004). A full catalogue is available in the archive.

Samples were collected from six fills/locations within the pit. Quantities of bone in each of these are shown in Table 2.

Overall, 68.7% of this assemblage was identifiable to an area of the skeleton. This high proportion reflects the presence of several large fragments of bone measuring up to 105mm in length. Average fragment weights varied from 0.6g in the axial area to 2.1g in the lower limbs. The largest long bone pieces were recovered from upper Fill 102 and basal Fill 105 (105mm and 100mm respectively), and the largest skull fragment (50mm) came from 104.

Mays (1998: table 11.2) notes that the combusted weight of an adult skeleton has a mean of around 1,500g for females and 2,300g for males. The quantity of bone in this

assemblage therefore represents only a quarter of the combusted weight of an average adult male skeleton. However, duplication of some parts of the skeleton, most notably the petrous temporal, indicates that at least three adults are present in this group. In addition, there are fragments of skull and possibly long bone which appear to represent at least one child, and some abraded fragments may be of animal origin. This is true throughout the contexts, with each fill containing the remains of more than one individual.

Identifiable pieces in this group include cranial vault (occipital, frontal, temporal), facial bones (zygoma, mandible), tooth roots, fragments of vertebral body and arch, ribs, ilium, proximal segments of ulna and radius, finger phalanges, patella, distal fibula, one toe phalanx, first metatarsal, and shaft fragments of all the major long bones.

Given the degree of mixing and small quantities involved, it is difficult to assign age and sex to all the individuals. However, several bones are large and robust and appear to represent at least one adult male (right and left mandible fragments, frontal piece of glabella, zygoma, occipital, at least one left temporal, left ulna). A female is represented by a fragment of pelvis which comprises the complete sciatic notch, and possibly some small finger phalanges. A small humerus shaft and fragments of right ulna and radius may also be female, although there is a possibility they could belong to an older

sub-adult. A fragment of the distal epiphysis of a femur may also be sub-adult. Fragments of juvenile or possibly infant skull were found in Fill 111, along with some adult remains. There was not enough evidence to provide any estimated age ranges for any of the individuals.

Only four tooth roots were present and there was a small piece of unerupted molar crown, presumably from the juvenile individual. The mandible fragments of the male individual showed that most of his lower teeth were present at death and there were no signs of dental disease. No pathological changes were noted in any of the other bones.

The majority of bone in this group was fully oxidised and cream to buff in colour, with some of the abraded bone being white. The presence of a high proportion of white bone indicates firing temperatures in excess of *c* 600°C (McKinley 2004: 11). Mays (1999: 159) noted that the uniformity of colour in the surviving bone at Ardleigh in Essex may be due to poor survival of less well-cremated bone.

### Discussion

The burial contained the fragmented remains of at least four individuals: three adults (male and female) and at least one juvenile. The preservation of many large fragments in cremation burials is usually attributed to careful collection and burial within a vessel, and there were many large pieces in this burial. Fragmentation can be the result of deliberate crushing prior to burial, but this

practice does not seem to have been carried out in this case. However, the total weight of bone indicates that the burial was far from complete, and the mixing of so many individuals through the fills may suggest that the bone was redeposited from elsewhere.

### ARCHAEOBOTANY

Mhairi Hastie and Mike Cressey

Five bulk soil samples were retained from Pit 102. The samples were processed through a flotation tank, the floating material (flots) collected in a 250µm sieve and the material remaining in the tank (retent) was washed through a 1mm mesh. When dried, the flots were scanned using a binocular microscope (×20–×100 magnification) and the retents sorted with any significant archaeological material removed. Identifications of charcoal were carried out using bi-focal microscopy at magnifications varying between ×50 and ×400. Anatomical keys listed in Schweingruber (1990) and in-house reference charcoal were used to aid identifications. Asymmetry and morphological characteristics were recorded using standard in-house methodology.

The bulk of the carbonised material recovered from the samples consisted of oak charcoal. Other plant remains were present in only very small amounts; a probable charred wheat grain (*Triticum* sp) and a carbonised bramble seed (*Rubus* sp) were recovered from the fill of a scoop or pit (108), while small fragments of

TABLE 3

Composition of samples. Key: + = rare, ++ = occasional, +++ = common and ++++ = abundant

Sample	Context	Cereal grain	Weed seeds	Hazel nutshell	Burnt bone	Cinders	Wood charcoal	Comments
2	103			+	+	+	++++	
3	104			+	+		++++	
4	104				+		++++	
5	109	+ (×1)	+ (×1)		+		++++	Wheat × 1 <i>Rubus</i> sp × 1
6	111						++	

TABLE 4  
Charcoal identification results

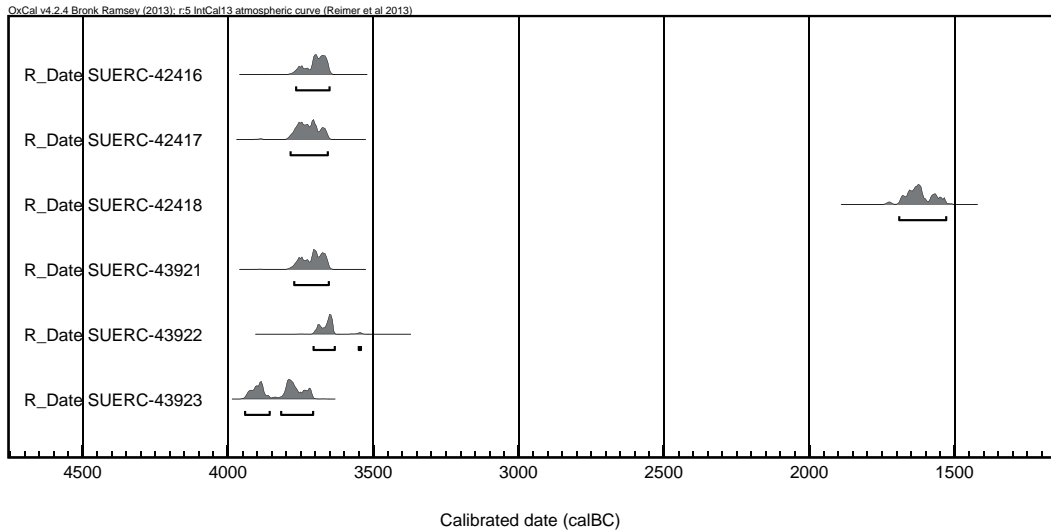
Sample	Context	Context description	Species	Sample weight (g) per 25 identifications
2	103	Upper fill of burial pit (102)	<i>Quercus</i> sp	4.5
3	104	Fill of burial pit (102)	<i>Quercus</i> sp	17.5
4	104	Fill of burial pit (102)	<i>Quercus</i> sp	4.3
5	109	Fill of scoop or pit (108) in base (102)	<i>Quercus</i> sp	3.5
6	111	Fill of scoop or pit (110) in base (102)	BLOI	–

hazelnut shell were present in two fills. The origin of this material is unknown and the small amount of plant remains recovered does not allow detailed discussion. The results are summarised in Table 3.

The charcoal assemblage is dominated by fragments of oak (*Quercus* sp) (Table 4). The charcoal was blocky in character, which is typical of oak derived from large branchwood which tends to fracture along its large aggregate rays. The charcoal in Pit 102 ranged in size from 10mm × 15mm to 42mm × 21mm.

Small branch or twig charcoal was absent. One sample was below the limit of identification (BLOI, Sample 6). No charcoal was found to be vitrified, which can often occur in pyre assemblages. There is insufficient material to say anything meaningful about the contents of the scoop feature 108.

The oak charcoal contained within burial Pit 102 is presumed to be the remains of the pyre fuel used in the cremation ritual. Oak was a major component of the prehistoric wild wood growing within the vicinity of the site/findspot.



ILLUS 6 Radiocarbon dates (© CFA Archaeology Ltd)



TABLE 5  
Radiocarbon dates

<i>Lab No.</i>	<i>Context</i>	<i>Species</i>	<i>Lab age BP</i>	<i>Cal date BC (68% probability)</i>	<i>Cal date BC (95% probability)</i>	$\delta^{13}C$
SUERC-42416	104	Human	4927 ± 29	3712–3655	3768–3651	–17.3 ‰
SUERC-42417	105	Human	4950 ± 29	3768–3695	3786–3657	–23.9 ‰
SUERC-42418	109	Human	3337 ± 29	1682–1541	1727–1527	–24.8 ‰
SUERC-43921	109	Wheat	4937 ± 28	3759–3659	3773–3654	–24.0 ‰
SUERC-43922	109	Human	4868 ± 30	3694–3638	3551–3543	–27.7 ‰
SUERC-43923	105	Human	5014 ± 28	3927–3715	3942–3708	–26.5 ‰

#### RADIOCARBON DATING

As it was clear that the burial comprised several different individuals scattered through the pit fills, three samples of cremated bone from the basal, mid and upper fills were initially submitted for dating. Two of these produced dates in the Early Neolithic (SUERC-42416, SUERC-42417), whilst the third (from the lowest fill) was later Early Bronze Age (SUERC-42418). Given the association of the cremated bone with Beaker pottery, these dates were unexpected. Subsequently, following discussion with Gordon Cook (SUERC), two further samples of bone (including a second sample from 105, SUERC-43923 and SUERC-43922) and a cereal grain (SUERC-43921) were submitted to provide further dates. This time all three dates were Early Neolithic, including two from the basal fill. Table 5 and Illus 6 present the results of the radiocarbon assays.

#### DISCUSSION

The range of material recovered from the various fills of this pit suggests three broad periods of deposition. Evidence for the mixing of material and stratigraphic inversion suggests that the feature has been disturbed in antiquity: the most recent fragment of bone was recovered from the pit underlying the stone-lined cist, in

association with slightly earlier pottery and significantly earlier bone and a wheat seed. However, the largest quantities of bone were recovered from the uppermost fills of the pit, and these were all dated to the Early Neolithic, suggesting re-deposition of this early material within the top of the later pit. It is, however, not entirely clear whether the pit was first excavated in the Early Neolithic for the deposition of cremated bone which was later disturbed by the insertion of Beaker deposits, or whether it was first excavated in the Early Bronze Age for the deposition of Beaker pottery, into which Neolithic material became incorporated from features or deposits nearby. The near-complete Beaker from Scoop 110 was located below and behind the remaining stone cist lining, which must therefore have been inserted at some point after the deposition of this Beaker. This pot was one of the few which did not occur in more than one context and was therefore undisturbed when the stone lining was inserted. The pot in Scoop 108 was also relatively undisturbed, with only a couple of sherds from it being recovered from the overlying layer. This indicates they are the earliest deposits of Beaker pottery, and remained largely undisturbed thereafter. The very small quantity of burnt human bone associated with this early deposition may suggest this was not a burial, although of course unburnt bone may not have survived.

Based on the section, it seems possible that Fill 104 was within a recut, perhaps dug to insert the stone-lined cist. Potentially this stone-lined feature may have been open, or at least unfilled, to start with. The presence of the late-dated bone fragment in its base suggests that it may have been in use into the post-Beaker period or at least open to allow later material to become incorporated into its fill. After this it was infilled using material which contained a quantity of Early Neolithic cremated bone, pottery and an axehead. Some of this made it to the base of the pit, but the majority was in the upper fill. The suggested reuse of the axehead may indicate that the Neolithic deposit had already been disturbed earlier in this extended history and that the axehead was perhaps used in associated rituals before its final deposition.

If the feature had originally been open, with some erosion resulting in partial backfilling as Deposit 105, this might explain why stone was present in the overlying fill only. The large stones behind the circular cist would appear to be packing material intended to fill the pit behind this, thus reducing the open area and also ensuring that the wall of the reduced pit would remain intact. Only a semi circle of the cist wall remained which may suggest that at some point it was intentionally destroyed and infilled with large stones. The broken pottery and other material might then have been introduced as part of a closing ceremony.

The presence of Early Bronze Age cremated human bone in Context 109, dated to 1727–1527 BC (SUERC-42418), is difficult to explain: all of the rest of the dated bone samples, and the wheat seed, date to the Early Neolithic, including other samples from Context 109, and this context is at the base of the feature, sealed beneath other deposits. The radiocarbon date from the bone is too recent to be associated with the date of production of the Beakers themselves. It is possible that the monument continued to be used for deposition of cremated remains following the Beaker period of use and that therefore this material was added later, perhaps during an emptying out of the pit, although there is no archaeological evidence for such an event, or that the Beakers had been curated for some

hundreds of years before their deposition, or that it entered the pit from another burial within the vicinity through bioturbation. However, none of these explanations are particularly satisfactory, and without dating many more samples of bone, it is not possible to know whether this is an anomalous sample or part of a larger collection of Early Bronze Age bone, and must remain unexplained.

Exact parallels of Bronze Age date for the cist itself are rare. There are many 'standard' slab-built cists of the period but fewer which were constructed of smaller stones in the form of a stone-lined pit. A possible example was found at Hoprig, Cockburnspath, in 1887, where a cairn covered two cists, one of which 'contained two Beakers and had been built in a pit 1.3m deep, the sides of which were revetted with coursed boulders and which contained fragments of cremated bone and charcoal' (RCAHMS No. NT76NW 1). An Early Bronze Age cemetery at West Linton comprised a number of cist burials, including Cist 8, which is described as 'more a stone-lined pit than a cist' and contained a cremation burial but no pottery (Hunter 2000: 129). Farther afield, some inhumation burials associated with Food Vessels were buried in similar stone-lined pits at Dunblane, Perthshire (Holden & Sheridan 2001). However, it should be noted that the cist at Duns Law Farm is small, perhaps too small to hold a typical contracted inhumation burial, so its primary function may not have been a funerary one. The absence of unburnt bone, while maybe a product of soil conditions, may also suggest they were not present in the first place.

The presence of more than one Beaker within the pit is also quite unusual as it is more common for them to be included as a single entity within an individual grave deposit. However, there are other examples of multiple Beakers such as at Eweford West in East Lothian (MacGregor & McLellan 2007) where sherds from seven Beakers were deposited within a large pit. Here, the deposition of the pottery was interpreted as a deliberate act, possibly ritual, with the pit itself possibly representing the remains of what would have been a large mound forming a focal point within the landscape. A large pit containing 97 sherds

of Beaker pottery was excavated at Kiltaraglen near Portree on Skye (Suddaby 2013). Here, the deposit was tentatively interpreted as domestic, given the lack of evidence for burial within the pit. However, the context of Beaker pottery generally differs in the Western Isles from the east of Scotland with Beaker pottery appearing mostly in settlement or midden deposits in the west as opposed to burial or ritual contexts in the east.

While the Beaker in Scoop 110 appears to be the earliest deposit in the feature, thus dating the original pit to the Early Bronze Age, there is another possibility. The pit may represent the remains of a Neolithic mortuary or burial chamber in which the cremated bone was originally deposited. Neolithic cremation burials are rare in the British Isles, and very few are known in Scotland. A few were recovered from a mortuary enclosure at Pencraig Hill, East Lothian (Lelong & MacGregor 2007: 41), and dated to the same overall range as the Duns Law Farm assemblage. Neolithic long or round mounds such as Pitnacree, Perthshire (Coles & Simpson 1965) also sometimes contain cremated material. The latter were, however, dated some 1,000 years later than the example from Duns Law Farm. There was no evidence for a mound or timber enclosure at the Duns Law Farm site, but this may be due to plough erosion and the limited extent of the excavated area. The presence of excavated examples of Neolithic burial practices outside of long and round barrows is scarce, and this feature, therefore, is a rare and valuable contribution to our understanding of this period and this type of deposition. It is suggested that the Duns Law Farm pit could have been covered by a low earth mound or cairn which would have formed a focal point in the landscape, perhaps to allow for the reuse of the monument. If this was the case, the pit and putative mound would be an example of a non-megalithic Early Neolithic round mound, of which only a few examples are known, and so would be a significant addition to the corpus and would extend their known distribution (Sheridan 2010). Reuse of Neolithic non-megalithic round mounds in the Bronze Age is noted by Sheridan at Boghead, Moray (Burl 1984; Sheridan 2008), Pitnacree, Perthshire (Coles & Simpson 1965), Courthill, North

Ayrshire (Cochran Patrick 1874), and Cairns of Atherb, Aberdeenshire (Milne 1892), and so the Duns Law Farm site may be a further example of this phenomenon.

In summary, the feature appears to represent a rare example of an Early Neolithic cremation burial which included several individuals and which was later disturbed. The burial may originally have been deposited in the large underlying pit, or it may have been brought in from elsewhere. It is not clear, in this scenario, where the Neolithic bone may have been kept or deposited prior to its final deposition, but perhaps it had been incorporated into cairn material which later formed the rubble backfill of the pit or a mound on top of the pit. The pit was then either excavated or reused during a period of activity in the Early Bronze Age, resulting in the deposition of Beaker pottery, which may or may not have been accompanied by an interment (unburnt bone is unlikely to have survived in this soil), and which was later modified to include a stone-lined cist in which was deposited another Beaker (though again, evidence of interment is absent, and the presence of multiple Beakers suggests this is not the remains of a typical Beaker inhumation). This was later backfilled and the Neolithic material was largely contained in the cist infill and overlying layer, with other fragments of Beaker pottery also either accidentally or deliberately deposited within the backfill.

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The site archive will be deposited with the National Record of the Historic Environment. The finds assemblage has been allocated through Treasure Trove procedures to National Museums Scotland.

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