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An Iron Age cist at North Belton Farm, Dunbar

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with contributions by D H Lorimer & S Carter

ABSTRACT

A cist with walls of coursed and orthostatic masonry was revealed during ploughing. The cist contained two skeletons lying side by side. The structural style and date of the cist place it with a small group of Iron Age burials from the Tyne/Forth province.

INTRODUCTION

In December 1989, a large cist was discovered during ploughing on North Belton Farm, Dunbar (NGR NT645775), when one of the capstones collapsed under the weight of the tractor. The site lies on the East Lothian plain at 21 m OD, on level ground 14 m west of the shoulder of the Biel Water valley (illus 1). The excavation was organized and financed by Historic Buildings & Monuments.

THE STRUCTURE

The cist is aligned north/south and measures internally 1.6 x 1.1 x 0.75 m deep (illus 2). Its walls are a mixture of coursed and orthostatic masonry (illus 3), the lower parts of three of which are lined with large upright slabs while the east wall is composed almost entirely of a single large orthostatic slab. The walls are extended above the slabs by as many as six courses of drystone masonry. At the lower, slab-built level the long side walls (east and west) pass behind the slabs of the end walls save in the south-east corner where their edges abut. Above this level the walls are corbelled inwards by some 0.2 m, the corbelling being carried through and around the corners (illus 3). Thus, at this upper level the cist is sub-rectangular in plan. The cist was built entirely of red sandstone slabs except for some spalls and small water-rolled pebbles inserted between and over the orthostatic slabs to provide level footings for the drystone masonry above. The pit into which the cist had been inserted measured 2.45 x 1.65 m. It had been dug into the boulder clay to a depth of 1.1 m below the present surface of the subsoil. The pit was wider immediately above the upright slabs in order to accommodate the insertion of the drystone walling. The socket was then packed with clean, redeposited, boulder clay (F3).

The base of the cist was covered in a layer of coarse gravel, some 0.9 m thick (F1). This has been identified as water-sorted till, brought up probably from the nearby Biel Water to form a floor

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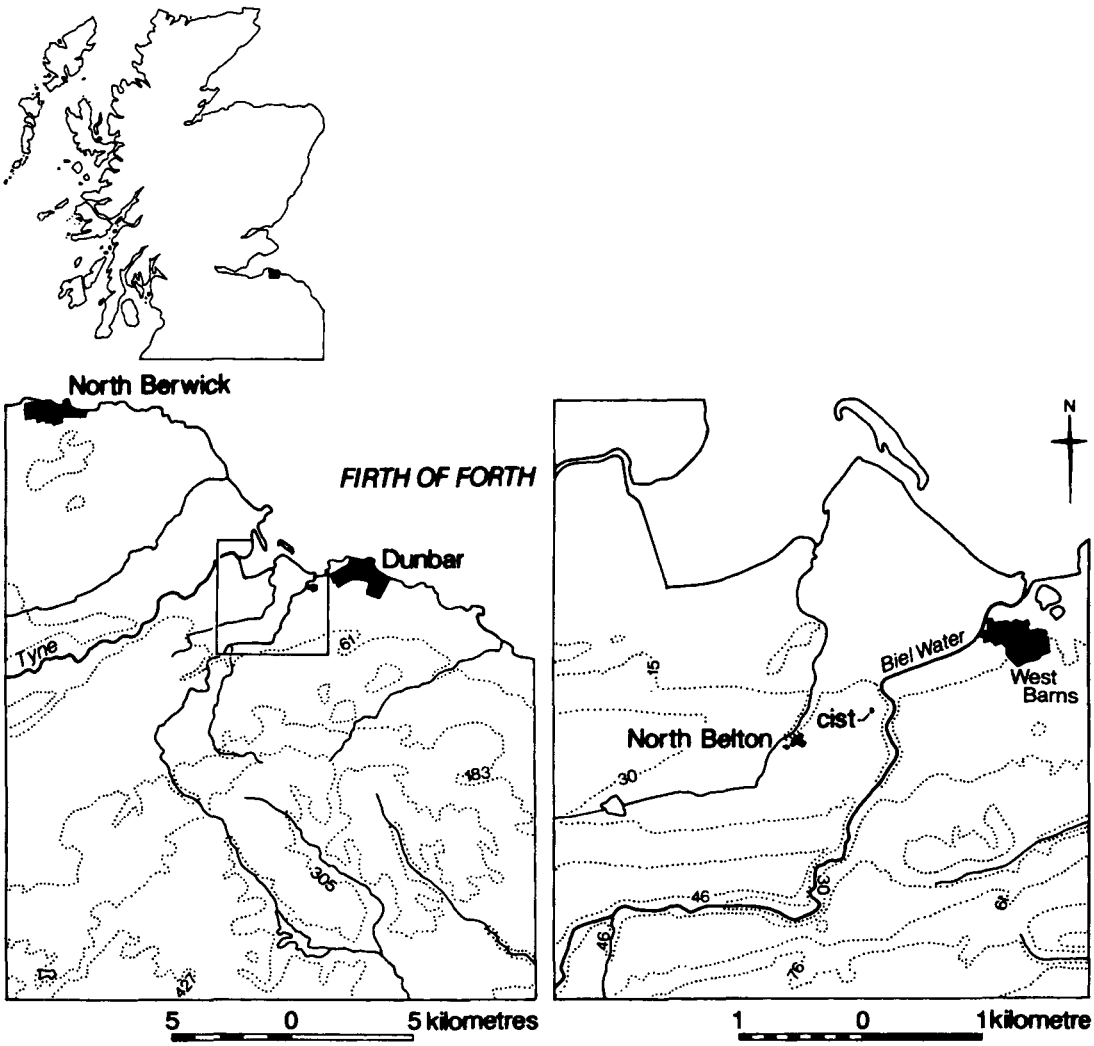
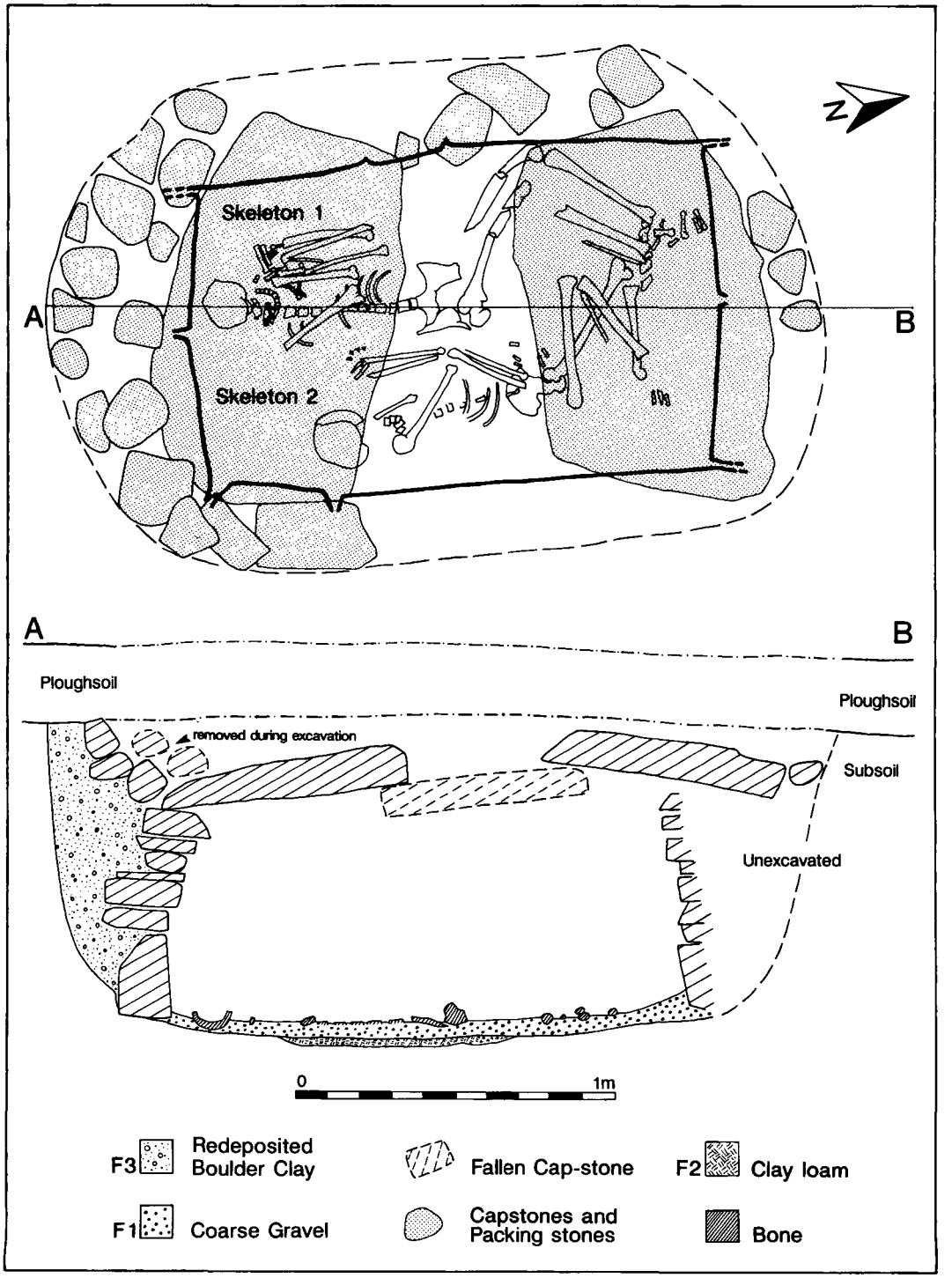


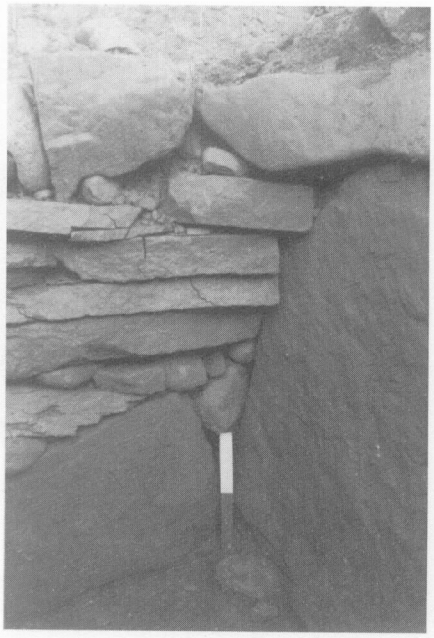
ILLUS 1 North Belton; location. *Based upon the Ordnance Survey map © Crown copyright*

for the cist. Until the capstone and ploughsoil had fallen in, the gravel floor had remained clean and undisturbed. Immediately below the gravel was a discrete deposit of clay loam. Soil analyses (Appendix 2) suggest that this deposit was created by the removal of large stones from a deposit *in situ*, rather than by the insertion of clay from elsewhere. The stones may have been removed in order to level the base of the cist.

The cist was covered with three large capstones. The central capstone had broken in antiquity but had remained *in situ*, under the outer two capstones. Large stones were packed around the top of the pit and the capstones were covered by boulder clay. The clay covering had been removed by ploughing and the top of the capstones lay a mere 0.18 m below the present surface of the subsoil at the time of discovery.



ILLUS 2 North Belton; plan and section



ILLUS 3 North Belton; coursed and orthostatic masonry at north end of cist (above) and corbelling in south-west corner of cist (right).

THE BURIALS

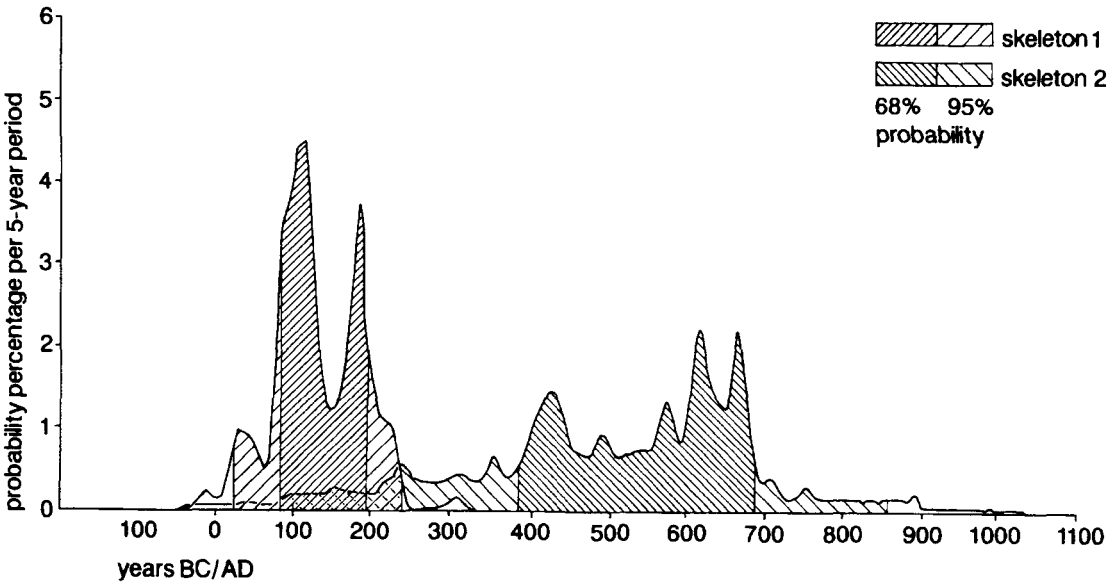
The cist contained two flexed adult inhumations lying on the prepared gravel floor with their heads to the south. The larger of the two, Skeleton 1, lay on its back with its legs flexed to its left side and its hands folded beside its head. Skeleton 2 lay on its side, with one arm folded up by its head and its knees tucked in behind those of the first skeleton. Skeleton 1 was intact except for the displacement of a few finger bones but Skeleton 2 was less well preserved. One foot, most of the vertebrae, ribs and mandible had completely disappeared. This differential preservation cannot yet be explained. Both skeletons have been identified as males (Appendix 1). Skeleton 1 was in his early twenties and Skeleton 2 was between 33 and 45 years at the time of death. There were no accompanying grave goods.

RADIOCARBON DATES

Bone samples from each skeleton, were submitted for radiocarbon analysis. The dates were calibrated using software (Dalland, forthcoming) incorporating the Belfast calibration curve (Pearson *et al* 1986) and are presented in tabular form below and diagrammatically in illus 4.

			Calibrated dates	
	Lab no	C14 age	at 68% prob	at 95% prob
Skel 1	GU-2718	1880±50 BP	AD 85–AD 195	AD 25–AD 240
Skel 2	GU-2717	1530±180 BP	AD 380–AD 685	AD 95–AD 850

There is an obvious discrepancy in the precision of the two dates because, due to poor preservation, Skeleton 2 produced only the minimum amount of collagen necessary for a



ILLUS 4 North Belton probability curves of radiocarbon dates for Skeletons 1 & 2

radiocarbon assay, hence the large error. At the 2-sigma level of probability the dates are not significantly different from each other and, given that the skeletons appear to have been carefully laid side by side suggesting simultaneous interment, it is argued here that the burials are, indeed, contemporary (illus 4).

DISCUSSION

The North Belton cist supplements a growing number of cists of drystone masonry construction in East Lothian and Berwickshire, summarized by Halliday & Ritchie (1982, 535) who recognized eight unambiguous examples. The features of these eight cists, along with North Belton, are tabulated in Appendix 3. Of these, four have structural detail comparable with North Belton. The walls of the cists at Kelloe Mains, Berwickshire (Halliday & Ritchie 1982), Middlefield Farm, Berwickshire (Forrest 1953), Lochend, East Lothian (Longworth 1966) and Hopes Sandpit, Berwickshire (Stevenson 1966) were also constructed using large orthostats surmounted by drystone masonry. Three other cists, outwith this area, display similar construction techniques. The two long walls of the cist at Castleton Muir, Roxburghshire (Smith 1982, 2), were built of drystone masonry while orthostatic slabs formed the end walls. Of two cists found at Golspie, Sutherland, one had an orthostatic base surmounted by drystone masonry while the other was constructed entirely of coursed masonry (Woodham & Mackenzie 1957). Apart from North Belton only one other cist has corbelled walls. At Kelloe Mains all four walls were corbelled from floor to capstone.

This group of cists display some variety in the type of burial rite observed. The cists at Burnmouth (Craw 1924), Middlefield Farm and the two cists at Golspie all contained single flexed inhumations; at Kelloe Mains the inhumation was crouched while at Coldingham Loch the

inhumation was extended (Smith 1979). The cist at Lochend, which offers the closest parallel to North Belton in terms of size, date and construction, was packed with the remains of 21 totally or partially disarticulated skeletons (Longworth 1966). The evidence there suggested that the cist had been used as a burial vault over a period of time and that the earlier inhumations were disturbed to make room for each new inhumation.

Although North Belton is the first of this group of cists to be dated by radiocarbon assay, three of the cists mentioned above contained grave goods which place them in the Iron Age. At Lochend, fragments of two iron penannular brooches and an iron stud were found in the cist. One of the brooches belongs to Fowler's Type Aa (1960) which, she believes, was in use in Scotland by, at the latest, the second century BC. At Burnmouth two decorated bronze spoons and an iron dagger accompanied the inhumation. On the basis of stylistic parallels and engraving techniques, MacGregor (1976, 146) places the spoons in the second half of the first century AD. The fragments of two clay moulds and a pumice pendant found in Cist 2 at Golspie are less chronologically diagnostic, although the excavator also thought that an Iron Age date was most likely, given 'the advanced design of the mould' (Woodham & MacKenzie 1957, 237).

A small number of other burials of Iron Age date have been found in south-east Scotland but these display a variety of construction techniques. At Black Rocks, Gullane, East Lothian, seven skeletons were buried under a small cairn (Ewart & Curle 1908) while, at Blackness Castle, West Lothian, an extended inhumation was buried in a cist, the sides of which were formed by a single course of water-rolled boulders (Richardson, 1925). The Iron Age burials at Luffness, East Lothian, at Moredun, Midlothian, and at Craigie, Angus, were all interred in slab-built cists (Whimster, 1981). The Iron Age cemeteries at Winton House, Cockenzie, East Lothian (Dalland 1991) and Broxmouth, near Dunbar, East Lothian (Hill 1982, 179–80), both contained graves of varying construction including simple slab-covered grave-pits, polygonal and rectangular slab-lined graves and, at Winton House, the disturbed remains of a coursed stone cist.

With the exception of the cists at Golspie, Sutherland, all the coursed masonry cists, discovered to date, lie within that region defined, for the later prehistoric period, as the Tyne/Forth province. It is tempting to see in this regional group a cultural archetype representative, perhaps, of the local tribe, the Votadini. However, the examples from Golspie suggests that the group is more widespread. Furthermore, the presence within the Tyne/Forth area of Iron Age burials of varying constructional form and rite, even within the same cemetery, implies a diversity of burial ritual which, allied to the very small number of known sites, makes the detection of local and regional patterns particularly difficult.

In 1981, Whimster (1981, 167) bemoaned the fact that 'North of the Severn/Wash line there is only a handful of isolated and often poorly dated burials, few of which can be grouped as members of a distinct regional tradition'. Whilst this statement remains generally true it is now, perhaps, possible to see the emergence in the Iron Age, of a regional, perhaps east coast, pattern in the coursed masonry cists discussed above.

APPENDIX 1

THE HUMAN BONES

Daphne Home Lorimer

A complete discussion of the skeletons can be found on microfiche (2: C1–10).

The bones from North Belton Farm were those of two male skeletons (1 & 2) aged probably from 20 to 21 and from 33 to 45 at the time of death. Their heights were 1.73 m (5ft 8in) and 1.65 m (5ft 5in) respectively. Bone preservation was variable. Many bones of the skull and torso, in particular, were either missing or displaying *post-mortem* breakage.

Both skeletons exhibited platmeria or flattening of the femur, a common condition in ancient populations. Mineral deposits were noted both on and within the bones and there appeared to have been grazing by insects.

Skeleton 1 showed evidence of arthropathy but *post-mortem* erosion and destruction of thoracic and lumbar vertebrae and other joint surfaces precluded positive identification of type. Osteoarthritis appeared to be precluded by age and by the absence of positive identifying features such as true marginal osteophytic lipping, eburnation, etc. (Ortner & Putschar 1987). Hypertrophic bone growth, however, was present round the margin of the foramen magnum and right condyle of the occiput, in the upper cervical vertebrae and on metacarpo-phalangeal and proximal interphalangeal joints of the hands. Lytic lesions were noted on the tarsal bones of the feet and cup-and-pencil-formation was seen on the metatarsal-phalangeal joints. Some degenerative changes were noted on the articular facets of the cervical spine, and fine porous reactive bone was present on the auricular surface of the right ilium and the lower ends of both tibiae. None of these changes was gross and it is suggested tentatively that they may represent an early stage of an arthropathy, a joint abnormality arising from ailments such as psoriasis (Rogers *et al* 1987). The involvement of the small bones of the hands as well as the feet would make this a more likely cause than gaster-enteric infections since rheumatoid arthritis is considered rare in archaeological material, some authorities considering it a modern disease (Bennike 1985, 195).

A lytic lesion on the left tibia which did not penetrate the pereostium and was surrounded by raised, fine, porous reactive bone suggested bone reaction to a skin ulcer, while lines of arrested growth (Harris's lines) in an X-ray of the tibia were indicative of metabolic disturbance during the period of bone growth. In the teeth, gross calculus covered the whole of the enamel surface of the lower incisor and canine teeth which may have caused the very uneven attrition of the corresponding maxillary dentition. Caries was noted on the upper first right molar and there was no periodontal disease on the limited alveolar margin.

Skeleton 2 displayed a cist, or small cavitating lesion, on the anterior lateral surface of the lower end of the right tibia. Isolated cists such as these can appear in normal bone. It may be of significance that the area posterior to the auricular surface of the ilium, which is normally rough for the attachment of the posterior sacro-sciatic ligaments, was smooth and indented with about 10 small circular depressions, each about 2 mm in diameter. Attrition of the teeth was gross and wear uneven, with four teeth exhibiting caries.

Inability to obtain craniometric measurements and non-metrical variations precluded effective comparison of these two skeletons with other skeletal material – notably that from the Iron Age cist burial at Lochend, Dunbar.

APPENDIX 2

SOIL SAMPLES

Stephen Carter

INTRODUCTION

The area around the cist has been mapped by the Soil Survey of Scotland as soils in the Biel Series of the Biel Association. These are imperfectly drained Brown Forest soils developed in a red glacial till of mixed Carboniferous and Devonian sediments (Ragg & Futty 1967). Three contexts from the cist were apparently derived from this till but were different from each other in texture or stoniness. Samples of these contexts were described (cf. Hodgson 1976) and a simple particle-size analysis carried out to examine the differences between them.

SAMPLE DESCRIPTIONS

Samples of three contexts were collected and described as follows:

F1 Gravel floor of cist. Reddish brown (2.5YR 4/4) very stony sandy loam with abundant rounded to sub-angular very small to medium stones.

F2 Material under gravel floor. Reddish brown (2.5YR 4/4) very stony clay loam with abundant rounded to sub-angular very small to medium stones.

F3 Material filling cut behind cist wall faces. Reddish brown (2.5YR 4/4) very stony clay loam with abundant rounded to sub-angular very small to large stones.

PARTICLE SIZE ANALYSIS

The textural differences between F1 and F2 were quantified with a simple particle size analysis. Air-dry sub-samples weighing c 2 kg were taken from F1 and F2 and passed through 2 μm and 200 μm mesh sieves. The resulting size fractions were weighed and the results are presented below as percentages of the total sample weight.

Size fraction	F1	F2
2 mm+ (Stones)	61.7	46.5
200 um – 2 mm (Fine to coarse sand)	19.5	19.5
Less than 200 um (Clay, silt and very fine sand)	18.8	34.0

DISCUSSION

The lithology of the stone content is similar in all three samples and matches the mixture of sedimentary rock types reported for the Biel Association (Ragg & Futty 1967, 39) and the bright red colour is typical of the Biel till. The texture of F2 and F3 is within the range of unsorted till and both of these contexts can be interpreted as local till, presumably from the hole dug for the cist. The absence of large stones (larger than 0.06 m) in F2 suggests that they were intentionally removed when this layer of till was used to level the base of the cist.

F1, which formed the floor of the cist, is clearly not unsorted till like F2 and F3. When compared with F2, F1 contains more very small and small stones but less clay and silt. It is therefore closer in composition to the partially sorted Biel till reported by Ragg & Futty (1967, 39). F1 is only poorly sorted and no more rounded than the unsorted till indicating that it has not been transported far from its origin. The closest source of sorted till to the cist is the Biel Water which lies less than 100 m from the site.

CONCLUSIONS

F2 and F3 are barely altered local glacial till, presumably from the hole dug for the cist. F1 is a water sorted sediment of local origin, the most convenient source is alluvium beside the Biel Water adjacent to the site.

APPENDIX 3

TABLE 1
Coursed masonry cists

Name	Dimensions (in metres)	Depth (in metres)	Orthostatic base	Corbelling	Inhumation	Grave goods
North Belton Farm, East Lothian	1.6 x 1.1	0.75	Y	Y	flexed x 2	
Burnmouth, Berwickshire	2.0 x 0.76	0.5	–	–	flexed x 1	2 bronze spoons 1 iron knife
Kelloe Mains, Berwickshire	1.2 x 0.7	0.6	Y	Y	flexed x 1	
Middlefield Farm, Berwickshire	1.37 x 0.61–0.76	0.68	Y	–	flexed x 1	
Castleton Muir, Roxburghshire	1.8 x 0.55	0.48	orthostatic ends	–		
Lochend, East Lothian	2.03 x 0.76	0.83	Y	–	x 21	2 iron brooches 1 iron stud
Golspie, Sutherland						
Cist 1	1.22 x 0.76	0.38	–	–	flexed x 1	
Cist 2	1.22 x 0.76	0.51	Y	–	flexed x 1	2 clay moulds 1 pumice pendant
Hopes Sandpit, Berwickshire	1.5 x 0.76	0.76	Y	–	flexed x 1	
Coldingham Loch, Berwickshire	1.75 x 0.50	0.75	–	–	extended x 1	

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