

Three long cist burials at Easter Broomhouse, near Dunbar, East Lothian

Michael Cressey*, Richard Strachan† & Jamie Hamilton‡
with a contribution by Laura Sinfield

ABSTRACT

Three long cist burials were discovered during road widening along the A1 near Dunbar. As a result of plough damage only one, poorly-preserved skeleton survived, identified as either a female adult or a young, slightly-built male. An unusually early radiocarbon date (1850 ± 45 BP) derived from the remains of this individual, must be viewed with caution due to poor collagen survival. The work was commissioned by Historic Scotland on behalf of the National Roads Directorate of the then Scottish Office Development Department.

INTRODUCTION

Between February and April 1999 the Centre for Field Archaeology, University of Edinburgh (CFA) carried out an archaeological watching brief during construction work along the A1 near Dunbar, East Lothian (NGR: NT 681 773–NT 691 770). All topsoil stripping associated with the widening of the existing road to dual carriageway and the construction of a roundabout and new access roads was monitored.

In the course of this exercise, a range of archaeological features was discovered (illus 1), including an isolated fire-pit (NGR: NT 6810 7720); a stone-lined culvert, orientated north/south (NGR: NT 6840 7730); and the three long cists (NGR: NT 6825 7729) which form the subject of this paper. These cists were located on the south side of the present A1 and c 0.5km NNE of Easter Broomhouse farm steading (illus 2). They were orientated east/west and occupied a slight knoll overlooking

Dunbar. All of the cists were very poorly preserved, having suffered severe plough damage. They are described in detail below.

THE BURIALS

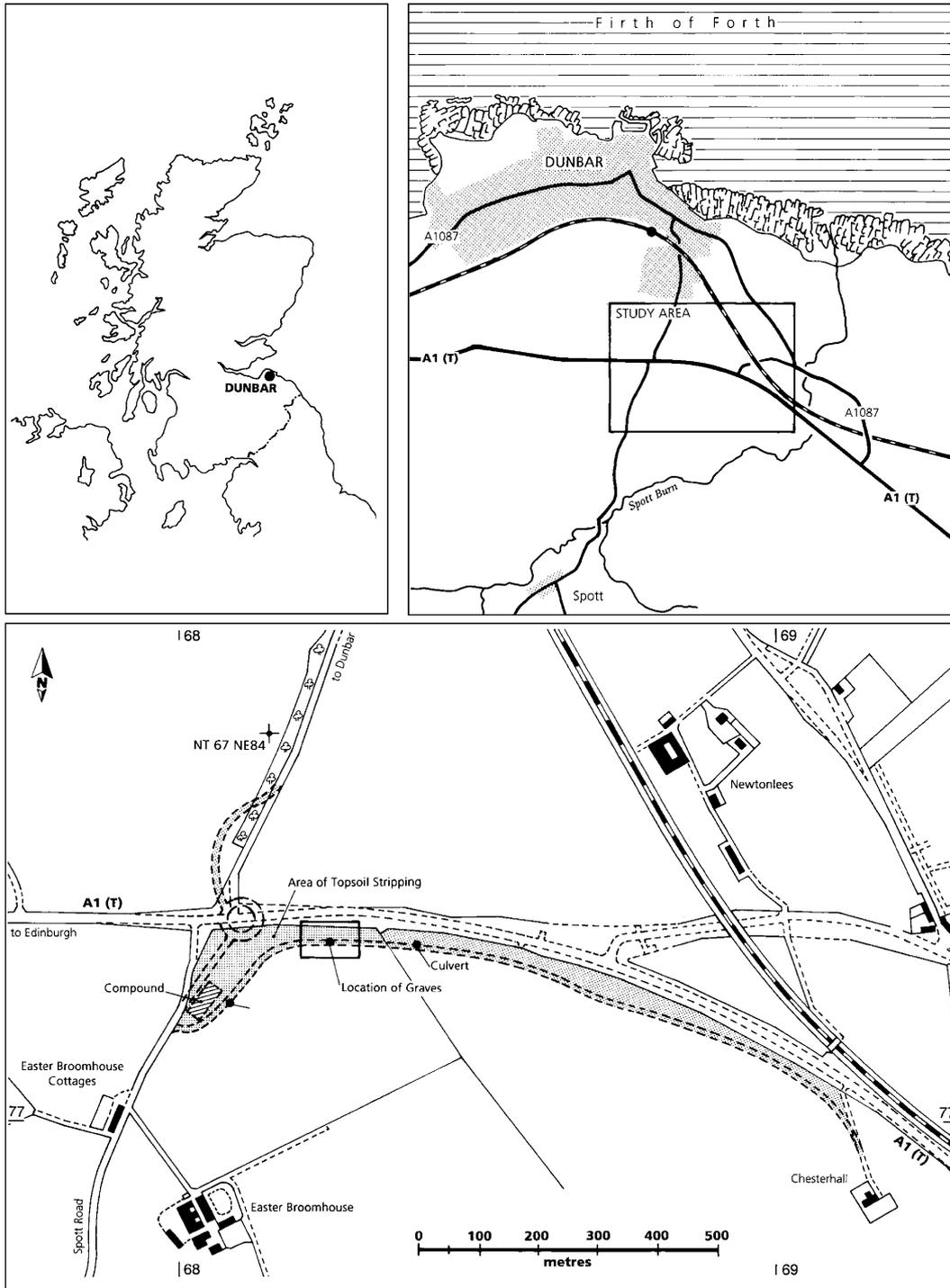
GRAVE 1

Grave 1 (illus 2) measured 1.84m long by 0.4m–0.58m wide. It was sub-rectangular, with the western end being wider than the eastern. Sandstone slabs formed the sides and base of the cist. Most of the side slabs were absent however, and those that did remain no longer stood proud of the basal slabs, having been broken and damaged by plough action. The base of the cist on the west was formed by large sandstone slabs (c 0.5m square), while the eastern part comprised smaller and less regular slabs. These had been slightly compressed into the underlying subsoil and in the eastern half of the cist were covered by a sandy clay. Removal of the side and basal slabs revealed that the cist was set into a sub-rectangular cut measuring 1.78m (east/west) by 0.56m (north/south) by 0.08–0.10m deep. This cut had vertical sides and a flat base. No human

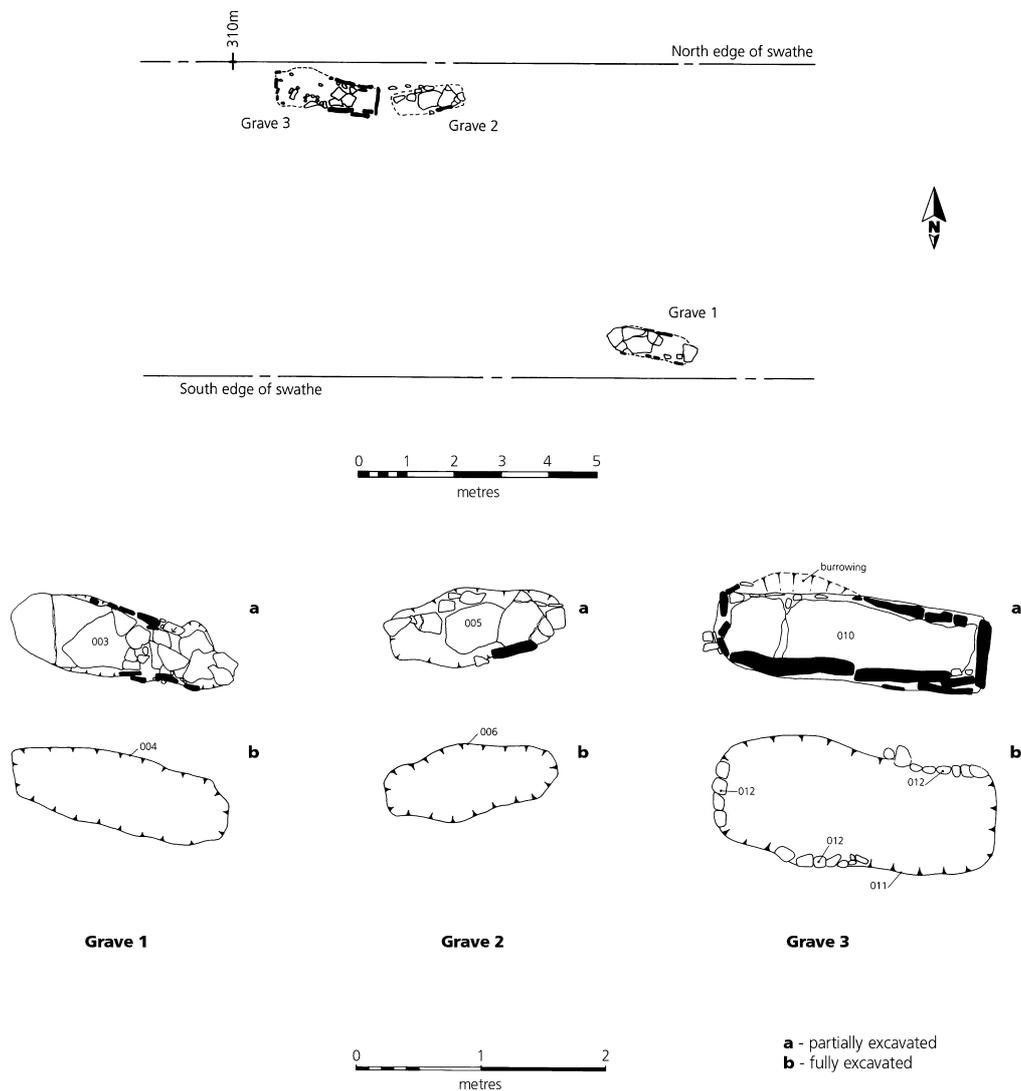
* CFA Archaeology Ltd, Suite 2, Eskmills Business Park, Musselburgh EH21 7PQ

† Historic Scotland, Longmore House, Salisbury Place, Edinburgh EH9 1SH

‡ 335 Easter Rd, Edinburgh EH6 8JG



ILLUS 1 Site location map (Based on the Ordnance Survey map © Crown copyright)



ILLUS 2 The positions of the graves (above) and plans of them

remains survived within the cist and no finds were present.

GRAVE 2

Grave 2 (illus 2) survived as a single truncated sandstone side slab and two large basal elements surrounded by smaller, fragmentary slabs. The side slab barely projected above the level of the basal

slabs and the cist, which measured c 1.4m by 0.6 m, lay directly beneath the topsoil. Removal of the side and basal stones of Grave 2 revealed an undisturbed cut with vertical sides and a flat base, measuring 0.07m deep; it was therefore apparent that Graves 2 and 3 did not intersect. The dimensions of Grave 2 suggest that it would have contained the remains of a child or small adult. However, no skeletal remains were recovered from this cist and no finds were made.

GRAVE 3

This cist (illus 2) was a very robust stone box, measuring 2.2m (2m internally) by 0.7m (0.5m internally) by 0.2m deep. It was significantly less severely damaged than the other graves here. Some of the capstones had been dislodged but still rested at an angle within the cist at the eastern end; a mixed deposit containing a single white-glazed sherd, discovered beneath the capstones, demonstrated that they had been disturbed in modern times. The cist sides were built of massive upright slabs. The slabs forming the western half of the northern side of the cist were missing, with small burrows occurring in these gaps. Where present, the upper edges of the slabs on this side of the cist were broken at the subsoil level, while those forming the southern side were inclined slightly inwards; ploughing probably caused this damage. The base of the cist was formed by two massive slabs c 0.12m thick. Medium and large cobblestones were packed between the outer edges of the side slabs of the cist and the cut of the grave pit. These were found at the western end, centrally on the southern side, and at the eastern end of the northern side of the cist. Some of these cobbles appeared to have been slightly pushed into the clay subsoil sides of the cist pit, probably by the pressure and weight of the side slabs. The pit dug to hold the cist measured 2.3m by 0.7m by 0.32m deep, with vertical sides and a flat base.

Very fragmentary and poorly-preserved skeletal remains survived in a stiff clay within the cist. The bones were very friable and incomplete due to disturbance, with better preservation being encountered where bones lay beneath the fallen capstones. The mandible and left femur represented the most complete components of this skeleton (Sinfield, below). These remains indicated that the body had been laid to rest with the head to the west.

THE SKELETAL REMAINS

Laura Sinfield

These fragmentary remains consist of a large mandible (lower jaw), part of one femur (thigh bone), and extremely small fragments of bone. The preservation was extremely poor. The soil matrix around the bones was wet and very fine-textured which although, initially retarding decomposition of the soft tissues, would have accelerated the breakdown

of hard tissues once a skeletal stage had been reached. In fact no dental enamel was found, and the only dental structures found were the internal cementum and pulp chamber of one tooth, which could not be identified with certainty but may have been a lower premolar. Stature could not be estimated due to the fragmentary nature of the bones, but the individual appears to have been quite slightly-built. This contrasts with the size of the cist.

The only indication of age was that, prior to its disintegration on handling, the tooth sockets in the jawbone did not appear to be those of a deciduous dentition. Deciduous cheek-teeth have widely splayed roots to allow development of the adult teeth. The sockets were also single-rooted. In an adult mouth the premolars are single-rooted, but in a juvenile mouth the same position is occupied by double-rooted molars. There can be no certainty on this point, but it is probable that the individual was an adult.

The only sexing elements present were the mental eminence (chin) of the mandible, which was small and pointed, and part of the left gonial angle, which was smooth and obtusely angled. In an adult these are usually female traits, but in a sub-adult they could be of either sex. It must be remembered that sexing elements other than the pelvis can vary between populations and it is possible that the individual was a small-boned adult or male teenager, but very slightly more probable that it was a female adult.

While no definite conclusions can be drawn from the human remains from this cist, the probability is that the remains were those of a small adult, possibly female.

RADIOCARBON DATE FROM GRAVE 3

A sample of femur bone weighing 173g from Grave 3 was submitted to the Oxford Radiocarbon Accelerator Unit for analysis. The following discussion of the results is based substantially on their report. The calibrated age ranges have been determined by the Radiocarbon Accelerator Unit using the OxCal computer (v 3.3) programme (Bronk Ramsay 1995). Following calibration, using atmospheric data from 'INTCAL98' (Stuiver et al, 1998), the date is expressed at one and two sigma levels of confidence (Table 1).

The bone sample had a low percentage of collagen: approximately 0.75% of the protein had

Table 1
Radiocarbon date for Grave 3

| Lab No | Radiocarbon Age | $\delta^{13}\text{C}$ | Calibrated Age Ranges | |
|----------|------------------|-----------------------|-----------------------|-----------|
| | | | 1 sigma | 2 sigma |
| OxA-9378 | 1850 \pm 45 BP | -20.7 | AD 90-240 | AD 60-320 |

survived. Oxford Radiocarbon Accelerator Unit generally reject bone samples with less than 1% protein surviving. However, the combustion yield, the C/N ratio and the carbon and nitrogen stable isotope values suggested that the surviving protein was collagen-like, and consequently it was decided to proceed with radiocarbon measurement. Nevertheless, it must be stressed that the presence of contaminating organic material of a differing C^{14} age is likely to have a greater effect on samples with a low endogenous protein content, and the radiocarbon date for Grave 3 must be viewed with some caution.

DISCUSSION

The work near Easter Broomhouse has provided evidence for first millennium AD activity that would otherwise have been lost without record. Although long cists are found widely within Scotland, the densest distribution of long cist cemeteries occurs in the north Borders, Fife and the Lothians (Alcock 1992, 125; Duncan 1996, 330; Proudfoot 1996, illus 27, 445). These three burials near Easter Broomhouse represent an addition to the long cists already known in East Lothian (examples include Innerwick (Rees & Finlayson 1997); Knowes, Belhaven Bay, Kirkhill Braes, Dunbar (Henshall 1956, 278); and Castle Park, Dunbar (Perry 1993, 55; Moloney 1999, 278)). It is probable that the apparently haphazard arrangement of three long cists discovered at Easter Broomhouse could represent the surviving elements of a more ordered cemetery but there was no evidence for this in the areas examined. Ploughing had damaged all three cists and other, shallower graves may have been completely removed. Furthermore, some cists may have been destroyed by the removal of sandstone slabs, used to construct a nearby culvert, discovered during the watching brief

(see above) and it must be considered very likely that other graves survive outwith the area affected by the road widening scheme.

It is therefore not unlikely that the site was once a well-ordered and tightly arranged long cist cemetery similar to other examples in the Lothians (eg Thornybank: Rees 2002; Kirkhill Braes: Henshall 1956, 278). However, it is impossible to estimate the size of the graveyard at Easter Broomhouse, and the site does not, as far as can be told at the moment, meet Henshall's definition of a cemetery as 'six or more graves' (Henshall 1955, 265).

The extreme damage caused to the structure of the three cists by the plough had also had a deleterious impact on the burials contained within them. Indeed, the contents of two of the cists (Graves 1 and 2) had completely disappeared, leaving only the basal slabs and occasional side slabs. Even the more robustly-constructed third cist (Grave 3) suffered sufficient damage as to remove virtually all skeletal material. Together with the unsuitable soil conditions, this ensured that bone survival was poor and that sex and age determinations were difficult: analysis of the remains suggests that a female adult or a slightly built young male had been laid to rest in Grave 3 (Sinfield, above).

Long cist cemeteries have been seen as indicative of the beginnings of Christianity (see eg Alcock 1992; Close-Brooks 1984; Proudfoot 1996) and demonstrating territorial arrangements (Proudfoot & Aliaga-Kelly 1998). It is beyond the scope of the present paper to evaluate the significance of changes in burial customs from the scant remains recovered. It is nonetheless important to discuss the radiocarbon date for the burial in Grave 3, which is unusually early for a long cist cemetery. The radiocarbon dates from

long cist cemeteries in south-east Scotland demonstrate that they were in use generally between the 4th and 8th centuries AD (see Rees 2002 for a review of radiocarbon dates from long cists), although more recent excavations may be increasing this date range. The radiocarbon date for Grave 3 at Easter Broomhouse was derived from a bone sample which could easily have become contaminated and consequently must be viewed with caution (above). In the light of this, despite the supporting indications of an earlier beginning for the grave type, it would be foolish to use the solitary date from Easter Broomhouse to argue strongly for an early date for this new long cist. A dramatic change to the prevailing perception of the date range of this burial tradition in south-east Scotland is not yet sustainable.

ACKNOWLEDGEMENTS

CFA wishes to thank D Russell and C Winning of ERDC Group for their assistance throughout the course of this project. We are grateful to Gordon Barclay of Historic Scotland for his advice. The authors are grateful to Professor Ian Ralston, Andrew Dunwell and Tim Neighbour for comments on earlier drafts of this paper. George Mudie is also thanked for the illustrations. While thanks are due to all of the above, final responsibility for the paper lies with CFA and the authors. The project archive, comprising all CFA record sheets, plans and archive report will be deposited with the National Monuments Record of Scotland (NMRS). The human remains have been lodged with Historic Scotland's Finds Disposal Panel.

REFERENCES

- Alcock, E 1992 'Burial and cemeteries in Scotland', in Edwards, N & Lane, A (eds) *The Early Church in Wales and the West. Recent Work in Early Christian Archaeology, History and Place-names*, 125–9. Oxford (=Oxbow Monogr, 16).
- Bronk Ramsay, C 1995 'Radiocarbon Calibration and the Analysis of Stratigraphy: The OxCal Program' (Proc 15th Internatl 14C Conf), *Radiocarbon*, 37.2, 425–30.
- Close-Brooks, J 1984 'Pictish and Other Burials', in Friell, J G P & Watson, W G (eds) *Pictish Studies. Settlement, Burial and Art in Dark Age Northern Britain*, 87–111. Oxford (=Brit Archaeol Rep, Brit Ser, 125).
- Duncan, A A M 1996 'Early Christianity', in McNeill, P G B & MacQueen, H L (eds) *Atlas of Scottish History to 1707*, 330. Edinburgh.
- Henshall, A S 1956 'The long cist cemetery at Lasswade, Midlothian', *Proc Soc Antiq Scot*, 89 (1955–6), 252–83.
- Moloney, C 2001 'New evidence for the origins and evolution of Dunbar: excavations at the Captain's Cabin, Castle Park, Dunbar, East Lothian', *Proc Soc Antiq Scot*, 131, 283–317.
- Perry, D 1993 'Castle Park, Dunbar (Dunbar parish), long cist cemetery', *Discovery Excav Scot* 1993, 55.
- Proudfoot, E 1996 'Excavations at the long cist cemetery on the Hallow Hill, St Andrews, Fife, 1975–7', *Proc Soc Antiq Scot*, 126, 387–454.
- Proudfoot, E & Aliaga-Kelly, C 1998 'Aspects of settlement and territorial arrangements in South-east Scotland in the late prehistoric and Early Medieval Periods', *Medieval Archaeol*, 20, 33–50.
- Rees, A R 2002 'A first millennium AD cemetery, rectangular Bronze Age structure and late prehistoric settlement at Thornybank, Midlothian', *Proc Soc Antiq Scot*, 132, 313–55.
- Rees, A R & Finlayson, W L 1997 'A long cist burial at Innerwick, near Dunbar, East Lothian', *Proc Soc Antiq Scot* 127, 601–7.
- Stuiver, M, Reimer, P J, Bard, E, Beck, J W, Burr, G S, Hughen, K A, Kromer, B, McCormac, G, van der Plicht, J & Spurk M 1998 'INTCAL98 Radiocarbon Age Calibration, 24,000–0 BP', *Radiocarbon*, 40.3, 1041–83.

This paper is published with the aid of a grant from Historic Scotland