

Excavation of Iron Age Burials at An Corran, Boreray, Outer Hebrides

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with contributions by G Davies, M Giles & A Witkin

ABSTRACT

Archaeological recording of eroding dunes at An Corran on Boreray, North Uist, Outer Hebrides, was undertaken during October and November 1997 by ARCUS for Historic Scotland. Several structures were visible in section including a probable house, two cists and the partial remains of a small corbelled structure or cell. The cists and corbelled structure were fully excavated. One cist was a long cist containing a flexed inhumation, the other a short cist containing a crouched inhumation. The skeletal remains were very well preserved. Animal bones were found within the corbelled structure, some of them contained in a pit. The remains date to the middle and late Iron Age.

INTRODUCTION

Archaeological fieldwork was undertaken on coastal eroded dunes in the vicinity of An Corran, the south-east part of the island of Boreray, off North Uist, Outer Hebrides (NGR: NF 8576 8051) in 1997. In 1996 cist-like structures, which were exposed in the seaward section, were observed and reported to Historic Scotland by Lord Fergus Granville. The cists were subject to a preliminary investigation in July 1997 by Richard Hingley of Historic Scotland, who also observed a building at a lower level in the section. Historic Scotland commissioned Archaeological Research and Consultancy at the University of Sheffield (ARCUS) to undertake recording and salvage excavation of the cists and an assessment of the erosion. The work was carried out by Jane Downes and Anna Badcock over the course of six days in October and November 1997.

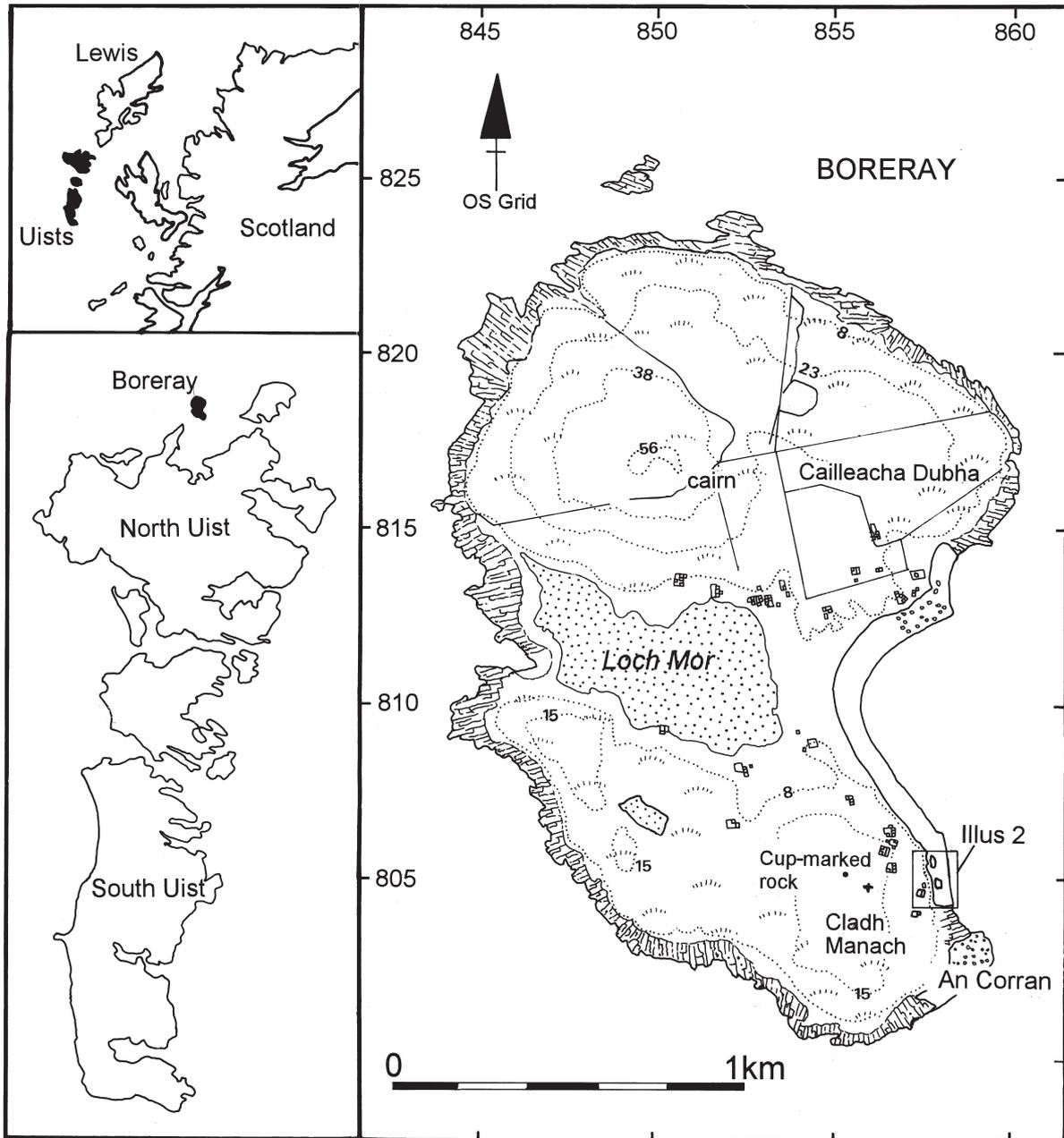
The island of Boreray is owned by SOAEFD and it has been uninhabited for approximately 30 years. The land use is sheep grazing.

TOPOGRAPHIC AND ARCHAEOLOGICAL CONTEXT

The island of Boreray is c 2.25 km long and 1.5 km wide. The solid geology is largely undifferentiated gneiss belonging to the Lewisian Complex (BGS 1992). The island is almost bisected east/west by the Loch Mor, and a gap in the large dunes at this point gives the island its distinctive bipartite profile when seen from North Uist. The north of the island is more hilly and rugged, reaching a height of 56 m OD, whereas in the southern part the land slopes gently

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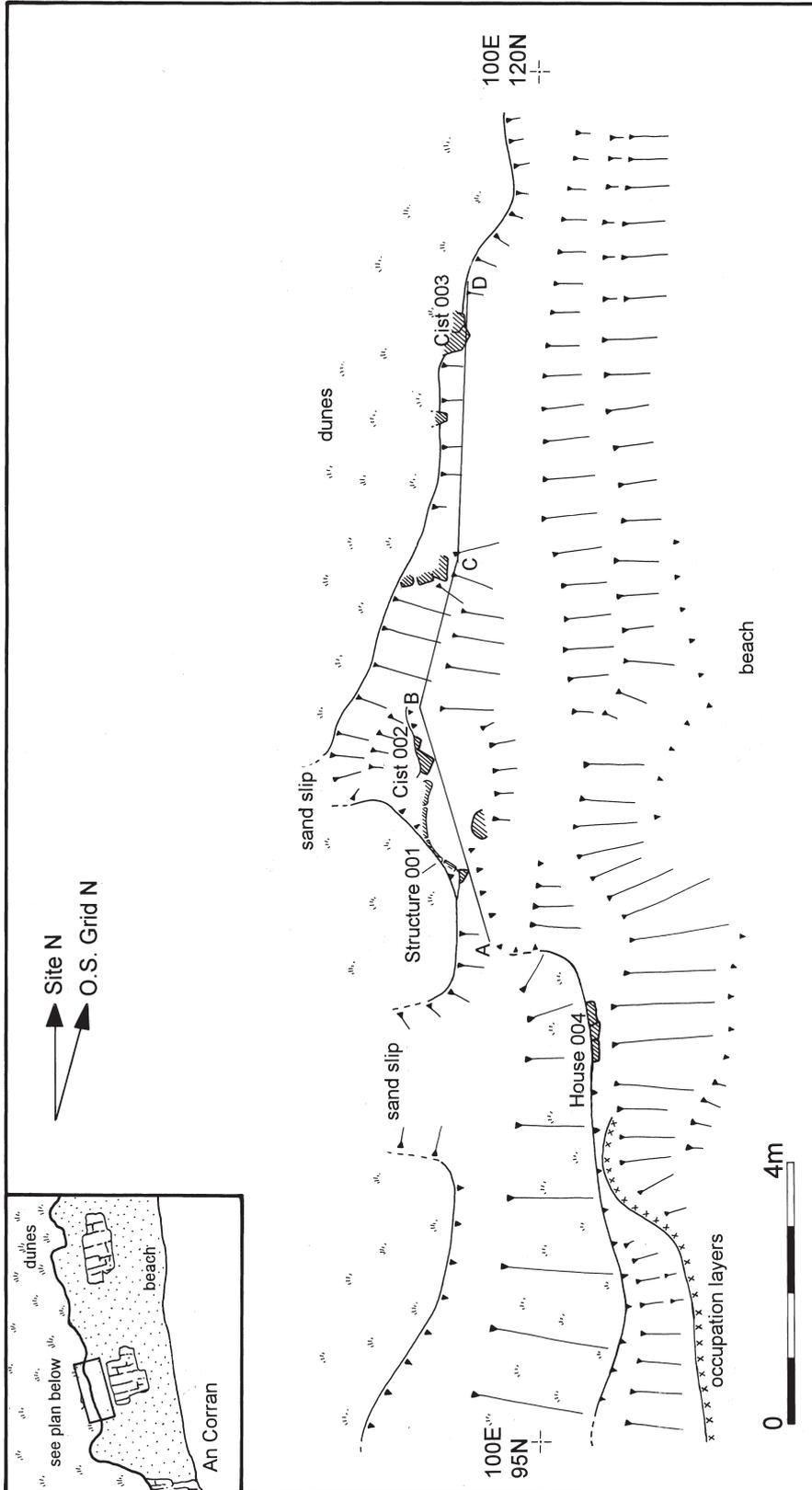
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ILLUS 1 Site location map (Based on the Ordnance Survey © Crown copyright)

eastwards from 23 m OD to the 8 m contour which marks the top of the eroding dune cliff face (illus 1). The dunes are partly grassed, and are terraced down to the beach. The terracing is the result of episodes of slumping of the sands (illus 2 & 3).

The island retains extensive, well-preserved remains of past use and occupation. Archaeological remains range from the Neolithic, attested by the chambered tomb Cailleacha Dubha on the north-east part of the island (illus 1) and the finds of a stone axe and polisher, to the township remains of buildings, enclosures and a head dyke which are shown on the OS 1:10,000 map (1971).



ILLUS 2 Plan of the principal features recorded in the eroding shoreline



ILLUS 3 Slumped sand dunes at An Corran (scale against structure 001)

On the south-east part of the island, near An Corran, post-medieval remains include a group of house compounds, each of which comprises a walled yard, corn-drying kiln house and byre. To the west of these houses is Cladh Manach, the site of some graves. Low boundaries run east/west up the hill-slope from the An Corran cliff edge, and small cairns can be seen along and amongst these. These boundaries are not shown on the OS maps and may be of some antiquity. There is also a cup-marked stone in this area (illus 1).

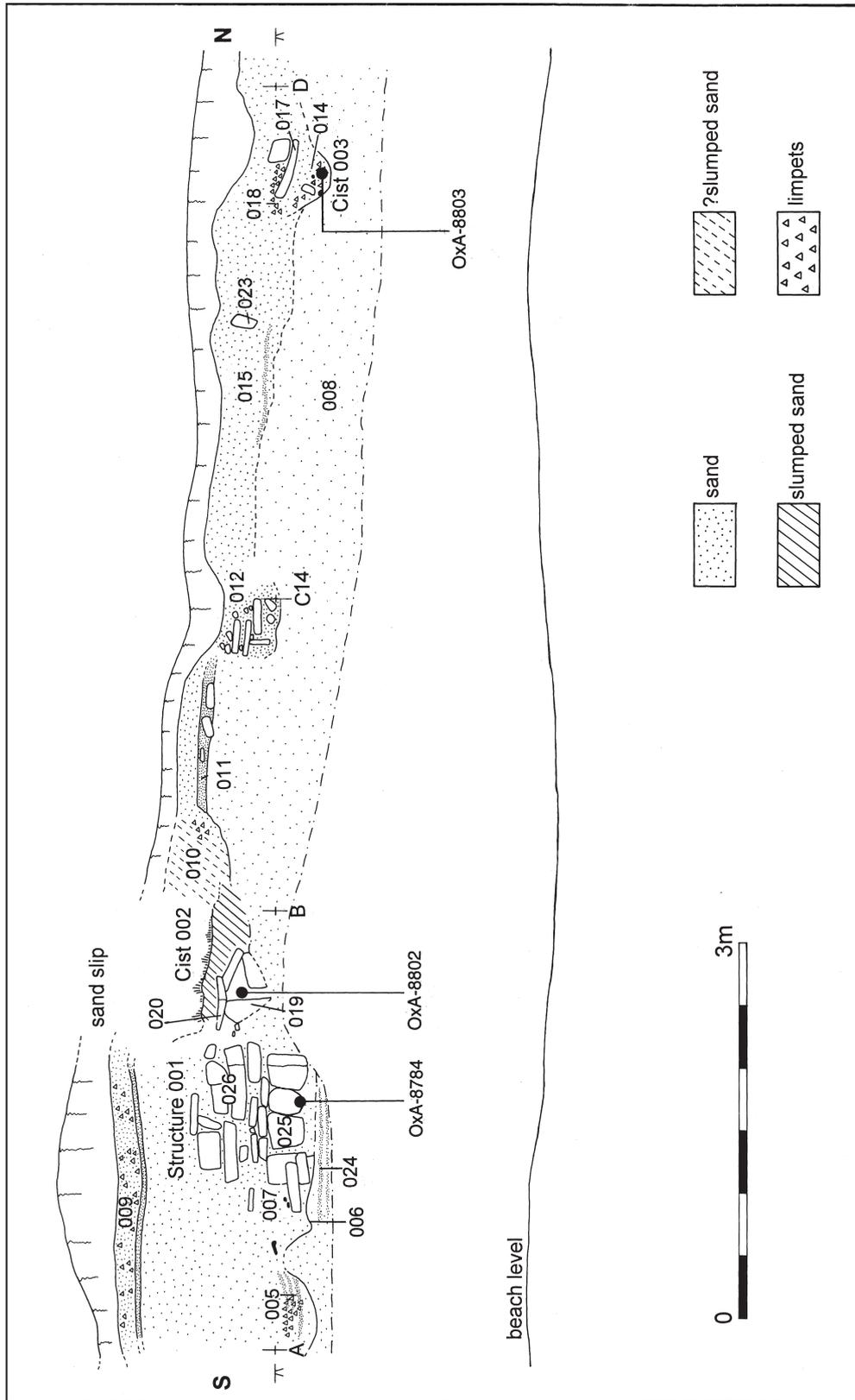
Some 200 m to the south of the findings detailed in this paper the remains of five or six dwellings, kitchen midden, bronze pins and fragmentary buildings were observed in the early part of this century (Beveridge 1911). Ordnance Survey officers reported midden material and buildings in the area of An Corran and northwards.

The Royal Commission (RCAHMS 1928) makes reference to cists eroded by the sea to the north and south of the cists reported in this paper, and report that many graves containing human remains have been exposed by high tides along the east shore of the island.

AIMS AND METHODOLOGY

The aims of the work were to record the location and nature of the exposed archaeological features, to record and excavate sufficient of the cist-like features to remove remains that were perceived to be at immediate risk of destruction through erosion, and to provide an assessment of the extent and rate of the damage caused by coastal erosion.

To this end, the part of the dune was surveyed and the features plotted (illus 2). A gridded surface collection of bone and artefacts scattered at the foot of the dunes was undertaken. The



ILLUS 4 Detailed sectional view of the central features in the eroding shoreline, showing positions of radiocarbon dating samples

section faces across the building and the cists were cleaned. The section across the building was recorded photographically, and the long section encompassing the cists was drawn to scale (illus 4). The two cist-like structures and the corbelled structure that were suffering the greatest degree of erosion were then excavated.

ARCHAEOLOGICAL RECORDING

SURFACE COLLECTION

The surface collection resulted in the recovery of a number of human bones, animal bones and pottery. These finds are discussed below under relevant specialist headings.

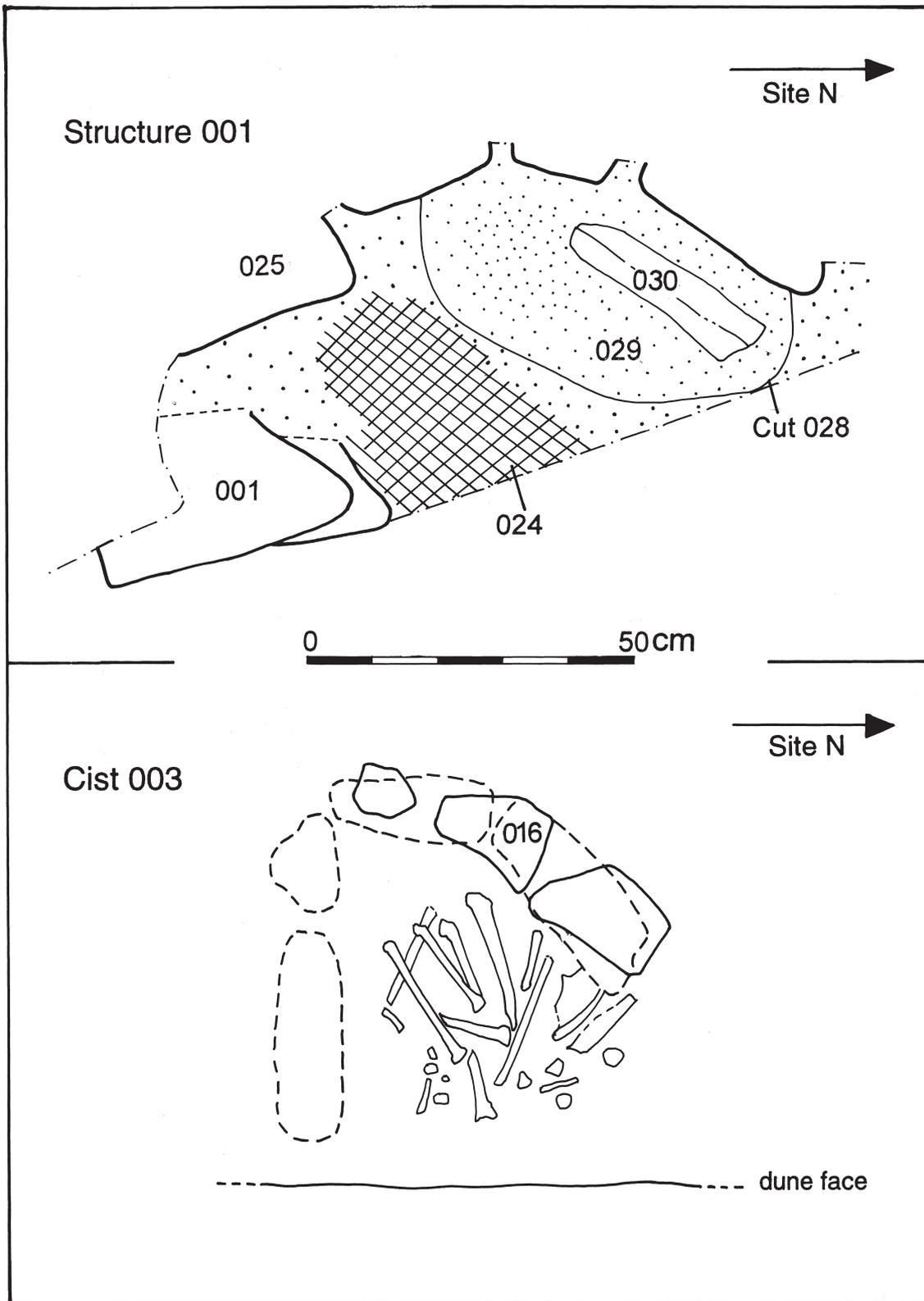
EXCAVATION

Structure 001 (illus 4 & 5)

This comprised the partial remains of a curved, corbelled structure. Only the western edge of the structure was present, as severe erosion had removed the majority of stonework. The base of the remaining structure comprised an arc of upright gneiss slabs (context 025) measuring up to 0.35 m, above which were laid up to five courses of angular gneiss blocks and occasional beach cobbles. These upper layers appeared to be corbelled inwards, although this may have been the result of dune movement at a later date. The relationship between the structure and the surrounding dune sand was hard to define. The upright base slabs appeared to have been placed within a shallow cut in the yellow dune sand, which had been infilled (context 007) to give the structure stability. Context 007 contained a few bone fragments on a level with the lower course of stones. It is possible that the top of the cut, and much of the infill, was disturbed or truncated by subsequent dune activity. Accumulated sand and a layer containing a relatively high proportion of limpet shells (context 009) lay over context 007 and the structure. Context 009 was directly underneath the turf horizon, and may represent a truncated midden deposit, or more recent ploughsoil.

Most of the fill of this structure had been eroded, but a sandy deposit (context 027, not shown on section) remained *in situ* against the lower course of stones. This deposit was fully excavated, and contained animal bones (see below), broken limpet shells and small charcoal fragments. A few sherds of pottery had been recovered during surface collection around the structure, but none was found within it. Most sherds were made from a moderately tempered gneissic clay, with organic inclusions (fabric type A1.2, see below) although two surface finds located close to the structure contained a coarser temper (fabric A2.1). Within the fill of the structure was a small pit containing a fill of slightly darker sand. This was apparently capped with an angular stone although this stone had sunk into the fill, and rested at an angle. Within the fill, and under the cap stone, were found a number of animal bones, including two burnt fragments, most of which were young cattle and probably came from one calf (see below). A piece of calf tibia was submitted for radiocarbon dating (illus 4).

Immediately below the structure, and within the dune sand was a banded layer of sand up to 0.1 m in depth (context 024, illus 4 & 5). This contained several lenses of brown, rust-coloured and burnt sand (with two burnt animal bone fragments) each up to around 5 mm in depth. The pit containing the cattle bones cut into this banded layer, and excavation showed that this layer continued underneath all the lower coursing stones of the structure. The banded layer pre-dates the structure; dune sand was found to cover at least part of the layer, but whether this represents



ILLUS 5 Details in plan of Structure 001 (above) and Cist 003

a build-up over some time, or a single episode of sand shift immediately prior to construction of the structure is not known. The remains of this structure fell out of the dune face in an interval of a week between visits to the site during archaeological recording.

Cist 002 (illus 4 & 6)

Cist 002 was situated immediately to the north of Structure 001. It had become partly exposed through natural erosion and it was apparent from an early stage that this structure was a cist, as thin slab orthostats (context 019) could be seen to support capstones (context 020). The end of the cist protruded obliquely from the dune section. Slumping of some of the supporting orthostats through erosion had caused large gaps to appear in the end of the cist.

The dislodgement of Structure 001 made it possible to cut back into the dune face to expose the entire cist structure (illus 6). The structure was a long cist measuring 1.6 m and was orientated NW/SE. The sides were bowed and measured a maximum of 0.56 m across. The orthostats forming the sides comprised medium and large gneiss slabs (max 0.5 m). These side slabs supported overlapped capstones of gneiss slabs. The capstones had slumped into the burial only in the chest area of the inhumation. The cist capstones were covered in a scattering of rounded beach pebbles, and may also have been covered in a small mound of sand.

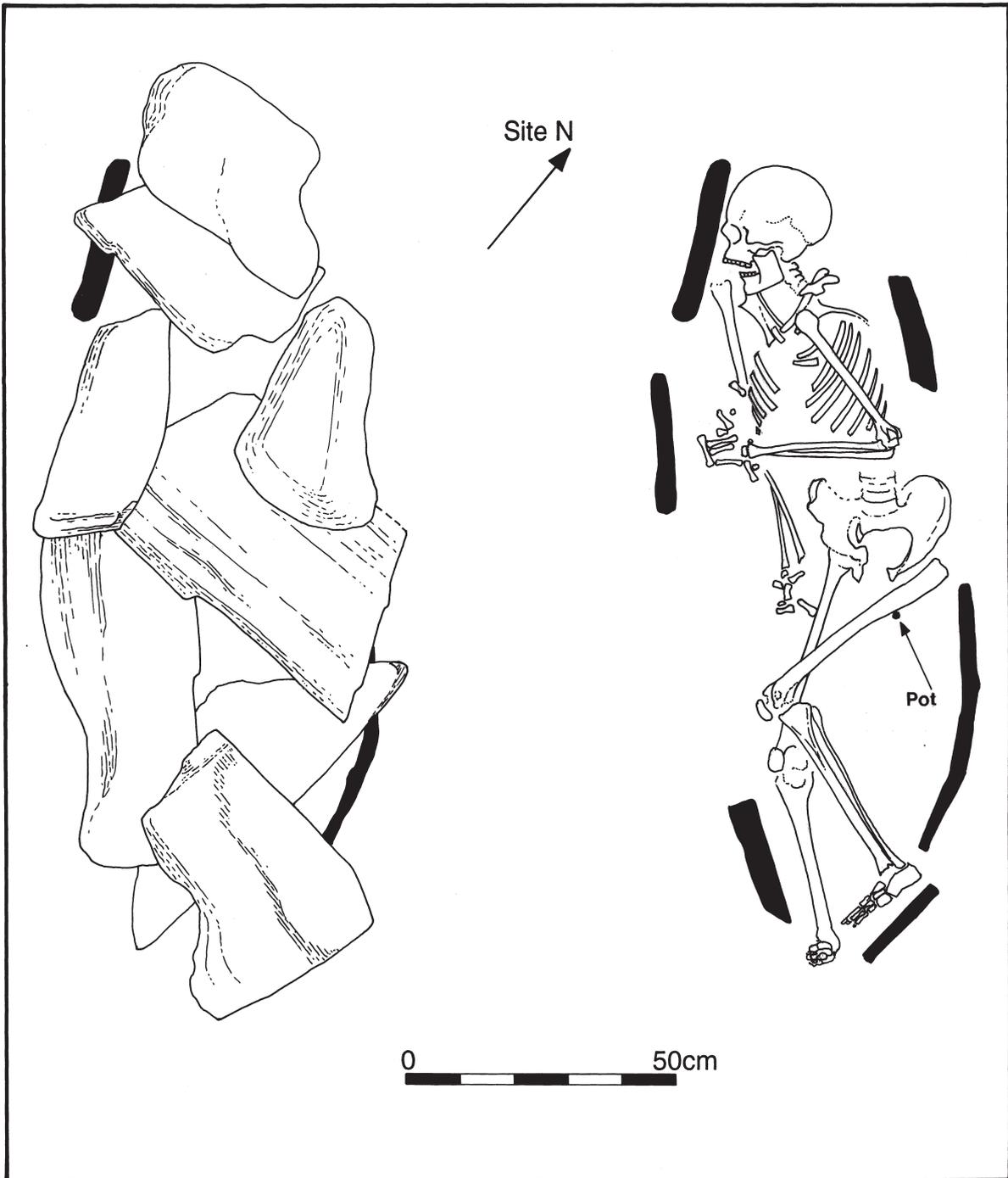
A single inhumation lay within the cist, the burial of an adult male (see below) laid on his right side with his head facing to the north-west. The left leg was flexed slightly across the right, and the left arm was bent upwards while the right was placed straight down. The face of the body was pressed hard against the supporting orthostat, and the right foot had been wedged against the adjacent orthostat so that it protruded upwards. The fill of the cist over the burial was loose sand which was indistinguishable from that surrounding the cist, with the exception of the sand in close proximity to the body in the area of the ribs and the pelvis, which was stained a dark pink colour.

Eight sherds of pottery were found within the dune sand (context 008) outside the cist on the north-east side. These were of fabric type A1.2 (see below). One body sherd of fabric type A2.1 was found within the cist, against the back of the flexed left leg. Two water-worn pebbles were found under the left foot.

Cist 003 (illus 4 & 5)

Structure 003 was a cist burial situated 7 m north of Cist 002. The cist was visible in the cliff section as a cut in the sand surmounted by a capstone (context 017) within which human bones were eroding from the section in the lower part of the fill. Upon excavation these bones proved to be parts of the feet of an adult male buried in a crouched position on the right-hand side with the head towards west. The bones were excavated and recorded in four spits; each bone was allocated a number and drawn on sketch plans. The spits were also recorded photogrammetrically.

The body had been tightly packed into an oval-shaped cut, which was a maximum of 0.7 m wide, survived to 0.75 m long and was 0.3 m deep (illus 5). The cut had been lined with medium-sized gneiss slabs (context 016) upon which rested the large gneiss capstone (context 017). A large stone block and some smaller rounded stones had been placed on the capstone. The sand fill of the cut (context 014) contained many limpet shells, and a deposit of limpet shells lay across the capstone (context 018, illus 4). A sherd of pottery was recovered from the upper part of the cists fill (BF 160).



ILLUS 6 Cist 002 before removal of the cover stones (left) and with the skeletal remains revealed

UNEXCAVATED FEATURES

Other features were observed and recorded in section but not excavated. The most substantial of these was House 004 (illus 2). This structure was founded at a lower level than the cists and was

likely to be earlier in date. It comprised substantial walls up to 1.0 m wide of coursed slabs, which stood 5 m apart and survived to c 0.7 m in height.

Between the two walls was an accumulation c 0.15 m deep of layers of dark brown sand, within which were lenses and of ash and charcoal. This deposit was suffering erosion through being scoured by the sea. The layers contained occasional small and medium stones, pottery and bones. Richard Hingley cleaned the section through these layers upon his visit in 1997 and recovered two sherds of pottery and some animal bone (see below). It is possible that the exposed deposit was the remains of occupation debris within a dwelling.

Coursed stone was visible in the dune section between Cists 002 and 003 (context 012). This feature was not investigated but may be part of a cist or wall. An orthostat (context 023) in the section immediately to the south of Cist 003 may be a part of another cist.

RADIOCARBON DATES

Three radiocarbon dates were obtained from samples of human bone and animal bone. Samples submitted were the right-hand talus from the human skeletons from Cists 002 and 003, and a calf tibia from Structure 001. The samples were processed and accelerator dated by the radiocarbon accelerator unit at Oxford University. The results are presented below:

Lab Code	Sample material	Yrs BP	Calibrated 1 sigma 68.2% confidence	Calibrated 2 sigma 95.4% confidence
OxA-8784	Animal bone from Structure 001 (context 027)	1640 ± 50	AD 340 (57.3%) AD 470 AD 480 (10.9%) AD 540	AD 250 (6.5%) AD 300 AD 320 (88.9%) AD 540
OxA-8802	Human bone from Cist 002	1875 ± 45	AD 70 (55.2%) AD 180 AD 190 (13.0%) AD 220	AD 20 (95.4%) AD 250
OxA-8803	Human bone from Cist 003	1815 ± 40	AD 130 (68.2%) AD 250	AD 80 (2.8%) AD 110 AD 120 (92.6%) AD 340

The age ranges were obtained using the Oxcal v3.1 computer programme (C Bronk Ramsey 1995: 'Proceedings of the 15th International C14 Conference', *Radiocarbon* 37) and the 1998 calibration curve (atmospheric data from Stuiver *et al* 1998: *Radiocarbon* 40, 1041–83).

The date ranges for the animal bone falls within the third to sixth centuries AD at 2 sigma level of confidence. The human bone dates fall in the first to fourth centuries AD. The human burials may be said to be somewhat earlier than the structure containing the animal bone despoit.

HUMAN SKELETAL REMAINS

Annsofie Witkin

This report describes the osteological analysis of the two articulated individuals from Cist 002 and Cist 003 (skeletons 002 & 003 respectively), and the disarticulated human remains recovered through surface collection. The inventory, age at death, sex, stature, and the pathological lesions present on the articulated human remains are summarized in this text; a complete listing of the data generated has been archived.

METHODOLOGY

The sex of the individuals was determined by using a visual assessment of sex-diagnostic criteria of the skull and pelvis as well as metrical data from long bones (Phenice 1969; Steele & Bramblett 1988; Buikstra & Ubelaker 1994; Schwartz 1995).

Assessment of age was based on degenerative changes (Lovejoy *et al* 1995; Suchey & Brooks 1990), molar attrition (Miles 1962) and suture closure (Meindl & Lovejoy 1985). The determination of age is an approximation, but the use of multiple age indicators improves accuracy, and the use of broad age categories also avoids the introduction of bias into the interpretation (White 1991, 320).

Stature was estimated using the measurement of long bones. These were measured with an osteometric board, and the relevant formula calculated by Trotter (1970) was applied.

Cranial and post-cranial non-metric traits were recorded on each skeleton as present or absent and a list of the traits present have been archived. Non-metric traits are so called because they are difficult to measure on an interval scale. These skeletal variants are therefore commonly recorded as present or absent (Saunders 1989, 95). These traits are believed to be genetically determined and they are used to describe groups by the frequencies of the traits recorded, and to determine the biological distance between groups (Brothwell 1981, 90; Schwartz 1995, 257).

The skeletons were examined for abnormalities of shape and surface texture. When observed, pathological conditions were fully described and recorded following the standards listed in osteological text books. For example, the recording of dental calculus was graded by Brothwell (1981, 155). Grade 1 corresponds to the term slight, Grade 2 to medium and Grade 3 to severe.

PRESERVATION

The skeletal remains were remarkably well preserved. However, the effects of the burial environment had rendered the bones very light and friable. Also, the cortical surface shows signs of erosion, degradation and root damage.

In general, skeleton 002 was in better condition than skeleton 003. Two factors can be identified as the primary contributors to the accelerated diagenesis of skeleton 003. First, disturbance and subsequent exposure at some point in antiquity would have increased aeration. Secondly, the shallow nature of the burial would have made the osseous material more susceptible to degradation (Henderson 1987, 43).

Skeleton from Cist 002

This skeleton is virtually complete with no post-mortem breakages to the long bones. The only bones missing are two of the carpal bones, nine of the hand phalanges, two of the feet phalanges and one right rib. The ribs are also moderately fragmented. Post-mortem damage is also present on the femoral condyles, the proximal ends of the tibiae and fibulae, the distal part of the sacrum and to the blades of the scapulae. The transverse processes on the first three lumbar as well as the spinal processes on the some of the thoracic vertebrae has also slight post-mortem damage. The dentition was complete with no ante- or post-mortem loss of teeth.

Sex (Male) Due to the excellent survival of the cranium and the pelvic bones, all the major sex diagnostic traits were available for examination. The overall shape of the cranium and the pelvis was that of a male. In regards to individual sex diagnostic traits, the cranium displayed very prominent supraorbital ridges and a strong glabellar profile, and the shape of the occipital area indicated this was a male. The pelvic traits, such as an absent preauricular sulcus and post auricular space, and prominent ischial tuberosities also confirmed this skeleton to be a male.

Age (35–46) Since the observable sites of epiphyseal fusion indicated that this individual was that of an adult, the age-at-death was obtained by using the dental attrition of the mandibular molars (Miles 1962), the auricular surface (Lovejoy *et al* 1985), the pubic symphysis (Suchey & Brooks 1990), and cranial suture closure (Meindl & Lovejoy 1985). The dental attrition of M_1 – M_3 provided an age between 36–40 years of age. The degenerative changes of the auricular surface indicated an age range of 35–39 and the pubic symphysis gave a mean of 45.6 years (27–66). The examination of the cranial sutures indicated that the majority of the sutures were closed. However, the lambdoid suture as well as the inferior and superior sphenotemporal sutures were still open. This provided an average of 46.5 years of age.

Stature (169 cm) The estimation of the stature was based on the measurements of both femora and tibiae and calculated using the formulae devised by Trotter (1970).

Joint Disease Changes due to the gradual deterioration of advancing age were present in the hip and knee joints and it was slightly more severe on the left side of the body. Similar changes were also observed on the mandibular fossae. The left first metatarsal also had proliferation of new bone coupled with eburnation which is indicative of osteoarthritis. This polished area is caused by damage to the cartilage in the joint and the subsequent bone on bone contact (Rogers & Waldron 1995, 35). This joint is one of the most commonest sites where osteoarthritic changes are seen and the prevalence increases with age. Though there are no links between the severity of joint involvement and clinical symptoms, the individual may have suffered pain and reduced mobility of the joint.

Spinal Joint Disease The spinal column displayed evidence of wear and tear. The neck vertebrae had lesions consistent with osteoarthritis. All of the vertebral segments also had new bone formation around the margins of the vertebral bodies which was most severe in the lower back. The new bone formation had also fused the lumbar segments number four and five. Schmorl's nodes, indentations on the vertebral bodies caused by compressive loading, were also present. The thoracic vertebral segments number 11 and 12 were also slightly wedge shaped. These changes in the spinal column are normal degenerative changes and the severity of the lesions increases with age.

Congenital disorders A developmental deformity was present on the sacrum. The morphological appearance of the sacrum suggests a partial sacralization of the first lumbar element. This abnormality caused a false joint to be formed which resulted in the formation of an extra sacral foramen. This deformity did not cause an abnormal curvature of the spine but it is possible that the defect caused the slightly increased degenerative joint disease present in the left leg.

Dental pathology All teeth had calculus (mineralized plaque) present both above and below the gum line. There was also evidence of periodontal disease on both jaws. Periodontal disease consists of an infection of the soft tissues which surround the teeth and the alveolar bone. This infection causes the alveolar bone to regress and would eventually lead to loosening of the teeth and their subsequent loss. This is one of the most common dental diseases in modern populations and it is also believed to have been common in past population groups (Roberts & Manchester 1995, 56).

Skeleton from Cist 003

This skeleton is represented by the majority of the skeletal elements. The long bones have several post-mortem breaks and the ribs and facial area are extremely fragmented. Also most long bones have post-mortem erosion damage to the ends. The distal end of the left humerus, distal end of

the sacrum, the area of the right knee and the skeletal elements distal to the supracondylar ridges of the left femur are missing. Also absent are the sternum and manubrium, three of the metacarpals, all of the carpal bones, five of the right tarsal bones, the fourth metatarsal and all of the phalanges. All cervical vertebrae are present. The thoracic vertebrae are very fragmented but it appears that a maximum of 11 thoracic are present. Lumbar four or four and five are also present. The dentition was complete with no post-mortem loss of teeth. However, left M^{2-3} , right M^3 and right M_3 was lost ante-mortem.

Sex (Male) Even though most of the pelvic skeletal elements were missing, almost half of the sex diagnostic traits were examined, and of these all the available traits were scored as male. The auricular area scored as male and the angle of the greater sciatic notch was very acute. All but one of the traits looked for on the cranium were available for scoring, and all but one of these was identified as being clearly male. These traits included a male occipital area, large mastoid processes and pronounced supraorbital ridges as well as a pronounced glabellar profile.

Age (45–56) This skeleton was that of an adult and the age given by the mandibular molar attrition (Miles 1962) was between 42–48 years. The degenerative changes of the auricular surface (Lovejoy *et al* 1985), provided an age of 45–55 years which was very close to the age provided by the cranial suture closure method (Meindl & Lovejoy 1985), which was 45–56 years. The pubic symphysis scored a mean age of 61.2 years (Stage VI: Suchey & Brooks 1990), which lies outside the range provided by the other methods. However, since the age range is between 49–73 years with a 95% certainty, it therefore appears that the age provided by the other methods falls within the parameters of the Stage VI age range.

Stature (173 cm) The stature was calculated using the equations devised by Trotter (1970). The skeletal element used was the left radius which was the only complete long bone. However, this estimate is likely to be conservative since the bone used had a long standing fracture at the distal end which had healed with a slight angulation. The bone was therefore slightly shorter than it originally would have been.

Joint disease The non-spinal joint diseases observed in this individual are very similar to that of the skeleton from Cist 002. Changes associated with advancing age were present in the hip joint. In addition, the normal morphology of the mandibular joint was also completely destroyed and the changes are indicative of osteoarthritis.

Spinal joint disease Osteoarthritic changes were also present on all of the neck vertebrae. The two lumbar vertebrae present have slight new bone formation around the rim of the vertebral bodies (after Brothwell 1981, 148). Schmorl's nodes were also present on the lumbar. This is a common condition and are often present on the vertebral bodies in the lower back.

Trauma The only sign of trauma amongst the skeletal remains was a fracture to the distal left radius which was present on this individual. There was no significant callus formation present which indicated the fracture was long-standing and completely resolved. This type of fracture, Colles fracture, is often caused by a fall on an outstretched hand. The displacement of the distal end of the radius may have caused problems with the median nerve, which runs through the carpal tunnel and supplies enervation to the hand.

Metabolic Bilateral cribra orbitalia was visible on the orbital roofs. Both lesions show evidence of remodelling which indicates healed lesions. Cribra orbitalia is caused by iron deficiency and is the skeletal

manifestation of anaemia. Anaemia may be caused by deficient diet, excessive blood loss caused by trauma, chronic illness and parasitic infection of the gut (Roberts & Manchester 1995, 166). Since the lesion was healed on this individual it appears that he survived the underlying cause for the deficiency and would have had no clinical symptoms of anaemia.

Non-specific stress indicators The x-ray taken of the fractured radius revealed two Harris lines. These lines represent periods of stress when the bone growth in length has been arrested. For the line to have occurred, the individual survived the stress episode and the lines are therefore recovery lines (Roberts & Manchester 199, 176). The aetiology for these lines to occur is not fully understood, but it is commonly believed these lines represents nutritional deficiencies or periods of childhood disease.

Linear enamel hypoplasia was present on the maxillary central and lateral incisors. These enamel defects occur during the development of the tooth. As with Harris lines the aetiology is not known and the periods of growth arrest which the lines represent are believed to have been caused by nutritional deficiency and childhood diseases.

Dental pathology Deposits of calculus were present on most teeth and this individual also suffered from periodontal disease which was present on both the maxilla and mandible. The lesions were considerable (after Brothwell 1981, 155) with more than half of the roots exposed and four teeth had been lost antemortem. The tooth loss is likely to be due to the advanced periodontal disease rather than tooth decay.

INTERPRETATION

Both of the individuals had survived into their fourth decade and had similar pathological lesions of the temporomandibular joints and the spine, though the skeleton from Cist 003 displayed more severe lesions. This is most likely to be due to this individual being slightly older. Both individuals have non-spinal degenerative changes, which is not an inflammatory condition but is caused by ageing and degeneration of the articular cartilage (Ortner & Putschar 1985, 419).

The spinal pathology testifies to a physically demanding life. The osteoarthritic changes present on the neck vertebrae are indicative of excessive mechanical loading. This suggests an activity-related cause such as carrying of heavy loads on the head (Larsen 1997, 176). There are, however, many other activities which may have caused the spinal changes. The degenerative changes present in the lower backs of the individuals would have produced clinical signs and symptoms such as stiffness and intermittent backache (Roberts & Manchester 1995, 107). Skeleton 002 would also have had a marked reduction of the movement of the spine due to the fusion of the vertebral elements.

The calculus deposits on the teeth, as well as the presence of periodontal disease, are both related to poor oral hygiene (Hillson 1996, 259). None of the individuals had any carious lesions. This may be due to the processing of foods. The use of stone mortars for the grinding of grains would have introduced minute stone particles into the food, which would have accelerated the wear of the teeth thus preventing the formation of caries in fissures or pits where food stuff could otherwise get trapped (Roberts & Manchester 1995, 53).

This osteoarthritic changes of the temporomandibular joint present on skeleton 003 is related to attrition, and it has been suggested that heavy attrition is predisposed to temporomandibular joint disease (Roberts & Manchester 1995, 54). This is likely to be the case with this individual since the wear of the biting surfaces was heavy.

DISARTICULATED REMAINS

The disarticulated human skeletal remains collected as surface finds were also analysed and are listed below.

TABLE 1
Catalogue of the disarticulated remains

Storage number	Ref	Description	Age & Sex
216	100/112	Left humerus, shaft fragment	Adult
233	100/108	Left I ¹	Adult
229	99/111	Thoracic fragment, right proximal rib fragment, vertebral body fragment	Adult
241	102/111	Right femoral condyles, right tibial proximal articular surface	Adult, male
242	111/111	Left humerus, distal third	Adult

The only metric measurement available for sexing was the bicondylar width of the femur. Since the bicondylar width was over 78 mm (after Bass 1987, 219), this was a skeletal element from a male. The tibial articular surface articulates with the femoral condyles indicating these fragments are from the same individual. The distal left humerus was also large and its robusticity suggested the bone also came from the same individual. Though it is impossible to be certain, it is very likely all bone fragments came from the same individual since all are of an adult and the long bone pieces are male. No pathological lesions were present on any of the bones.

ANIMAL BONES

Glyn Davies

The faunal remains recovered from the excavation at Boreray were analysed to determine the condition and character of the bones. A total of 260 bones was recovered from the excavations of which 142 were identifiable to either species or element. Fragment counts were used in quantification, as the use of Minimum Number of Individuals (MNI) would have been unreliable on such a small assemblage. Information on age, butchery and taphonomy was also noted. The condition of the bones recovered varied, though generally there were in poor or average condition. This was due to the surface of the bones, which was fragile and subject to flaking. The bone therefore had to be handled carefully and cleaning was limited to light brushing after natural drying. The bones were recovered from within Structure 001 and Cists 002 and 003, and as a general scatter of material in the area.

Only four species were positively identified in the assessment: cattle, sheep/goat, bird, and dog. Other pieces that could not be positively identified to species were recorded to one of four animal class sizes: cattle-sized, sheep-sized, sheep to cattle-sized and microfauna. Table 2 gives fragment counts for the assemblage subdivided by the archaeological features they were recovered from. Cattle were the only species that was recovered in sufficient quantities to allow analysis of the skeletal elements represented. A total of 35 bones were identified as coming from cattle, with the majority from Structure 001. Most of the bones are leg bones, mainly from the hind leg. This is particularly true of the bones from Structure 001 (Table 3).

TABLE 2

Fragment counts by archaeological features

	General	Structure 001 inside	Structure 001 outside	Cist 002 inside	Cist 002 outside	Cist 003	Total
cattle	5	23	6			1	35
cattle-sized	8	33		1		2	44
sheep/goat	2	1			1		4
sheep-sized	6	15		1		1	23
sheep to cattle-sized		27					27
dog	1						1
bird	1						1
microfauna	1	1		5			7
unidentified	36	78	3	1			118
Total	60	178	9	8	1	4	260

TABLE 3

Cattle fragment counts by skeletal part

	General	Structure 001 inside	Structure 001 outside	Cist 003
horn core				
skull				
maxilla				
mandible				
loose teeth		1 (0)		
atlas				
axis				
cervical vertebrae				
thoracic vertebrae				
lumber vertebrae				
vertebrae	1 (0)	1 (1)		
sacrum				
ribs				
scapula				
humerus		1 (0)		
radius				
ulna			1 (1)	
metacarpal				1 (0)
pelvis		2 (2)		
femur		1 (0)		
tibia		2 (2)	1 (1)	
astragalus		2 (2)	1 (1)	
calcaneum		3 (3)	1 (1)	
metatarsal	2 (2)			
carpals/tarsals		7 (3)	1 (1)	
metapodial		1 (1)		
phalanx 1				
phalanx 2	1 (1)	2 (1)	1 (0)	
phalanx 3	1 (1)			
Total	5 (4)	23 (15)	6 (5)	1 (0)

Numbers in brackets are for the number of pieces that come from neonate/juvenile animals

BONE GROUPS

Surface Scatter The general scatter contained a general mix of cattle and sheep bones as well as many fragmentary pieces. The one bird bone was a fragment from the tibiotarsus of a medium-sized bird; due to its fragmentary nature the species could not be positively identified but it could have been a sea bird. The

high number of bones that could not be identified is indicative of the fragmentary state of this material. As the bones from the general scatter were collected on a grid it was possible to examine their distribution. This showed that the majority of the bones from below the section came from two concentrations. The first was below Structure 001 and the adjacent midden/occupation layers 009 and 011. The second was from the area below wall 012. It is uncertain how far these bones may have moved once they eroded out of the section but the two concentrations are below the two points in the section where midden/occupation deposits were observed and this suggests that movement has been limited. Some of the bone could have a more recent derivation.

Structure 001 This was the largest collection within the assemblage and was less fragmented than the general scatter. Nonetheless, it was not in good condition and much of it was missing. Cattle dominate the identified bones. Most of the cattle bones were fragments of limb bones while cattle-sized rib fragments were also common. The rib fragments are probably from cattle as no other large mammals were found within the material. No skull fragments were identified and only one loose tooth was recovered. Almost none of the limb bone epiphysis had fused (Table 4), and the general condition suggests that most of the bones came from young animals as was common through the whole assemblage (Table 3). The material from Structure 001 is separated into that inside the structure and that recovered from the fill of the cut around the structure. Within Structure 001 it is only with the calcanium that more than one animal need be represented and the majority of these bones came from one calf. If the material does primarily come from the back legs of one animal this may have been deliberately deposited within the structure.

TABLE 4
Structure 001 cattle fusion

Bone	Proximal/distal	Age	Fused	Not fused
metacarpal	p	birth		
phalange 1	d	birth		
phalange 2	d	birth	2	
phalange 3		birth		
metatarsal	p	birth		
scapula		7 — 10 months		
pelvis		7 — 10 months		
humerus	d	12 — 18 months	1	
radius	p	12 — 18 months		
phalange 1	p	1.5 years		
phalange 2	p	1.5 years	1	2
metacarpal	d	2 — 2.5 years		
tibia	d	2 — 2.5 years		3
metatarsal	d	2.5 — 3 years		
calcanium		3 — 3.5 years		2
femur	p	3.5 years		1
radius	d	3.5 — 4 years		
ulna	p	3.5 — 4 years		
femur	d	3.5 — 4 years		
tibia	p	3.5 — 4 years		
humerus	p	3.5 — 4 years		

Cist 002 Very few bones were recovered from within this cist. What pieces were present were generally fragmentary and small. Of the eight pieces present, five came from microfauna and the few other pieces could simply be background scatter.

Cist 003 Only four bones were recovered from Cist 003. As with Cist 002 this would appear to represent a general background scatter of material.

TAPHONOMY

There was very little observed evidence for butchery but this may in part be due to the poor surface condition of some of the bones (Table 5). The one butchered piece was a rib probably from a sheep which had a cut mark across it. Four small unidentified fragments showed burning and two pieces were gnawed probably by dogs, one bone of which was within the assemblage. None of the bones showed evidence of pathological conditions but as with the butchery evidence this might have been obscured by the poor surface condition of some bones.

TABLE 5

Taphonomy

	General	Structure 001 inside	Structure 001 outside	Cist 002 inside	Cist 002 outside	Cist 003
burnt	1	2	1	0	0	0
gnawed	1	1	0	0	0	0
pathology	0	0	0	0	0	0
butchery	1	0	0	0	0	0

CONCLUSIONS

Although small in size the assemblage is interesting. Analysing the bones according to the context in which they were recovered can identify two main groups of bones. The first group is the general scatter of material from below the section, this appears to be material that has weathered out from the section and seems to represent a mix of fragmentary material that may relate to possible midden and occupation layers observed in the section. The second group, the material from Structure 001, is less fragmentary than the general scatter and dominated by young cattle, most are possibly from one animal. As many of these bones come from the hind legs it is possible that these remains could represent a deliberate deposit within Structure 001. Little inference need be drawn with regard to the age of the cattle, as young cattle often make up a large proportion of Iron Age assemblages (Mulville 1999), probably representing deliberate culling of young animals. As Structure 001 was heavily eroded and no human bones were recovered from it, it is unlikely to have been a burial structure. However, it would appear that animal bones have been deliberately interred within the structure.

THE CERAMIC ASSEMBLAGE

Melanie Giles

The ceramic collection from An Corran consists of 22 sherds, deriving from both sealed archaeological features and surface spreads of material on the beach which eroded out of the dunescape. Caution is needed in the interpretation of such a small group of sherds: post-depositional disturbance will have affected both the integrity of each group and the condition of the ceramics. However, macroscopic analysis of the assemblage was considered beneficial, to examine the general character of ceramics from the site and provide a corollary to the radiocarbon dating programme.

METHODOLOGY

The ceramics derived from four sealed archaeological features: the 'house' wall (context 004), the corbelled Structure 001, and the short Cist 003, its cut (context 013) and fill (context 014), and



ILLUS 7 Excavation of skeleton in Cist 002

Cist 002 and stained sand within it (context 022). The yellow-brown, dune-blown sand underneath all of these features (context 008) also produced a group of sherds. The surface collection of sherds from the dune near to Structure 001 was also made in July 1997, before the excavation took place (denoted as BF206), and two further surface spreads of material were collected from grid co-ordinates E99/N106 and E98/N106 (illus 2). The friable sherds were brushed rather than washed, and stored appropriately.

The assemblage was examined macroscopically, according to the guidelines issued by the Prehistoric Ceramics Research Group (PCRG 1997). The full catalogue, database and analysis can be consulted in the site archive. A few examples of vessel form are shown by illus 8.

RESULTS

Fabric sequence The fabrics were identified by the quantity and character of inclusions or temper added to the naturally sandy, micaceous clay used in the manufacture of vessels on the island. Fabric Group A was characterized as a gneissic tempered ware, varying from sparse to dense inclusions of crushed rock, with voids within the matrix which probably represented organic or shell/calcite inclusions. These had either been burnt out in firing or had leached out due to their deposition in sandy, acidic conditions. Group B also contained gneissic inclusions but no indication of organic or shell temper. These fabrics are summarized

below. The open-ended fabric sequence, composed along a ‘scale’ of sparse/dense rock fragments, allows for the inclusion of other fabrics, should they be found. (Hence although no ‘sparsely’ tempered gneissic wares were found within this assemblage, it is possible that further collections of material will produce such a sherd, which could be identified as B1.1).

TABLE 6

Fabric descriptions

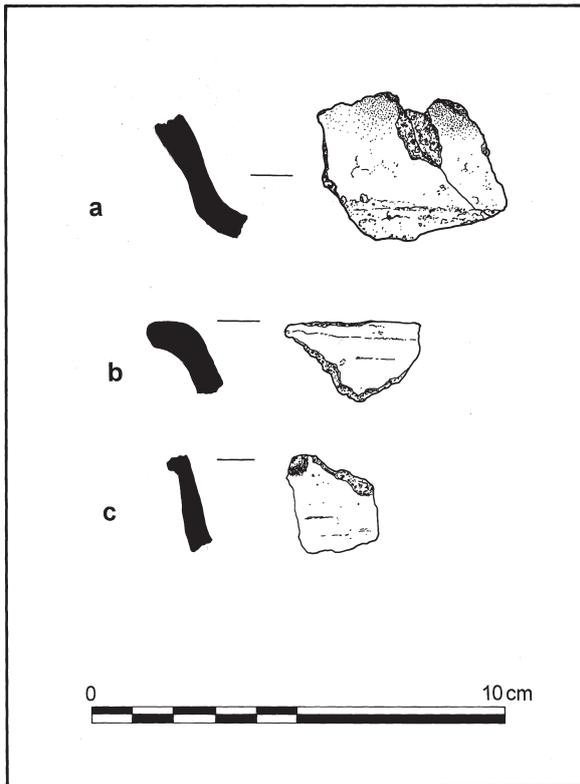
Fabric	Description	Example
A1.1	A sandy fabric, tempered with sparse-moderate (7–15%) gneissic inclusions, usually <0.5mm but less than 2mm. Subangular, crushed rock fragments give rise to an irregular, hackly fracture but the texture of the sherd is softened by the presence of (c 5%) organic inclusions within the matrix, visible as elongate, parched-out striations in the fracture. Moderate quantities of very fine mica are visible, probably occurring naturally in the clay. The sherds are often reduced to a reasonably hard, grey-black surface appearance. Hand-made.	context 014 SF160 (Cist 003)
A1.2	A sandy fabric, tempered with sparse-moderate (7–15%) gneissic inclusions (0.5–2mm diameter, subangular in nature), with occasional-rare large rock fragments (3–4mm diameter) within the matrix. Irregular, hackly fracture and sandy texture but slightly softened by the presence of organic temper, visible as elongate, parched-out striations (5%). Naturally occurring, moderate quantities of fine mica are also present within the matrix. Hand-made.	context 001 BF240. context 008 BF204
A2.1	A sandy fabric, with moderate-dense (25%) gneissic inclusions, up to 8–10mm diameter (and very rarely, up to 50mm), but more commonly 2–4mm diameter and subangular-fresh, angular in form. Hackly and granular fracture but slightly soft, soapy texture, deriving from organic and shell temper, visible as voids — both elongate and striated and more crescentic and thin laminations (10%, <30mm). Heavily micaceous, with rare large platelets of biotite. Variably fired, often slightly oxidized to a lid-brown to rust colour, but also reduced, grey-brown examples. The overall fabric appears heavily gritted and coarse but the matrix itself can be quite soft, due to the mixed temper of the clay and variable firing conditions. Hand-made.	BF296 (nr. Cist 001)
B1.2	A sandy fabric, tempered with sparse-moderate gneissic inclusions (7–15%, 0.5–2mm diameter, subangular in nature), with occasional-rare large rock fragments (3–4mm diameter) within the matrix. Irregular, hackly fracture and sandy texture, distinguished from the other fabrics by a lack of any organic temper within the matrix. Oxidized to a rust-red or brown, the resulting fabric is harder than the Group A ceramics. Naturally occurring, moderate quantities of fine mica are also present within the matrix. Hand-made.	context 004 BF210

Although four distinctive fabric ‘recipes’ can be detected within this small assemblage, it is obvious that they represent a ‘continuum’, gradually increasing in the amount and coarseness of inclusions added to the clay. The major difference lies in the decision to include either organic or — more rarely — shell inclusions.

The most common fabrics (A1.2 & A2.1) were coarsely tempered with gneiss and organic material, possibly to aid the coherence and thermic properties of the fabric, and produce a more rugged cooking vessel. Finer gneissic temper was rare (A1.1). The only example of a non-organic tempered vessel (B1.2) may indicate a difference in date, manufacturing tradition or vessel function, but with such a small number of sherds, this is pure speculation. However, it is interesting to note that very few organic tempered sherds were found in the later Iron Age assemblage at Dun Vulcan, on the west coast of South Uist (La Trobe Bateman *in* Parker Pearson & Sharples 1999, 213)

The rock inclusions, and minerals derived from their fragmentation, are identifiable as Lewisian gneiss, but little more can be said about their provenance and place of manufacture. It is possible that microscopic analysis of thin sections would be able to discern local variations, but this is not justifiable for such a small collection.

Manufacture and form All of the sherds came from hand-made vessels, and most were formless body sherds, presumably from jars or bowls. The irregular base of a medium size storage jar (illus 8a) was



ILLUS 8 Pottery

recovered from context 004, and the thin, poorly fired rim of a small-medium size jar or bowl was identified from context 008 (illus 8b). Interestingly, the latter is more rounded and everted than those in Topping's (1987) standard typology for the Western Isles. However, without any larger, conjoining sherds, it would be unwise to speculate upon the original vessel profile from which these sherds derive.

Decorative techniques A third of the sherds were simply finished by smoothing (including examples from fabrics A1.2 & 2.1), and the only example of the mainly organic tempered fabric A1.1 was heavily wiped. One sherd appears to have a fragment of applied decoration, possibly from a cordon, adhering to its edge (illus 8c, context 001).

Taphonomy The sherds all appear to come from small or medium-sized vessels, probably used for storage or cooking. Burnt residue, probably food debris, was found on the interior surface of three sherds, and sooting was noted on the external surface of five sherds, indicating a period of use in cooking (possibly as part of funerary ceremonies), before their deposition. However most appear to have been broken into small fragments, weighing less than 4 g on average, more rarely up to 12 g. They are heavily abraded, and worn to less than 30–40 mm in diameter, again with exceptions up to 60 mm. There are two examples of conjoining sherds, suggesting breakage *in situ*, in the sand layer into which the corbelled structure and cists has been cut and the 'house' wall. There are also three cases where sherds appear to derive from the same vessel. In general, the sherds in this collection are probably residual to most of the contexts in which they were found, caught up in acts of construction or burial.

Dating Due to the lack of diagnostic forms or decoration, and small nature of the collection, it is very difficult to assign a date to these abraded — and probably residual — coarseware sherds, especially where

fabric types endure for great lengths of time (La Trobe Bateman *in* Parker Pearson & Sharples 1999, 217). However, the basal sherd and everted rim would not be out of place within a middle Iron Age assemblage, usually characterized by coarsely tempered, medium-sized storage jars (Parker Pearson & Sharples 1999).

INTERPRETATION

Structures 001, 008 & spread BF206 One sherd was recovered from the corbelled structure: a small, fine fragment in fabric A1.2, which had the trace of what appeared to be an applied decoration, adhering to the edge of the sherd. No ceramic material was found in association with the pit containing animal bone, but the dune sand into which these features had been cut (context 008) contained a total of eight sherds, from two different vessels. Two of these conjoined, suggesting breakage and fragmentation *in situ*. All of these sherds were made from a moderately gneissic tempered clay, with organic inclusions (A1.2), and the vessel walls were of a uniform thickness (7 mm), suggesting a degree of standardization in the vessels from which these sherds derived. One of them had been well-finished by smoothing, and they were less abraded in general than other sherds from the site.

From an area close to Structure 001, two smoothed sherds in Fabric A2.1 were recovered in July 1997 (BF206), slightly coarser in temper but of a similar size, weight and degree of abrasion.

Cist 002 Only one sherd came from the stained sand within Cist 002; a small, coarsely tempered sherd (fabric A2.1), finished by smoothing but otherwise unremarkable. Its position however, against the back of the left leg, might be important; water-worn pebbles were also found under the left foot, and this might suggest that it was a more deliberate inclusion into the grave fill.

Cist 003 Only one sherd was found in the fill of the cut for Cist 003 (context 014), but this was the only example of the finer gneiss and organic tempered fabric, A1.1. It was of average size, heavily wiped on its exterior, with residue still attached to the interior surface of the sherd. Ceremonies surrounding the burial might well have involved the consumption of food and/or the breakage of such cooking vessels, in the vicinity of the grave, and it is possible that odd sherds were then incorporated into the fill of the burial. Although this must remain highly speculative, it might help explain the isolated fragments found in both cists. Another interpretation is that they are residual sherds, caught up in the cut of the cist, from the sand layer 008. However, the fabrics found in both cists are different from sherds found within this context, and this might support the idea of a chronological gap between the deposits.

House 004 Two sherds were recovered from the eroding fill (unexcavated) of a possible 'house' found at a lower level than the cists, by R Hingley in 1997. These sherds are distinctive due to their size and fabric — a purely gneiss-tempered clay (B1.2). The sherds conjoin to form the edge of an irregular, slightly pinched base, with sooted exterior and traces of residue and pitting on the interior. These differences may reflect their derivation from a domestic context.

Dune sand surface scatters (Site Grid Ref E99/N106 and E98/N106) From an area between Cist 002 and Cist 003 (illus 2), two ceramic spreads were collected from the surface of the dune sands, after their erosion from the crumbling section. Both groups are made from a moderate-finely tempered clay, with inclusions of both gneiss and organic material (A1.2), and although the number of sherds is small, they therefore contrast with the coarser material found within and around the cists themselves. They are small, light and worn, but as three sherds from E99/N106 appear to belong to the same vessel, they may derive from features or layers which are just beginning to be damaged or disturbed.

CONCLUSIONS

The interpretations offered in this report on the ceramics suffer from the small nature of the collection, the lack of diagnostic features and the residual nature of many of the sherds. However, differences in fabric and finish have been demonstrated between the cists and the corbelled structure, compared with the sherds from the house wall. Importantly, there is nothing within the collection to challenge the date or interpretation of these later prehistoric features, but further excavation of sealed contexts would provide a much more informed understanding of ceramic traditions, consumption and deposition practices, in this period.

DISCUSSION

From the records of previous archaeological discoveries, it would appear that both funerary and domestic remains from prehistoric to fairly recent periods have been eroding from the south-east coast of Boreray for some time. This is a reflection of the intensity of activity on this part of the island and also of the degree and rate of erosion. The problems of establishing relationships between features and structures exposed in a section of dynamic machair are manifest.

In the dune section that coastal erosion and subsidence has revealed at An Corran, the remains of three different types were discernible: a probable house, burials, and a part of a cell, all of which date to the middle or late Iron Age. The earliest feature, the probable house, may be part of a larger group of dwellings observed in very close proximity and to the south of this structure (see above). However, the structure was not investigated to any extent so will not be discussed further. On information currently available, it is possible that at least two centuries elapsed between the use of the locale as a burial ground with the cist graves and the activity associated with the construction of the corbelled cell. The two types of structure will therefore be discussed separately.

HUMAN BURIALS

The excavation and subsequent analysis of the long cist and short cist burials have revealed that both burials were those of adult males buried with their heads orientated to the west. These two burials are likely to be part of a larger burial ground; the bones recovered during surface collection were those of at least one more adult male, and human bones have been eroding from the same area since the archaeological recording of 1997 (Alec Ohnstad, pers comm). Furthermore, records have been made over time of the erosion of human bones from An Corran (see above).

Cist burials from the Western Isles, and from other parts of Scotland, have often been poorly recorded, and do not often contain datable artefacts; however, it has been generally assumed that short cists date to the Bronze Age, whereas long cists were in use in the later Iron Age and beyond. In recent decades these assumptions have been challenged (cf Hedges 1980), and the evidence from An Corran demonstrates that such distinctions cannot be made on the basis of the form of the burial, for the flexed burial in the long cist, and the tightly contracted burial in the short cist both date to the middle Iron Age. The burials do fit within the tradition of earlier Iron Age burials described for Scotland by Close-Brooks (1984), although the long cist (usually containing an extended inhumation) is more commonly dated to the late Iron Age. Likewise, the orientation of the bodies with their heads to the west is a feature of late Iron Age/Pictish long cist burials (see Neighbour *et al*, this vol, for further discussion of east/west Iron Age burials).

As the burials are of Iron Age date, their archaeological significance is enhanced for, as researchers of the period in the Hebrides have written, ‘there are notoriously few known funerary . . . sites dating to the Hebridean Iron Age’ (Armit 1996, 153), and ‘the almost complete lack of burials from this period prevents us from making inferences about age and gender associations’ (Parker Pearson & Sharples 1999, 23). The formal burials, possibly part of a large and ordered cemetery, compare with those from Galson, Lewis (Neighbour *et al*, this vol), and contrast with the occasional finds of partial human remains within houses, ditches and pits (cf Parker Pearson & Sharples 1999).

Neither of the burials excavated at An Corran was covered by a cairn, although a scatter of small cobbles lay across the capstones of Cist 002. The burials can then also be contrasted with late Iron Age/Pictish burials which lie under small rectangular and circular cairns (Ashmore 1980). Examples of this type of burial were unknown from the Hebrides until very recently when a square cairn covering an adult female was discovered at Kilpheder, South Uist (Brennand *et al* 1998), and a kerbed square cairn was discovered on Berneray, North Uist, during the construction of the North Uist/Berneray causeway (Badcock 1998). The burials from An Corran prove informative in adding to a characterization of Iron Age burials despite a scarcity of evidence in this area.

CORBELLED CELL

This structure had been severely damaged by dune erosion, thus the nature of the original deposits and contents of the chamber could not be determined fully. The analysis of the bone recovered from the remaining portion of lower fill layers determined that they were all animal bone. At Rosinish, Benbecula, a corbelled structure containing the remains of three adults and associated artefacts was excavated from the shore under rescue conditions (Crawford 1977). The Rosinish chamber was constructed in a similar manner to that found at An Corran, and comprised a footing of upright slabs supporting corbelled drystone walling. The Rosinish structure had been built into a pit, and the entire chamber was then covered with a mound of sand. The foundations of the chamber cut through earlier hearth deposits of black and orange ash (80 mm thick) which contained pottery sherds. Some of the sherds bore diagnostic patterns including grooves, rim chevrons and internal criss-crossed motifs, suggesting a ‘beaker-influenced cum late neolithic local hybrid’ pottery type (Crawford 1977, 96), although a secure date for the structure itself could not be determined. This can be compared to the structure at An Corran, which was built over burnt deposits and a stone-capped pit containing animal bone.

The occurrence of the young cattle bones within a pit under a stone slab, coupled with the corbelled nature of the structure and the presence of cremated animal bone, is also reminiscent of the features of some Hebridean wheelhouses. Comparisons can be made to Site B wheelhouse at Sollas, North Uist, and the small recess built off one of the cells (Cell 5) formed by the radial divisions within the body of the house, and the subsidiary cells (Cells A & C) constructed off and outside the house (Campbell 1991).

The pit within Structure 001 at An Corran contained bones from the hind quarters of a calf which had been sealed with a stone slab. This deposit can be said to have been deliberately placed, perhaps within a ritual context. In the wheelhouse at Sollas, North Uist, 60 of the 150 pits contained material (mostly animal bone, either articulated or cremated) which could have been deliberately placed or deposited during rituals (Campbell 1991, 141).

Radiocarbon dates from samples from four of the pits within the Sollas wheelhouse centre at AD 135, and Campbell (1991, 140–1) interprets the pits as deriving from a fairly restricted time

period associated with the foundation of the house between late first and early third centuries AD, making the pits and deposits significantly earlier than the deposit at An Corran. Armit contends that the pits continued to be dug over a more protracted period during the use of the wheelhouse (1996, 153–5). If the wheelhouse occupation did not extend beyond the second century AD the deposit at An Corran could still be somewhat later than those at Sollas, although such practices could have been continued over a long time. However, parallels between the remains at An Corran and those from the house at Sollas and elsewhere (examples discussed in Armit 1996) cannot be drawn too closely, for the previously known examples occur in a domestic, wheelhouse, context, and it is not known whether the cell at An Corran had been a part of, or associated with a house, or represents an isolated structure such as at Rosinish.

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