Society of Antiquaries of Scotland

A Fragmented Masterpiece

Recovering the Biography of the Hilton of Cadboll Pictish Cross-Slab

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Chapter 3

The archaeological investigations

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3.1 Introduction

The archaeological investigations associated with the Hilton of Cadboll cross-slab at the Chapel site in Hilton began optimistically with a small trial pit and ended with an almost overwhelming array of information on the cross-slab settings, the carved fragments and the archaeological deposits at the chapel site. The work of the numerous specialists who have been involved with this project has been incorporated into this chapter, while their detailed reports are in Chapter 7 and the archived database. The various strands of evidence have not been easy to reconcile and as a result it has been necessary, at times, to consider more than one hypothesis to account for our observations. The fragmented nature of the cross-slab itself, into an upper, middle and lower portion, has required different approaches to their analysis, which have been brought together in this section. The different faces of the cross have also been analysed separately and are referred to here as faces A, B, C, D and E. Face A is the main cross-face, the numbering then proceeding anti-clockwise around the monument, with E being the top.

The cross-slab

As part of this project, the upper portion has been studied and re-drawn by Ian G Scott (illus 4.1, 4.2 & 4.3), highlighting features such as the tapered and slightly unsymmetrical shape of the slab. The upper portion measures about 2.4m high, 1.4m wide and between 0.15m and 0.18m in thickness and has a distinctive red colouration on its surface. He has suggested that slight evidence for two upper and a top projections could be either remnants of the original cross or perhaps projections to aid the handling and lifting of the cross-slab. A soft plastic cast of the lower edge of the upper portion was made available by the National Museums of Scotland and this has informed the reconstruction work, although the soft nature of the material hampers certainty when joining fragments to it. Examination of this cast by Ian G Scott has revealed that some trimming of the lower edge has taken place, probably to enable the display of the upper portion in Invergordon House in the 19th century. The intriguing 17th-century memorial that was carved for Alexander Duff, which caused the removal of the Pictish cross face, has been analysed by George Thomson, who has suggested that the work, dated 1676, was relatively unskilled and possibly of more than one hand.

The discovery of the lower portion of the Hilton cross-slab still *in situ* at the chapel site has contributed greatly to what is known about the history of the monument. The top edge of the lower portion was broken revealing the laminated nature of the stone and the nature of the break. A fairly straight edge on one side of the break prompted early suggestions that the stone had been deliberately felled, although Peter Hill did not recognise any toolmarks that would have supported this. Subsequent research by Sally Foster has suggested that it blew down in a storm in 1674. The lower edge of the lower portion was also fractured where the substantial tenon for the cross-slab had broken off, clear evidence that the cross-slab had suffered a dramatic fall that required a redesign of its setting (see below). There were two enigmatic projections on either side of the lower portion, which had apparently been trimmed, perhaps to accommodate the re-setting.

It has been suggested by some that there are significant differences in the quality of design layout between both sides of the lower portion, prompting the idea that the cross-slab is the work of more than one person; one highly skilled, another less so.[1] This suggestion is, however, rejected by others in the Project Team (see Isabel Henderson, Chapter 5.2.2). It was also noted that the bottom of the designs on the two faces are not level, the bottom of the design on face C being above the level of the projections. Perhaps the cross-face (face A) was initially carved while the stone was lying down and the tenon broke before the other face could be carved. The order of events, which includes the designing of the faces, the breaking off of the tenon, the trimming of the projections and erection of the cross-slab, has been one of the most contentious

issues associated with this project and one that cannot be answered by study of the lower portion alone.

It was, however, possible to tell immediately from a comparison of face C, upper and lower portion designs, that there was a gap of about 0.4m, only part of which could have been the result of the trimming of the upper portion, mentioned above. This 'missing' middle portion has been partially reconstructed from the carved fragments that were retrieved from the excavation. So far, this has proved the most productive part of the reconstruction process undertaken by Ian G Scott. This work has resulted in the significant discovery of the nature of the central cross, surrounded by a spiral pattern in the lower panel of face C. Reconstruction of face A has also enabled the width of the original cross to be suggested and has established the presence of a series of human and animal motifs to either side (illus 4.4). Analysis of the fragmentation of the middle portion fragments by Ian Scott and Douglas Morton and analysis of the locations where the fragments were found, by Stuart Jeffrey, have indicated that there was a dramatic disintegration of this section of the cross-slab, which has resulted in large fragments being widely spread across the excavated area.

The petrology of the cross-slab, has been examined by Suzanne Miller and she has been able to suggest a quarry site for the slab nearby at Jessie Port (NGR NH 879772). She has confirmed that the stones of the supporting structure and that the small sandstone fragments within layer (007) to the west of the pit are not of the same geology as the cross-slab. She has suggested that the red staining could be an applied material, although further work would be required to determine this.

The fragments

The first small excavation at the chapel site revealed that the defaced fragments of the cross-face (face A) still lay *in situ* on the site where they had fallen, and the great hope was that by excavating and recording these carefully during the subsequent phases of work all these fragments could be retrieved and reconstructed into the lost cross-face. A total of 11,252 fragments was finally retrieved from the excavations, of which 7497 are thought to be from the Hilton cross-slab and 3370 bore a carved surface, and these are thought to constitute *c* 75 per cent of the missing cross-face. The digital catalogue containing all these fragments was created by Meggen Gondek and Douglas Morton in an Access database designed by Stuart Jeffrey. The most significant 800 fragments, which constitute the remains of the cross-face (face A) and the middle portion, are described by Isabel Henderson in Chapter 4 and have been photographed by Neil McLean of the National Museums of Scotland (a selection of whose photographs is included in Chapter 4). The catalogue entries for the complete slab are in Chapter 4, and the entire catalogue, including all the fragments, may be consulted on-line from the Arts and Humanities Data Service (University of York, http://ahds.ac.uk/).

An initial sorting process by Allan Hall and Amanda Brend separated the fragments into groups reflecting what they could contribute to the reconstruction. Class 1A includes those fragments with a recognisably carved surface, class 1B includes those with a flat surface, classes 2A and 2B probably derive from the Hilton cross-slab but have no carved surface, and classes 3A and 3B are only possibly part of the Hilton cross-slab. A small proportion of the fragments retrieved were natural stones (classes 4A & 4B). It would require thin section analysis of all the fragments to be absolutely clear whether the fragments belonged to the Hilton cross-slab or not, and visual examination was considered to be the most expedient approach. This sorting process enabled the work on the fragments to be prioritised to ensure that all the fragments with significant carving were dealt with first. Douglas Morton's analysis of the type and shape of the fragments has suggested that there were three phases of fragment removal. The first was the initial removal of the carved surface, represented by classes 1A and 1B fragments, followed by the removal of the underlying unsculpted stone (classes 2A & 2B). He has suggested that a third preparation of the surface for carving of the memorial took place and that this is represented by the class 3A and 3B fragments. However, these have practically no toolmarks and may just be a subset of classes 2A and 2B.

The impetus to locate each fragment within a 0.5m grid square was the hope that the final resting place of each fragment would reflect its original location in the cross-slab design. As a result, Stuart Jeffrey undertook a spatial analysis of the fragments within the excavation trench. This revealed that there was a fairly localised spread of the fragments within a few metres of the *in situ* lower portion. Within this spread, two high density areas could be detected. One was within a pit to the west side of the setting of the lower portion and the other was an area to the south-east of the lower portion. He interpreted these as possibly representing two discrete defacement episodes, one when the slab

was standing and the other after it had fallen. He also tentatively suggested that a slight patterning could be detected in the location of the fragments described as 'spiral' and 'vine scroll', although generally the location of the different kinds of carved fragment was extremely mixed and was therefore, unfortunately, not immediately helpful to the reconstruction process.

Only when the catalogue was finished was it possible to conduct a short pilot study to test whether the database could be used to aid the reconstruction process. Douglas Morton attempted to fit together all the fragments with decoration which was described as 'band', as it was hoped that this would indicate the shape of the cross of face A (see Chapter 7.2.4). This proved a very time consuming process and, while many joins were made, it did not result in the outline shape of the cross. It has shown, however, how the database could be utilised by future researchers to identify and retrieve specific fragments from storage. Total reconstruction of the cross-face proved to be an impossible task within the time available, but all the fragments have been analysed and catalogued, and the significant ones have been photographed, with the result that an immensely useful database is available for any future reconstruction work.

The chapel site and graveyard

In order to retrieve the fragments and reveal the lower portion, Historic Scotland commissioned a series of three excavations at the chapel site, each with very specific objectives. Initially, the primary aim was to retrieve fragments of the cross-slab found, predominantly although not exclusively, within a post-medieval context that lay above a medieval burial ground. Once the lower portion of the cross-slab was identified *in situ*, a second aim was to reveal its full depth in order that its conservation and retrieval could be considered and its archaeological context examined.

These excavations in 1998 and 2001 were of ever increasing size as the potential of the site was revealed, but the final excavated area was still a very small proportion of the chapel site as a whole, which presents certain limitations for the interpretation of the site. The excavations explored, within a very restricted area, the relationship between the setting in which the lower portion was found and its relationship with the ruined walls of the chapel and with the bank enclosing the churchyard. These relationships were not unequivocal because, on the west side of the setting, key stratigraphical relationships had been destroyed by the digging of a pit and, on the east side, the excavations were constrained by medieval burials.

The excavation revealed a series of features thought to date from Pictish to post-medieval times, which have been summarised in illus 3.1. The earliest deposits consisted of the slight remains of an early medieval stone structure, disarticulated human bones dated to the seventh to ninth centuries AD, wind-blown and beach sand layers with charcoal dated to the seventh to 12th centuries and a possibly oval-shaped enclosure bank. All these point to the presence of a significant site here in the Pictish period.

These early deposits were overlain by a wind-blown sand which contained medieval pottery and into which the lower portion of the cross-slab had been set. These sand layers were sealed by a medieval crushed sandstone surface, burials and the horizon of carved debris. Further structural elements consisted of the foundations of the chapel wall, the clay foundations of a shed and the final debris from the collapse of the chapel walls. The restricted nature of the excavations and the disturbances that were observed have hampered resolution of the relationships between all these features, especially in relation to the settings of the lower portion. As a result, several scenarios for the setting of the cross-slab are possible and these are discussed further below.

An understanding of the site formation processes and chronology has been greatly aided by the soil thin section analysis (Chapter 7.3.1) and the OSL dating (Chapter 7.3.2). The soil thin section analysis concluded that the site was formed of several, gradually accumulating, layers of wind-blown sands, which in the early medieval period contained very small amounts of anthropogenic material and organic matter. By the medieval period (ie by the mid-12th century), the wind-blown sands contained an increased amount of organic matter perhaps as a result of cultivation in the local vicinity. The soil thin section analysis also noted significant movement of iron within the lower wind-blown sands, which may be associated with the red staining of the cross-slab surface.

The OSL dating programme was specifically designed to address the question of the dating of the settings and this technique was chosen because of the sandy nature of the subsoil. Although still an experimental technique, it has proved extremely successful in dating the deposits that were sampled. The programme has provided a broad late first millennium AD date for the formation of the wind-blown sand into which the cross-slab was initially erected and a

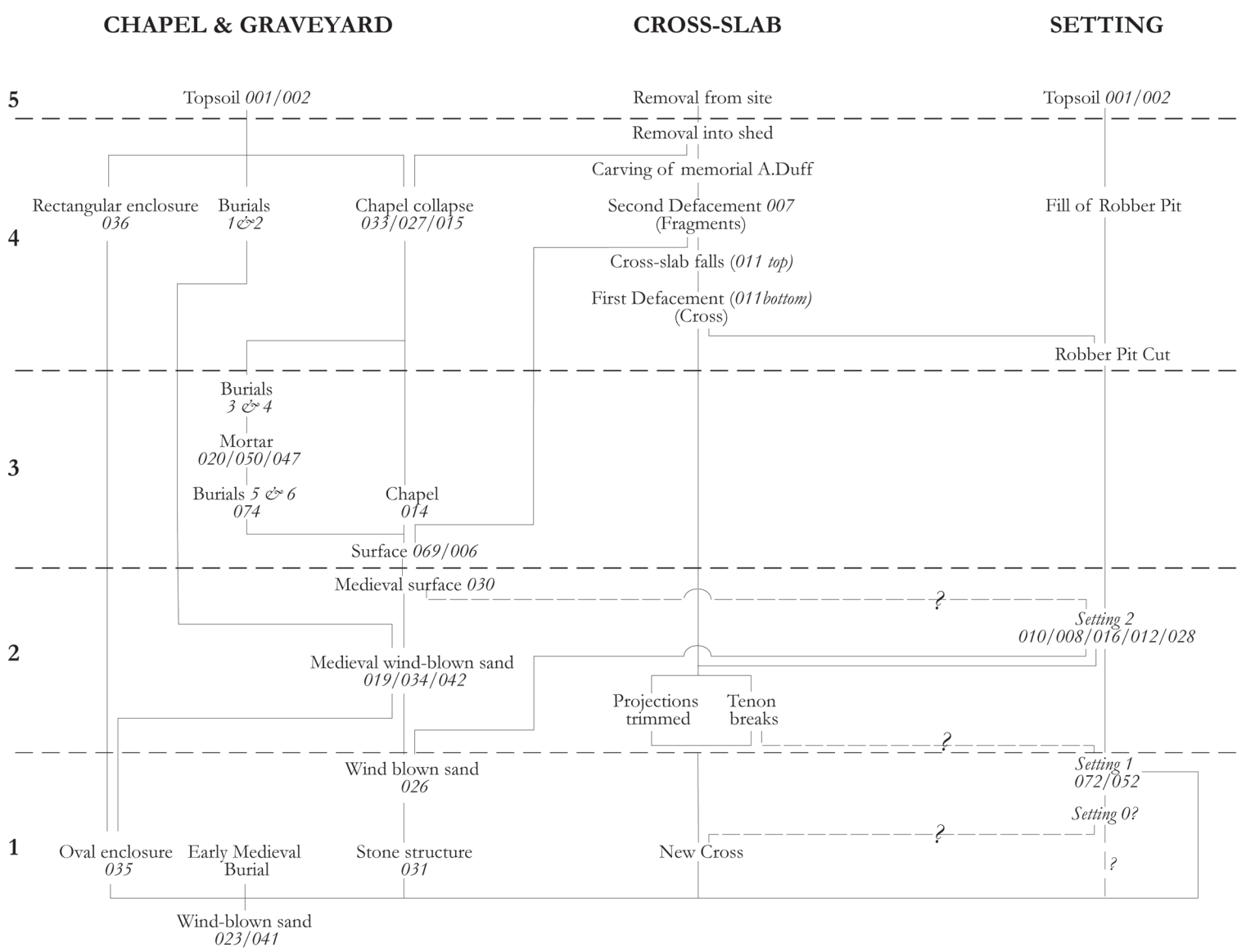

Illustration 3.1
Summary of excavated features

mid-12th-century date for the wind-blown sand that pre-dates the second cross-slab setting. Further OSL dates have been obtained for the primary fill of a pit associated with the setting of the mid-12th century and for the deposition of the carved fragments in the late 16th century. This later date is about 100 years earlier than would have been expected from the date on the memorial of 1676.

The site continued in use as a medieval cemetery in the vicinity of a chapel. In an attempt to reduce disturbance to the burials, only a few of them were lifted for dating and analysis. Those examined were found to be extended inhumations without cists, aligned both east/west and north/south. The two north/south burials (of children) were dated to the 14th to 17th centuries. That the cemetery continued in use after the Reformation is shown by an extended inhumation dated to the 17th to 20th centuries and by the remains of small children and babies that are likely to be relatively recent.

The excavations resulted in the retrieval of medieval and post-medieval pottery (Chapter 7.5.6), the earliest of which were sherds of Yorkshire type wares of the 13th or 14th centuries and Scottish Redware thought to date to between the 13th and 15th centuries. This pottery has helped to date the medieval layer of the site into which the cross-slab was erected but contrasts with the OSL date for this layer of the mid-12th century, which may suggest that the introduction of Scottish Redwares may have been earlier than the 13th century. The artefacts found are few in number and suggest that the site was in the vicinity of a settlement but not the focus for intensive activity (Chapter 7.5.7–9). Ironworking debris consisted predominantly, in the medieval and post-medieval periods, of nails, which could relate to the chapel, a post-medieval shed or the cemetery (Chapter 7.5.5).

The chapel was not excavated and there is little evidence for its date of construction. The external stratigraphy suggests that it post-dates the 11th/12th centuries and there is possible evidence that the cross-slab had already been re-erected on site when the chapel was built. This would agree with the only architectural fragment retrieved from the excavations (possibly a window mullion or a vaulting rib) which dates to the early 13th century (Chapter 7.5.3).

The settings

The evidence for the settings is probably the most problematic. The setting in which the lower portion was found was clearly not the original setting as the tenon had broken and was missing. The cross-slab was consequently set deeper into the ground with the result that part of the design on both sides was obscured (Setting 2). A large flat stone (Setting 1), which could have acted as a collar stone for the cross-slab, was set about 0.3m to the east of Setting 2. While Setting 2 has been dated by OSL to the mid-12th century, there is only a broad late first millennium date for Setting 1. The detailed descriptions of these settings are given below, and several possible interpretations can be put forward which include one, two or even three stages of cross-slab erection (Table 3.1). One issue that needs to be taken into account is that it is not clear what the function of the upper and lower projections was. They could form part of the original design, the upper projections being the outer extent of the arms of the cross and the lower projections the stepped base. They could also have been functional, assisting the lifting of the stone, perhaps being held within a timber construction during transportation. We do not know why or when the upper and lower projections were trimmed. It is possible that the trimming of the lower projections was to enable the slab to sit deeper into a collar slab, and the upper projections could have been trimmed when face A was defaced and being prepared for use as a memorial.

Whether Setting 1 was the original Pictish setting is also an important question as it has been suggested by Martin Carver that the cross-slab was brought to this site from the cliff top to the north of the chapel.[2] Another suggestion is that the stones of the two settings are in fact modified parts of the same setting. However, while there are several possibilities, to introduce yet another setting into the story would not be the simplest explanation of the remains so far uncovered. There are therefore several complexities to be considered when bringing together all the evidence presented below. Each aspect of this complex story is considered in detail as it arises in the hope that a satisfactory conclusion can be presented.

3.2 The excavations

Kirkdale excavations 1998

In 1998, Historic Scotland funded a three-day trial excavation to test whether the cross-slab once stood at the chapel site. This work was undertaken by John Triscott and Paul Sharman of Kirkdale Archaeology in 8–10 July 1998.[3] A trench, 6sq m in area, was placed

Table 3.1
Chronology and phasing of the site

Phase	Description	OSL Date	Calibrated Radiocarbon dates 2	Pottery	Phase Date	Interpretation
1	Wind-blown sand and cross-slab Setting 1		AD 650–860 (context 026) AA-54984 (GU-11013) (charcoal, cf Betula) AD 680–900 (context 026) AA-54985 (GU-11014) (charcoal, cf Betula) AD 980–1160 (context 026) AA-54986 (GU11015) (charcoal, Betula) AD 680–900 (context 026) SUERC-9141 (GU-13807) (human bone) AD 680 –890 (context 026) SUERC-9142 (GU-13808) (human bone)		Late 1st millennium AD to mid-12th century	Accumulating wind-blown sand during Pictish period, collapse of A high status structure, human burial and enclosure bank. Setting 1
2	Cross-slab Setting 2	1140+70 AD SUTL 1449 (context 019) 1120+70 AD SUTL 1448 (context 016) 1100+70 AD SUTL 1447 (context 042)		13th–15th	Mid-12th–13th century	Medieval setting for cross-slab and medieval wind-blown sand
3	Medieval chapel and burial ground		AD 1310–1620 (Skeleton 3) AA-54982 (GU-11011) (human bone)	13th–15th	13th–15th centuries AD	Construction of the chapel and use of burial ground. Medieval soil horizon seals the earlier settings

Table 3.1 (cont)
Chronology and phasing of the site

Phase	Description	OSL Date	Calibrated Radiocarbon dates 2	Pottery	Phase Date	Interpretation
			AD 1410–1630 (Skeleton 4) AA-54983 (GU-11012) (human bone)			
4	Defacement of cross-slab (context 007), shed and burials	1570 + 25 AD SUTL 1450 (context 007)	AD 1520–1960 (Skeleton 1) AA-54981 (GU-11010) AD 1650–1960 (context 011) SUERC-9143 (GU-13809) (horse jaw)	13th–15th	Late-Medieval/ Post-Medieval	Continued use of burial ground, attempt to dig up the cross-slab, defacement of the cross, cross-slab falls, face is dressed for re-use. Post-Medieval shed and continued use of site as a burial ground, collapse of Chapel gable
5	Topsoil and turf			13th–19th	20th century	Modern grass cover

to the west of the chapel (illus 1.3), where the first edition Ordnance Survey map of 1872 depicted the 'site of Standing Stone (sculptured)' (illus 1.4). Below turf and topsoil, the excavators came down on to a bank of loose rubble that extended westwards from the remains of the chapel wall. This debris contained a few sherds of post-medieval pottery and a sandstone architectural fragment described as a 'vaulting rib' (context 002) (illus 7.21). A ridge of orange brown sand and stones was found at the base of the rubble bank and was interpreted as the remnants of an annex wall to the west of the chapel. To the east of this ridge, stony sand containing a clay pipe stem sealed a thin layer of soft grey sand, which in turn sealed a dense layer of carved fragments. This layer of fragments was exposed over an area only 1m square (which is equivalent to square 1020 E 1030 N, see below). About 40 carved fragments were retrieved from this horizon and were interpreted as the debris from the defaced side of the cross-slab. Four large bags of this soil layer (equivalent to context 007) were taken for later dry sieving, in order to retrieve the many small, uncarved fragments. Beneath this horizon was a mid-grey sand which was not explored further. The finds from the layers above the fragment horizon include post-medieval pottery, some fragments of mammal bone, a few nails, a fragment of green bottle glass and some shells, which are all consistent with a post-medieval date. Apart from an architectural fragment, which may have been from the destruction of the chapel, no medieval finds were recovered.

The presence of these carved fragments indicated that the Pictish stone had indeed been re-carved at this location, and it was thought that this probably took place in the 17th century when the Duff memorial was inscribed. The lower portion was not located at this time. The stony ridge and rubble deposits were interpreted as the remains of a 19th-century lean-to 'shed' noted by Stuart (1856) as abutting the chapel and in which the cross-slab had once stood. No carved fragments were found in the area to the east of the stony ridge.

Kirkdale excavations 2001

The success of the first season was followed by a second season in January 2001, when Kirkdale Archaeology returned to Hilton for a three-week excavation, directed this time by Dave Murray. This season aimed to retrieve the remaining fragments that the earlier excavations suggested lay in a discrete and

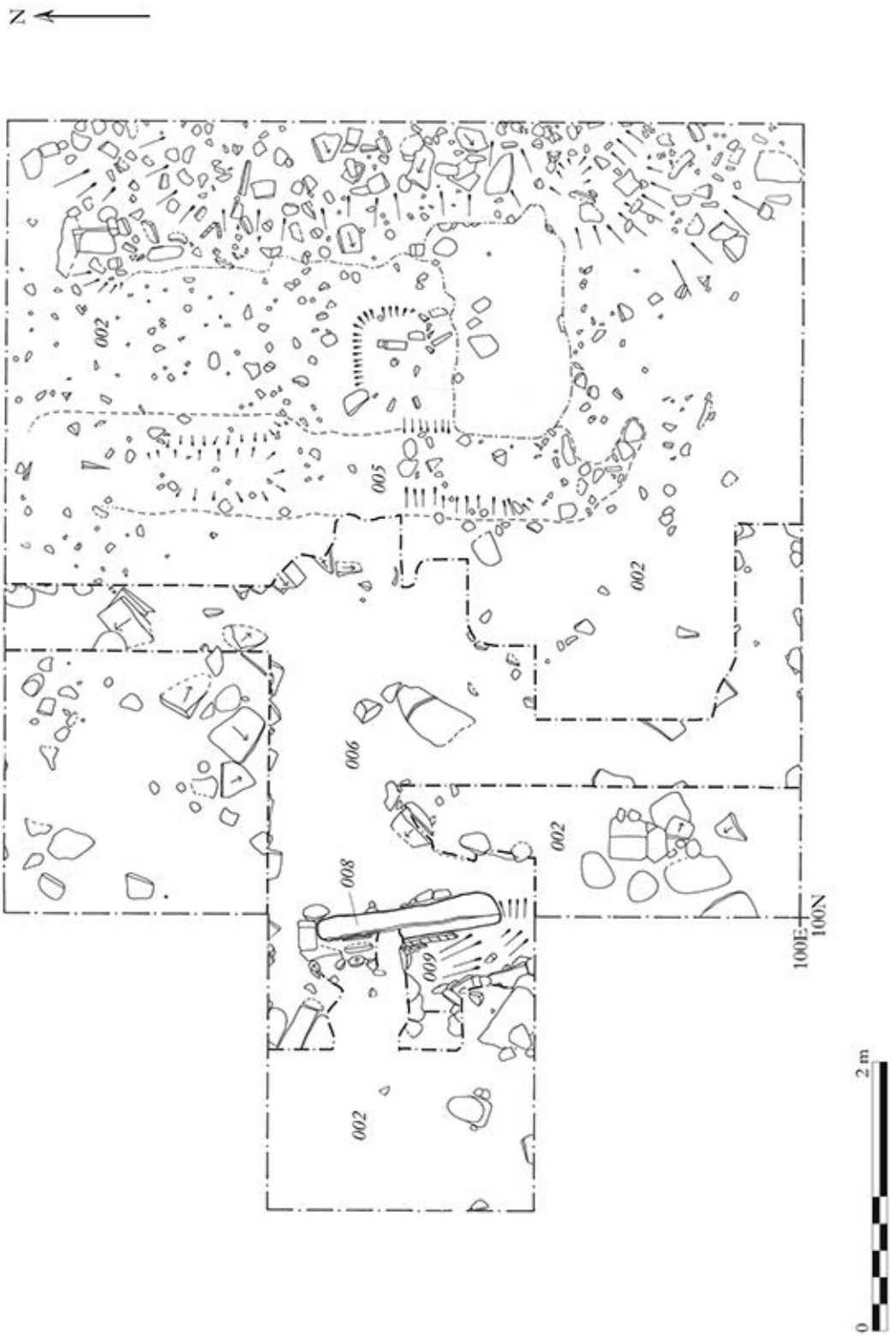

Illustration 3.2
Kirkdale plan 2001

superficial context just beneath the turf.[4] In total, an area of 38sq m was uncovered (illus 3.2). The ridge of mortar and stone (005) was exposed further in plan and found to run parallel with the chapel wall and to have a southern return towards the chapel, forming a round corner. This was interpreted as the remains of a possibly D-shaped annex.

As no fragments had been found to the east of this stony ridge during previous work, the 2001 season concentrated in the area to the west of it. There, the horizon of fragments (007) was uncovered just below the turf and topsoil (001 & 002). The site was then laid out with a grid and excavated in 0.5m squares, and the locations of the carved fragments were identified with unique numbers linked to the squares. It was hoped that this might aid in reconstructing the Pictish design. There was little to differentiate between the sand that was excavated as context (002) and that excavated as (007), the latter being distinguishable only by the presence of carved fragments. Squares to the east, north and south of the lower portion were investigated in order to see how far the fragments spread, but the westward extent of the debris was not investigated fully. The results of this work showed that the carved fragments were concentrated in an area about 3m by 3.5m lying to the east of the lower portion, and a total of 740 'certainly-carved' and 122 'possibly-carved' fragments were retrieved.

Not all the squares within this trench were excavated completely to the bottom of the debris layer (context 007), because effort was being concentrated on squares which were producing carved fragments, the retrieval of which was the principal aim of the project. Illus 3.2 shows the exposed features after the topsoil (001) and some of the layer beneath (002) had been removed. The areas where layer (006) is exposed show where the carved fragments (007) have been removed from the plan.

At the very end of the excavation, when cleaning the side of the trench for recording, the lower portion of the Hilton cross-slab (008) was discovered *in situ* at the western edge of the original trench (illus 3.2). The trench was then extended westwards in order to investigate the lower portion. A cut (009) around the west side of the lower portion was identified and part of its fill, which consisted of carved debris, was excavated. The upper part of the fill contained large stones and was excavated as context (002), while the lower fill was excavated as a continuation of context (007).

Kirkdale concluded that the digging of the pit beside the lower portion of the cross-slab had been undertaken in an attempt to dig up the cross-slab in 1676 and when this failed, probably because of the great depth of the setting, the cross-slab was deliberately felled and then prepared for use as a memorial to Alexander Duff. The condition of the top of the lower portion and the location of the densest concentration of fragments suggested to them that the cross-slab had fallen to the east. It was then re-dressed and the carved fragments swept off the stone to the south. Another significant find was a fragment of a medieval relief cross of a different geology to the Hilton slab, which was found just east of the lower portion within context (007) (Finds number 1000 1030.001, illus 7.47). Some post-medieval pottery, disarticulated human bone, a roof slate and nails were recovered from context (002), but no other finds were noted.

GUARD excavations

Later in 2001, GUARD were commissioned by Historic Scotland and its partners to undertake further excavations at the west end of the chapel (illus 3.3 & 3.4). A degree of continuity between the Kirkdale and GUARD excavations was achieved by the employment of the majority of the same staff for the second and third phases. The four-week long excavation took place in August and September 2001 and was directed for GUARD by Heather James.

The aims of the excavation were:

1 to recover all the remaining fragments of the sculptured stone;
2 to recover information about the cross-slab's context and its relationship to the chapel and outer enclosure bank;
3 to provide dating evidence for the setting;
4 to provide Historic Scotland with sufficient information to allow a decision to be made about whether or not to attempt to recover the lower portion;
5 to recover evidence for any surface treatments, such as paint, which might explain the red colouration (or staining) of the carved surface;
6 to integrate the new information with the art-historical and reconstruction work being undertaken by Isabel Henderson and Ian G Scott;
7 to return the excavated area to its pre-excavation appearance.

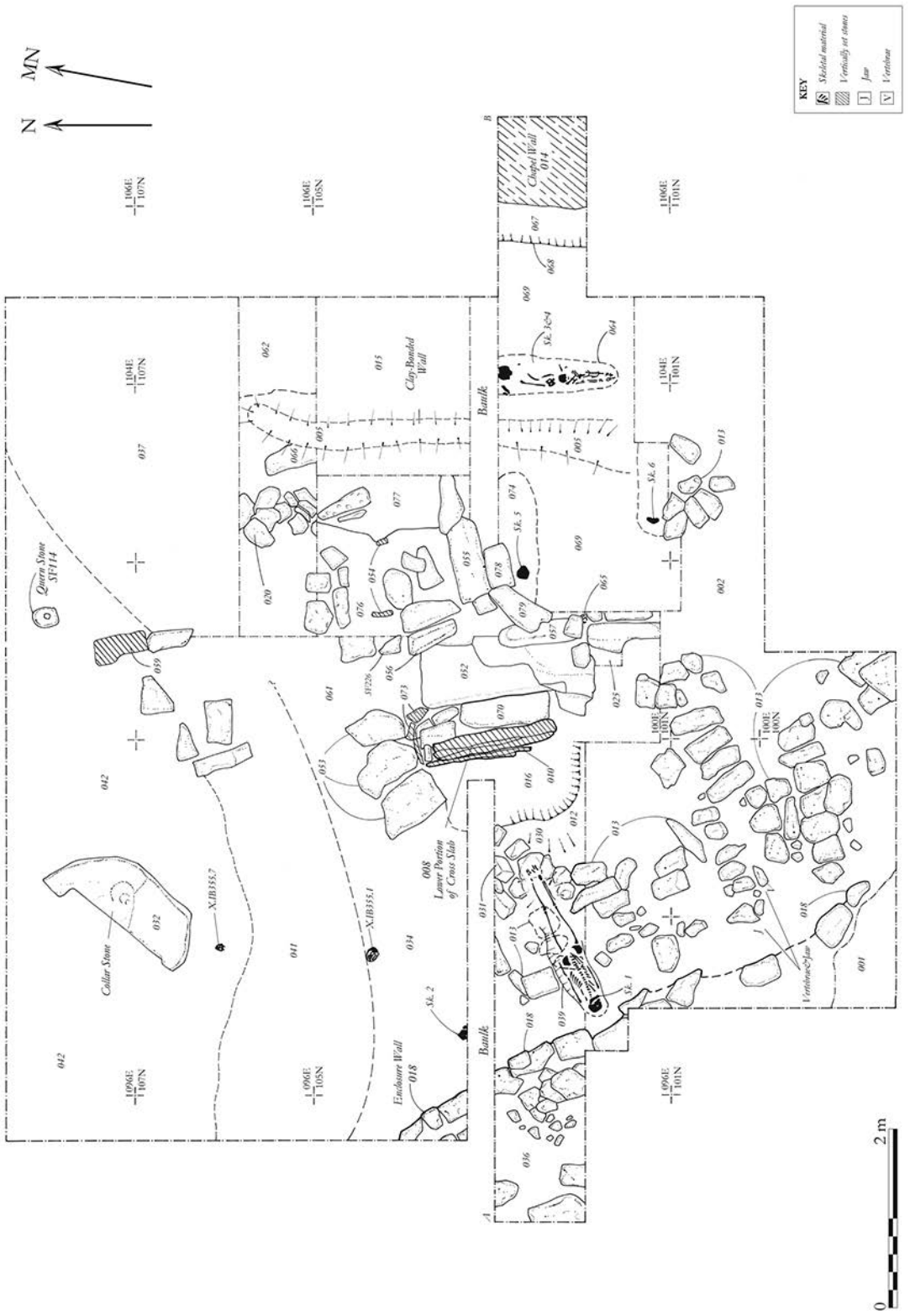

Illustration 3.3
GUARD composite site plan (GUARD in the University of Glasgow)

Illustration 3.4
The Setting 2 slab (052) in place, with the chapel mound in the background

The post-excavation aims were:

1 to facilitate the reconstruction and interpretation of the sculpture by providing locational information on the carved fragments;
2 to provide dates for the settings of the cross-slab and to reconstruct their original forms and sequence of use;
3 to provide a chronological framework for the other activity around the settings including the burials and the building work;
4 to retrieve information from the artefactual record which would illuminate the social, economic and environmental aspects of site history and use;
5 to examine the nature of the deposits around the stone setting and the extent of post-depositional disturbance;
6 to publicise the results of the programme so that they are widely available;
7 to bring the various strands of the research to final publication.

3.3 Methodology

The on-site methodology was specified by Historic Scotland in order to minimise the extent of intervention into the site and the amount of disturbance of human burials. The initial emphasis was on the rapid exposure of the lower portion in order that a decision could be made about whether to remove it for conservation. Then the impetus was directed towards the retrieval of the fragments, with the horizontal extent of the excavations to be limited to 1m beyond the extent of the fragment distribution. GUARD initially undertook a detailed topographic survey of the site within the fenced area using an electronic total station. The data was downloaded into SurvPro for production of a contour plan at a suitable scale with a contour interval of 0.10m (illus 1.5, upper).

The original plan was to excavate an area of 100sq m, centred on the lower portion of the cross-slab. For continuity, the Kirkdale site grid was maintained. However, the complexity of the site and the fairly limited extent of the fragment spread resulted in the trench finally measuring 88.5sq m (illus 3.3). The

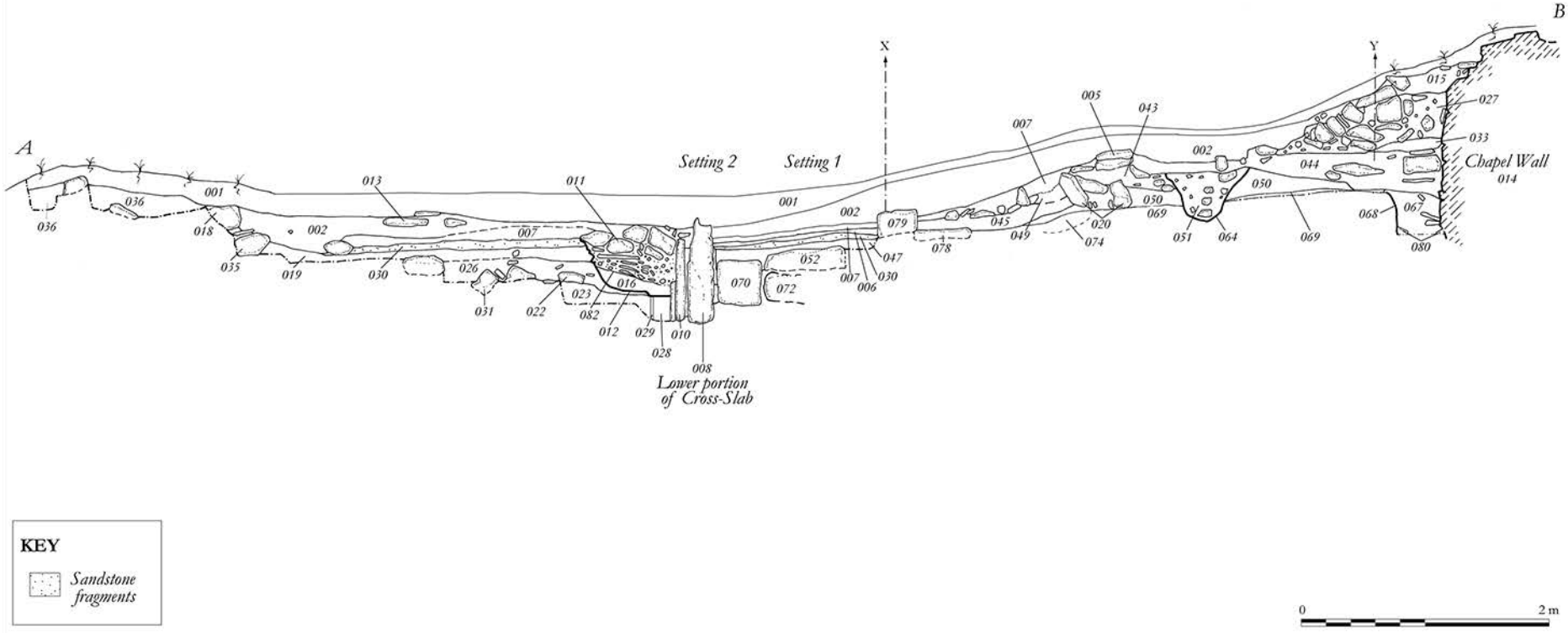

Illustration 3.5
Main section line A–B

excavated area extended in plan at least 1m beyond the extent of carved fragments. In general the area was excavated to the base of the deposit containing the carved debris (context 007). The exception to this was a trench, 1m wide, within the main trench and extending the whole way across it and across the centre of the setting, which was dug in order to examine the relationships between the debris horizon, the chapel wall to the east, the setting of the lower portion and the enclosure bank to the west (illus 3.5) (called the 'deep central trench'). An extension eastwards through the stony ridge and tumble was excavated north of the 105N grid line and called the 'northern sondage'.

Initially an area about 8m by 8m, centred on the lower portion, was stripped of topsoil, as it was not certain in which direction the debris would extend. After de-turfing and removal of the packing around the lower portion, the surface was cleaned so that the earlier Kirkdale excavations, which were deeper in the vicinity of the lower portion, could be identified. All excavation was done by hand and all soil from the debris layer and above was sieved in order to retrieve the fragments. The trench was then extended to the north, west and south in response to the discovery of carved fragments.

The technique used by Kirkdale, of excavating within 0.5m squares, was modified to excavating within 1m squares, because it quickly became apparent that the archaeology was more complex than had been originally thought and it was hoped that a slightly more 'open plan' technique would enable the deposits to be excavated stratigraphically. The positions of the carved pieces were still recorded within the relevant 0.5m squares. Despite the previous work, the complexity of the site proved to have been underestimated, as an earlier setting for the cross-slab and a medieval graveyard were revealed. In order to allow the maximum time to evaluate whether or not the lower portion should be lifted, excavation around the lower portion proceeded in advance of the rest of the trench.

The context numbering sequence used by Kirkdale in 2001 was continued by GUARD in 2001. However, the earlier excavations in 1998 had a different numbering system and these have been converted. Carved fragments over 0.1m long were given a unique finds number which included the 0.5m grid square number and a finds number for each square starting at 100 (for example 0975 1040.101). All other carved fragments, per 0.5m square, were bagged and given a group finds number which were later allocated their

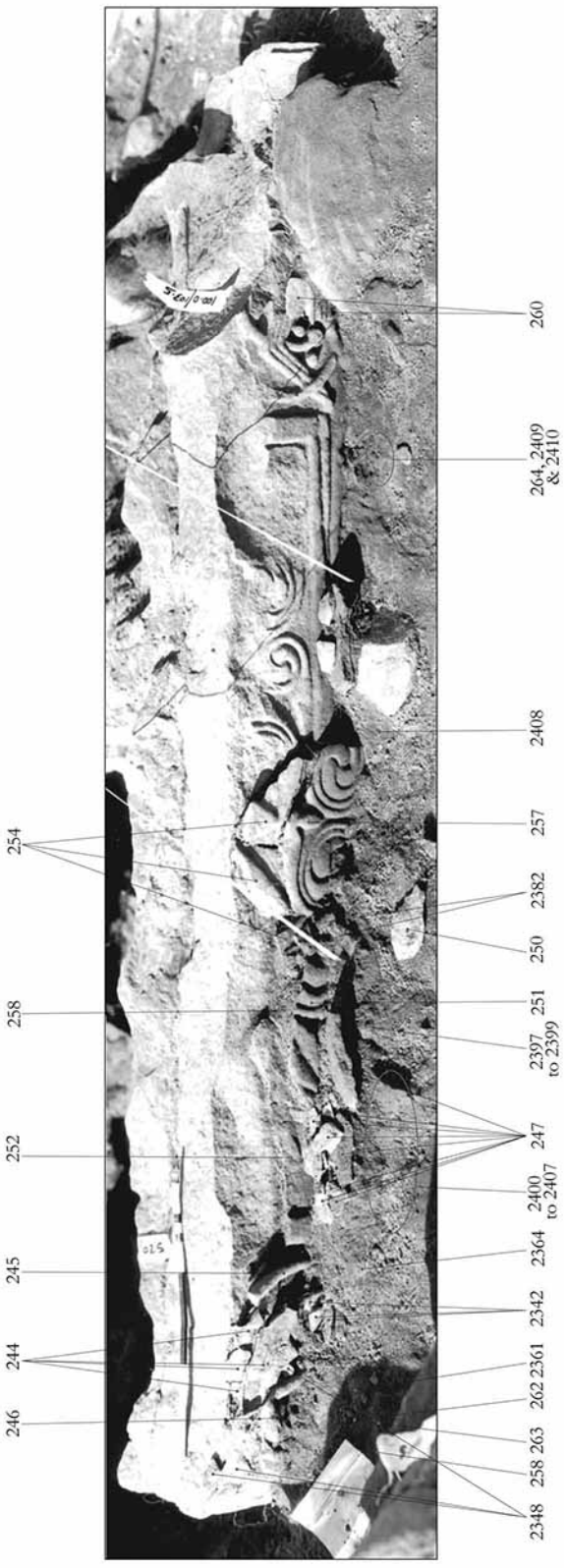

Illustration 3.6
Photomontage of upper edge of lower portion, face C

own museum accession numbers back in Edinburgh (see Chapter 4.3 for a description of the numbering systems used). Many of the large fragments were photographed *in situ*. Sketch plans were made in the day book by the individual excavator of each square as it was excavated, showing the location of the large numbered fragments within the square. Fragments that were in close proximity to the upper edge of the lower portion were photographed *in situ* and collected, as these were thought to have split off from the face and could perhaps be re-applied (illus 3.6).

Soil samples were taken of 10 contexts which appeared to contain charcoal or to have the potential to produce environmental evidence. More extensive samples were not taken as only charcoal large enough to be identified to species should be radiocarbon dated. Charcoal recovered was low and, as there was a high possibility of residuality, only three samples of charcoal from a secure context were initially selected for radiocarbon dating. Subsequently, three further samples were submitted, two of human bone from context (026) and piece of horse jaw from context (011).

The discovery of six burials led to the decision to excavate only those graves which fell within the deep central trench, where the relationships between the chapel, lower portion and outer enclosure were being investigated. Skeleton 1 was recorded *in situ* by an osteo-archaeologist and lifted. Skeleton 2 was not fully revealed or lifted as it lay within the baulk. Skeletons 3 and 4 were recorded and lifted with some disarticulated bone. Skeletons 5 and 6 were left *in situ* as they were beneath the level of the carved fragments. Samples from Skeletons 1, 3 and 4 were submitted for radiocarbon dating, and the remains were returned to Hilton for a service of re-burial (NGR NH 8733 7692) attended by members of the community.

Sediment samples were collected and environmental gamma radiation measurements recorded to assess the feasibility of luminescence dating. Eight small soil samples from two profiles and four larger bulk soil samples were collected by Iona Murray (SURRC). The profile samples were collected to enable an assessment of luminescence characteristics prior to OSL dating (Chapter 7.3.2). Profile 1 samples were taken from the main section line A–B. Profile 2 samples were taken from beneath a discarded collar stone (032) in the north-west of the excavated area. Eight thin sections were also taken for soil micromorphological study in order to understand the soil accumulation process and to provide information that could help with the interpretation of the OSL study. Six samples were taken from Profile 1 and two were taken from Profile 2.

The limitations on the horizontal and vertical extent of the excavations restricted the conventional excavation techniques and have resulted in an incomplete excavation with many stratigraphical relationships on this small, but complex, site left unresolved. This has resulted in a certain amount of uncertainty with regard to the phasing of the site, which is discussed in more detail below. For example, the speed with which the lower portion was to be revealed meant that the deposits in the vicinity of the lower portion were excavated first, out of stratigraphical sequence with the rest of the site. While every care was taken not to loose important stratigraphical information this way, it is not the preferred excavation method.

3.4 Chronology and stratigraphy

The chronology of the site has been based on the stratigraphy recorded in the field and the evidence provided by nine radiocarbon dates, five OSL dates and an assemblage of 146 pottery sherds. Five 'phases' of activity have been suggested dating from the first millennium AD to the present day (illus 3.1):

Phase 1 Pictish
Phase 2 Mid-12th–13th centuries
Phase 3 13th–15th centuries
Phase 4 Late medieval/post-medieval
Phase 5 Modern

Because of the limited nature of the excavations, many of the stratigraphical relationships could not be fully resolved. This, coupled with the fact that some contexts contained no useful dating material, has meant that the site could only be broadly phased (see the site matrix in Chapter 3.5). Where firm dating and stratigraphic evidence exists to inform this interpretation, this is described and discussed in detail below. Further excavation may well provide information that would enable this phasing scheme to be refined. As it is, the many unresolved stratigraphical relationships and the contradictory or imprecise dating evidence have contributed a certain degree of uncertainty in the division of events into these phases. Nevertheless, the following account attempts to make these phases comprehensible to illustrate the complex history of the site.

Phase 1 consists of two layers of wind-blown sand with dressed tumble sandwiched between them. The

OSL analysis has indicated that the lower stratigraphical layer of wind-blown sand was likely to have been deposited in the late first millennium AD, which provides a very broad date for the accumulation of these deposits. The upper wind-blown sand produced three radiocarbon dates from charcoal, which ranged from the mid-seventh to the mid-12th century, and two dates from disarticulated human bone of the late seventh to late ninth centuries. A collar-stone, belonging to what is interpreted as Setting 1, was found set into wind-blown sand which is broadly contemporary with those layers that have been dated.

The setting in which the lower portion of the cross-slab was found (Setting 2) belongs to Phase 2. The OSL dating programme has provided a date of AD 1120 + 70 for the back fill of the setting. A horizon of crushed sandstone containing medieval pottery sealed Setting 1 from view and formed a hard surface around the base of Setting 2.

Phase 3 consists of wind-blown sand layers containing pottery dated to the 13th to 15th centuries, the chapel (possibly built in the 13th century) and burials dated to the 14th to 17th centuries.

Phase 4 included the digging of a robber pit beside Setting 2, and the horizon of carved fragments for which the OSL dating programme has suggested a date of AD 1570 + 25. The collapse of the chapel, the construction of a shed and a rectangular enclosure are all thought to date broadly to the late medieval and post-medieval periods. Further burials took place in the cemetery, one dated to the mid-17th to 20th centuries. The pottery from this phase dates from the 13th to 19th centuries.

Phase 5 consists of the modern turf and topsoil that sealed the site and contained pottery dating from the 13th to 19th centuries.

3.5 Phase descriptions

Phase 1 Wind-blown sand and cross-slab Setting 1 (late first millennium AD – mid-12th century) (illus 3.1 & 3.7)

(Contexts 022, 023, 026, 031, 041, 052, 053, 056, 057, 071, 072)

Phase 1 encompasses three stratigraphically separate groups of archaeological deposits which are included together here because they are all potentially late first millennium in date. One group consists of two wind-blown sand layers with a horizon of tumble sandwiched between them. A second consists of a separate exposure of wind-blown sand that is probably equivalent to the upper layer of the first group. The third consists of a probable setting for the Hilton of Cadboll cross-slab.

Lower wind-blown sand (023)

The deepest deposit encountered on site was a yellow wind-blown sand (context 023) that was exposed for a very limited extent within the deep central trench, up to a depth of 1.0m below the surface (illus 3.5). This sand was mottled with orange and brown colourations and contained two fish bones (one of which was identified as cod), a single cattle bone, seven very corroded nail fragments (some with disk-shaped heads) and a possible quartz flake. The wind-blown sand contained some concentrations of organic material although there was no charcoal visible in the field. The soil thin section analysis indicates that this was slowly-accumulating wind-blown sand incorporating a sparse and patchy distribution of organic material with small, fairly degraded, fragments of charcoal and bone. There were at least three rabbit burrows running across the surface of this deposit (illus 3.7). The burrows towards the eastern edge were backfilled with a mottled brown, orange and white sand, while those to the west were intact and empty. These were very distinctive areas of disturbance with clear edges and mid-brown coloured fill and thus they were easily excavated separately from layer 023, and it was thought at the time that the chances of contamination were minimal. The evidence suggests that this wind-blown sand was accumulating in the vicinity of human activity which has resulted in the incorporation of a small quantity of anthropogenic debris.

Horizon of tumble (031 & 022)

Within the deep central trench, the wind-blown sand (023) was sealed by tumbled, angular, red sandstones (031), at least one of which had a tooled face (illus 3.8). The size of these stones varied from about 0.20m to 0.35m long, and they appeared to form a 'band' aligned north/south across the narrow trench. Just east of these angular stones were large water-rolled stones (022) that survived with a slightly curving line across the trench (illus 3.7). These stones were very similar in size and appearance to those that can be seen on the present Hilton beach. The full extent and depth of these tumbled stones were not investigated and they

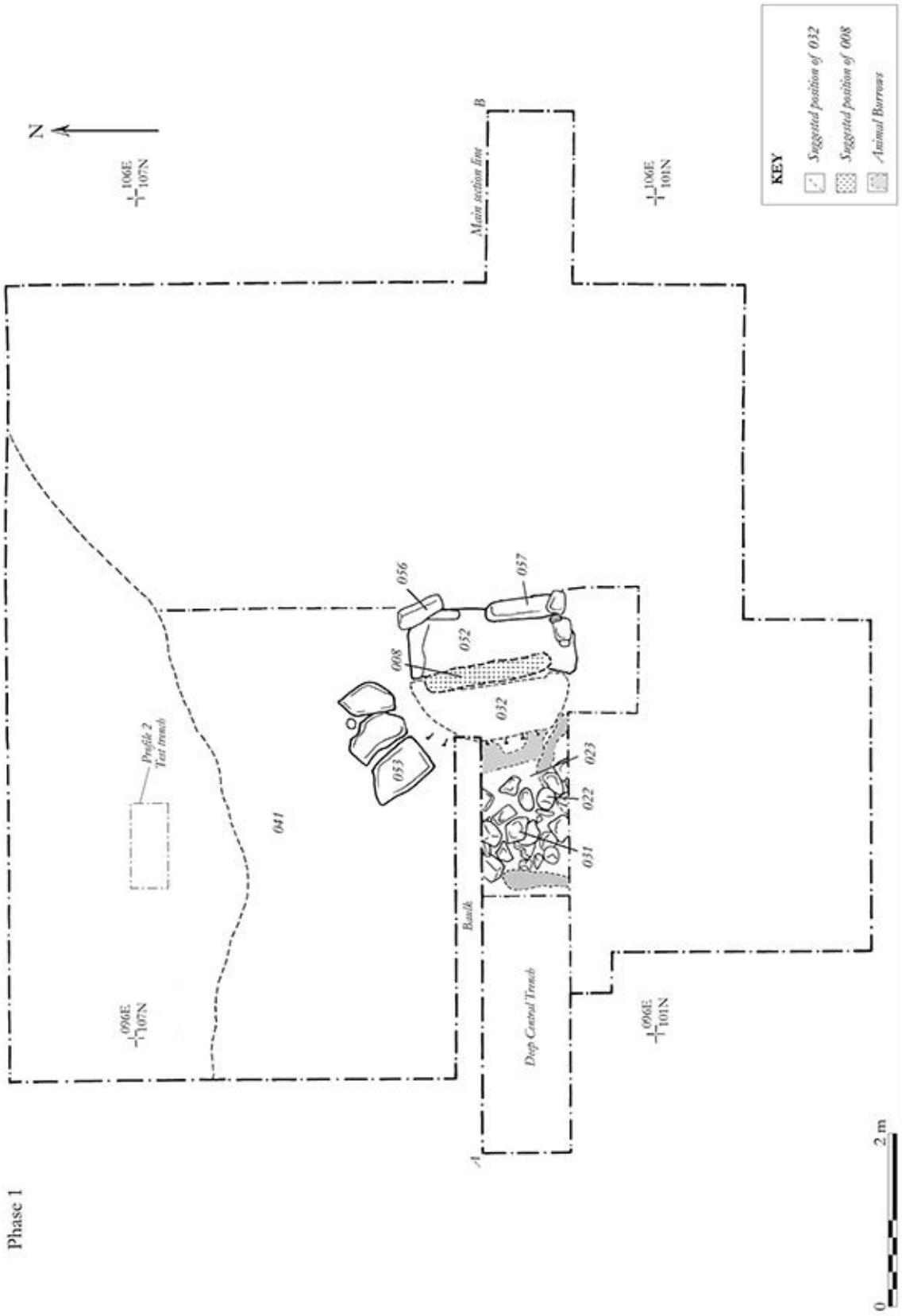

Illustration 3.7
Phase 1 plan

Illustration 3.8
Pecked face of one of the tumbled sandstones

were left *in situ*. Their presence indicates the presence of a structure of probable Pictish date, perhaps an early chapel. The tumble was sealed by a further layer of wind-blown sand (026).

Upper wind-blown sand (026)

A yellow sand with dark brown silty patches (026) was *c* 0.15m deep and contained fragments of decaying sandstone which may relate to the decay of the sandstone tumble in the layer beneath. These fragments were all uncarved and were not thought to be from the Hilton cross-slab. The sand also contained two possible iron fragments, which turned out later to be non-metallic (one was a bone that had become encrusted with iron), two disarticulated human feet bones and a single human vertebrae. The human bones did not belong to the burial that was located above this layer (Skeleton 1, Phase 4) and showed that there were early burials on the site. The human bones have returned radiocarbon dates of AD 680–900 (SUERC-9141/GU-13807) and AD 680–890, (SUERC-9142/GU-13808). Small fragments of poorly-preserved birch charcoal were also retrieved from layer (026) and yielded three radiocarbon dates: AD 650–860 (AA-54984/GU-11013), AD 680–900 (AA-54985/GU-11014) and AD 980–1160 (AA-54986/GU11015). Apart from the last, all these dates belong to the Pictish period between the mid-seventh and the late ninth centuries.

The soil thin section analysis of layer (026) confirmed the wind-blown nature of this deposit, with a similar sparse organic input to layer (023) below. There was little sign of bioturbation or disturbance within the thin sections apart from beneath the pit (012, see Phase 2). This disturbance was not observed in the field and may have related to the cutting of the pit. As with layer (023), iron movement within the deposit was also observed. In general, the soil thin section analysis concluded that the deposit had accumulated gradually and it is possible that the range of radiocarbon dates from this deposit reflects this gradual accumulation. While the visible unburnt bone was described as 'slightly degraded', the charcoal element was not described as being particularly 'abraded', which suggests that the material had not experienced any significant amounts of disturbance or transportation which would have led to abrasion.

Wind-blown sand to the north (041)

To the north of the deep central trench, a wind-blown sand deposit (041) was seen close to the surface. This was thought in the field to be the equivalent to layer (026) as they were both light-coloured wind-blown sands, although no stratigraphical relationship was established between them. This sand was white with orange mottles and was fairly homogenous in plan except for a patch of small pebbles.

The basal layer (041) was only examined during the OSL sampling programme in Profile 2. Samples were taken from Profile 2 at depths of 0.05m, 0.10m and 0.15m beneath a large slab (032). The two deepest samples of (041) were layers of light yellow sand thought to be equivalent to (026) (while the uppermost sample was a dark coloured sand, 042, Phase 2). The OSL dating programme (Profile 2, nos 1502, 1503 & 1504) has not, however, suggested a date for this lower deposit.

The soil thin section analysis confirmed that (041) was a wind-blown sand with a low organic content, very similar to (026). It also revealed a vertical disturbance that had not been visible in the field (probably because the observed sample face is set back a few centimetres into the deposit). The cause of the disturbance could have been the result of animal burrowing resulting in material from (042) being brought down into this

horizon, but there is also the possibility that it is an archaeological feature.

Setting 1 for the Hilton cross-slab (052 & 072)

A possible setting for the Hilton of Cadboll cross-slab was located in the centre of the excavation trench. It consisted of a large slab (052) roughly rectangular in shape and measuring approximately 1.9m long by 0.75m wide (illus 3.9 & 3.10), which was left *in situ*. The thickness of the slab (where visible) varied between 0.12m and 0.16m, and it was broken at both the southern and northern ends. A worked, rectangular-shaped slot had been cut into this slab, surviving now in its western edge. The dimensions of this slot were difficult to ascertain because of the breakages, but it was thought to be at least 0.20m wide and possibly *c*1.12m long.[5] There was a roughly rectangular-shaped recess in the surface at the southern edge of the slot and the suggestion of a similar recess at the northern end (illus 3.3 & 3.10). This slab was interpreted as one half of a 'collar-stone' and the possibility that the cross-slab could have sat within the slot in this stone was considered. The full width of the lower portion of the cross-slab including the projections is *c*1.47m, the width beneath the trimmed projections is between *c*1.33m and 1.39m and the remains of the tenon are about 1.09m wide. It is therefore possible that the cross-slab sat in the collar stone slot, although without more accurate measurements or actually testing the fit, one cannot be absolutely certain. This would have left about 0.1m of the trimmed projection visible above the collar-stone (052), which would suggest either that other collar-stones were utilised in the setting or that the projections were mistakenly over trimmed.

Illustration 3.9
Slab (052) of first setting *in situ*

A large sandstone block and two smaller sandstones (072) were set in the sand immediately beneath the collar-stone (illus 3.5 & 3.11). These would have abutted the tenon of the cross-slab as it sat in the collar stone (052). Between these large blocks and the collar-stone (052) there was a dark brown, concreted deposit which was thought to have been formed as a result of water percolation for a significant period of time, perhaps down the west edge of the collar-stone. Such a deposit was not noted beneath any other large stones.

Two oblong stones (056 & 057) lay across the eastern edge of the collar-stone (052). The possibility that these stones once sat vertically in the ground to act as a horizontal brace for the collar-stone has been considered, but, as this area to the east of the collar stone was not fully excavated, there is no evidence for this at present. They were interpreted therefore as an apparent decorative kerb rather than as structural supports.

A small stone (071) with a tapering profile and a prepared face was seen immediately beneath the south end of the slot (illus 3.11) and was lifted with other setting stones for storage. This stone measured 0.33m long and was about 0.1m thick, and there was evidence for a dressed face in its western edge. This was the only stone that was located beneath the slot of the collar-stone (052), after a particularly large block of stone (070) was removed. The possibility that this was a fragment of the original tenon was considered, but unfortunately there was no opportunity to fit this stone back on to the base of the lower portion and it

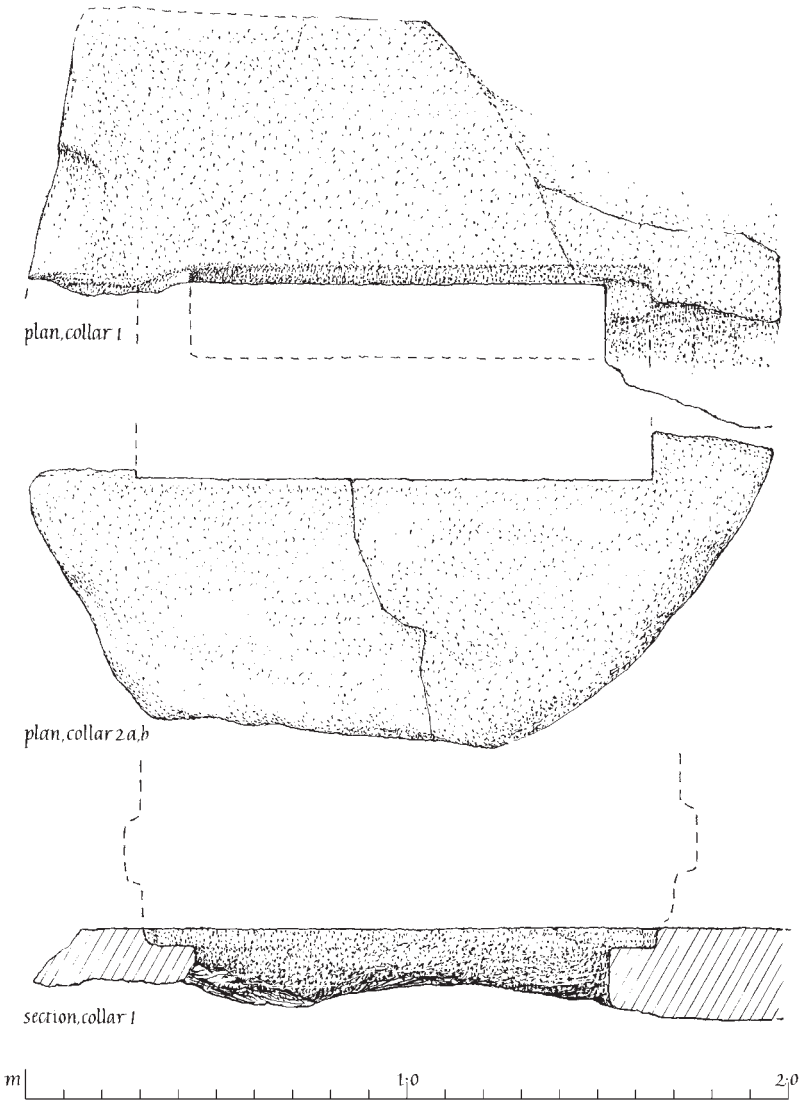

Illustration 3.10
Plan of collar-stones (052) and (032) (scale 1:15; drawn by Ian G Scott)

has now been misplaced. The shape of this stone is very suggestive of a fragment of tenon and there is a bleb or nodule in its broken face similar to those on the Hilton cross-slab. However, the axis of the break in this stone, which is east/west, would suggest that it had been rotated 90° from its original position, as the laminations of the cross-slab are north/south, and thus it is not exactly *in situ*. This would mean that the dressed face of the possible tenon fragment could have been either face B or D of the cross-slab. It is supposed that other fragments of the tenon would have been swept away before the stone (070) was put into place during Phase 2. Another possibility is that it relates to the horizon of tumble (031 & 022).

The collar-stone and bracing blocks were embedded into a light-coloured wind-blown sand that is thought to be equivalent to the wind-blown sand layers to the west (023 & 026) because they are at the same level on the site. This deposit was not investigated further and thus any cut for this setting, presumably through

Illustration 3.11
Slab (052) of first setting with sandstone blocks and 'tenon' in place

the wind-blown sand, was not identified and no direct dating evidence was retrieved. However, these stones are still *in situ* and available for further study. Three paving slabs (053) were laid flat on to the wind-blown sand (041) to the north-west of the setting. These slabs could be contemporary with Setting 1 but could also be later.

A second flat slab (032), similar in appearance to (052), was found lying 3.0m away to the north-west lying over wind-blown sand (041) and a dark sand (042 Phase 2). This stone measured *c*1.90m long, 0.70m wide and varied in thickness at its edge from 0.05m to 0.11m. This stone also had the remnants of a slot in one side. It was difficult to be certain of the length of the slot as this edge was broken and the slab had been broken in half, as if hit with a hefty blow (illus 3.10). However, a slight kink remained in its north-west edge, suggesting that the top of the slot had been about 1.35m long.[6] We regret that during the excavation we did not try to fit these two stones together to see whether they had once formed a single collar-stone or had formed two sides of a composite setting. There was no evidence for a recessed slot as with the other slab (052), but as this area of the slab was broken this does not mean that one could not have existed. The different apparent thicknesses of these stones may be a result of this stone (032) breaking horizontally with the laminations of the sandstone, leaving as yet undetected fragments. No fragments from the packing of the setting were fitted against this collar-stone to see if they could have been derived from it. See illus 3.12 for a possible reconstruction of Setting 1.

Dating of Setting 1

There is no direct dating evidence for this setting because the sand layers to the east were not excavated and the stratigraphical relationship between this setting and the sand layers to the west were destroyed by the insertion of Setting 2 and the digging of a pit. It is, however, assumed (because of the level of the wind-blown sand) that the setting has been dug into the wind-blown sand deposits (023). Two of the three radiocarbon dates from birch charcoal from

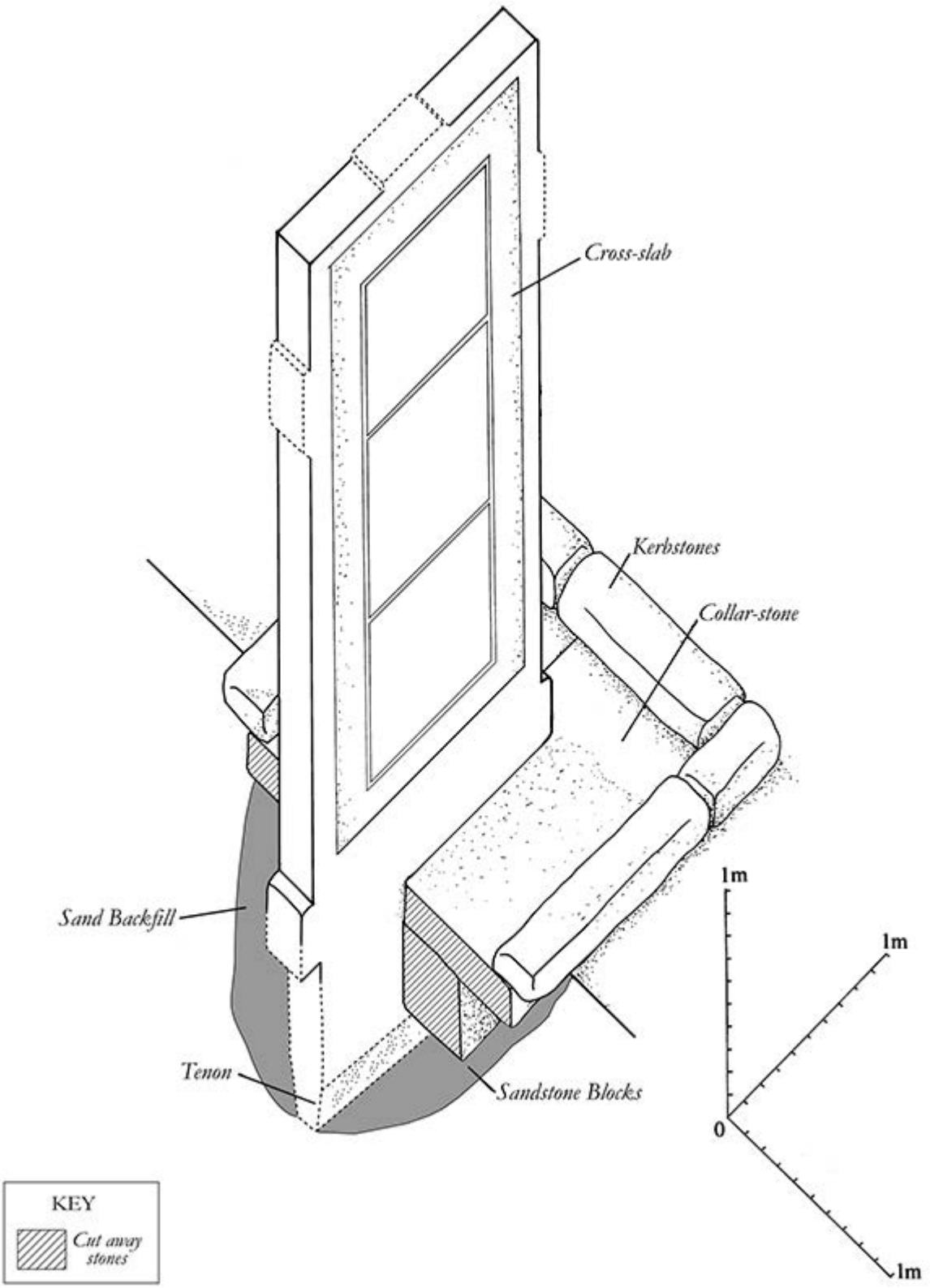

Illustration 3.12
Reconstruction of Setting 1

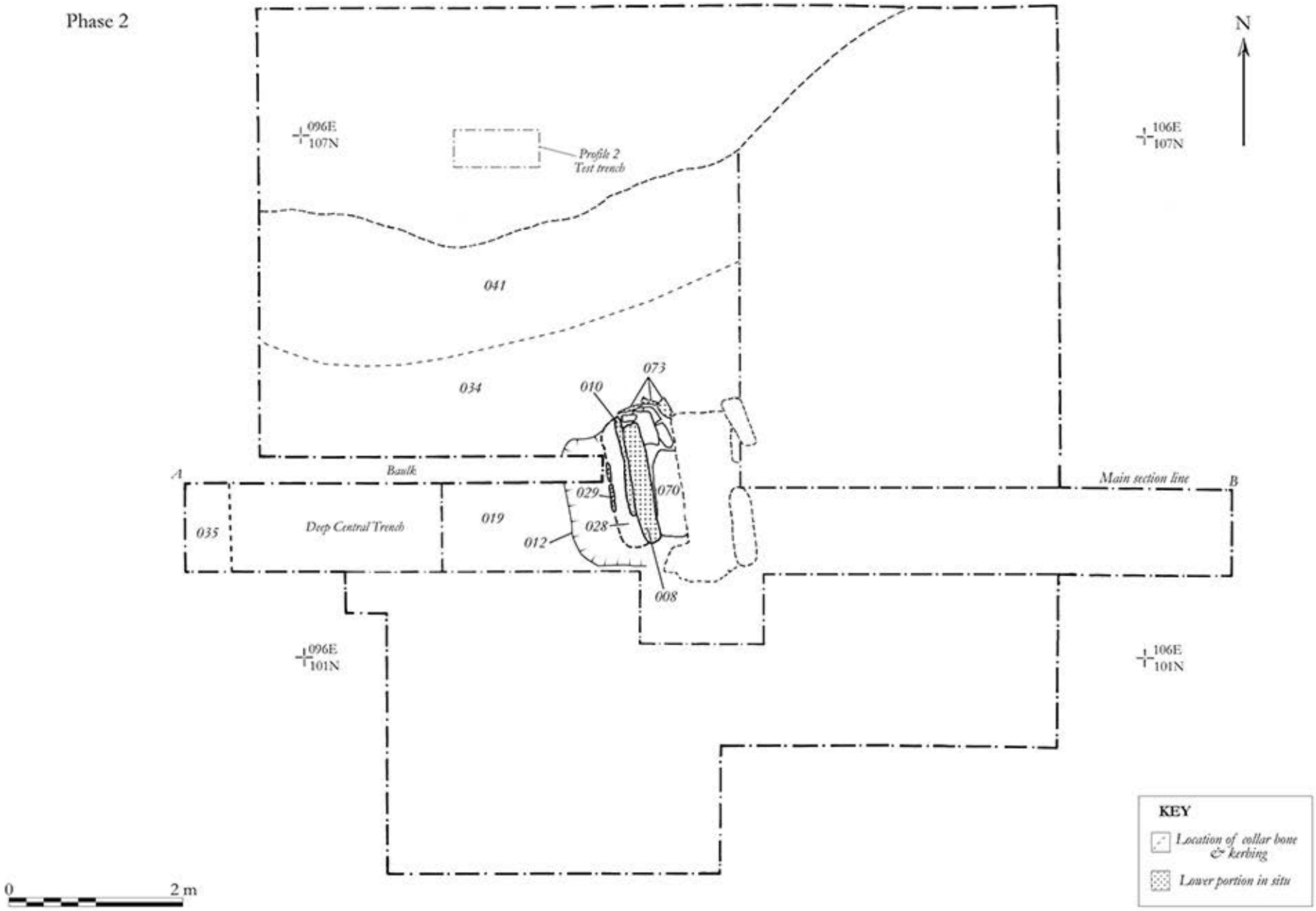

Illustration 3.13
Phase 2 plan

the upper wind-blown sand layer (026) and both the human bone radiocarbon dates have produced dates of between the seventh and the ninth centuries. One date of the 11th to the early 12th century may be explained by the soil thin section analysis, which indicated that this deposit had gradually accumulated during the late first millennium and into the medieval period. Layer (026) was immediately sealed by a deposit (019) which contained medieval pottery. Further discussion of the possible scenarios for the relationship of Setting 1 to Setting 2 are included at the end of the Phase 2 description. The archaeological evidence is therefore not inconsistent with the date proposed for the carving of the Hilton of Cadboll cross-slab in the later eighth century (Chapter 4) and its original setting here.

Phase 2 Medieval deposits and cross-slab Setting 2 (mid-12th–13th centuries) (illus 3.1 & 3.13)

(Contexts 008, 010, 012, 019, 028, 029, 030, 032, 034, 035, 042, 047, 070, 073)

Phase 2 consists of the setting in which the lower portion was found sandwiched between medieval deposits.

Medieval wind-blown sand

Immediately above the wind-blown sand (026, Phase 1) were three shallow layers of brown wind-blown sand (019, 034 & 042), which were slightly higher in organic material and contained medieval pottery. Layers (019) and (034) were equivalent but (042) was unrelated stratigraphically.

To the west of the cross-slab settings, a layer of brown sand (019), up to 0.12m deep, extended from the edge of the pit (012) to the west for a distance of 2.7m where it disappeared beneath tumbled stones (018 & 035; see section A–B, illus 3.5). This material contained one sherd of Yorkshire type (13th/14th century) and three sherds of Scottish Redware conventionally dated to between the 13th and 15th centuries. Layer (019) also contained small amounts of midden material such as fishbone, mammal bone (horse, cattle and sheep/goat), small fragments of alder, birch and oak charcoal and nine disarticulated human bones (including teeth and feet bones). A single grain of six-row barley was retrieved from the soil sample. The soil thin section analysis indicated that context (019), rather than being a homogenous layer, was composed of a series of wind-blown sand lenses, with varied amounts of fine, organic, mineral elements that has resulted in the darker colour observed in the field when compared with layers (023) and (026) below. From the size and type of sand grains and the differing amounts of fine organic matter at least three distinctive layers (019A upper, 019B middle & 019C lower) within context (019) were identified. Layer (019B), the middle layer, had a distinctively high density of charcoal inclusions. The visibility of this lensing of the wind-blown sand would have been affected by the moisture content of the soil, and the relatively wet conditions may explain why the lenses were not observed in the field. This lensing, and the diffuse boundary with layer (026) below, suggested a gradual accumulation process.

The OSL programme provided a date of AD 1140 ± 70 for the sand layer (019) (SUTL 1449), and this analysis suggested that there had been very little mixing of this layer with sand of a different date. This date was derived from the upper part of layer (019A) and would therefore provide a *terminus ante quem* for the deposition of the lower lenses of (019). The OSL date is a little earlier than the date suggested by the presence of Scottish Redwares. However, the date of the introduction of this pottery is not exact and it could possibly have been introduced as early as the 12th century, although it is not thought to have been earlier than this.[7]

To the north of the deep central trench, a brown grey sand, similar to layer (019), was partially excavated as context (034). This contained three sherds of Scottish Redware, a stone disc or pot lid (illus 7.50, no 10), one human bone, one mammal bone and a nail.

In the far west of the main section, there was a suggestion of an early enclosure wall in the form of several tumbled stones (035) which protruded from beneath layer (019) and the walling (018) (Phase 4). This was not examined further, but it may be a remnant of the oval-shaped enclosure seen in the topographic survey.

In the north-west corner of the trench, the wind-blown sand (041, Phase 1) was sealed by mid-brown sand (042). Layer (042) was only investigated within the OSL test trench beneath the discarded collar stone (032) and very little of (042) was therefore excavated. The soil thin section analysis has shown that, while (042) is generally similar to (019) and (041), the presence of fine siltstone fragments suggests that they are different in character. Layer (042) produced a fragment of industrial slag, which indicates that

smelting of bog ores could have been taking place in the medieval or post-medieval periods. However, the soil thin section analysis found no evidence of smelting residue or heating activity within the thin section.

Setting 2

The setting in which the lower portion of the Hilton of Cadboll cross-slab (008) was found was located only 0.3m to the west of Setting 1 (illus 3.5). The slab stood within a pit (012) which had sloping sides and a flat base. This pit was semi-circular in shape, 1.6m wide and 0.5m deep. At the base of the pit was a flat-bottomed 'trough', which was lined with a few flat slabs (029) and filled with sterile sand (028). The largest slab used to line the trough had a dressed face and an iron bleb (X.IB 355.3) and the geology has confirmed that it is not part of the Hilton cross-slab (Chapter 7.2.1).

It was not clear from which surface this cut had originally been made, as the upper part of the pit was filled with carved fragments that were interpreted as the fill of a secondary post-medieval 'robber' pit, although the line of the robber pit could not be distinguished in the field from the initial cut. This pit had been partially excavated, south of the section line (103N), by the Kirkdale team earlier in 2001. Within the pit the lower portion of the cross-slab was aligned north/south, with what would have been its cross-face (face A) facing west. The lower portion (008) stood vertically, with a thin flat slab wedged against its east face which was then abutted by two large red sandstone blocks (070), which themselves abutted the stones of Setting 1 (the collar stone (052) and the block (072) beneath it) (illus 3.14). On the west side, the lower portion was abutted by three thin slabs of sandstone (010, two of which are numbered X.IB 355.7272 & X.IB 355.7273). These stones were not embedded deeper than the base of the lower portion and would not have provided much additional support. Again these stones are not from the Hilton cross-slab (Chapter 7.2.1).

The trough between (010) and (029) was filled with sterile grey sand (028) to a depth of 0.15m and

Illustration 3.14
Setting 2 from the east

Illustration 3.15
Setting 2 from the west

the remainder of the pit was filled with mid-brown sand (016) similar in colour to layer (019). Smaller flat stones (073) were wedged vertically around the northern and southern edged of the pit fill. Overall, the impression was of a rather informal setting that obscured the bottom of the design. The second fill of the pit (016) survived to 0.15m deep and contained one sherd of Scottish Redware and a small fragment of mammal bone. Three carved and two uncarved fragments from the cross-slab were retrieved from the surface of layer (016), and alder, birch, heather and willow charcoal and a single grain of cf *Hordeum vulgare* sl were found within it.

The field interpretation of layer (016) was that it was the second fill of the pit for Setting 2, which was later truncated by the digging of a robber trench (082). However, in the post-excavation phase, a second possibility was considered. If the robber pit had in fact been dug down deeper, to the top of the stones (029), then the sand layer (016) could perhaps be interpreted as slumped material from the sides of the pit, incorporating material from layer (019), which it so closely resembled in the field. This would then imply that the pit lay open for some time before the defacement of the stone had commenced resulting in the deposition of the carved fragments (011).

The soil thin section work addressed this issue and confirmed that (016) was a wind-blown sand deposit, generally similar to layers (019), (023) and (026), but with minor differences. Direct comparisons between (016) and (019) were made more difficult because of the variable lenses present in what was excavated as a single layer (019). While deposit (016) was more similar to the upper and lower lenses (019A & 019C) than to the middle one (019B), the general conclusion was that (016) was unlikely to have derived from context (019). Therefore the post-excavation interpretation was rejected in favour of the initial field interpretation. Thus 016 was interpreted as the fill of the pit associated with Setting 2 rather than being a slumped deposit from (019).

The pit (012) could have been cut from either the surface of (026) or (019). If it had been cut from (019), it is assumed that the fill (016) would have originally

obscured the supporting stones (010). However, if it had been cut from (026) then the fill would have left the stones (011) exposed on the surface. It is possible that there was a superstructure of some kind, although no evidence for this was noted.

The OSL dating programme produced a date of AD 1120 ± 70 (SUTL 1148) for this secondary fill of the pit (016). This is very similar to the OSL date for layer (019) of AD 1140 ± 70 (SUTL 1449), and thus, while layer (016) was generally accumulating at the same time as layer (019), layer (016) contains evidence of being a more mixed layer than (019). It is assumed that the (016) material was backfilled into the pit from somewhere in the vicinity. However, the soil analysis suggested that this deposit was the result of a gradual slumping rather than a backfilled deposit, which one would expect if (016) was a fill of the setting.

The function of the trough-like pit base and the stones (029) is not known, but it could have been associated with the erection of the slab. No other features have been identified which could indicate how the slab was erected.

Settings 1 and 2 were sealed on the east side by a layer, 0.08m thick, of mid-brown sand (047), which extended towards the chapel for a distance of 1.3m where it disappeared under a flat slab (079). It contained 26 sherds of Scottish Redware. It also contained a small amount of re-deposited midden material, including carbonised oats and hazelnut shell, three mammal bones (one sheep/goat, one cattle and one unidentifiable mammal), a single nail and a white quartz pebble. It also contained one carved fragment of the Hilton stone, which is described as a 'strip' or band (X.IB 355.136) and another uncarved fragment from the Hilton stone (10051030.101). Layer (047) was interpreted as a re-deposited midden.

Sandstone surface around Setting 2 (030)

Sealing Settings 1, 2, layers (019) and (047) was a thin layer (0.05m thick) of weathered sandstone fragments (030), which formed a roughly oval-shaped area measuring about 4.5m east/west and 2.0m north/south, around Setting 2. Layer (030) differed slightly in character on either side of Setting 2. On the east side, it was reddish in colour and very compact, while to the west it was more yellow and was less compact. Layer (030) contained three sherds of Scottish Redware, a leaf-shaped fragment of copper alloy (illus 7.51, no 6) and three corroded nails with some preserved wood attached. Layer (030) also contained very small quantities of carbonised birch, heather and oak, perhaps re-deposited waste from a hearth. A layer of weathered sandstone fragments (077), possibly a continuation of the layer (030), was seen further east beneath later tumble (020), indicating that the sandstone fragment surface may extend further.

To the north-west of Setting 2 there was a second layer of paving slabs (017) overlying the slabs of Phase 1 (053). Beneath this paving, two sherds of Scottish Redware were found. One of the uppermost packing stones (048) around the lower portion (008) on the north-east side also overlay a sherd of Scottish Redware, indicating that perhaps some addition to the upper packing stones around the base of the cross-slab was taking place.

The eastern extent of layer (030) was examined very briefly at the end of the excavation and it is unfortunate that this crucial relationship was not investigated more thoroughly. However, at the time, the limited examination of layer (030) concluded that it continued to the east beneath a layer of dark brown sand (069, Phase 3) that sloped up gently towards the chapel. This dark brown sand (069) was not excavated and there is no dating evidence or further information as to its origin.

The evidence from the lower portion of the cross-slab (008)

The discovery of the lower portion revealed the stepped base design of a cross on face A and the continuation of the vine-scroll border around the base of the lower spiral-filled panel on face C, the design and workmanship of which are discussed in detail by Isabel Henderson in Chapter 4. The discovery has also provided information relating directly to the nature of the settings, perhaps the order in which the cross-slab was carved and the nature of the damage that the cross-slab has suffered.

The lower portion had clearly broken both at the top and at the bottom and thus had suffered at least two major collapses. It measured 1.40m wide, *c* 0.20m thick and was *c* 0.85m high (for comparison, the upper portion tapered from 0.15m thick to 0.18m thick). The tenon had broken off, leaving concave fractures on either side (illus 4.4) and slight evidence of its original width at *c* 1.09m. There is no evidence to indicate how long the tenon would originally have been. The suggestion that a third of the height would be found below the ground (information from Stephen Watt & John Turner) may be an exaggeration, given the

often-shallow holes discovered beneath (admittedly) fallen standing stones (Ritchie 2004, 58). However, it clearly managed to stay upright with only a fifth of its height in the ground in Setting 2. Without the tenon it would not have been able to stand in Setting 1 without massive restraint from some upper structure, for which there is no evidence.

It is not known whether the breakage of the tenon was the result of compaction (from being dropped on its tenon for instance) or the result of being snapped (falling over). Retrieval of more of the original tenon stones might assist here, but only one possible fragment of the tenon was noted *in situ* beneath the collar stone (052) (Phase 1) and this has since been lost.

The fairly straight top edge across the whole width of the stone led to early speculation that the stone had been deliberately felled, assisted by the cutting of a horizontal notch. However, no toolmarks creating such a notch could be identified and it appeared to be a creditable fracture, while the straight edge could be explained by the slab being firmly embedded in the ground and snapping at 90° to the bedding planes under lateral force from the wind.[8]

There is a deep diagonal crack across the top of the lower portion, which had resulted in a wedge-shaped section of face C parting slightly from the rest of the stone. The conservator from Historic Scotland, Colin Muir, ensured that this large chunk was clamped in place until the stone could be properly conserved. Reconstruction work on the middle portion of faces A and C has shown that intact fragments once extended above the straight top edge on either side (illus 4.4). This confirmed that the stone had not been prepared for felling by the cutting of a notch, as had initially been supposed. Instead, the evidence suggests that the diagonal break could have once extended through the entire middle portion, reaching face A at about the height of the present base of the upper portion.[9]

The projections (or lugs) extending to either side of the lower portion measured 0.045m (face C) and 0.03m (face D) respectively. On face A, these protrusions corresponded with the presence of two blank, square-shaped panels. It is supposed that, originally, the protrusions extended down to the base of these square panels, just above where the slab narrows for the tenon. The protrusions appear to have been crudely shortened in order to re-set the cross-slab deeper into the ground. It is clear, however, that the width of 1.39m just below the remaining protrusions would be too wide for the slab to have slotted through the stone (052) which was only *c* 1.12m wide. However, the lower portion could have sat within slab (052) with the lower parts of the trimmed protrusions exposed for about 0.12m.

It has been considered whether the second collar stone (032) could have sat on top of (052) rather than at the same level, fitting beneath the untrimmed protrusion. However, the slot of stone (032) is possibly only 1.35m long, and the width of the lower portion beneath the trimmed protrusions is 1.39m. This would suggest that collar-stone (032) could only have sat over collar-stone (052) if the slot had already broken and was not used. This does not preclude the possible existence of other stones that have not been found serving this purpose.

The purpose of the protrusions is not entirely certain. The identification of slight remains of protrusions in the upper portion that may relate to the three arms of a cross[10] would suggest that these were part of the design, the lower protrusions forming the lowest step of the cross base. These protrusions may also have served a practical purpose, in that ropes could have been attached to them to assist with the manoeuvring of the stone. The only reason that can be suggested for trimming the projections is for re-setting the cross-slab, perhaps after the tenon had broken and a re-design of the supporting structure became necessary.

The breaking of the tenon and re-design of the setting may have taken place before the completion of the sculpture. It would have been very difficult to carve face A once it was erected in the ground as the base of the cross is too close to the ground.[11] This suggests that face A was carved when lying flat and then the stone was erected. Then face C was carved, the higher base of the decoration allowing the sculptor more room to reach the base of the design. This is reflected in the different heights of the base of the designs on either side.

Dating of Setting 2

If the interpretation of the fill (016) as a second fill of the pit contemporary with the erection of the cross-slab is correct, then the OSL date for this material dates the setting to the middle of the 12th century AD. Layer (016) also contained a single sherd of Scottish Redware, which, as indicated above, could be as early as the 12th century.

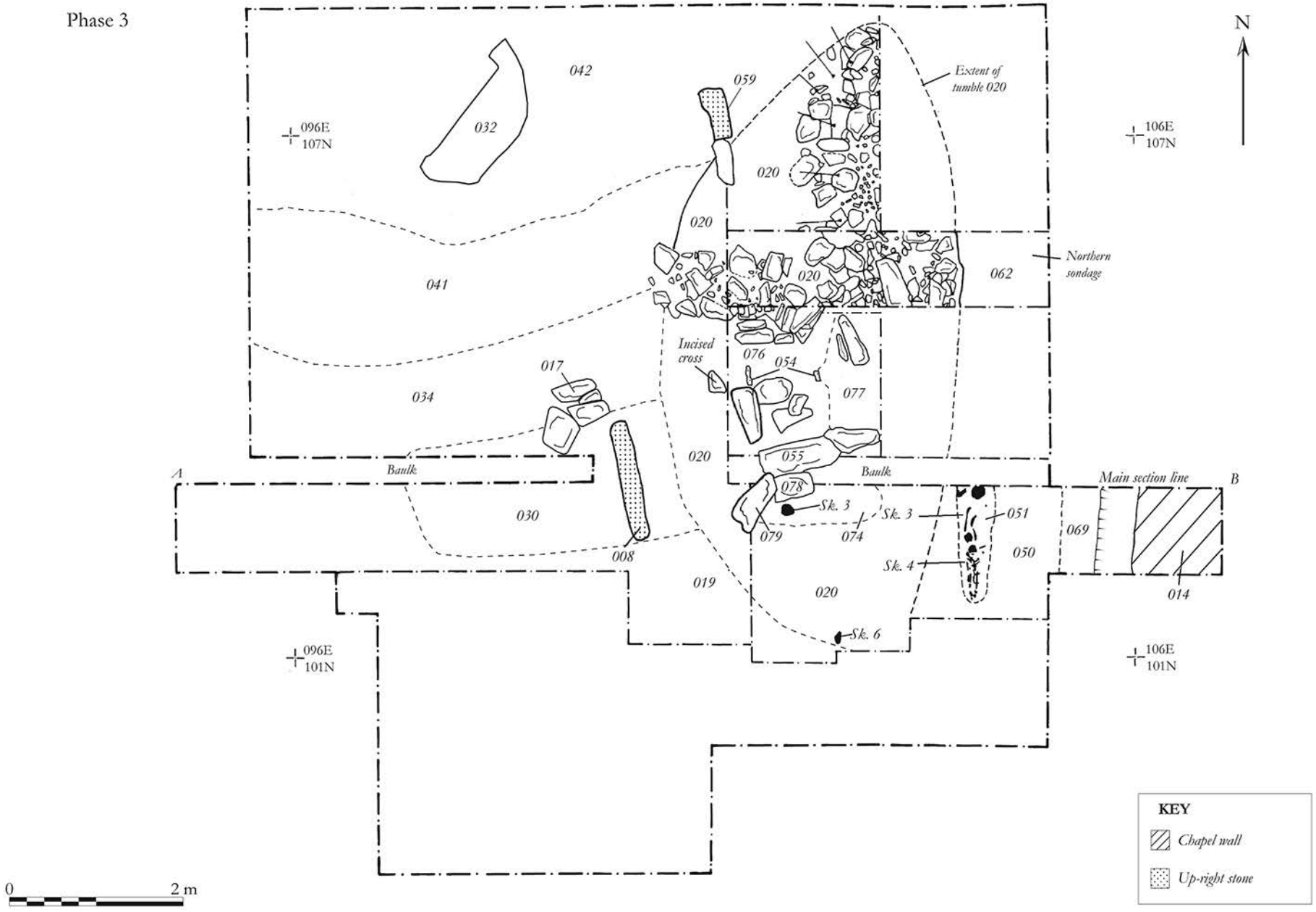

Illustration 3.16
Phase 3 plan

Structure of Setting 2

The upright position of the lower portion shows that at the time of the collapse of the slab it was being held in a stable vertical position by surrounding deposits. Setting 2 was clearly successful in supporting the cross-slab for a certain length of time, without it requiring to be set into a massive basal stone. So firmly was it held, that when under pressure the slab broke rather than fell over, which is what one might expect if the setting was not so secure. This perhaps reflects the natural stability of sand if it is kept damp and implies that Setting 1 could have supported the cross-slab without the need for a massive basal slab.

The height of the supporting slab (010) may give some indication of the ground level at the time. If it is assumed that these slabs were not meant to be seen, and that there was not a supporting superstructure, then the ground level could have been just above the top of slab (010). The protrusions to either side of the slab were buried within the pit fill and so have lost any significance they may have had.

To the east of Setting 2, the remains of Setting 1 are sealed by a layer (047) presumed to have been deposited in the medieval period. A layer of weathered sandstone fragments was then laid around the base of Setting 2 to provide a hard standing and to hide the earlier setting from view.

How was the slab erected?

There are two probable ways that the cross-slab was erected: it was clear-lifted into place, or it was gradually raised up into a vertical position.[12] If the cross-slab was to be placed into a pre-formed socket, then the clear-lifting option would perhaps be the most suitable. However, if a two-piece collar-stone was used, as is suggested here, then a gradual lifting could have taken place. Either solution would probably have required a timber superstructure to be erected over the spot, as was identified at Shandwick and Sueno's Stone. The possible 'trough' seen on the west side of the cross-slab, constructed of flat slabs (029) and filled with clean sand (028), may have acted in some capacity here, although it is not clear how this would have functioned. It has been suggested that the projections could have been used to assist with the lifting of the cross-slab either by the attachment of ropes to the projections or for assisting the cross-slab to sit within a timber frame or box. While either of these is possible, there is no evidence from the excavation that could help decide how the cross-slab was erected.

Phase 3 Medieval chapel, burial ground and mortar horizon (13th–15th centuries AD) (illus 3.16)

(Contexts 006, 014, 017, 020, 021, 043, 048, 050, 051, 054, 055, 058, 061, 062 063, 064, 067, 068, 069, 074, 075, 076, 077, 078, 079, 080)

Phase 3 includes the construction of the chapel, the use of the site as a cemetery and the accumulation of a mortar horizon. There are limited stratigraphical relationships between these features (Table 3.1), but they are all of a broadly medieval date. The cross-slab was presumably standing, intact, throughout this phase to the west of the chapel.

The chapel

The chapel walls are visible on the surface of the site as low grassy mounds within a roughly oval-shaped enclosure (illus 1.3 & 3.4) which would have measured about 12m long by 5m wide, aligned east/west. Only the west gable of the chapel (014) was examined within the central deep trench and its foundation trench (068) was cut from the surface of a dark brown sand (069). The sloping surface of layer (069) across the eastern half of the excavated section indicates that the chapel was built on a slight mound about 0.3m higher than the setting of the cross-slab. The relationship between the hard standing sealing Setting 2 (030) and context (069) was only investigated in a very small part of the deep central trench, and the observation that (030) appeared to lay under (069) is by no means certain. This suggests that the chapel possibly post-dates Setting 2.

The foundation trench for the chapel wall was 0.4m wide and filled with a dark brown sand (067) that contained two small fragments of human bone and other mammal bones but no pottery. The base of the chapel wall consisted of a massive sandstone block 0.3m high and at least 1m long, which extended across the whole width of the trench. The chapel wall consisted of well-coursed angular blocks, five courses high, which varied in thickness from 0.06m to 0.27m. The upper 0.4m of the chapel wall had lost its dressed face and the shelly mortar and rubble core was revealed (illus 3.17).

A single architectural fragment, possibly a 13th-century window mullion or a vaulting rib, was found in context (002) just below topsoil (Chapter

Illustration 3.17
Elevation of the chapel wall

7.5.3 & illus 7.49). This is probably derived from the chapel and was probably left behind because it was broken. The date of this fragment would also support the chapel being of a later date than Setting 2. Local information records an oral tradition that many of the houses of Hilton were built of stones taken from the chapel site and, while this may well have taken place in the 19th century when the village expanded, the robbing of the chapel may have been taking place for many years before that.

The fact that cross-slab and the chapel wall do not share exactly the same alignment may support the suggestion that Setting 2 was not contemporary with the chapel. The distance between the chapel and Setting 2 was 6.0m and this space was occupied by at least two phases of burials, the earlier of which could be contemporary with the use of the chapel.

Burial ground (Skeletons 5 & 6)

The area between the chapel and the cross-slab was used as a burial ground in the medieval period. Two burials (Skeletons 5 & 6) were only partly revealed, as the remit of the excavation was to keep disturbance to burials to a minimum, but they could be seen cut into the sand horizon (context 069, illus 3.4 & 3.10). While these burials are stratigraphically equal to the construction of the chapel, which could indicate that they are broadly contemporary, their chronological relationship is unknown. Skeleton 5 was located to the east of the cross-slab, within the deep central trench. Only the skull was uncovered within a grave that was aligned east/west, which was at a right angle to the cross-slab. The short length of the grave cut indicates that is probably of a child. The grave fill was a mid-brown loamy sand (074). Skeleton 6, also of a child, lay 1.2m to the south-east of Skeleton 5, about 0.6m nearer the chapel wall. The grave fill was a mid-brown loamy sand (context 075).

These two burials are, stratigraphically, the earliest articulated burials detected on the site. As Skeletons 5 and 6 were not excavated, they have not been radiocarbon dated and no finds were retrieved. However, they are thought to be medieval in date (probably 13th to 15th century) as they are stratigraphically earlier than the burials in Phase 5, which have been radiocarbon dated to the late medieval period.

Further burials to the north of Skeleton 5 are suggested by the presence of both flat stones, thought to be grave-slabs, and upright grave-stones. This area was only partially excavated as the priority here was to retrieve the carved fragments. A flat slab (078) partially overlay Skeleton 5 and to the north of it a larger flat slab (055) and further unnumbered stones suggested grave-slabs, also aligned east/west. To the north of this were two very small upright stones (054), 0.80m apart. These were probably further grave-markers, perhaps a headstone and footstone and, again, the short distance between them suggests they were for a child burial. These upright stones were not visible from the surface. A simple cross-incised stone (Chapter 7.5.2 & illus 7.48) was found within a layer of mottled sand among these stones (context 061, from grid square 1010E 1040N; no IB number). This stone had probably marked a grave, although, given its close proximity to the upright grave-slabs (054), it may not have been *in situ*. Several other flat stones lay in the vicinity and may have been further grave-slabs, but these were not investigated. The evidence so far suggests that this burial ground was used primarily for children.

Mortar bank and tumble

A bank of sand, mortar and a tumbled stones sealed Skeletons 5 and 6 as well as layer (069). Two layers of sand and mortar (058, 050) extended east from the stone (079) to within 0.7m of the chapel wall. Within the northern sondage, this mortar was excavated as context (062). These layers (excavated only in the main central trench and the northern sondage) gave the impression that they formed a low bank about 0.25m high, perhaps aligned north/south, separate from the chapel wall. It was noted that the easternmost deposits (050 & 062) had a significantly greater proportion of mortar within the sand matrix than (058) in the west. There were no finds or pottery within this sand and mortar bank.

A spread of tumble (020) overlay the child burials as well as the sand and mortar layer (058) but was intermixed with the mortar layer (050) and with a layer of dark sand with clay flecks (043) on its east side. Context (043) contained a stone hone (illus 7.23, no 12), two nails with disc-shaped heads, four mammal bones (probable cattle, sheep and a dog bone) and three disarticulated human bones, but no pottery.

The tumble (020) consisted of small blocks and large square flat slabs, measuring 0.3m–0.4m across and 0.1m thick. Some had come to rest with a uniform angle, tipping away from the chapel. No mortar was noted between the majority of the stones suggesting that they had originated from a drystone wall, although clearly there was mortar in the vicinity. Only the north-western extremity of this tumble was revealed; the full extent of it was not investigated as it lay beneath a later tumble bank which was not excavated. Tumble (020) contained an unidentifiable mammal bone, one sherd of Scottish Redware and a fragment of carved stone (X.IB 355.239) that has been identified as a fragment of sculpture[13] which is not part of the Hilton cross-slab, nor from the fabric of the chapel.

Within the limited areas exposed, the tumble (020) was seen extending for about 7.0m north/south and about 3m east/west. The northern sondage confirmed that these tumbled stones did not extend east as far as the chapel wall (014) as there was a gap of about 2.5m between it and the chapel wall.

Child burials (14th–17th centuries AD)

The space between the cross-slab and the chapel continued to be used for burials in the late medieval period. Two burials (Skeletons 3 & 4) occupied a grave (064) that had been cut into the mortar bank (050) (illus 3.16 & 3.18). This grave was aligned north/south, roughly parallel with the chapel wall, and was filled with a mixed sand, rubble and mortar (051 & 063). The grave fill contained three sherds of Scottish Redware and a pebble covered with a glassy surface, possibly a glaze (Table 7.24). Skeleton 4 overlay the lower limbs of Skeleton 3. Both skeletons were lifted because they lay within the deep central trench. Skeleton 3 was of a youth, 12 to 15 years of age, and Skeleton 4 was a child aged two to four years old, but the sex of neither could be determined. Both individuals suffered from severe Iron Deficiency Anaemia and other indications of malnourishment, perhaps through ill health. A 14th- to 17th-century radiocarbon date was returned for Skeleton 3 (GU-11011) and a date of the 15th to 17th centuries for Skeleton 4 (GU-11012), which confirmed that they were broadly contemporary if not buried at the same time.

Illustration 3.18
Skeletons 3 and 4

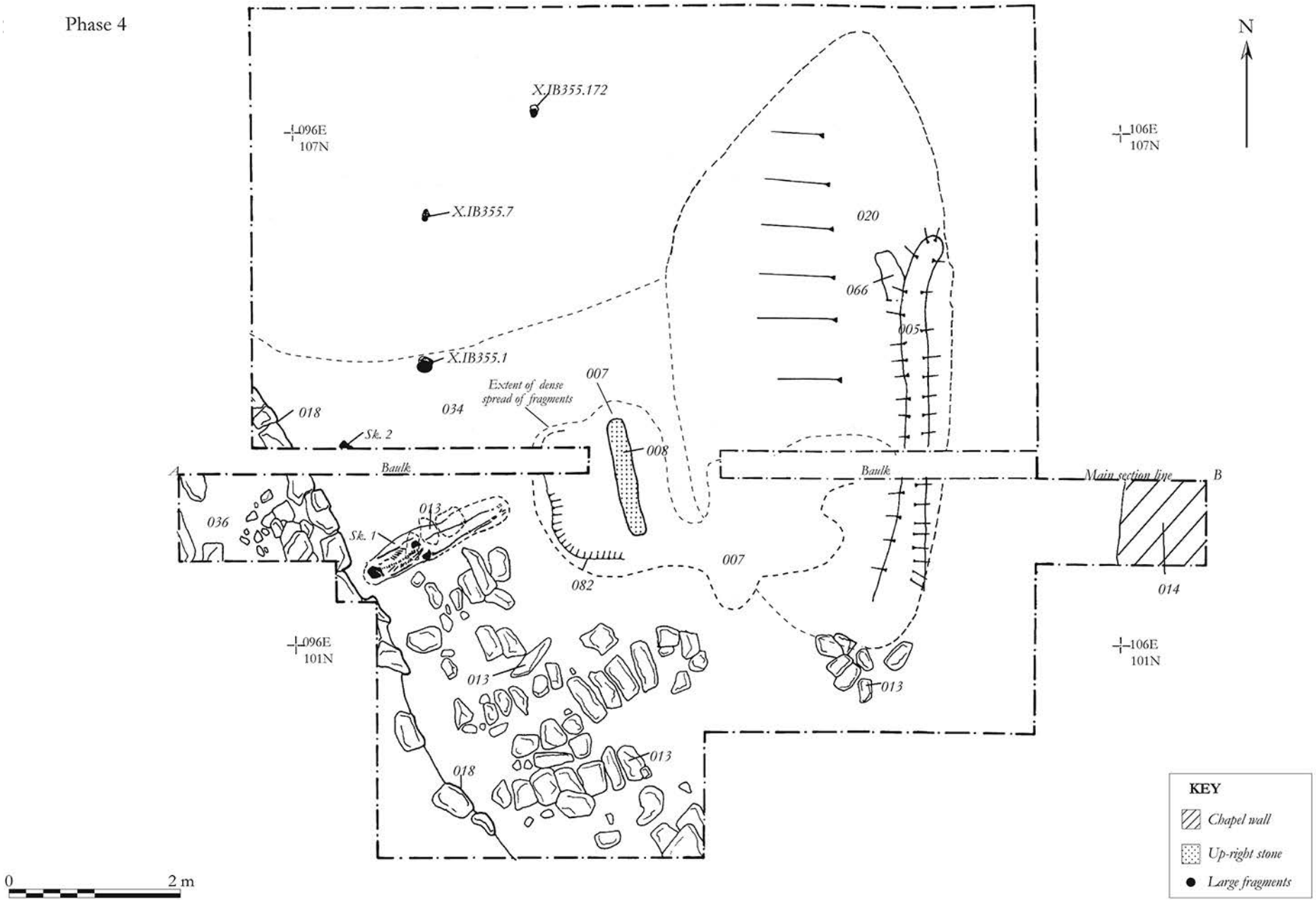

Illustration 3.19
Phase 4 plan

Layer 006

To the east of Setting 2, on a level with layer (058), was a thin layer of mid-brown sandy loam with shelly mortar (006) identified by Kirkdale between the lower portion (008) and a slab (079). Layer (006) lay over the weathered sandstone layer (030). This layer (006) contained five nails, four with wood preserved in the corrosion, an iron-stained bone, eight sherds of Scottish Redware, and a fragment of wood. No carved fragments were found within this layer. Layer (006) contained very small quantities of heather and oak charcoal, with carbonised seeds of grassland plants. To the north-west of Setting 2, the same deposit was excavated as context (021, not illustrated), which contained two sherds of Scottish Redware, with heather, alder and birch charcoal. These deposits were interpreted as re-deposited midden including hearth waste. An equivalent layer was not identified on the west side of Setting 2.

Phase 4 Late medieval robber pit, layer of carved debris, and post-medieval shed and chapel debris (illus 3.1 & 3.19)

(Contexts 005, 007, 011, 013, 015, 018, 024, 025, 027, 033, 036, 037, 038, 039, 040, 044, 045, 046, 049, 060, 065, 066, 081, 082)

Phase 4 consists of the late medieval and post-medieval use of the site. This includes the horizon of Pictish carved fragments that were derived from the defaced cross-face (face A) and middle portion (faces A & C) of the Hilton cross-slab. These fragments were found within a pit, which lay to the west of the lower portion, and also as a horizon of fragments extending up to 4m away from the lower portion. Also included here, but with no stratigraphical relationship with the carved fragments, is a post-medieval shed, further burials and the debris from the chapel wall. It was not always possible to allocate features specifically to the late

Illustration 3.20
The pit (012) to the west of Setting 2

medieval or the post-medieval periods and therefore they are included here together.

Pit (fill 011)

The pit on the west side of Setting 2 was interpreted as the cut for the setting which had later been re-cut (082) through the fill (016), leaving the surviving sloping surface of layer (016) (illus 3.5). This pit was then filled with numerous fragments of the cross-slab (011). The lower part of this fill (011a) consisted of small carved fragments, some face up and some face down, while the upper 0.3m (11b) contained a higher proportion of larger fragments of the cross-slab and other large sandstone blocks with no carved surface (illus 3.20). A comparison of the fragments between the contents of the pit with the horizon of carved fragments is difficult because Kirkdale excavated half of the pit as a continuation of context 007, while GUARD excavated the remained of the pit as a separate context 011. Neither of the two parts of fill 011 contained any pottery, but it did contain one disarticulated human bone, 13 horse bones and a few bones of pig, possible cattle, sheep/goat, an iron-encrusted bone (thought originally to be a nail), a bone toggle or winder (illus 7.51, no 9), a stone disc fragment (illus 7.52, no 11) and a glazed pebble. A horse jaw, which was found at the junction of (011a) and (011b), has been radiocarbon dated to AD 1650–1960 (SUERC-9143; GU-13809). A single sherd of 20th-century glass was found in the upper fill of this pit, indicating some late disturbance.

Horizon of carved fragments 007

The carved fragments continued beyond the pit fill as a horizon of fragments and mid-brown sand (007). The dense layer of recognisably carved fragments (007) sealed layers (006) and (030) (Phase 3) and extended for a distance of up to 4m around Setting 2. This layer (007) was generally between 0.05m and 0.15m deep (illus 3.5). The organic-rich wind-blown brown sand (007) with very small sandstone fragments that did not belong to the Hilton stone (Chapter 7.2.1) continued as far as the outer bank (018/035) to the west and to the tumble (020) in the east. However, very few carved fragments were retrieved during the excavation to the east of the D-shaped annex or mortar bank (050) (Phase 3) or beyond the fill of the pit (011) in the west. Horizon (007) was sealed only by layer (002) and both Kirkdale and GUARD noted that the character of the sand matrix of (007) was very similar to (002) (Phase 5) from which a number of carved fragments were also retrieved.

A distribution plan of all carved fragments has been generated from the database (Chapter 7.2.3 & illus 7.14). This shows that the fragments were densely packed around the setting of the lower portion with a small number of outliers spread up to 4m from the lower portion. There was a particularly noticeable gap in the distribution plot corresponding to grid square 1005 1025. This appears to be a real lack of fragments, which is explained by a small 'pile' of angular stones, beneath 007, that did not belong to the Hilton cross-slab and presumably prevented the fragments of the cross-slab from falling in a horizon as elsewhere.

The density plot (illus 7.15) reveals two particularly dense concentrations of fragments: one corresponds to the fill of the pit (011), and the other forms a band aligned east/west just south-east of Setting 2. It was suggested very early on that there may have been two phases of defacement: the initial defacement when the cross was standing with the fragments falling into the pit, and a second phase after the cross had fallen to the east. The spread of fragments (007) appears to overly the fill of the pit (011) in the main section, but, given the loose nature of the upper deposit (11b) and the evidence for disturbance in the form of modern glass within it, it is more likely that 007 is contemporary with the lower layer 011. There would therefore seem to be two phases, although there is no stratigraphical evidence for the time that may have passed between these two events. The later event, represented by 11b, probably corresponds with the collapse of the cross-slab during the 17th century as it contains some large fragments of the mid-portion. The stones within the pit that are not from the Hilton of Cadboll cross-slab are probably derived from the general debris in the vicinity, perhaps from the medieval cemetery, gathered within the pit in an attempt to 'tidy up' the site after the slab has fallen or removed to the shed.

The soil thin section analysis noted that layer (007) was a wind-blown sand which had similar characteristics to layer (002) above, with the addition of a significant number of very small sandstone fragments within (007). These small sandstone fragments are not derived from the fragmentation of the Hilton cross-slab as confirmed by a comparison of the soil thin section with a thin section the upper portion (Chapter 7.3.1). The layer also contained significant amounts of burnt turf and organic matter.

Originally the spread of fragments was assumed to date to the mid-17th century when the memorial to

Alexander Duff was carved. However, the OSL dating programme has returned a date of AD 1570 ± 25 for layer (007) (SUTL 1449), which is a century earlier than expected. This sample was taken from the west side of the setting, outside the pit from which very few fragments were retrieved. This was because the fragment layer to the east of the setting had already been excavated when the specialist was on site and thus was not available for sampling. The OSL analysis indicated that layer did not contain mixed deposits, which means that the OSL date can be considered to be relatively precise. The soil thin section work has identified small sandstone fragments within layer (007), indicating that, while recognisable carved fragments were restricted to the confines of the pit, smaller fragments of sandstone continued within the deposit to the west. However these are not of the same geology as the Hilton cross-slab and therefore must relate to some other depositional process, perhaps weathering of the chapel. It is not certain, therefore, that the OSL date dates the horizon of carved fragments to the post-Reformation period.

Stuart Jeffrey has produced some distribution plans of fragments per context number and per keyword (Chapter 7.2.3). Unfortunately, there seems to be very little significance in the location of the fragments in that all the keyword distribution patterns are well mixed between the pit and the south-eastern area, apart from possibly 'spiral' and 'vine scroll' which showed a slight density to the south-east of the cross-slab.

A few of the larger carved fragments from the middle portion of face A were found outside the extent of what was excavated as context (007). For example: the truncated human figure adjacent to the haunch of an animal (X.IB 355.7) was found on the surface of layer (042) near the displaced collar stone (032); a beast with its ears flung forward (X.IB 355.1) was found on the edge of layer (034); and an animal head with prominent fangs (X.IB 355.5) was found beneath later slabs (013).

A fragment of a medieval relief cross (square 10001030.001, just north of the settings) was retrieved during the Kirkdale excavations (illus 7.47) from this horizon (007). It is possible that this fragment is residual within this layer, a result of re-use for a building perhaps, but it is also possible that this cross was still extant at this time and was then broken up and the fragments dispersed at the same time as the cross-slab was defaced.

As well as the carved fragments, layer (007) also contained a small copper alloy decorative mount (illus 7.51, no 1) which is thought to date to between the 15th and 17th centuries. The finds from the layer included a small number of mammal bones (horse, sheep/goat, cattle), disarticulated adult human skull and long bones (025), a copper alloy loop fragment (illus 7.51, no 3), a copper alloy pin (illus 7.51, no 5), several nails, some with wood preserved in the corrosion, 15 sherds of Scottish Redware and one sherd of Yorkshire type ware, and a prehistoric flint core.

At its eastern edge, layer (007) was intermixed with the tumble (020, Phase 3) and with a layer of small tumble and dark soil (049) which contained a further 11 carved fragments of the Hilton cross-slab, a sherd of Scottish Redware and a disarticulated human bone. Several fragments were also found within the layer above (002) (Phase 5) which sealed (007). This would suggest that the boundary of (007) and (002) was not always clear.

D-shaped shed

A stone and clay-bonded wall (005) was located west of the chapel gable, overlying the mortar bank (050) and rubble (020) (illus 3.19 & 3.21). This structure was built on a foundation of flat stones (066, not in section) with a clay-bonded stone wall (005) that survived as a low bank of orange/brown clay with angular stones *c* 0.4m wide. The north and south extents of the clay-bonded wall were not fully investigated and its relationship with the chapel is not known. However, this wall lay parallel to the chapel wall (014) and could have formed an annex to the chapel measuring about 2.5m wide internally. Kirkdale noted that the southern end of the wall curved towards the chapel beneath later rubble suggesting that it represented a D-shaped structure. The dating evidence for this structure is not very precise; it post-dated the tumble (020) which contained medieval pot and was sealed by further tumble (015) which contained 18th- and 19th-century pottery. It could therefore be contemporary with the late medieval child burials in Phase 3.

Within the annex, between the wall (005) and the chapel, the ground was levelled up with a mixed deposit of clay and sandy soil (044) from which no finds were retrieved. This layer merged into a more pebbly layer which abutted the chapel wall (046, not seen in section). Layer (046) contained five nails, two disarticulated human vertebrae, and seven sherds of 18th- to 19th-century pottery. This deposit was then sealed by a layer of grey mortar (033) that extended only 0.6m from the chapel wall. It contained three

Illustration 3.21
View of the whole trench with the clay-bonded wall in the foreground and flat slabs (013) to the top left

nails, a clay pipe fragment and two sherds of 18th/19th-century pottery. This may have formed the remains of a floor within the annex. Although no pottery was directly associated with the initial construction of the annex, the pottery within the floor levels indicate that it was still in use in the 19th century.

Skeletons 1 & 2

To the west of Setting 2 and the pit (012) an extended inhumation was found aligned south-west/north-east (Skeleton 1, context 024). This burial is thought to have been dug from the surface of layer (019) (cut 039) and the grave was sealed by three large stones (013). Within the grave, the fill was a mid-brown sand (040) that contained three sherds of Scottish Redware. This skeleton was recorded and lifted as it lay within the deep central trench. Skeleton 1 was a male aged about 25 to 35 years old, about 5' 7" (1.7m) tall with a healed fracture on his right forearm and some dental disease, but no other signs of ill health. Skeleton 1 produced a radiocarbon date of the mid-17th to mid-20th centuries (GU-11010). No stratigraphical relationship between the burial (Skeleton 1) and the horizon of fragments (007) was recorded. The skull of a second, probably articulated, burial (Skeleton 2, context 081), lying parallel with Skeleton 1, was noted just on the north side of the baulk. This skeleton was neither fully revealed nor lifted because the remit was to minimise disturbance to the burials. It has not been dated, although it is likely to be broadly contemporary with Skeleton 1.

Surface of flat slabs 013

In the south-west corner of the trench, immediately beneath the turf and topsoil (001 and 002), were several large, flat blocks of stone (013, illus 3.19 & 3.21). These were not lifted except in a small area immediately south of the lower portion and over Skeleton 1 (see above). Some of these stones formed lines aligned south-west/north-east, perpendicular to the line of the enclosure wall (018). A large carved fragment from the Hilton cross-slab face A, bearing a serpent's head, had been used to level up one of these stones (X.IB 355.5). The sand matrix around the stones (013) also contained a shard of modern 20th-century bottle glass. These lines of stones are thought to be cover slabs for further post-

medieval burials, perhaps lying parallel with Skeleton 1. Other disarticulated human bones, including a jaw and vertebrae, were seen amongst these flat slabs about 2m to the south-west of Skeleton 1, indicating some disturbance to burials, probably by rabbits.

Revetment wall and bank 018, 036 and 038

To the west of Skeleton 1 was the face of a low, straight stone revetment wall (018) aligned north-west/south-east, perpendicular to Skeleton 1. Three courses of this wall survived (0.2m high) sealing an earlier wall (035). Wall (018) overlay layer (007) and revetted a bank of loose dark brown sand (036) that contained two sherds Scottish Redware, a copper alloy sheet fragment (illus 7.51, no 4), a nail, midden material, particularly periwinkles and limpets, as well as carbonised oats, hazel, and hazel nutshell, a few bones of fish, sheep/goat, cattle and cat, a sherd of 20th-century clear glass and a prehistoric flint flake. This was interpreted as a re-deposited midden brought in to create a bank behind the revetment. To the north of the central deep trench, this midden was excavated as context (038). It had spilled over the revetment wall to the east. This material contained an iron fish hook (illus 7.51, no 7), four sherds of Scottish Redware and 10 sherds of Yorkshire type ware, a fragment of slag, a sherd of late 20th-century bottle glass and the same species of mammal bones as (036) with the addition of a horse bone and two disarticulated human bones. This revetment wall and bank is thought to have been constructed in the post-medieval period utilising a nearby deposit of medieval and modern material. This relates to the post-medieval bank, or plantation bank, that encloses the chapel in an approximately rectangular shape (illus 1.3).

Bank of debris

A bank of tumble abutted the remains of the chapel wall (see the topographic survey, illus 1.3, 3.4 & 3.5). This bank consisted of a layer, about 0.4m deep, of stones and orange clay (027) overlying the floor of the annex (044/046). This was sealed by a 0.1m thick layer of angular stones with clay (015 (and 037, not in section)). Layer (027) contained the remains of a field vole but no pottery. Layer (015) contained one sherd of 18th/19th-century pottery, seven mammal bones, including a bird bone, four shards of late 17th-century bottle glass, six nails, a fragment of a perforated roof slate and a prehistoric struck flake. Layer (037) contained two sherds of 18th/to 19th-century pottery, six fragments from the Hilton cross-slab and a disarticulated human bone. There were a few sandstone blocks within this deposit suggesting that it was demolition debris from the chapel wall. The absence of good, faced blocks within this deposit is perhaps explained by the robbing of the chapel walls mentioned above.

Phase 5 Topsoil and turf (20th century AD)

(Contexts 001 & 002)

A mid-brown sand with angular rubble (002) was spread across the whole of the site to a depth of about 0.15m deep (illus 3.5). This contained 95 carved fragments, including a medieval architectural fragment that probably derived from the chapel (Chapter 7.5.3). The 40 pottery sherds from this context were medieval to 18th/19th century in date; there were six sherds of glass, including two shards of late 17th- to early 18th-century wine bottle and four late 20th-century clear glass fragments; an upper rotary quern stone (illus 7.52, no 13); a copper alloy stud (illus 7.51, no 2); numerous iron nails; a prehistoric flint chunk possibly from a core; and three disarticulated human bones. The soil thin section analysis has emphasised the similarity of (002) to (007) below it and highlighted the high organic content, which included burnt turf.

The turf and topsoil (001) was up to 0.2m deep across the site and contained a single sherd of Scottish Redware, four shards of mid-20th-century clear glass, a probable prehistoric flint (Chapter 7.5.8, no 1), a bullet casing and a golf ball. There were several rabbit burrows on the surface of the chapel site, which had brought sand, human bones and other midden debris up to the surface. There were no visible rabbit burrows within the trench before the excavations began, but a rabbit burrow had disturbed layer 023 in the deep central trench. Rabbit burrows had disturbed the outer bank of the enclosure just east of the enclosure revetment (018) and just to the west of the trench edge.

3.6 Discussion

Prehistoric material

Unsurprisingly, considering the absence of excavation below the Pictish horizons, only a few residual flints that may date from the prehistoric period were retrieved by the excavation (Chapter 7.5.8).

Pictish activity on the site

The limited archaeological investigations of the pre-setting deposits on the site indicate that wind-blown sand was gradually accumulating during the late first millennium AD, incorporating small amounts of midden material probably from some settlement in the vicinity. The remains of a possible high-status stone-built structure on the site is suggested by the presence of a band of sandstone tumble, which includes at least one dressed stone. The extent and depth of the rubble were not ascertained and therefore interpretation of this feature is extremely difficult. However, the disordered nature of the stones indicates that they are tumble from a structure rather than the remains of a wall foundation that has been robbed. It is also possible that the stones in the trough (029) and the possible tenon fragment (071), both having dressed sides, are actually associated with such a building.

This tumble was sealed by a further gradual accumulation of wind-blown sand, which again incorporated small amounts of anthropogenic material, and which included disarticulated human bone. The radiocarbon dates from charcoal and the human bone are grouped within the late seventh to late eighth centuries, with one exception in the late 10th to mid-12th centuries. The birch charcoal could be derived from use as a fuel or perhaps from scrub clearance. The human bone, however, indicates that the site was in the vicinity of human burials that were already undergoing some disturbance.

Stratigraphically separate from these deposits, but at the same level as the surface of layer (026), was what could be the original setting of the cross-slab which, it is thought, was carved in the late eighth or early ninth centuries. It is proposed, therefore, that this site was chosen in the Pictish period (between the seventh and ninth centuries) for the construction of a high-status stone-built structure, possibly a chapel, human burial and the erection of a cross-slab, although we do not know if these actions were contemporary or not. The argument for Setting 1 being the original setting is strengthened by the evidence for early medieval burials in the vicinity.

Possible sequence of settings

All the evidence from the excavation of the deposits, the settings and the condition of the lower portion of the cross-slab has indicated a complex sequence of events which resulted in the setting in which the lower portion was found. There are a small number of certainties amongst this complex history:

1 The cross-slab was commissioned and carved during the Pictish period, probably about the end of the eighth century.
2 The tenon has broken.
3 The lower projections have been modified.
4 A flat slab, possibly a collar-stone, was found 0.3m to the east of the lower portion (Setting 1?).
5 The lower portion was found set into the ground (Setting 2?).
6 Dimensions of the cross tenon with and without projections.

The many uncertainties include the order these events occurred and the dimensions of the slots in slabs 032 and 052. As a result, several scenarios are possible. One suggestion has been that the original site of the cross-slab would have been up on top of the raised beach, as is the situation at Shandwick, Nigg and Portmahomack.[14] Another is that the stones that surround the setting are one setting rather than two. The following table presents some of these possible scenarios from which the most simple explanation for all the observed factors should be the one that is the most likely to have occurred. The scenarios start at the bottom with the construction of the new cross.

Scenarios A, B, and C assume that the cross was erected at another site (either another location or in the vicinity of the chapel) before it was brought to the present site, for which there is no evidence at present. Scenarios D, E, F and G assume that the cross was erected first at the chapel site, and scenarios H, I and J assume that Settings 1 and 2 are part of one setting.

From Table 3.2 it can be seen that scenarios G, I and J are the simplest scenarios. However, scenarios G and I assume that the projections were modified as a result of the fall and yet in this form they were not used in Setting 2. They therefore do not fit the evidence satisfactorily, unless they were modified only to assist lifting the stone into place. Scenario J assumes that the projections were modified at a very early stage, before the cross was erected, perhaps during a period when some experimental work on how to support the massive slab was being carried out. This is not thought by the excavator to be a likely scenario because it assumes that the stone (052) did not act as part of a collar-stone, the slot was not

Table 3.2
Hilton of Cadboll, possible scenarios

A	B	C	D	E
	Setting 2			
	Falls			
Setting 2	Setting 1 re-used	Setting 2	Setting 2	Setting 2
Projections modified	Projections modified	Falls – tenon breaks	Projections modified	Falls
Falls – tenon breaks	Falls – tenon breaks	Setting 1	Falls	Setting 1
Setting 1	Setting 1	Projections modified	Setting 1	Projections modified
Setting 0	Setting 0	Setting 0	tenon breaks	tenon breaks
New cross	New cross	New cross	New cross	New cross
=6 events	=7 events	=6 events	=6 events	=6 events

F	G	H	I	J
Setting 2				
Falls		Setting lower 1/2		
Setting 1 re-used	Setting 2	Setting 1/2	Setting lower 1/2	Setting lower 1/2
Projections modified	Projections modified	Projections modified	Projections modified	Falls – tenon breaks
Falls – tenon breaks	Falls – tenon breaks	Falls – tenon breaks	Falls – tenon breaks	Setting 1/2
Setting 1	Setting 1	Setting 1/2	Setting 1/2	Projections modified
New cross	New cross	New cross	New cross	New cross
=7 events	=5 events	=6 events	=5 events	=5 events

utilised, and that it was re-used here only because of its large size. The measurements of the collar-stone and the lower portion show that stone (052) could have held the lower portion in place, as long as the tenon was still in position to support it.

The next simplest scenarios consist of A, C, D, E and H. Scenario A assumes that the stone was brought down intact from another site for which, as mentioned above, there is no evidence at present. Again, the modified projections were not utilised in Setting 2. Scenario C also assumes that the stone was brought to this site and that the projections were already modified when it arrived. It might be expected that, if the effort was made to bring the cross-slab to a new site, a suitably well-fitting collar-stone would have been made, and thus this scenario is a little unsatisfactory. Scenario D again assumes that the projections were modified before Setting 2 and is therefore rejected. Scenario E assumes that the tenon broke and the projections were modified at a very early stage before it was erected in Setting 1. This is unlikely as the cross-slab would not have stood in Setting 1 without a tenon and there is no evidence of a superstructure. Scenario H (as with J) assumes that the collar-stone (052) was re-used.

The next simplest scenario is F, which would appear to fit all the observed factors. The projections are modified, either because it fell or was found not to fit, and a failed attempt was made to re-set the stone into Setting 1, before it was re-set into Setting 2. Finally, Scenario B assumes that the stone was first at another site, but otherwise would also fit the evidence.

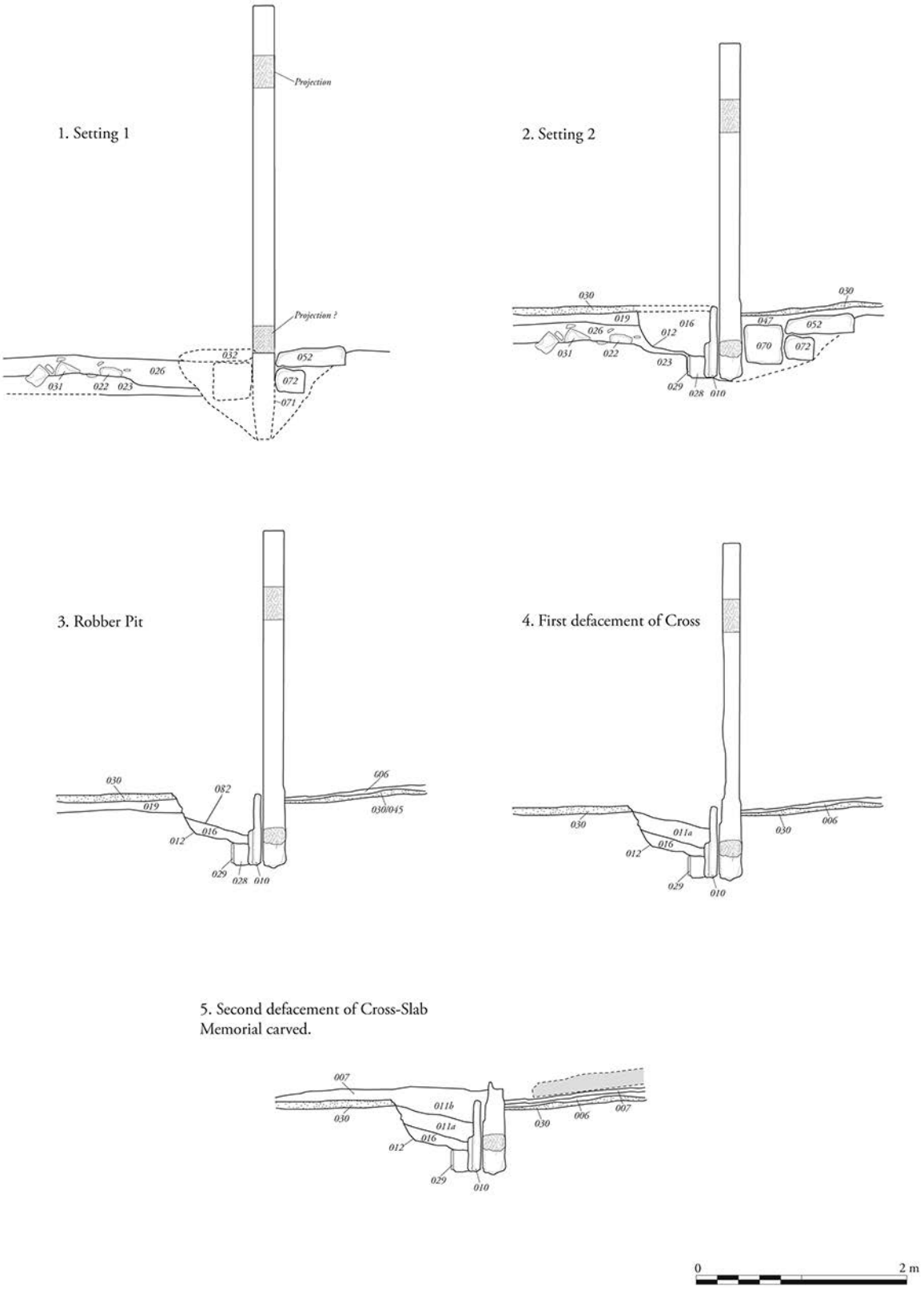

Illustration 3.22
Sequence reconstruction

Therefore, the most likely scenario is F (followed by B). This supposes that the new cross was set into Setting 1, as depicted in the reconstruction drawing, probably in the late eighth or early ninth century (illus 3.22). The wind-blown sand (019) then accumulated in the vicinity of the cross-slab on the west side. There may well be corresponding early deposits unexcavated to the east of the cross-slab. At some point between the early ninth century and the mid-12th century, the cross fell and the tenon broke. Then the projections were modified in a failed attempt to re-use Setting 1, perhaps with other collar-stones not yet identified and used above (052) in an attempt to provide a suitable superstructure. The stone fell again and was re-set into Setting 2 in the mid-12th century. A hard standing was finally laid around Setting 2, which obscured all signs of the earlier setting.

Original Pictish setting for the Hilton of Cadboll cross-slab

The evidence therefore suggests that Setting 1 dates from the late first millennium AD and could be the original setting of the Hilton of Cadboll cross-slab. A wider comparison of this setting with the settings of other Pictish cross-slabs is hampered by the fact that few are thought to be in their original positions and it is not known how much has been reconstructed over the past centuries. At Shandwick, only 3 km to the south-west of Hilton, the large cross-slab stands on the crest of a hill overlooking the sea. According to Allen and Anderson, the Shandwick stone is 9ft tall (2.74m) and 3' 3" (0.99m) wide and is thus shorter and narrower than Hilton.[15] Prior to its repair and re-erection in the 1980s, the cross-slab at Shandwick sat within a rectangular socket in a massive base slab.[16] Two separate collar-stones, fixed together with iron bars, had been added above this base slab to provide extra support after it blew down and broke in 1846. The collar-stones were needed because there was little left of the stone below the decoration once the tenon broke. There were also other large slabs surrounded the setting providing extra support. The very limited excavations that took place around the setting provided no conclusive evidence that this was the original setting of the Shandwick stone,[17] but, as there is no historical evidence suggesting that it has been moved to this site, it is quite possible that the large basal stone does represent the original setting.

Similarly Sueno's stone at Forres (20ft high (6.09m) and thought to date to the between the ninth and the 11th centuries) was embedded in a massive basal stone which was estimated to weigh 10 tons.[18] Charcoal from two features near the stone was radiocarbon dated to the eighth century AD and the early 11th century AD, which would confirm that some activity was taking place on this site before and during the period that the stone is thought to have been erected. While this is not evidence that this is the original setting, it does show that there was activity on this particular site during the Pictish period.[19]

The free-standing cross at Dupplin in Perthshire was found to be sitting in a massive basal slab with a large rectangular slot for the cross.[20] It is possible that

Illustration 3.23
Canna cross (Crown copyright RCAHMS)

this cross is in its original position close to the royal palace at Forteviot, similar to Invermay on the south side of the river, although there is no evidence for it being located in the vicinity prior to 1683 as shown by a map by John Adair.[21] Even if it was moved to this site, it is quite possible that the massive basal slab was brought with the cross to the new site and thus the basal slab could be part of the original setting.

The Canna cross (NGR NG 269055) is an eighth- or ninth-century free-standing cross measuring about 1.98m high, which is thought to be sitting in its original setting. The setting consists of a 'rectangular slab of sandstone, 0.98m by 0.81m and containing a socket 0.55m by 0.23m, within a raised kerb of sandstone slabs set on edge'.[22] This kerbing is embedded in the ground all around the edge of the cross providing extra horizontal support for the basal slab (illus 3.23). This is an interesting similarity with the Hilton kerbing, but at Hilton there is no evidence that the kerbing had ever been embedded in the ground in this way.

A variety of settings for free-standing crosses and cross-slabs appears to have been used in the early medieval period.[23] These include stepped plinths (perhaps representing the Mount of Calvary) as for St Martin's Cross and St Matthew's cross, Iona,[24] and also converted millstones.[25] Tall socketed blocks were also used, such as with the Barochan Cross.[26] Composite bases are a possibility, such as at St John's Cross, Iona,[27] and the Kilnave Cross, Islay,[28] although there has been some doubt expressed about whether these are the original settings or are medieval in date. Some carved recumbent slabs, such as Meigle no 26, had slots which may have been used for the support of a cross and for other purposes.[29]

From the few examples where the stones are thought to be possibly in their original locations, the evidence suggests that, where bedrock was unavailable, a massive basal socket stone was often used, perhaps with some extra support added in the form of a kerb or box-like structure. The stones (072) beneath the collar-stone (052) are clearly not part of a massive basal slab and there was no indication of there being one immediately beneath them. As the tenon was clearly intended for sitting into a basal socket it is possible that Setting 1 is not the original setting and that a massive slab still lies undetected, perhaps beneath the medieval cemetery, into which the Hilton tenon once sat. The possibility that the original setting of the stone was on the hilltop, in a similar location to the Shandwick stone, is discussed below.

Cross-slab Setting 2 (mid-12th century)

The evidence suggests that the cross-slab was re-erected after a catastrophic fall, but it is not known how much time passed between the fall of the cross and its re-erection. None of the Project team has noted one side of the lower portion being more weathered than the other. The mid-12th-century OSL date associated with Setting 2, the 13th-century architectural fragment probably from the chapel and the difference of alignment between the chapel and the cross support the tentative proposal of a stratigraphical relationship in which the construction of the chapel post-dated the re-erection of the cross (see Chapter 6.2.6 where the social context for this is discussed). It is possible that there was an earlier chapel on this site, perhaps beneath the 13th-century stone chapel. The patrons of this earlier chapel could have commissioned the re-erection of the cross in the mid-12th century, setting the slab deeper into the ground to allow for the loss of the tenon. While some of the decoration would thereby have been obscured, including the stepped base of the cross on face A and the bottom of the panel on face C, it could be said that the most significant elements of the slab, the cross and the female rider in the hunting scene, were still very much in evidence. The midden (047) was probably brought in to hide the remains of the earlier setting and then the whole of Setting 2 was surrounded by a hard standing of crushed sandstone. The presence within layer (047) of a single fragment of the Hilton cross-slab (X.IB 355.136), described as a fragment of band relief, presumably reflects some damage to the Hilton slab that had taken place by this time, possibly associated with the fall which perhaps involved the breakage of the lower horizontal moulding seen on face A. There is no evidence that further burials were carried out at the site at this time, although it should be remembered how little of the pre-16th-century deposits have been excavated. As a result, much evidence for this period still remains undetected beneath the surface.

There is slight evidence for an enclosure earlier than the one currently visible on the surface. This evidence consists of only a few stones (035) emerging from beneath layer (019). While it is tempting to suggest that this may relate to an early Christian oval-shaped enclosure lying partly beneath and partly within the visible banked enclosure, there is really not enough evidence yet to confirm its existence or early date. On the OS plan of 1872, which shows the 'site of standing stone', this inner enclosure is depicted as rectangular

rather than oval in shape. Whether this was an accurate depiction of the actual enclosure or perhaps a contemporary fence line is not known.

Layer 006

To the east of Setting 2, the crushed sandstone layer was sealed by a thin layer of brown sand (006), which appeared to be a redeposited midden containing Scottish Redware, but it could also have been a turf layer which has begun to accumulate after the hard surface was laid and prior to the re-dressing of the stone. This deposit was only seen to the east of the setting and there was no equivalent deposit to the west. Perhaps visitor numbers kept the west side (the cross-side) clear of accumulating deposits.

Medieval chapel

The chapel and the first of the burials (Skeletons 5 & 6) were cut into the same layer of sand (069) and could be contemporary. The sand horizon (069) formed a slight mound (illus 3.5). The depth and nature of this mound is not known, as it has not been excavated. However, the sand is described as dark brown with occasional shell inclusions, and it probably had a relatively high organic content compared to the wind-blown sand. There are several possibilities for how the mound was formed. The mound may consist of imported material, in order to raise the site above the water table, or it could be the surviving surface after a hollow has been dug or eroded to the west. It could be a turf layer over a natural accumulation of wind-blown sand around some feature that has created an obstruction to aeolian erosion, such as an earlier structure. It could also be a combination of these processes.

The chapel, measuring about 12m long by 5m, has a simple rectangular plan characteristic of parish churches and chapels after the 12th century.[30] The excavation has produced a single architectural fragment of a window mullion, dated to the 13th century, which may relate to the construction of the chapel. The walls are at least 0.9m wide, constructed of large, squared blocks of sandstone bonded with a shelly mortar. Within the deep central trench, the west gable wall survived up to 1.2m high above a stepped foundation stone 0.3m high. The remaining walls were left undisturbed beneath the turf. A tiny fragment of possible sculpture (X.IB 355.239) was retrieved from tumble, and it perhaps derived from a sculptured figure which may have once stood in the chapel.[31]

Skeletons 5 and 6

Two child burials (Skeletons 5 & 6), and probably other unidentified burials, occupied the space between the cross-slab and the chapel, probably a privileged location. The distance of 1.1m between Skeletons 5 and 6 and their alignment suggest that the burial ground was well organised and not over-used. These two burials were not excavated and are undated, although the disarticulated human bones from layers (026), (019), and (034) suggest that the site had already been already in use as a burial ground for a considerable time.

Mortar bank and tumble

The burials were sealed by tumble and a mortar bank, which were difficult to interpret because so little was revealed beneath a later deposit of tumble (Phase 4). It is possible that the stones (020) are derived from a structure located to the west of the chapel rather than from the chapel itself, because the stones are significantly smaller than the stones seen in the upstanding chapel wall (014) and they do not have mortar adhering to them. They perhaps formed a structure lying to the west of the chapel, pre-dating the late medieval burials and the shed. The mortar bank may be associated with the foundations or plaster face of the shed. The shape and function of this structure is unknown although there was a suggestion that the south-west corner was rounded. It is interesting to note that the majority of the stone tumble (020) lies to the north-west of the chapel wall and does not extend south opposite its entire gable end, hence the width of the annex was less than the width of the chapel. There is no stratigraphical relationship between the chapel and the mortar bank and, therefore, while it is probably later than the chapel, this is not certain. The small fragment of sculpture found within it could be derived from a statue associated with the chapel, but it is, unfortunately, too small to provide any further evidence for its nature.

Only one pottery sherd of Scottish Redware was found within the tumble of stones (020), which is not very reliable dating evidence, considering the loose nature of the tumble in the vicinity. The mortar (050), but not necessarily the tumble (020), pre-dated two burials, Skeletons 3 and 4, radiocarbon dated to the 14th to 17th centuries.

It was considered whether the mortar layer could be derived from the chapel walls either as a construction or a destruction phase. If this was the case, some spread of mortar and sandstone would be expected

around the perimeter of the walls as a result of the construction work. It could have been deposited here perhaps a result of the dismantling and re-use of the chapel stones, in which case the larger stones from the chapel could have been removed for re-use, leaving only the smaller stones on site. This does not explain, however, the gap between the mortar and rubble and the chapel wall as seen in the deep central trench, as one would expect the rubble and mortar to be abutting the wall from which it was derived. One explanation for this absence could be that, in a later phase, when the 'shed' was constructed, this mortar and rubble was cleared away from the chapel wall, although it is not easy to explain why this should have been done in such a way as to form a 'bank' of mortar, which then had to be levelled up for the floor of the shed (see Phase 4).

Skeletons 3 and 4

A youth and a child were buried in the same grave, possibly at the same time, between the chapel and the cross-slab. The burials were cut into the mortar bank (050) and were sealed by what is thought to be the floor (044) of the post-medieval shed (005) (Phase 4). The date of the burials was between the 14th and the 17th centuries, which is not inconsistent with the few sherds of medieval pottery that were found within the grave fill. Both skeletons showed evidence that they had been malnourished during their lives and suffered from iron deficiency anaemia.

The north/south alignment of the burials is unusual for a Christian burial ground and may indicate that they were not buried under the official auspices of the church. This could be consistent with the secularisation of the chapel site in the post-Reformation period, after which the tradition of burying children here continued. There was no evidence for a coffin and, given the U-shape of the grave profile, it is likely that the bodies were wrapped in shrouds and laid directly in the ground.

Thus, at the end of Phase 3, in the post-medieval period, the chapel had gone out of regular use following the Reformation and it had probably suffered some collapse. The Pictish cross was still standing and the graveyard was being used intermittently for the burial of children.

Pit and layer of carved debris

Phase 4 consists of a pit filled with carved fragments and a spread of these fragments around the cross, presumably the collapse of the cross-slab, the construction of a D-shaped annex to the chapel and further use of the graveyard.

Pit fill

The interpretation of the pit fill (016) is problematic because of the apparent lack of evidence for the robber pit having been re-cut. The shape of the cut (012) with its flat base above the sterile sand (028) and its gently sloping sides appears from the section to be a single event. However, the interpretation of the pit fill (016) as the second fill of the pit, contemporary with Setting 2, and the presence of the carved fragments in the upper fill would require that the upper surface of fill (016) was a second re-cut of the pit. It might seem improbable for the pit to have been re-cut on exactly the same line as the earlier pit. It should perhaps be kept in mind that, if the pit fill on the west side of Setting 2 had been sealed by a collar-stone, the removal of this slab for the digging of the pit could have revealed a fairly fresh edge of the earlier pit which could have been followed by the diggers of the robber pit. The evidence from the soil analysis suggests that the fill (016) was not slump from the sides of the pit (019), and therefore the deposit had derived from elsewhere on site, brought in to back fill the pit.

The upper fill of the pit (011) could be differentiated into an upper and lower deposit by the size of the fragments. The lower fragments represent the defacement of the stone and the upper deposit perhaps represents the collapse of the cross-slab and the deposition of predominantly broken middle portion fragments. There was no build up of any deposits between these two layers or between the pit fill and layer (007), which would have supported there being some time difference between these events. Unfortunately, while the locational analysis can distinguish the distribution of different fragment types horizontally it cannot distinguish them vertically. This is because the smaller fragments were initially given a bulk small find, which related to the square in which they were found, and later attributed museum accession numbers, which do not relate to the order in which they were found and therefore do not relate to their depth within the pit. However, if the complete assemblage of fragments is considered, the larger pieces do come from the pit (Chapter 7.2.3).

Layer 007

Layer (007) is a horizon of carved fragments surrounded Setting 2. There was very little difference between the

sand matrix within this horizon (007), the upper fill of the pit (011) and layer (002) above. Although there were larger stones in the upper fill of (011), they were also interspersed with carved fragments and thus there appeared to be a continuous deposition of fragments throughout (011) and into (007). Indeed, during the Kirkdale excavation, all the fragments within the pit were excavated as (007) and no distinction was noted.

Work on the distribution of fragments (Chapter 7.2.2) has demonstrated that, horizontally, there were two main concentrations of fragments: one in the pit (011) and one to the south-east of the setting. This may indicate that the cross-slab fell to the east and that the dressing of the slab took place while the slab was lying in this horizontal position. The fragments were then brushed off the surface of the slab to the south side.

Layer (007) has incorporated some midden material in the form of fragments of horse, sheep/goat and cattle bones, which suggests that there is likely to have been settlement in the vicinity. There were also several nails, which may have originated from the settlement, the chapel, or perhaps from coffins. There were also disarticulated human bones, probably from disturbed burials. The skull and other bones of a very young child may have been intrusive into this layer, although no grave cut was seen.

The dating evidence for layer (007) includes an OSL date of AD 1570±25 (SUTL 1449) taken from the west side of the monument, a decorative mount (no 1) dated to the 15th to 17th centuries, five sherds of Scottish Redware and a single sherd of Yorkshire type ware. While the pottery is probably residual, the decorative mount and OSL date are not incompatible and suggest a late 16th-century date for the deposition of this layer. The soil thin section has revealed small sandstone fragments within this layer which are not the same as the Hilton cross-slab. These could be derived from the chapel either as it was dismantled or decayed in the immediate post-Reformation period.

Collapse of the cross-slab

There was no evidence that the cross-slab had been deliberately felled. Instead, the evidence is quite consistent with the slab snapping under pressure and this is further strengthened by the report of a cross-slab in a very similar location to Hilton being blown down in a storm in 1674 (Chapter 6.4). There was evidence of a smooth surface on the side face D, which suggested that it had experienced slight rocking against the collar slab (Chapter 7.2.2). There was, however, no evidence for any great leaning of the slab and it seems to have been held fast vertically in the ground until the moment of collapse. The evidence also suggests that the cross-face had already suffered some level of defacement before it fell, with the final preparation of the memorial taking place once the slab was horizontal.

Shed

A single west wall of what is thought to be a post-medieval annex or shed lay over the tumble (020) and mortar bank (050). A floor within it had been levelled with material that contains 18th/19th-century pottery, which suggests that this annex or shed was in use in the 19th century, although when it was constructed is not clear. This structure is thought to be the remains of the structure referred to as a 'shed' in the 19th century and in which the cross-slab was housed (Stuart 1856). One could speculate that the cross-slab leant against the remaining gable wall of the chapel, with face C exposed. It could have sat on the gravel layer (033), which has become worn away elsewhere within the shed. The tumble sealing the annex floor represents the collapse of the gable end of the chapel after the cross-slab was removed.

Skeleton 1 and flat slabs

Continued use of the burial ground long after the chapel had gone out of use is indicated by the presence of Skeletons 1 and 2. Only Skeleton 1 was excavated and this has been dated to the post-medieval period. The alignment of Skeleton 1, perpendicular to the revetment bank, indicates that the burial and the bank could be broadly contemporary. The presence of lines of laid slabs (013), similar to those that sealed Skeleton 1, strongly suggests that there are further post-medieval burials sealed by these grave-slabs in the south-west corner of the excavated area on a south-west/north-east alignment, which differs from that of the medieval burials (Skeletons 5 & 6). The medieval burials may not have been entirely visible by this time as they were partially sealed by the tumble (020) and the annex (005). There would therefore have been a less clear visual reminder of the alignment of existing burials with which to align the later burials. It is not known whether the cross-slab was still standing when Skeleton 1 was buried. While the relatively young age of Skeleton 1 argues against it being the burial of Alexander Duff, it is still possible that he was buried to the west of the chapel, rather than at Fearn.

Revetment wall and midden core

A low turf-covered bank that surrounds the chapel site was examined at the far west end of the deep central trench. This revealed a low, straight stone revetment wall (018) that retained an earth-and-stone core (036), which was sealed by further tumble of stones. This bank was part of the rectangular enclosure that surrounded the chapel, as depicted on the first edition Ordnance Survey map of 1872. This loose earth core was interpreted as re-deposited medieval midden, possibly from the same source as the earlier re-deposited midden (047) that sealed the settings (Chapter 7.4.1). The discovery of an iron fish hook was compatible with the waste that one would expect from a fishing community.

The final deposits in Phase 4 represent of the collapse of the chapel gable (027 and 015), forming a substantial bank of rubble, which extended from the base of the chapel wall up to a distance of about 1.5m and up to 0.6m deep. The stones within this layer were similar to those of the rubble core with an added clay component.

Turf and topsoil

The final phase consisted of the modern accumulated deposits of 002 and 001, which sealed the debris bank, the remains of the annex, the debris horizon and the lower portion of the cross-slab. The variety of the finds, including a golf ball and a gun cartridge case, reflected the modern recreational use of the chapel site. The area has been suffering from rabbit disturbance and several burrows were visible on the surface of the chapel site, although none appeared on the surface within the area of the excavations. The burrows had brought up further disarticulated human bone and exposed sub-surface stones, which could be tumble from the chapel or further unknown remains.

3.7 Conclusions

The excavations have successfully retrieved what must be the vast majority of the carved fragments from the original cross-face of the slab. They have also examined the setting in which the lower portion was discovered and revealed an earlier setting that was previously unknown. The favoured scenario F for the cross-slab settings has taken consideration of the various strands of evidence from the excavation of the deposits in the vicinity of the settings and the condition of the lower portion itself. This scenario owes much to Barry Grove, who was present throughout the excavations and took part in the daily discussions. The art historical and archaeological evidence suggests that face A was initially carved in the late eighth or early ninth centuries while it was lying in a horizontal position. At some time in the first millennium AD it was erected into Setting 1. Setting 1 probably consisted of a single collar-stone with a slot in the centre. Beneath this collar-stone, bracing either side of a long tenon, were large sandstone blocks set into wind-blown sand. It would have been possible to carve face C while the stone was upright. There is evidence of activity on the site in the Pictish period in the form of charcoal, disarticulated human bone, and dressed stones among other rubble, all within a gradually accumulating wind-blown sand.

According to Scenario F, after an unknown period of time, the cross-slab fell, breaking off the tenon and causing the collar-stone to break into two sections (052 & 032). An attempt to re-set the cross-slab into Setting 1 involved trimming the side projections and perhaps the addition of additional collar-stones. The stone may well have fallen for a second time.

A decision was made to re-erect the cross-slab probably in the mid-12th century, deeper into the ground with flat stones on either side of the decorative face. Further packing stones and sand were put in place around the cross-slab obscuring some of the decoration from view. Some local sand (re-deposited midden) was brought in to seal the setting and a hard surface of crushed sandstones was laid around the base of the cross-slab.

A chapel was built on the site, on a slightly different alignment to the cross-slab, and the date of this has been suggested by the presence of a 13th-century architectural fragment, possibly a moulded voussoir. The possible presence of a earlier structure was implied by the discovery of sandstone tumble, which included a tooled face. During the medieval period the site was used as a cemetery.

It is thought that in the post-Reformation period (about 1650) an attempt was made to dig out the cross, but when this failed the pit was abandoned and the pit was filled up with fragments from the defaced cross. The evidence suggests that the next event was the collapse of the slab during a storm in 1674, with the result that it was lying, partially defaced, on the ground to the west of the chapel when a memorial stone Alexander Duff and his three wives was commissioned. It would appear that the memorial stone was not used for its

intended purpose (as Duff is thought to have been buried at Fearn), and it lay at the chapel site, initially on its face and then moved into a lean-to shed, represented by a D-shaped foundation, abutting the chapel gable. After the cross-slab was removed from the site in the 19th century the walls of the chapel were robbed for construction work in the village, the remaining stones collapsed and the site became grassed over.

Despite the fact that little of the site was excavated, there are traces of the medieval settlement in the vicinity, perhaps from the documented 'Catboll Fisher'. This is in the form of re-deposited midden, which has been introduced to the site, as well as wind-blown sand and additional anthropogenic material, such as pottery, a quern stone and fish hooks. The process of incorporation of artefacts continued into the modern period, although these were more indicative of recreational activities than nearby settlement.

The excavation revealed that the site was used as a burial ground predominantly for children in the medieval and post-medieval period. No coffins were found and the bodies were probably laid in the ground in shrouds. The burials were aligned east–west, apart from two that were north–south and which are thought to have been buried after the Reformation when the chapel went out of use. The east–west alignment of burials was however re-established in the post-medieval period and there is the possibility that these relate to cholera victims. The presence of small quantities of disarticulated human bone throughout the site (apart from the lowest wind-blown sand) attests to disturbance of this cemetery by rabbits. The full extent of the burial ground is not known, although the extent of the human bone visible on the surface suggests quite an extensive area around the chapel.

Over 3000 fragments of carved debris were retrieved from the excavations. In general the larger fragments come from the middle portion and the smaller ones from the defaced cross. The location of the fragments has been recorded to the nearest 0.5m in plan and by context, which provides a degree of horizontal and vertical locational information. The analysis of the location of these fragments has revealed that the fragments are generally within 4m of the lower portion, although some larger fragments have been found at even greater distances. Some of these larger fragments were found beneath later grave-covers (013) and thus the location of at least some of these stones owes as much to human action as they do to the possibly explosive effect of the snapping of the collar-stone. The partial reconstruction of the middle portion has revealed that it is unlikely that there are significant fragments of the Hilton slab incorporated into structures in Hilton village, because there are no missing pieces big enough to have been utilised, for instance, as lintels.

One of the aims of the project was to provide a workable reference catalogue which could inform the reconstruction of the cross-slab and this has been achieved (see Chapter 7 and the archived database). Because of the large number of fragments it was not possible to complete this database until June 2005 and this proved too late in the project to be utilised to its full potential by Ian G Scott and Isabel Henderson. However, a series of distribution patterns have been produced which have fuelled further questions.

It was hoped that analysis would reveal the nature of the red colour of the carved surfaces. While Allan Hall discussed possible causes of the red colouration or 'brown staining' (see archive), this was unfortunately, not followed up with further work on the surface composition and remains a potential avenue of research for the future.

The OSL dating programme provided a series of dates which, despite the experimental nature of this method, appear to be accurate and 'in the correct order'. They could not be used to date the settings directly but have suggested that the second setting belongs to the mid-12th century AD. The layer of 'fragments' has been intriguingly dated to the mid-16th century, a century earlier than the carving of the memorial to Alexander Duff and the possible felling of the stone in a storm. Also brought into question was the dating of the introduction of Scottish Redwares, which the OSL dates suggest could be as early as the 12th century rather than the conventional 13th century. If the site were to be excavated again, it would be advisable to take many samples from each context for OSL dating, as this would provide a more detailed chronological framework for the site than could be provided by the limited scope of this programme.

Very little can be said about the archaeological significance of the rest of the chapel site as shown in illus 1.3, as such a limited area was examined. This is a great disadvantage when attempting to discuss the Pictish and later contexts of the cross-slab. Again, in the future, it would be useful to examine some of the surrounding features, including the chapel, the possible medieval enclosure, the later enclosures, and a more extensive examination of the deposits beneath the horizon of fragments. This could reveal more

information about the landscape and activities taking place on this important site.

The archaeological investigations, despite being small in scale, have provided a complex array of sometimes contradictory evidence which has been a challenge to bring together into a coherent story. The most significant contributions of the archaeological investigations to the biography of the monument have been the confirmation of Pictish activity (including human burial) on the site, which provides a satisfactory context for the original setting of the slab, the discovery of the lower portion *in situ* by the chapel, the retrieval of the carved fragments and the successful application of the OSL dating technique.

Notes

1 Barry Grove and Peter Hill pers comm.
2 Carver 2004, 26.
3 Kirkdale Archaeology 1998.
4 Kirkdale Archaeology 2001.
5 Ian G Scott pers comm.
6 Ian G Scott pers comm.
7 R Will pers comm.
8 Stephen Watt and John Turner pers comm.
9 Ian G Scott pers comm.
10 Ian G Scott pers comm.
11 Barry Grove pers comm.
12 Stephen Watt and John Turner pers comm.
13 Richard Fawcett pers comm.
14 Carver 1998.
15 ECMS, pt III, 68.
16 James 2005, 95–6.
17 Gourley & Pollock undated MSS.
18 McCullagh 1995.
19 Ames 2005, 102–4.
20 Kirkdale 1999; Ewart *et al* forthcoming.
21 NLS Adair MSS No 2.1683.
22 Fisher 2001, 98–9.
23 Fisher 2001, 16–17.
24 Fisher 2001, 55.
25 Fisher 2005, 86, 89.
26 Driscoll *et al* 2005.
27 Fisher 2001, 135.
28 Barber 1981, 100.
29 Henderson & Henderson 2004, 198–200.
30 Fawcett 2002, 24–7.
31 Richard Fawcett pers comm.