Society of Antiquaries of Scotland

Darkness Visible

The Sculptor's Cave, Covesea, from the Bronze Age to the Picts

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Chapter 2
EXCAVATION RESULTS

2.1 Introduction

2.1.1 General

The Sculptor's Cave has been subject to two major campaigns of excavation, firstly by Sylvia Benton (1928–30) and secondly by Ian and Alexandra Shepherd (1979), though these were preceded by at least one antiquarian excavation (Anon 1868a; see section 1.5). While good by the standards of the time, Benton's (1931) work inevitably lacked stratigraphic detail and failed to provide much information on the nature of the internal deposits and structures. The Shepherds' work was the first exploration of the cave to be conducted to modern standards but has remained unpublished until now. This chapter describes the results of the Shepherds' excavations and their implications for our understanding of human activity in the Sculptor's Cave from the Late Bronze Age to the Roman Iron Age. It also reviews the Benton excavations and examines some of the problems associated with their interpretation.

What follows is a summary of the site stratigraphy organised according to the three main chronological phases of occupation: Late Bronze Age, Iron Age and Roman Iron Age. Although sufficient information has been retained to relate these summary discussions to the primary site archive, contexts are individually discussed only where they contribute to an understanding of the overall sequence or where they contain significant artefacts or ecofacts. The inclusion of significant context numbers in the text and on the illustrations enables the published descriptions to be related to the more detailed context-by-context descriptions in the site archive.

2.1.2 Notes on the Shepherd recording system

General

Before proceeding to detail the sequence of activity in the cave, it is helpful to explain the recording systems used during the original excavations and recent post-excavation analysis. It is worth stressing from the outset that, contrary to what was originally thought, human activity in the cave seems to have continued, with varying levels of intensity, from the Late Bronze Age to the latter part of the Roman Iron Age (chapter 4). Given this essential continuity, the phasing proposed below should be seen as a tool for analysis, rather than implying a series of disconnected episodes of activity.

Context recording

The Sculptor's Cave excavations were carried out before the widespread adoption in Scotland of single-context recording as it is currently understood. While the excavators gave separate context identifiers to most (though not all) anthropogenic sediments encountered during the excavations, they did not, for example, routinely number cuts and fills separately or provide codes for non-anthropogenic or putatively modern features. Context codes comprised two elements: trench identification represented by Roman numerals and an individual context identifier in Arabic numbers. Although this could generate quite complicated context codes and occasionally cause confusion in the duplication of deposit numbers between different trenches within the cave, the recording system provided a perfectly good basis for analysis, even after the passage of more than 40 years between excavation and post-excavation. The original context labelling system, despite its occasional ungainliness, has been retained in this report, principally in order to preserve a direct link between the publication and the site archive. Given the complexities of cave stratigraphy, the recording system holds up remarkably well and led to generally few problems in reassessing the archive.

Finds recording

Small finds were recorded using a single running numbering system for all material including human (but not faunal) bone. These have been prefixed with 'SF' throughout this report with the exception of pottery, which is recorded to fabric, or occasionally vessel (V) (section 5.2.1), and coins that are prefixed with 'C'. All stratified finds are mentioned at the appropriate point in the following sections, other than crumbs of pottery too small for identification to fabric (though these are included in the weights given). Where individual finds were three-dimensionally recorded, they have generally been plotted on the appropriate plan in the stratigraphic sections below. The principal exception is pottery, since only a small minority of sherds were recorded in this way and to plot them might give a false impression of their distribution.

Plans, sections and photographs

All original plans and sections were digitised as part of the recent post-excavation programme and are available in the site archive. The most informative have been selected to convey the stratigraphic sequence in this report. As with any large excavation,

there are inevitably some inconsistencies in the plans and sections. These have generally not been particularly problematic in terms of understanding the sequence of activity within the cave. No attempt has been made to retrospectively 'tidy up' such discrepancies. Certain types of deposits (eg sand, charcoal and clay) have been shaded to aid visual interpretation.

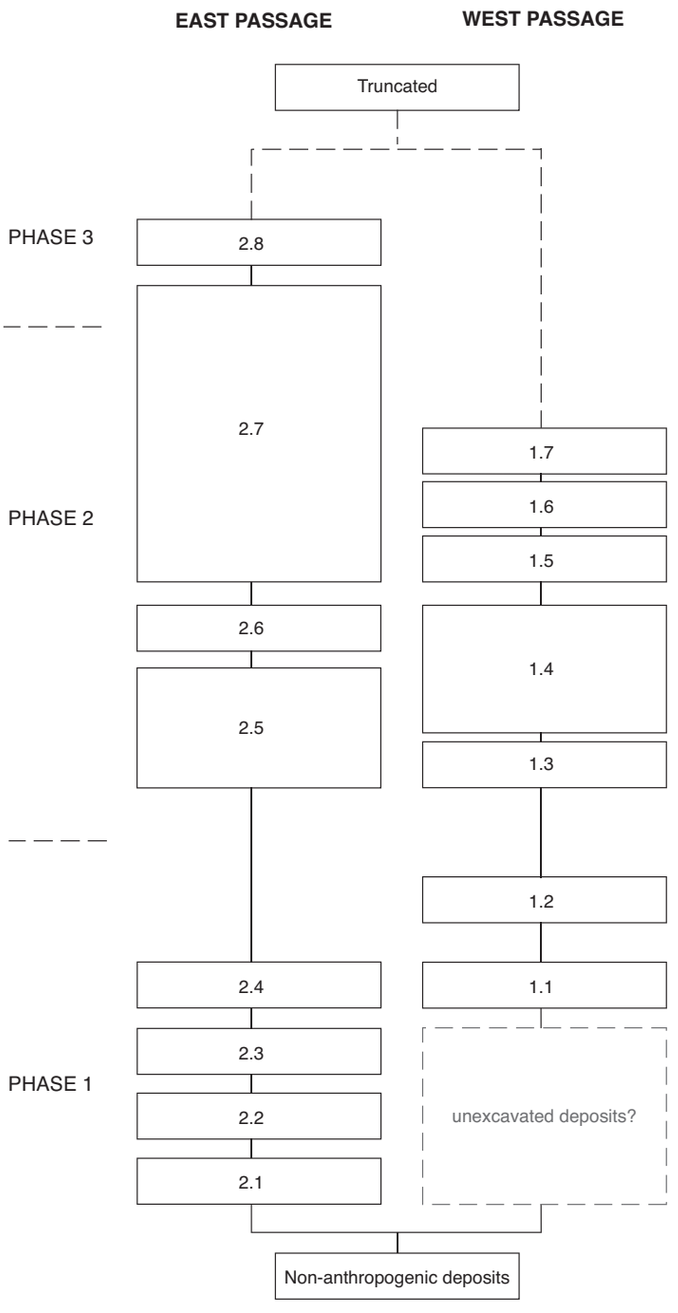


Illustration 2.1
Matrix showing the relationship between stratigraphic blocks from the entrance passages, based on deposits excavated by the Shepherds. The relative vertical placement of the East versus West Passage deposits is based on AMS dating

2.1.3 Stratigraphic blocks

For the purposes of this volume, individual contexts from the Shepherds' excavations have been grouped into stratigraphic blocks which form, effectively, detachable elements of the overall site stratigraphy (illus 2.1). Each context within a given block will have an identical relationship to any context within any other block. Thus, any context within Block 2.3, for example, will be stratigraphically below any context within Block 2.4. These blocks form a starting point for understanding the overall stratigraphy of the site. As there were no surviving stratigraphic links between the two entrance passages (other than in the underlying, non-anthropogenic layers), the relationship between the blocks in either passage are necessarily interpretive, based primarily on the results of Bayesian analysis of the AMS dates.

2.1.4 Phasing

The deposits within the cave have been grouped into three broad phases based on the results of AMS dating (illus 2.1): Late Bronze Age (Phase 1), Iron Age (Phase 2) and Roman Iron Age (Phase 3). The AMS dating evidence was not of course available to the original excavators who were reliant, in published interim statements, on a combination of stratigraphy and artefact typology. Thus, the commonly understood narrative of the site (eg Shepherd 1983; 1993) largely omits the Pre-Roman Iron Age part of the sequence which, as for most of Scotland, lacks distinctive artefactual material.

A Bayesian analysis of the AMS dates and the overall chronology of the cave are presented in detail in chapter 4, but individual dates are presented in the discussion of relevant contexts in this chapter.

2.1.5 The excavated areas

Sylvia Benton's excavations in 1928–30 resulted in the removal of the great majority of archaeological deposits within the Sculptor's Cave. Over three seasons, she excavated the whole of the interior and much of the two entrance passages, leaving only a few areas intact for future work. Her published plan (illus 2.2) shows the entire cave divided into a series of 10 × 10ft grid squares, the majority of which were excavated to the level of the underlying natural deposits. The exceptions were strips of unexcavated deposits running along each of the twin entrance passages (illus 2.3) and a small area of deposits in the interior, immediately behind the central spine of rock which separates them. This area was preserved because of the presence of a 'Romano-British hearth' (labelled 'W' on the published plan; Benton 1931: 180; illus 2.2, 2.4), but appears to have been thoroughly disturbed by the time of the Shepherds' excavations. Even in these preserved areas, however, Benton had removed the upper archaeological deposits, associated principally with the Roman Iron Age occupation of the cave (but also including some earlier material, which may date to the Pre-Roman Iron Age). Benton also noted that 'a good deal of excavation has been done outside the cave' (ibid). Although the location and extent of this work is unrecorded, some excavation outside the entrance is shown in photographs from the Benton archive (illus 2.5).

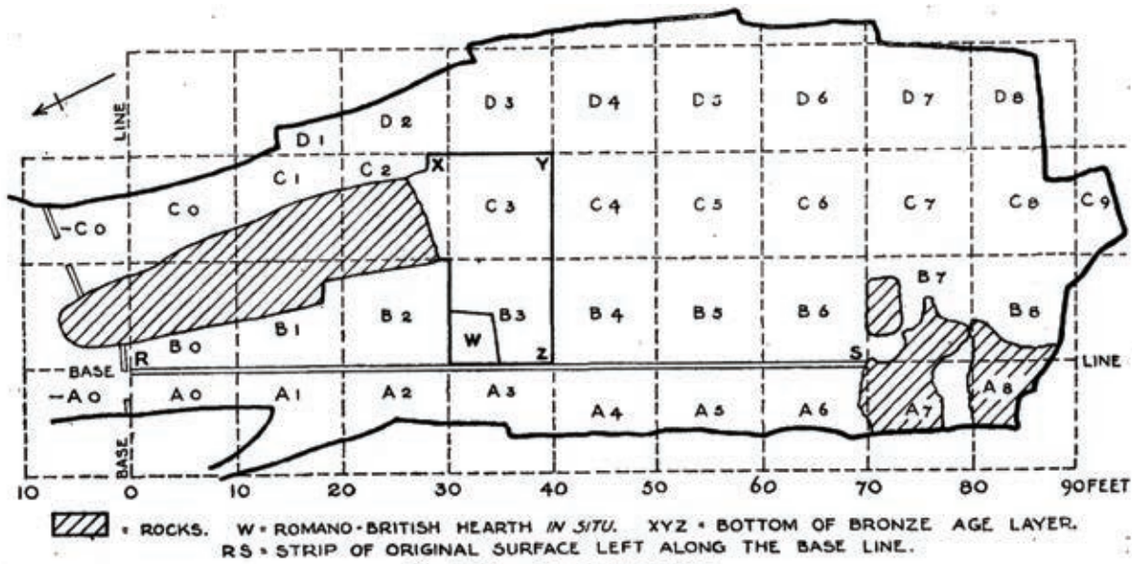
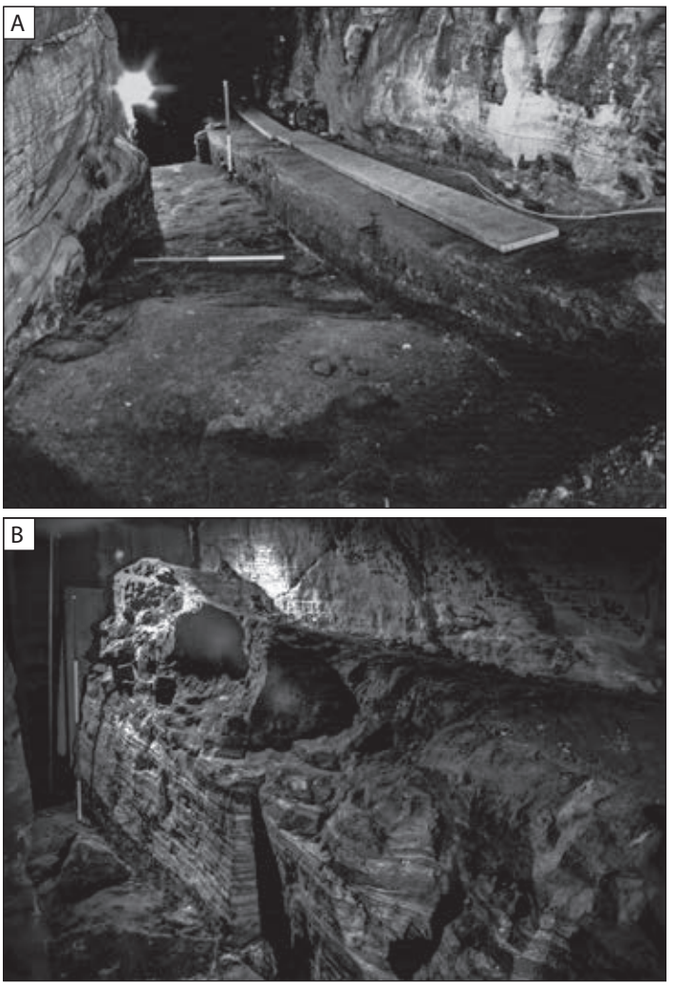


Illustration 2.2
Sylvia Benton's published plan (1931: 179, fig 2)



The Shepherds' excavations in 1979 set out to remove all remaining anthropogenic deposits within the cave and the entrance passages (although see section 2.3.4). These were divided into three principal areas: the East Passage, the West Passage and Area III (the small area within the interior left by Benton) (illus 2.6). The latter area appears to have been highly disturbed and no securely stratified deposits were recorded; it is not discussed further in this chapter.

The excavated deposits in the East Passage were divided into three trenches: IIa, IIb and IIc. These formed a coherent block extending along the entrance passage and projecting to the exterior.

The excavated deposits in the West Passage were also divided into three trenches: Ia, Ib and Ic. However, Benton's excavations here had removed all archaeological deposits along the centre of the passage. The bulk of the deposits lay on the east side, comprising Trenches Ia and Ib (the latter contained a few contexts prefixed 'III', which extended northwards into Trench Ia from the disturbed Area III). Trench Ic lay partly under the overhang on the west wall of the passage. A small area, Trench Id, measuring around 1m by 3m, was also excavated immediately north of the modern wooden door that blocks the entrance to the West Passage. Deposits here were found to have been removed by Benton's excavations and are not considered further in this volume.

2.1.6 Stratigraphic recording prior to the Shepherds' excavations

Sylvia Benton's (1931: 177–8) report is frank about the difficulties encountered in excavating the cave. Excavation methods of the period were of course relatively crude, even when applied to

Illustration 2.3
In situ material left by Benton in (A) the East Passage (looking south) and (B) the West Passage (looking north) at the start of the 1979 excavations. Note that much of the lower part of the section in the West Passage (B) comprises naturally deposited material

Illustration 2.4
The 'Romano-British' hearth excavated by Benton (area 'W'; illus 2.2)

Illustration 2.5
Excavations outside the West Passage during 1928–30

conventional open-air sites, and they were ill-equipped to cope with the stratigraphic and taphonomic complexities of the cave environment. Excavation in 1928 comprised 'a week of trial trenches' by Benton and a friend (ibid: 177), while the more extensive excavations of 1929 and 1930, each lasting for five weeks, were aided by a team of four workers borrowed from the Gordonstoun Estate. Given the physical restrictions of light and space, Benton devised a simple working method whereby deposits were initially dug out by workmen according to her grid system and then transported by wheelbarrow to the front of the cave for sieving. This seems to have been carried out quite thoroughly, with Benton noting that 'tearing lumps of clay to pieces hour after hour is a most severe test of human patience' (ibid: 178). It is worth noting, however, that some finds from the 1928 season in particular are attributed to seemingly unintelligible locations, suggesting the formal grid as shown in the published report may not have been established until 1929.

Benton proposed a basic stratigraphic sequence, comprising three principal 'layers', which can be related to her published section (illus 2.7A). There are, however, several ambiguities within the published text and a number of inconsistencies between the published section, the plan, and the sole surviving field drawing. For example, the 'R' used to indicate the north end of Benton's section through the West Passage on the published plan is placed in a different grid square in the accompanying section: illus 2.2, 2.7A). Although these inconsistencies create sometimes unsurmountable problems of interpretation, Benton's descriptions are important as they represent the only stratigraphic account of the cave interior, and the only description (however ambiguous) of the upper (most likely Roman Iron Age) deposits in the entrance passages.

Layer 1: 'occupation earth'

Layer 1 is described as an 'occupation earth', filling the whole of the cave interior (Benton 1931: 180) and:

> varying in depth from 2 inches to 2 feet. It is composed of the black of many fires mixed with sand, gravel, and debris . . . it is divided by floors hardened by fire and trampling. The gravel was so loose that coins were found in every layer, and pottery from different levels joined. Objects from the Bronze Age to a Viking rivet were found in this layer, but objects from the second century to the fourth century AD predominated.

This description of Layer 1 appears to be consistent with its depiction in Benton's published section, which shows Layer 1 as a thin deposit in the entrance passage, thickening slightly southwards (ie towards the cave interior) from grid square A1 (illus 2.7A). The published section is not, however, consistent with Benton's unpublished field sketch, surviving in the site archive, which shows Layer 1 as deepening considerably near the entrance (illus 2.7B). This substantial discrepancy is particularly problematic as the field drawing was clearly made at the end of the excavation when the lower deposits had been fully exposed. This implies that the depth of Layer 1 was radically reinterpreted between the completion of excavations and the preparation of the published section, casting significant doubt over the attribution to layer of objects recovered during the excavation.

Overlaying a simplified version of the Shepherds' section (illus 2.7C) onto the published section indicates that Layer 1 had probably been removed in its entirety during Benton's excavations (illus 2.7D). Benton's report mentions a narrow baulk, around one foot wide, running down the centre of the West Passage (indicated as R–S on the published plan; illus 2.2). This had apparently disappeared by 1979, however, and the Shepherds' excavation records make no mention of it.

Taking the published section at face value, Layer 1 appears to have been a shallow spread of material no more than 0.1m or so deep along the West Entrance Passage, deepening to around 0.5m in the cave interior. From Benton's description, it appears to have been a stratigraphically complex group of deposits representing numerous episodes of activity.

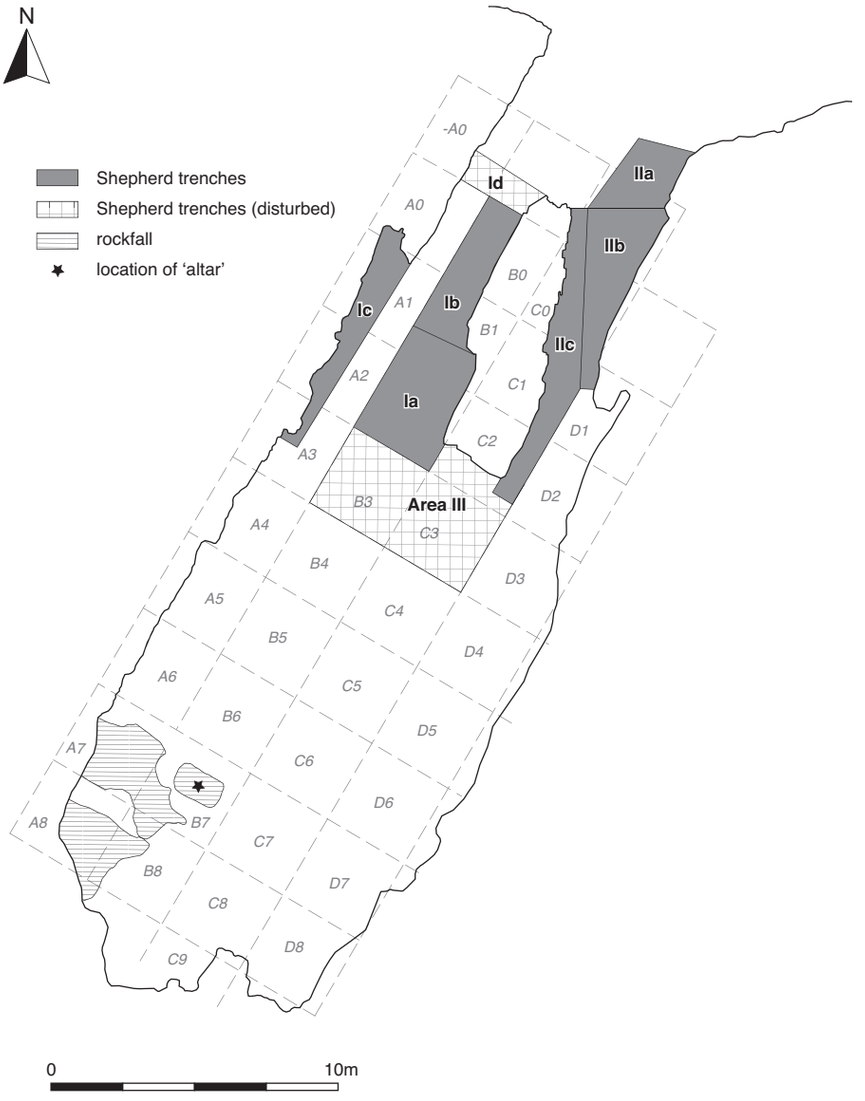


Illustration 2.6
Outline floor plan of the cave as it appears today (based on laser-scan data) overlain with Benton's excavation grid and the Shepherds' areas of excavation. Since the walls of the cave are not vertical, the current outline differs in minor details from Benton's original plan, which was drawn when the deposits within the cave were at a higher level

Layer 2: 'clay and layered sand'

Benton's Layer 2, comprising 'clay and layered sand', is described somewhat cryptically (1931: 180) as follows:

> These are mixed in the upper part. This dotted division below is composed of glutinous clay. It contains laminations from outside the door to (A2), and has this character in crevices of the rock beyond this point. From 25 feet to 40 feet from the base line it is full of burnt black marks, charcoal, and Bronze Age objects. The clay dies out where the beach slopes up, about 45 feet from the door.

Overlying the Shepherds' section onto the published section (illus 2.7D) indicates that Benton had removed the upper portion of Layer 2 in the outer half of the West Passage (her grid squares A0 and half of A1), but that it was probably left more or less intact in the inner half of the passage. It also illustrates that all of the anthropogenic deposits excavated by the Shepherds (incorporating deposits from the Late Bronze Age to the Roman Iron Age) formed part of Benton's Layer 2. Finally, it indicates that the lower half of Benton's Layer 2 (ie below the level of the Shepherds' excavations and forming around half of the excavated material in the West Passage) comprised non-anthropogenic deposits.

Despite all these problems of interpretation, however, Benton's section is useful in demonstrating that this group of deposits (her Layer 2) seems to have extended only a relatively short distance into the cave interior, stopping in the middle of her A4 grid square.

Layer 3: natural

Benton (1931: 181) describes this layer very briefly, as the 'shingle of the 25-foot beach' which 'was barren except for the black line and a few bones'. One such 'black line', indicating burning, is represented on the published section in grid squares A2 and A3 (illus 2.7A).

Overall, Benton's work demonstrated the complexity of the cave deposits and established that they included activity and objects of Late Bronze Age and Roman Iron Age date. Her division of the deposits into two anthropogenic layers, however, is problematic and the attribution of finds to either of these layers should be treated with caution. It is additionally worth noting that Benton nowhere acknowledges the potential problems caused by earlier antiquarian excavation of the cave deposits. The first exploration, in 1868, was said to have involved 'deep excavations' (Anon 1868a: 5), and some decades later it was still obvious that the cave floor had been 'disturbed by explorers' (Allen and Anderson 1903: 130). Although the scale of these operations is unknown, it is likely that they would have significantly disturbed the stratigraphy in certain areas of the cave. Bearing all of these problems in mind, finds from Benton's excavations have been treated as effectively unphased (chapter 5).

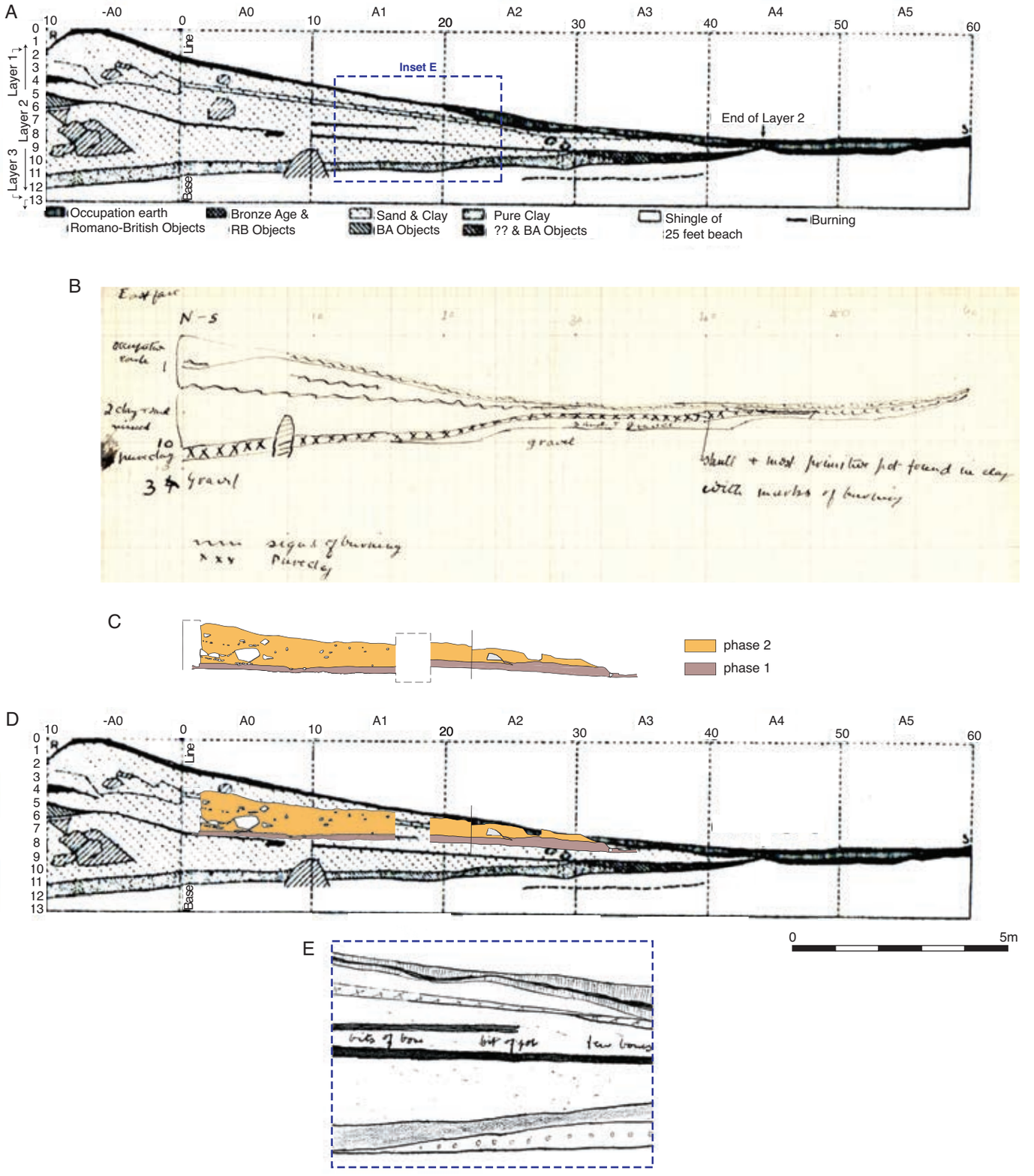


Illustration 2.7

Sylvia Benton's west-facing section through the West Passage (measurements are in feet) (A) as published (Benton 1931: 179, fig 3; text has been digitised), (B) field sketch from Benton's archive, (C) part of the same section (to the same scale) showing deposits excavated by the hepherds' in 1979 (see illus 2.8 for detail view), (D) a 'best-fit' of the 1930 and 1979 sections, (E) detail from Benton's archive section on which the published version (A) was based

Box section 2
SPOIL HEAP EXCAVATIONS (2014)

Letters contained within Sylvia Benton's archive state that human bones excavated during her final (1930) excavation season were only selectively collected (see box section 4). According to a letter from Benton to the anatomist, Professor Alexander Low, dated 14 July 1930, only 'skulls and leg-bones' were retained, while the remainder went 'into the dump'. Since the letter was addressed from the nearby Covesea Cottages and dated to the period of the excavation, it seemed most likely that this material had been discarded on site, presumably in Benton's spoil heap. Limited excavations in 2014 set out to confirm the location of this material and to recover, if possible, a sample of the discarded human bone (Büster and Armit 2014).

The most likely location of the spoil heap lay immediately outside the cave entrance where a thickly vegetated area with a markedly convex profile was visible (illus 1.2). A rare surviving photograph from the Benton archive, showing the 1928–30 excavation in progress, supported this suggestion (illus 2.5), as did the retrieval of a human tibia fragment from the same area by Rick Schulting in 2006 (Armit et al 2011: 257).

Two sondages (in a single trench) were excavated in this area in 2014, approximately 4m from the cave entrance (illus B2.1). Among the first finds recovered were two scaffolding feet (illus B2.2) and other pieces of modern iron apparently deriving from the 1979 scaffolding tower. This was useful, as it confirmed that the underlying spoil heap deposits must derive from Benton's excavations rather than the Shepherds'.

A total of 104 fragments of human bone (including 13 teeth) was recovered from the upper 0.6–0.8m of the spoil heap (see chapter 6; table 6.1). Faunal bone, including bird and fish bone, was also recovered in small quantities (chapter 7). Other than fragments of iron that are most likely modern, the few objects that were recovered comprised an Iron Age opaque yellow glass bead (SF860; illus 5.58) and two sherds of pottery that were most likely missed during sieving of the deposits in 1928–30. The contribution of the human bone recovered from the spoil heap to our wider understanding of human activity in the Sculptor's Cave is explored in chapter 6.

Illustration B2.1
Benton spoil heap under excavation in 2014

Illustration B2.2
Shepherd scaffolding tower foot, found during excavations in 2014

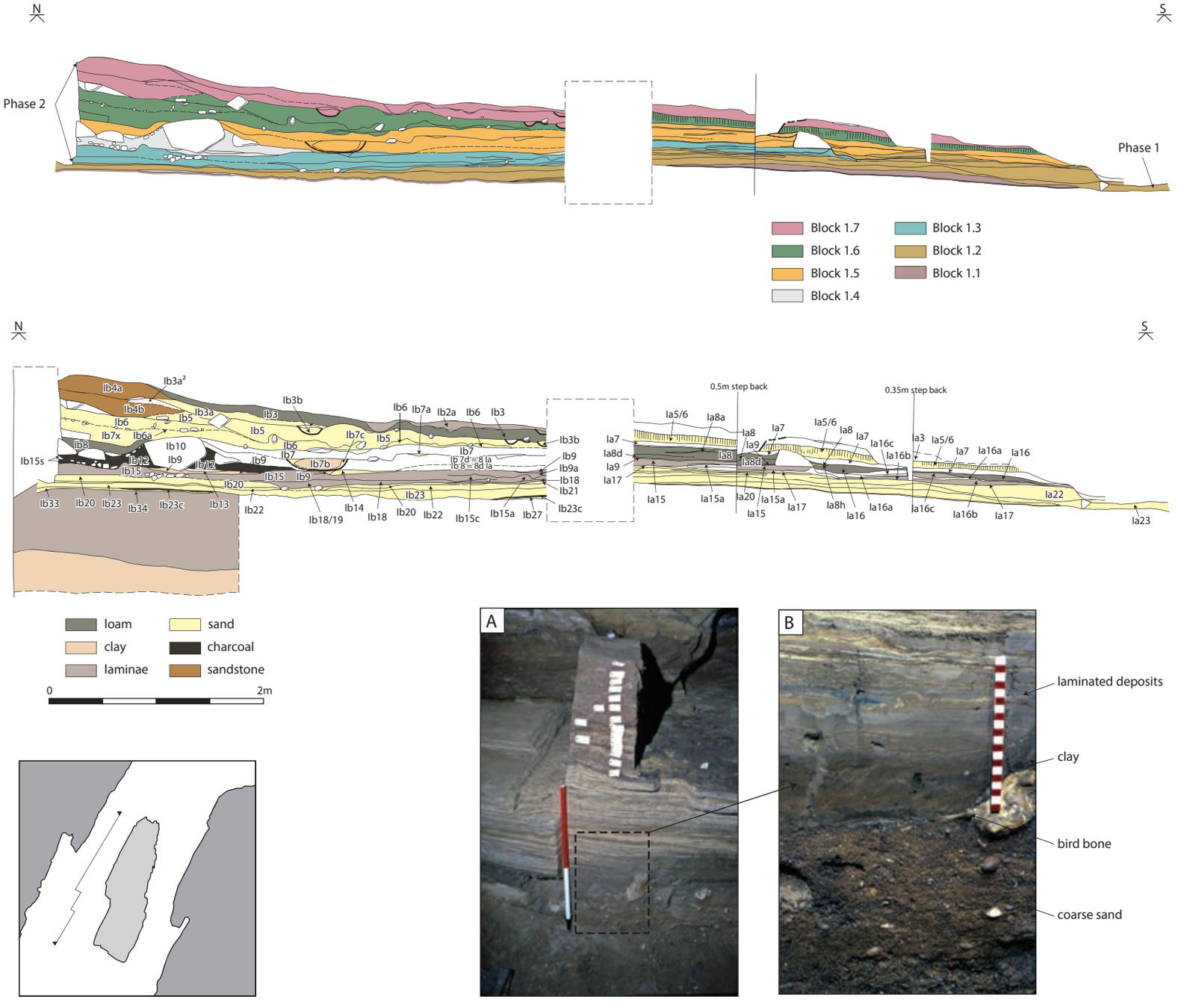


Illustration 2.8
West-facing section through the West Passage (Trenches Ia/Ib). (A) naturally deposited laminae below the 1979 baulk, (B) detail of the seabird tibiotarsus, AMS dated to 1380–970 cal BC (marine corrected; SUERC-65445)

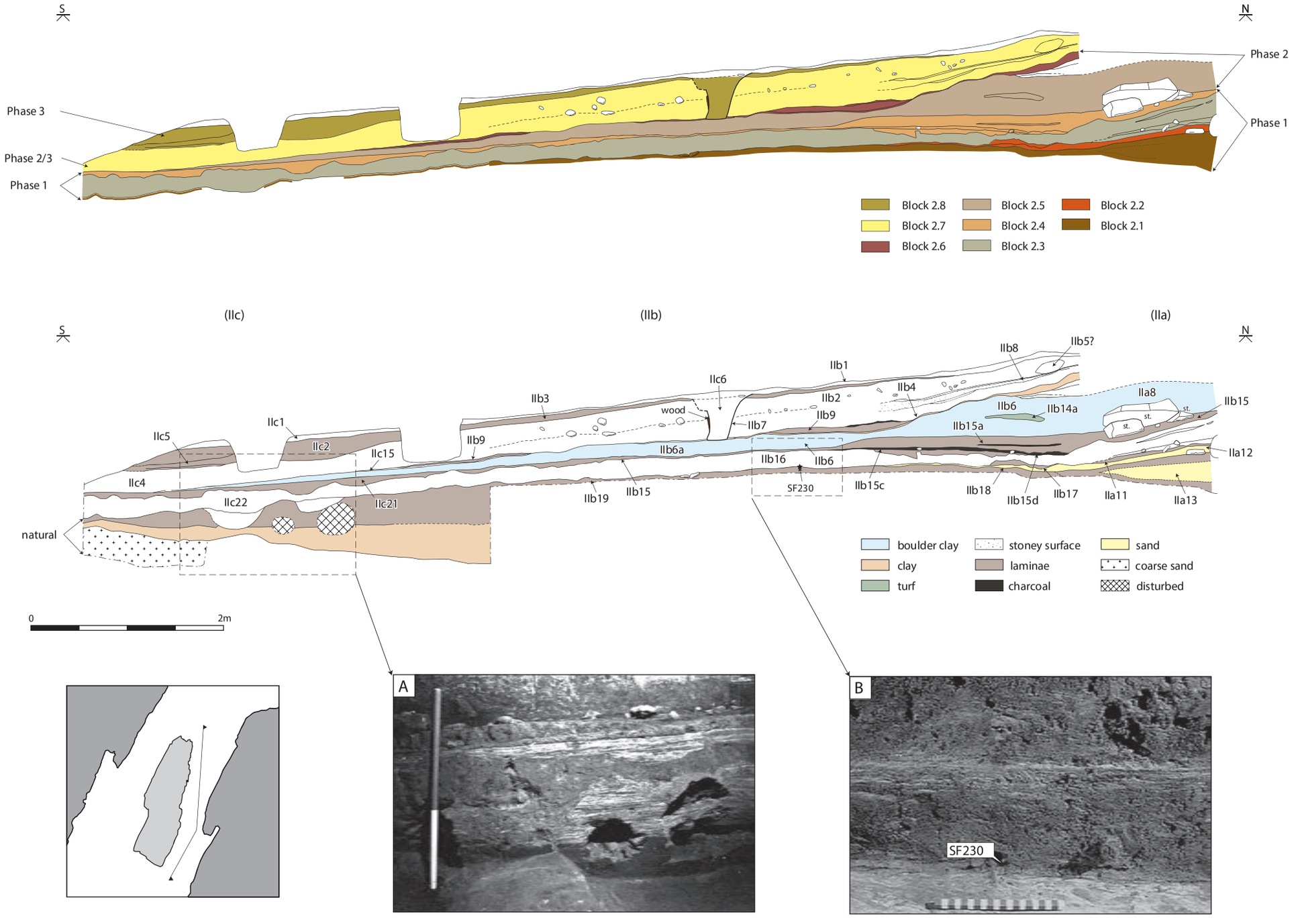


Illustration 2.9

East-facing section through the East Passage. (A) Natural deposits with evidence of modern disturbance (bottom right), (B) copper alloy pin SF230 at the interface of IIb16 and IIb17

2.2 Early non-anthropogenic deposits

2.2.1 Introduction

Deposits within both entrance passages had begun to form long before the start of intense human activity in the cave. Even today, deep, natural deposits remain partially exposed in the West Passage, in the slit trench dug during Benton's excavations. The sequence outlined below is based on a combination of photographs of these deposits taken during the Shepherds' excavations, recent visual inspection and the results of soil micromorphological analysis (see section 7.3), and provides information on the processes responsible for their formation.

2.2.2 Coarse sands

The lowest exposed deposits (illus 2.8B) visible in Benton's section through the West Passage (cleaned and photographed by the Shepherds in 1979) appear as coarse sands, described as 'shingle' by Benton (1931: 181). The top of this deposit can also be seen at the base of the Shepherds' section through the East Passage at its inner (southern) end (illus 2.9). The sand appears to be naturally formed, and presumably washed into the cave. It is no longer visible, having since been buried by material eroded from the upper parts of the extant section.

A tibiotarsus from a seabird, belonging to the cormorant family, was recovered from the interface between the coarse sand and the clay-dominated deposits that overlie it (section 2.2.3) in the West Passage. This bone, which is visible in the photograph of the cleaned section (illus 2.8, inset b), has been AMS dated to 1380–970 cal BC (marine corrected using Marine13; SUERC-65445) and can be taken as a *terminus ante quem* for the deposition of the coarse sand. The length of time that elapsed between the deposition of the bird bone and the commencement of intense human activity in the cave can be modelled as *30–290 years* (*95% probability*), or probably *95–235 years* (*68% probability*) (see chapter 4).

There are some indications that the coarse sand deposits contained evidence of episodic human activity. A worked red deer antler (SF847), which has been identified as a possible tool-rest, was recovered by Benton near the entrance of the West Passage (grid square A0), some 'two feet' (*c* 0.6m) below the base of her Layer 2 (1931: 188). This would place it firmly within the underlying coarse sands. Benton's published section (illus 2.7A) also indicates a line of burning in the cave interior (in grid squares A2–A3) within the sand. All this activity pre-dates the deposition of the bird bone and must therefore date to the Middle Bronze Age or earlier. Small quantities of worked flint, redeposited in later layers, are also suggestive of occasional human activity pre-dating the Middle Bronze Age (section 5.6).

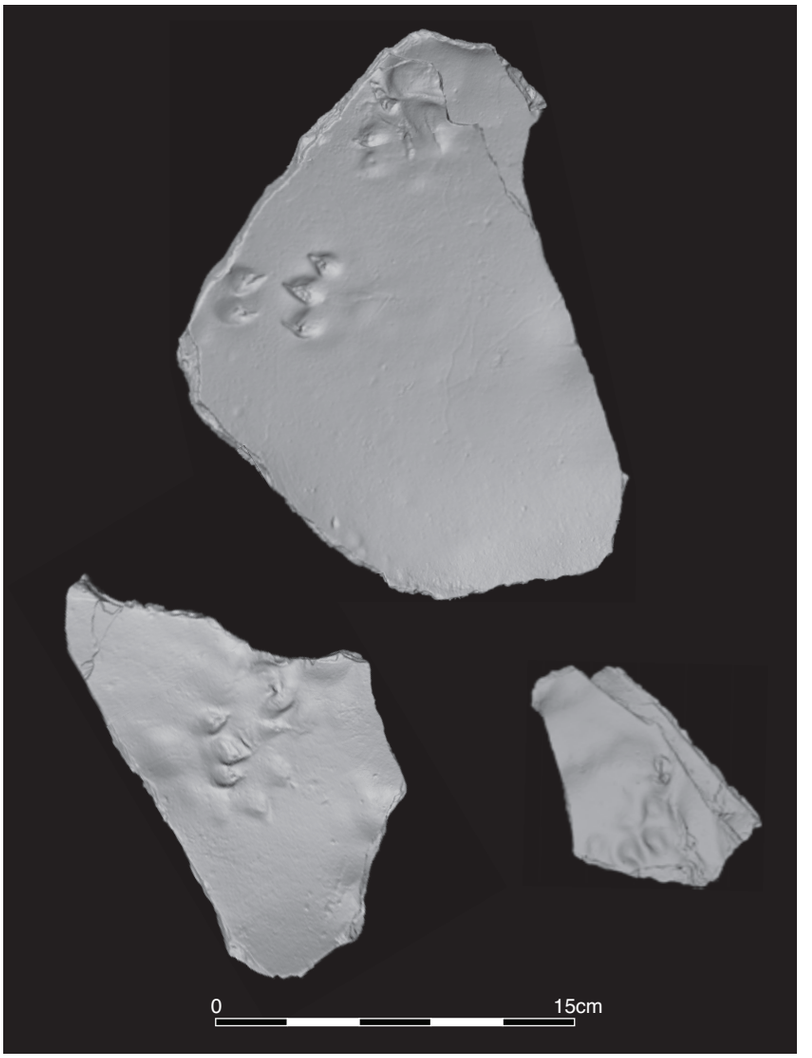


Illustration 2.10
Structured light scan image of animal footprints in clay surface, preserved in the site archive (courtesy Visualising Heritage, University of Bradford)

2.2.3 Clay-dominated deposits

The coarse sands at the base of the sequence are overlain by a distinct series of clay-dominated deposits up to 0.4m thick (illus 2.8A, B; see also illus 7.4B), indicating a significant change in the depositional environment. These clays, although non-anthropogenic, form the lowest part of Benton's Layer 2 (illus 2.7A). They appear to have sloped gently upwards from the

exterior of the cave, as far as the middle of Benton's A4 grid square. What is presumed to be the same clay deposit can be seen towards the base of the section through the East Passage at its inner (southern) end (illus 2.9).

The derivation of these clays and the processes underlying their deposition within the cave is unclear. One possibility is that they represent the erosion of material that had banked up in front of the cave, perhaps due to rockfalls or slumping of material from the cliff top. During the period of their deposition, based on the results of soil micromorphological analysis (see section 7.3), it is likely that the interior would have been wet, perhaps with standing water pooling in the entrance passages and in the central part of the cave. A few fragments of clay surface, contained in the site archive, display animal footprints (illus 2.10), again suggestive of a wet environment.

2.2.4 Windblown sand and clay laminae

These clays are overlain by a further series of deposits dominated by windblown laminated sands that represent a further change in the local environment. Given the short timescales over which these deposits must have formed (see section 2.2.2), it is possible that the laminations represent annual accumulations caused by seasonal changes in wind speed and direction (section 7.3). In the West Passage, these sands formed to a maximum thickness of 0.6m (illus 2.8A, 2.11), and the same set of deposits can be seen in the section through the East Passage at its inner (southern) end (illus 2.9). Stratified within the laminated sands are a series of clay-dominated deposits similar to those described above (section 2.2.3).

The formation of these sand-dominated deposits would have progressively dried out the entrance passages. Tiny quantities of windblown particles of carbonised material, detectable in the laminated sands (section 7.3), are suggestive of some occasional human presence during their formation. There is, however, nothing to suggest any intensive human activity at this time.

It does not appear that these windblown sands extended into the cave any further than the middle of Benton's grid square A4 (illus 2.7A).

2.2.5 Summary

Perhaps the most remarkable feature of these early deposits is the rapidity with which they must have formed. The Middle Bronze Age AMS date provided by the bird bone (see above) demonstrates that around 1m of material – the clay-dominated layer and the windblown sands and clays above it (illus 2.8A) – formed over *95–235 years* (*68% probability*). Soil micromorphological analysis identified 35 separate deposits within a column totalling 21mm; around 20% of this material (section 7.3). In crude terms, therefore, we might expect the full section to contain somewhere in the region of 175 such layers, suggesting that they may very well represent annual depositional events. All of this suggests a dynamic depositional environment in the last few centuries of the second millennium BC, prior to the period of intensive human activity.

From Benton's published section, it is possible to understand something of the nature of the cave at the beginning of the Late Bronze Age. The surface of the West Passage at that time appears to have been the top of the non-anthropogenic laminated sands and silts that had formed along the entrance passage (represented by the deposits between the 6- and 11-foot markers on Benton's published section; illus 2.7A, D). Upon entering the cave, one would have walked over a low mound of this material and followed a very shallow slope down into the entrance passages (illus 2.7A). The passage would most likely have been relatively

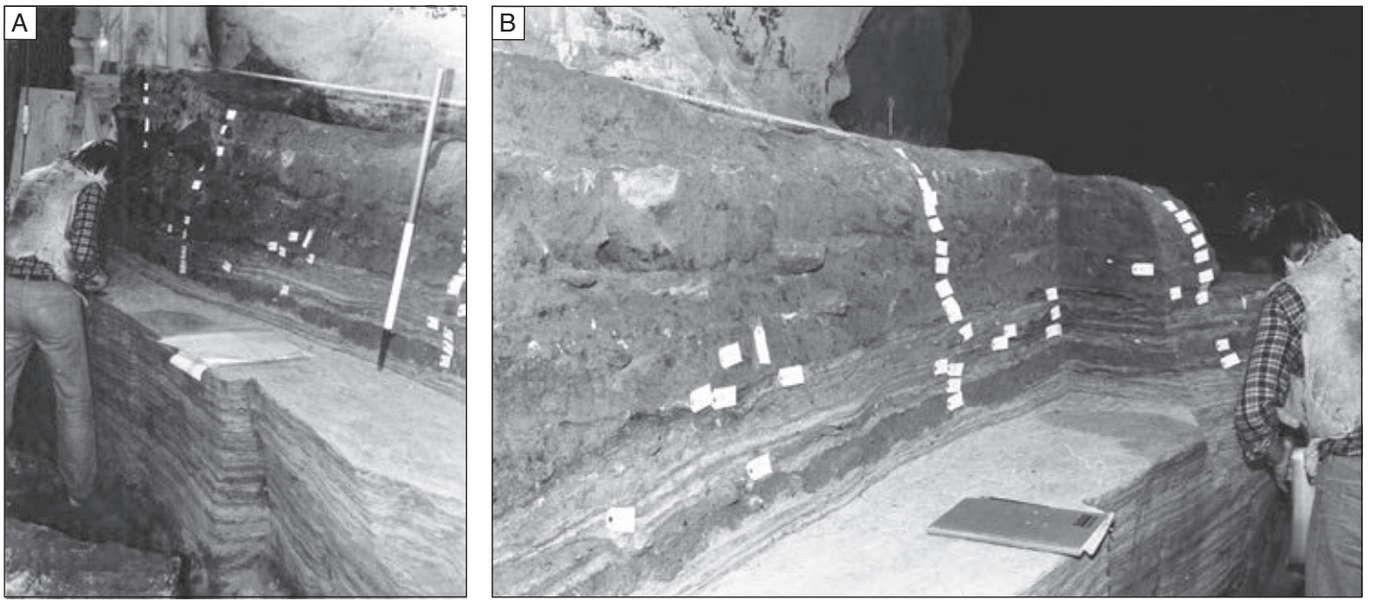


Illustration 2.11
Photographs of west-facing section through the West Passage (Trenches Ia/Ib), looking (A) north-east and (B) south-east

well drained. Beyond the inner end of the entrance passage, this material petered out and the surface of the cave interior comprised the natural 'shingle' beach deposits that underlay the deposits in the entrance passage. Given the presence of the buried natural clay layers within the entrance passage, which may have impeded drainage, the interior would most likely have been wet, perhaps with standing water (section 7.3). A similar situation can be seen elsewhere along the coast, in the cave known as the Laird's Stable, some 500m east of the Sculptor's Cave (illus 1.1), where a shallow pool of water occupies the central part of the interior, trapped by mounded deposits at the cave entrance.

2.3 Phase 1: Late Bronze Age

2.3.1 General

At the time of the Shepherds' excavations, Phase 1 deposits survived in both the East Passage and the West Passage, where they had been deliberately left in situ by Benton. In the East Passage, the Phase 1 deposits have been divided into four stratigraphic blocks (2.1–2.4; illus 2.1). Together these have a maximum depth of *c* 0.7m at the front of the passage, reducing to around 0.2m at the rear (illus 2.9). In the West Passage, the Phase 1 deposits form two stratigraphic blocks (1.1–1.2), with a maximum depth of *c* 0.25m towards the rear of the passage (illus 2.8).

Bayesian modelling of the radiocarbon dates suggests that Phase 1 activity began in *1050–975 cal* BC (*68% probability*) and spanned *85–210 years* (*68% probability*), ending in either *910–885 cal* BC (*26% probability*) or *870–830 cal* BC (*43% probability*).

2.3.2 East Passage

Block 2.1

In the East Passage, the upper layers of the natural laminated sands (IIa14, IIb19; illus 2.9, 2.12A) contained domestic faunal remains, suggesting increased human use of the cave (although these initial deposits were not regarded as anthropogenic by the excavators). Several immature goat bones from IIb19 probably derive from a single animal, representing most of the skeleton (see section 7.4.3). Although these might conceivably have belonged to a young goat that had accidentally wandered into the cave and died naturally, it is perhaps more likely, in view of the subsequent activity, that they represent the deliberate deposition of an unbutchered animal. A femur from this associated bone group produced an AMS date of 1130–910 cal BC (SUERC-16613).

At the north end of the passage, the laminated sands contained a wedge-shaped deposit of sand, pebbles and some large cobbles (IIa13; illus 2.9, 2.12B), thickest (0.7m) against the wall of the entrance area. During excavation this was thought potentially to represent an artificial bank, protecting the entrance to the East Passage, although a natural origin cannot be excluded (the feature does not appear on plan); perhaps the most likely explanation is that the material derives from a fall of material from the cliff top. A cattle scapula from laminated deposits (IIa10/14) overlying this wedge of deposits at the cave wall produced an AMS date of 1120–900 cal BC (SUERC-16611).

The laminated nature of the majority of the deposits within Block 1.1 suggests that the natural processes responsible for the formation of the underlying windblown sands (section 7.3) continued to operate. The integrity of these deposits suggests that human use of the cave remained relatively light and that there was no formal entrance or barrier at the front of the passage. Despite the presence of domestic animal remains indicative of a human presence, there was no pottery or other artefactual material from Block 2.1.

Block 2.2

Sealing these laminated deposits was a hard-packed and distinct 'trampled' layer (IIa12, IIb18, IIc24), deepest (0.05–0.07m) at the north end of the passage and in the entrance area (illus 2.9, 2.12B). It consisted of sand with pebbles and large quantities of charcoal. Towards the south, the layer became thin and patchy, and in places was represented only by charcoal staining of the hard-packed surface of the underlying Block 2.1 deposits; it is not visible in the southern part of the section (illus 2.9). A worked bone point (SF801; table 2.1) from IIa12 and four sherds of pottery (Fabrics B, C and D) from IIc24 represent the earliest stratified artefacts from the East Passage and, together with the presence of charcoal, may suggest that activity was becoming rather more intense at this time.

These deposits also produced the earliest stratified human remains within the cave. A cranial fragment (a frontal bone; SF231) from an individual aged around 2 years and found towards the front of the entrance passage in IIb18 (illus 2.13) displayed a dense pattern of fine, multi-directional striations, suggestive of deliberate defleshing (section 6.8.2). Unfortunately, this bone failed to produce sufficient collagen for dating. A sheep/goat long bone from IIc24, however, produced an AMS date of 1060–900 cal BC (SUERC-16612).

Overlying these deposits was a further series of laminated sands and fine silts (IIa11, IIb17, IIc23; illus 2.9; 2.12A, B), up to 0.1m thick at the north end of the passage but becoming almost imperceptible to the south. Three human cranial fragments were recovered from IIc23 (a left and right temporal and an occipital, respectively SF243, SF245, SF244), while another sub-adult cranial fragment (an occipital, SF234) was recovered from IIb17. The first three of these were clustered against the west wall at the front of the entrance passage (and may belong to the same individual, aged less than 5 or 6 years), with the latter located close by, in the central part of the passage (illus 2.13). IIb17 also contained the mandible of an individual aged around 4–6 years (SF225), found by the east wall of the passage (illus 2.13), which produced an AMS date of 1120–910 cal BC (SUERC-16623). Further AMS dates were obtained from a cattle femur from IIc23 (1210–970 cal BC; SUERC-16608), a sheep/goat femur from IIa11 (1060–890 cal BC; SUERC-16609) and a pig/boar tibia from IIb17 (1120–910 cal BC; SUERC-16610). The faunal assemblage from this context included the humerus of a white-tailed eagle.

As well as the human remains, IIc23 produced several worked bone objects: a hide-rubber (SF240), two points (SF242, SF247) and a cylindrical bone fitting (SF241). IIc23 also yielded a small amount of pottery (Fabrics A, B and E), while IIb17 contained a sherd of Fabric D pottery and IIa11 yielded one sherd of Fabric E.

Although the pottery assemblage from Block 2.2 is small in absolute terms (12 sherds and associated crumbs; see table 5.4), it nonetheless represents 62% (by weight) of all pottery recovered

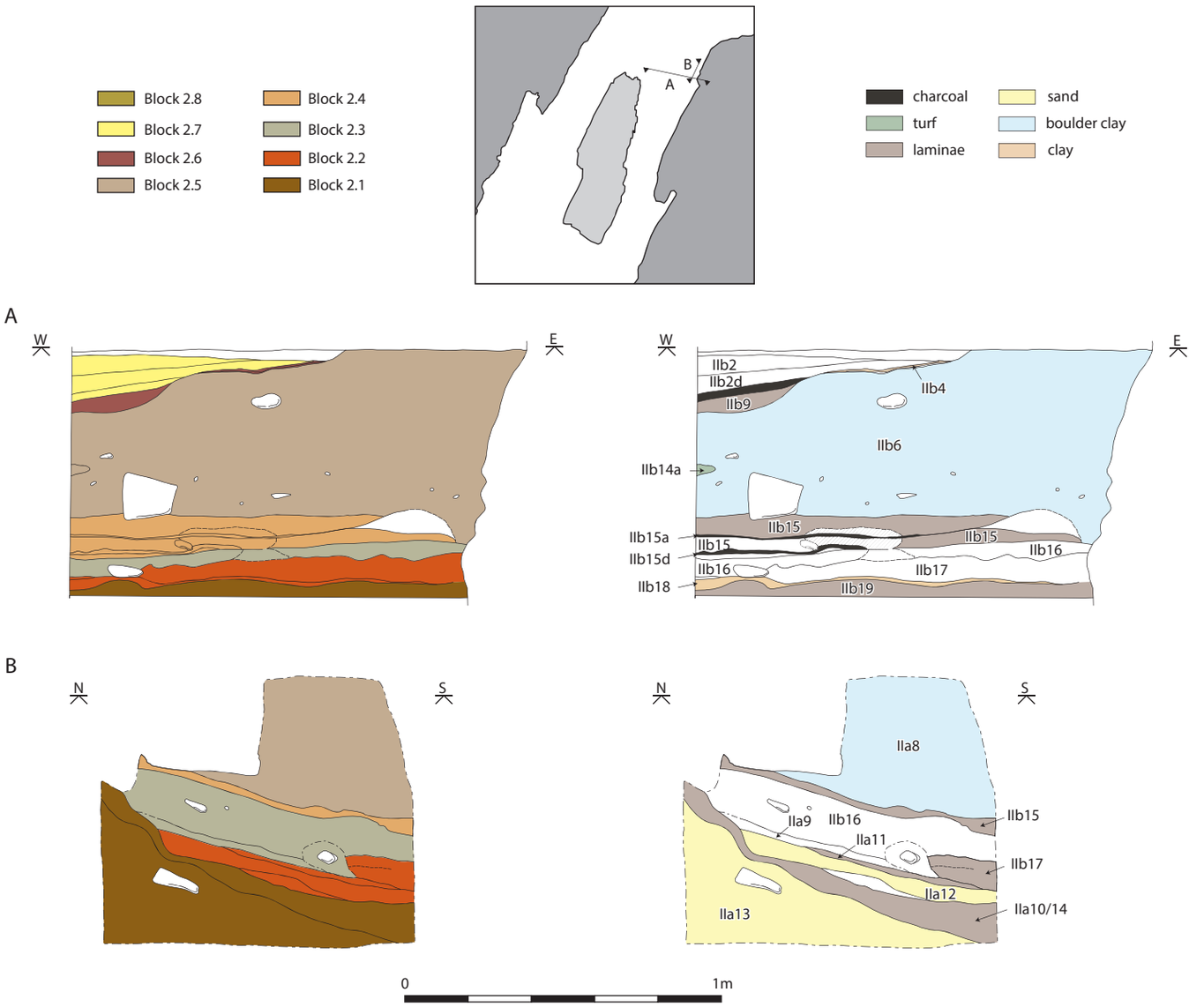


Illustration 2.12
Sections through north end of East Passage

from the East Passage during the whole of its use (see table 5.5). All fabrics recorded in the Sculptor's Cave pottery assemblage, with the exception of Fabric F, are represented.

The concentration of juvenile human cranial remains in Block 2.2 is remarkable (illus 2.13), and highlights the mortuary use of the cave at this time. These still, however, appear to have been deposited within an environment where windblown, laminated sands were naturally forming, suggesting that the cave remained open to the elements. The absence of any built features, such as hearths, fences, barriers etc, adds to the impression that the cave remained an essentially unmodified natural place. Nonetheless, the presence of human remains, pottery, worked bone objects and charcoal testifies to increasingly intensive activity.

Block 2.3

Block 2.2 was sealed by a thick (0.2m) deposit of silty clay (IIb16, IIc22; illus 2.9; 2.12A, B) containing a few stones, quantities of charcoal and crumbs of pottery.

As with the underlying Block 2.2, these deposits contained a number of human remains (illus 2.13). A mandible fragment from an individual aged around 7 years (SF227), several human teeth (SF111, SF116a, SF116b, SF226), a sub-adult clavicle (SF1116) and a further humerus (SF1117) were recovered from IIb16, together with nine sherds, plus crumbs, of Fabric D pottery. Further human remains, including the mandible of an individual aged around 2–4 years (SF235; illus 2.13) and two sub-adult cranial fragments (a parietal and occipital respectively: SF232, SF233; illus 2.13), were found at the interface between IIb16 and IIb17. Further

Table 2.1
Chronological distribution of artefacts through the East Passage sequence

Block	Human bone		Worked bone	Copper alloy	Iron	Stone	Pottery (g)
	Cranial	Post-cranial					
2.1	–	–	–	–	–	–	–
2.2	6	–	3 points (SF242, SF247, SF801) 1 hide-rubber (SF240) 1 fitting (SF241)	–	–	–	316.4
2.3	4	15	3 points (SF118, SF223, SF228) 1 fragment with handling polish (SF119) 1 double-ended tool (SF229)	1 pin shank (SF230)	–	–	123.7
2.4	–	–	–	–	–	–	'spread'
2.5	–	–	–	–	1 wire fragment (SF877)	–	21.3
2.6	–	–	–	–	1 rod (nail, pin or tool) (SF108)	1 grinder (SF944)	7.9
2.7	1	–	–	1 pin shank (SF114)	–	–	37.3
2.8	–	–	–	Sheet fragments (SF100, SF101)	–	–	–

post-cranial elements were recovered from this interface, including a sub-adult humerus (SF1103), three sub-adult ulnae (SF1104, SF1105, SF1107), one sub-adult radius (SF1106), three ribs and one possible rib fragment (SF1108, SF1109, SF1110, SF1115), a long bone fragment (SF1111) and three further fragments of human bone (SF1112, SF1113, SF1114). One sherd of Fabric C and seven sherds of Fabric D pottery were also recovered from IIc22.

Mandible SF235 produced an AMS date of 1120–910 cal BC (SUERC-16622), while a sheep/goat thoracic vertebra from IIb16 produced an AMS date of 1050–850 cal BC (SUERC-16603). A sheep/goat long bone from the same context produced an AMS date of 1120–910 cal BC (SUERC-16607).

IIb16 also contained several worked bone artefacts: three points (SF118, SF223, SF228), a broken red deer ulna fragment with handling polish (SF119) and a double-ended tool (SF229), possibly used for modelling clay. A copper alloy pin shank (SF230; see illus 2.9B) – possibly belonging to a sunflower pin – was also found at the interface between IIb16 and IIb17.

As with the underlying block, the concentration of sub-adult cranial remains in Block 2.3 is striking, and demonstrates some time-depth to the mortuary use of the cave. Unlike Block 2.2, these deposits also contained a concentration of juvenile post-cranial bones. Most of the cranial fragments were clustered in the eastern half of the passage, around halfway along, although one mandible (SF235) was found at the centre of the passage opening (illus 2.13). The post-cranial elements were extracted from the faunal assemblage after excavation and are therefore not plotted. The artefactual assemblage is also similar in character to that of the earlier deposits. Although the number of sherds (17; see table 5.4) is slightly larger, the amount of pottery by weight is lower, comprising 24% (by weight) of the overall ceramic assemblage recovered from the East Passage (see table 5.5). It is striking, however, that Blocks 2.2 and 2.3 together contain 87% of the overall ceramic assemblage recovered from the East Passage despite the relatively limited volume of the deposits (illus 2.9). There appears, therefore, to be a clear linkage between the deposition of human remains and the deposition of pottery within the East Passage.

Block 2.4

The Block 2.3 deposits were overlain by another series of shell-rich laminated sands and fine silts (IIb15, IIc21; illus 2.9; 2.12A, B), varying in depth from around 0.2m at the north end of the passage

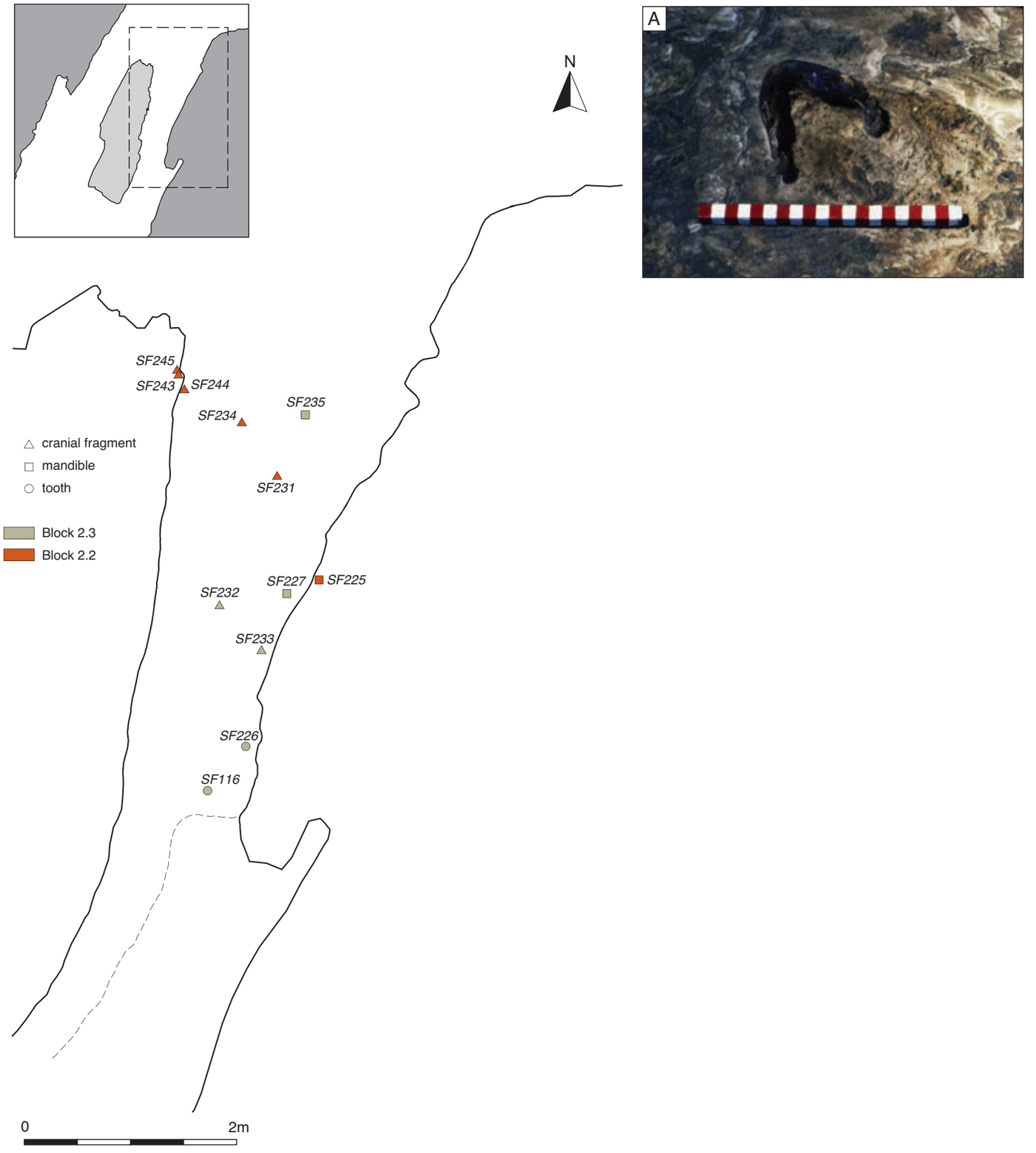


Illustration 2.13
Distribution of human remains (Blocks 2.2 and 2.3) in East Passage. (A) shows a human mandible in Trench IIb. Tooth SF111 and various post-cranial elements were recovered from the faunal assemblage after excavation and were not plotted

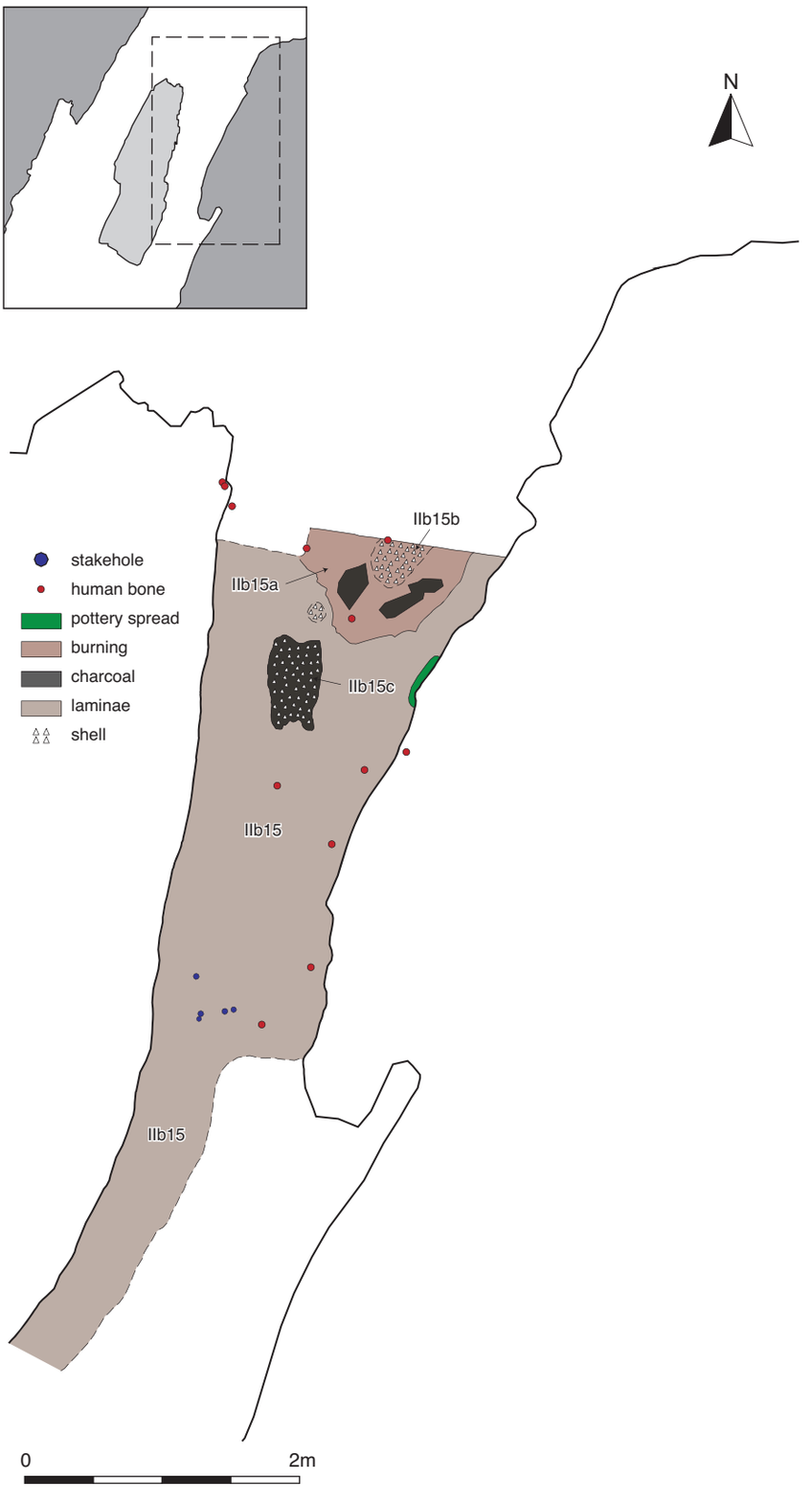


Illustration 2.14
Plan of Block 2.4 in the East Passage (also showing the location of human remains from Blocks 2.2 and 2.3)

to 0.03m at the south. Within these laminations, each around 1mm thick, were fine lenses of burnt material (IIb15a, IIb15d), shell (IIb15b), shell-rich charcoal (IIb15c) and a spread of pottery (illus 2.14).

A group of five stakeholes appear to have been cut through the Block 2.4 deposits, although it is possible that they may relate to the underlying Block 2.3. They lie at the narrowest point of the passage, *c* 6m from the entrance.

A cattle scapula from IIb15 produced an AMS date of 1020–840 cal BC (SUERC-16602). No artefactual material was recorded from this block apart from the spread of pottery in IIb15 (illus 2.14), which could not be identified in the site archive and most probably represented largely disintegrated crumbs. The more intense evidence of burning and the presence of domestic animal bones suggest, however, that activity continued with at least the intensity of earlier blocks, though without the presence of human remains.

The finely laminated nature of the Block 2.4 deposits (and intermittently in the blocks below) appears to confirm that the East Passage remained open throughout Phase 1, allowing windblown deposits to gradually accumulate.

2.3.3 West Passage

Block 1.1

The surface of what were presumed to be natural deposits within the West Passage (but see section 2.3.4) was a hard-packed and 'trampled' layer some 0.01m deep (Ib34, Ib27, Ia27, Ia27a; illus 2.8, 2.15, 2.16, 2.17). Ia27 contained areas of burning represented by red staining (Ia27b; illus 2.15), charcoal (Ia27x) and burnt hazelnut shells. Two bone points (SF381, SF382; table 2.2) and a stone grinder/hammer (SF941) from Ia27 represent the earliest stratified artefacts in the West Passage. Two fragments of carbonised hazelnut shell from the same context produced AMS dates of 1000–830 cal BC (SUERC-65420) and 980–820 cal BC (SUERC-65421), somewhat later than the earliest dates from the East Passage (chapter 4).

Cutting the surface of Ia27 at the south end of the West Passage were two lines of stakes running east–west, 1.5m apart (Alignments 1 and 2; illus 2.15, 2.18).

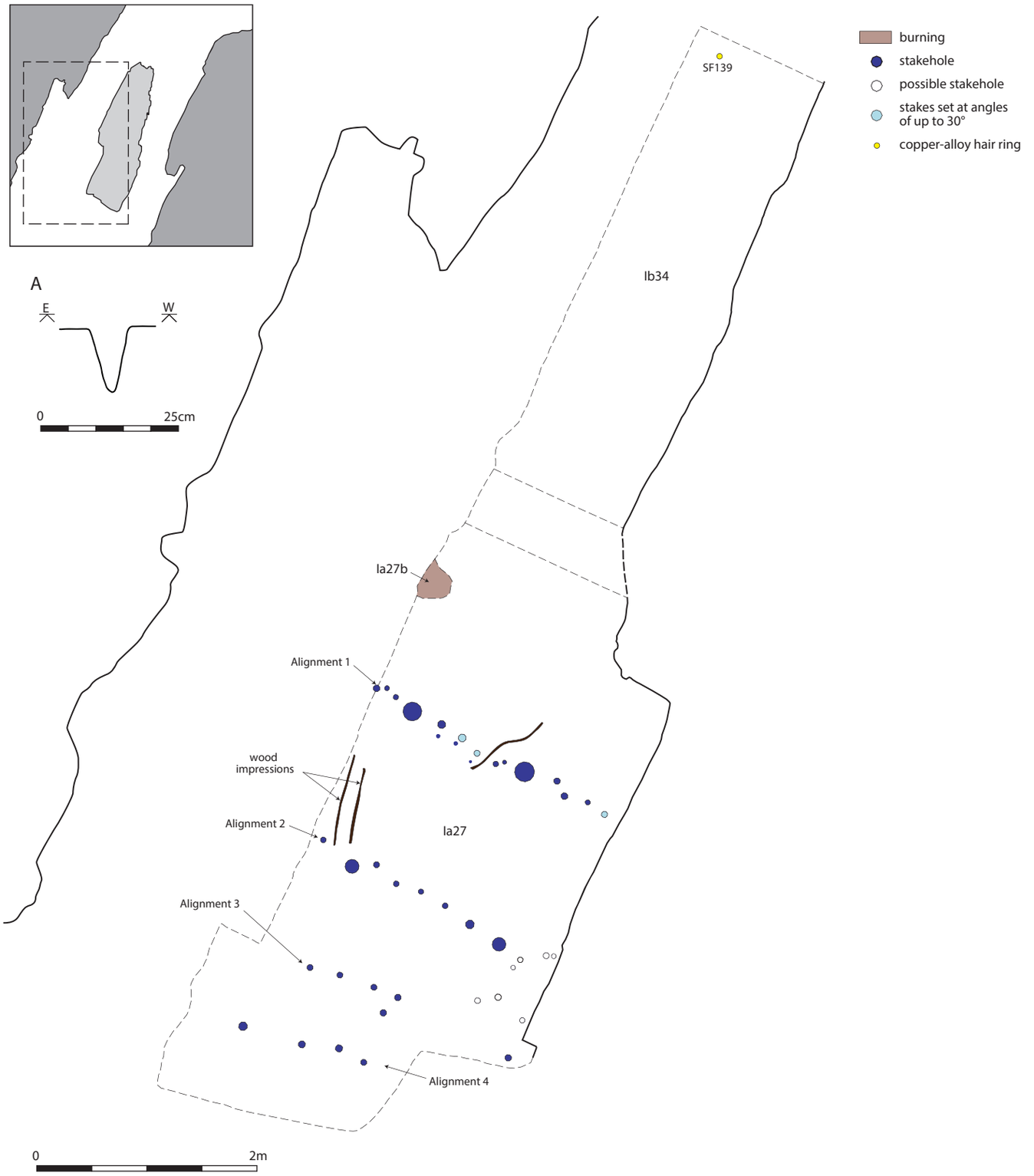


Illustration 2.15
Plan of Block 1.1 in the West Passage. (A) shows profile through the most westerly of the large stakeholes in Alignment 1

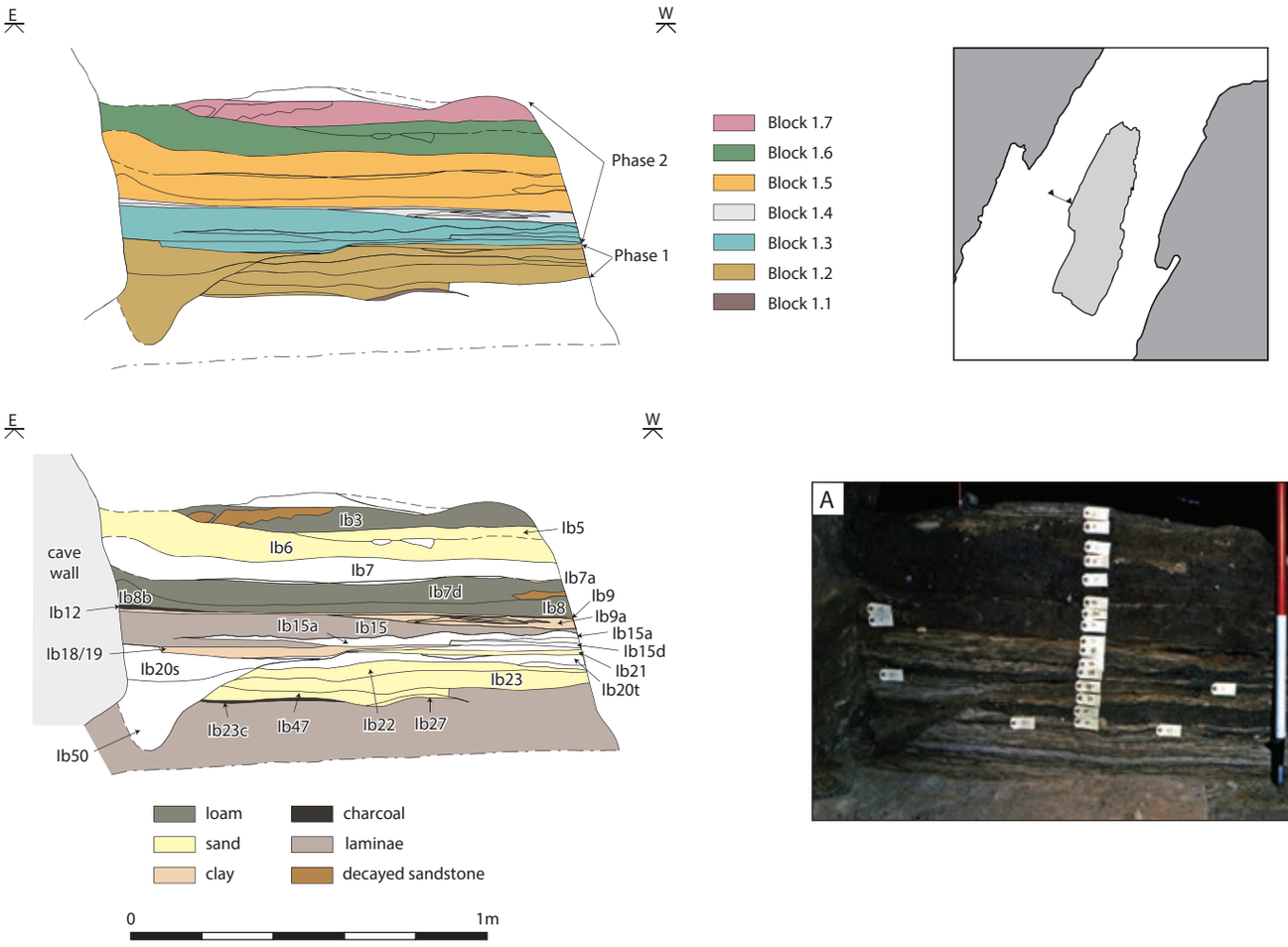


Illustration 2.16
North-facing section and (A) photograph of baulk in the West Passage

Table 2.2
Chronological distribution of artefacts through the West Passage sequence

Block	Human bone		Worked bone	Copper alloy	Iron	Stone	Pottery (g)
	Cranial	Post-cranial					
1.1	–	–	2 points (SF381, SF382)	1 hair ring (SF139)	–	1 grinder/hammer (SF941)	0.7
1.2	2	1	1 point (SF802)	1 hair ring (SF372) 1 bracelet (SF391)	1 rod tip (SF876)	1 oil shale armlet	1743.3
1.3	–	–	–	–	–	1 hammer (SF943) 1 pounder/hammer (SF940)	1835.9
1.4	–	–	–	–	–	–	31.3
1.5	–	–	–	–	–	–	3.3
1.6	–	–	–	–	–	–	34.6
1.7	–	–	–	–	–	–	0.2

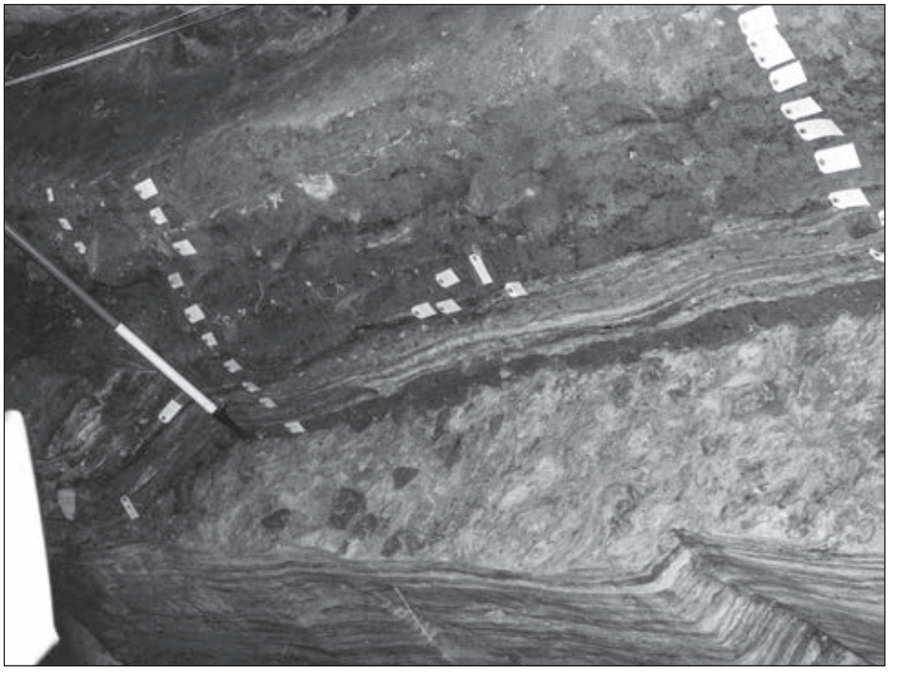


Illustration 2.17
Surface of Ib34 in the West Passage, looking north

Each consisted of larger stakes, 0.15m in diameter and 0.22m deep (illus 2.15A), with four or five intervening smaller stakes, averaging 0.04m in diameter and 0.07m deep. Each had a pointed end and some were set at angles of up to 30°. Uncarbonised wood survived in some of the stakeholes (illus 2.18C). The north line (Alignment 1) appeared to have a partial 'supplementary' line of very small stakeholes, which averaged 15mm in diameter and 0.02m in depth. The excavators recorded that twig impressions were visible in the surface of the underlying 'trampled' layer (Ia27; illus 2.15), potentially deriving from the collapse of a hurdle structure supported by these stakes. If so, this would suggest that the structure collapsed before any subsequent deposits had formed.

To the south, two further lines of stakeholes (Alignments 3 and 4) were aligned east–west and located approximately 0.7m apart (illus 2.15). The stakeholes in Alignment 3 were approximately 0.03m in diameter, 0.05m in depth and 0.3m apart. Those comprising Alignment 4 were approximately 0.05m in diameter, 0.1m in depth and approximately 0.3m apart. There was also a small cluster of possible stakeholes near the cave wall.

Overlying these deposits to the north was a series of interleaved sand and clay laminae (Ib33). Close to the entrance, this layer contained a copper alloy hair ring (SF139; illus 2.15).

The only pottery recovered from this block comprised a few crumbs of unidentifiable fabric.

Block 1.2

Overlying the laminae (Ib33) at the north end of the passage was a thin, mixed deposit of compacted charcoal, sand, red ashy material and clay (Ib23c; illus 2.8, 2.16) which contained an adult human metatarsal (SF1120), numerous pot sherds including 26 sherds and crumbs of Fabric B (weighing 178g), 11 further sherds of Fabrics D and E, 19 sherds not assigned to fabric, plus crumbs of Fabric A. They were overlain by a clay lens (Ib23a). A sherd of Fabric B pottery and a further sherd (not assigned to fabric) were recovered from Ib23b (the interface between Ib23 and Ib23a).

To the south, the Block 1.1 stakeholes were sealed by a similar deposit (Ia23c/Ic11; illus 2.19) containing large quantities of charcoal, bone, shell, five sherds of pottery (including Fabrics D and E), a worked bone point (SF802; possibly reused as a cutting surface) and a fragment of an oil shale armlet that appears to have been undergoing reworking to produce beads (SF911). This was overlain by a lens of clean sand (Ia23h/Ic10a; illus 2.19) which contained charcoal, bone and two pot sherds (Fabric D and E). Carbonised cereal grains from Ia23c and Ia23h produced AMS dates of 930–810 cal BC (SUERC-65414) and 980–820 cal BC (SUERC-65416) respectively.

Sealing these deposits was an undulating sand surface (Ib47; illus 2.16) containing three pot sherds (two of Fabric B and one not assigned to fabric) plus crumbs of Fabric E and one of only two stratified roe deer bones from the cave (see section 7.4.3). Overlying this was a 0.1m-deep sandy layer (Ib23, Ia23; illus 2.8, 2.16, 2.20) with flecks of charcoal. At the north end of the passage the surface of this layer was covered by a scatter of pebbles and stones while, towards the south end of the passage, it had a thick charcoal surface (Ia23d). Ib23 contained a human cranial fragment (an occipital, SF342) from an individual aged 11–12 years located close to the entrance (illus 2.21), a sub-adult human tooth (SF1123) and numerous sherds of pottery (mainly Fabrics B and E but with some sherds of Fabrics A, D and F). The deposit was sealed by a thin lens of clay (Ia22a, Ib22a), which contained crumbs of Fabric A pottery. Ia22a and Ia23d also produced a large amount of burnt hazelnut shells (section 7.6).

The interface of Ia23/27 yielded a fragment of a copper alloy bracelet (SF391; illus 2.21), a copper alloy hair ring with an adhering fragment of gold covering (SF372), two pot sherds (Fabrics D and E) and a concentration of burnt hazelnut shells (section 7.6). Carbonised cereal grains from Ia23 and Ia23d produced AMS dates of 970–820 cal BC (SUERC-65413) and 980–830 cal BC (SUERC-65415) respectively.

Overlying these deposits was a very mixed sandy layer (Ia22, Ib22, Ic9; illus 2.8, 2.19, 2.21) containing charcoal, shell, concentrations of burnt hazelnut shells and areas of burning (eg Ia20a), which itself contained crumbs of Fabric A pottery. This was 0.05m deep in the north of the passage and 0.15m in the south. Ia22 contained three pot sherds (including one sherd of Fabric B), while Ib22 yielded a further sherd not assigned to fabric. A human mandible from an individual aged around 14–16 years (SF312; illus 2.21, 2.22A) was also recovered from Ia22.

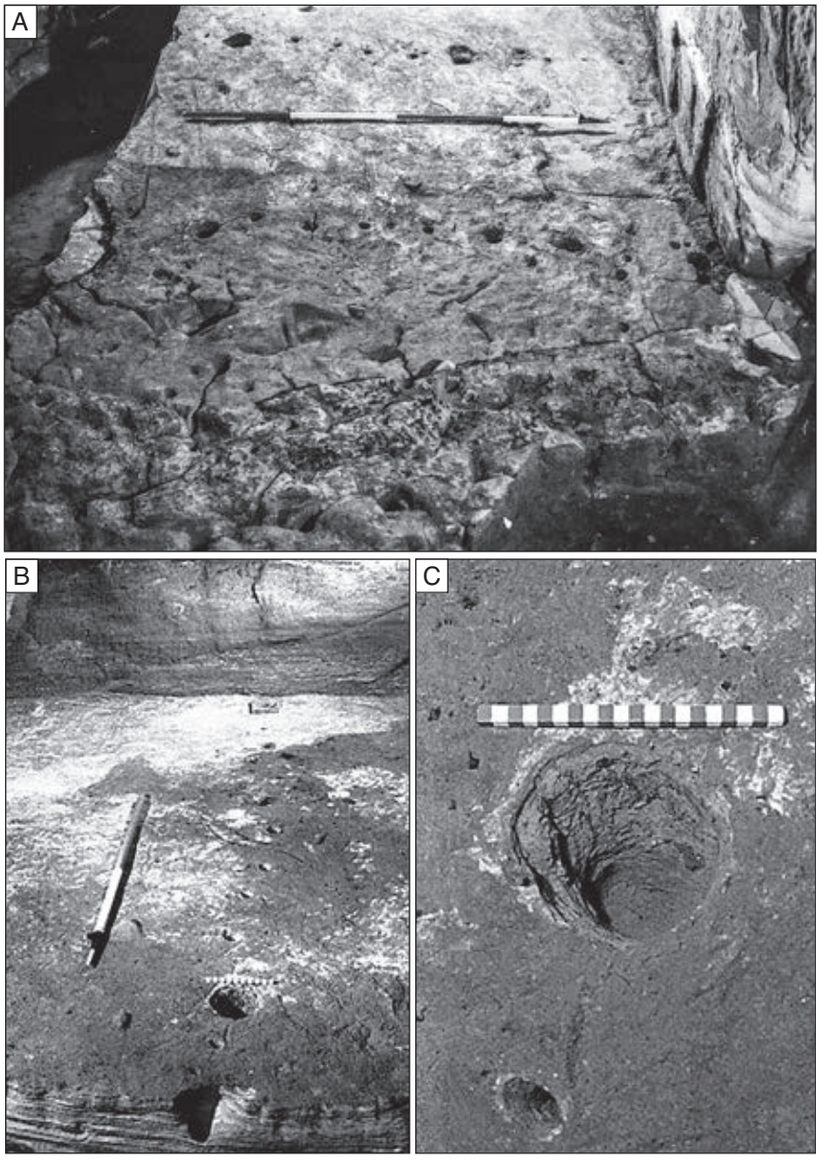


Illustration 2.18
Stakehole alignments in Block 1.1 in the West Passage: (A) Alignments 1 (background) and 2 (middle ground), (B) Alignment 1, (C) detail of preserved wood in the most westerly of the large stakeholes in Alignment 1

These deposits were overlain by fine laminated deposits of sand and clay, themselves overlain by sand (Ia20, Ib20t). Ia20 contained a sub-adult human tooth (SF1129) and the tip of an iron pin or tool, or possibly a fragment of wire (SF876), which is probably intrusive, together with one sherd of Fabric A pottery and crumbs of Fabric B. Ib20t contained four pot sherds (Fabrics B and E and one sherd not assigned to fabric) and a concentration of Fabric C (six sherds weighing 304g). The interface between Ib20t and underlying deposit Ib22 yielded a sherd of pottery not assigned to fabric, plus crumbs of Fabric F pottery.

Block 1.2 deposits were cut by a line of thirteen stakeholes (Alignment 8), aligned east–west and spaced at 0.2m intervals at the south end of the passage. Each was approximately 0.04m in diameter, 0.09m in depth and had been driven vertically into the deposits. The stakeholes were filled by an orange sand with a few charcoal flecks (IIIN6), demonstrating that they had gone out of use before the formation of the latter deposit. A carbonised cereal grain from Ia20 produced an AMS date of 1010–830 cal BC (SUERC-65749).

Closer to the entrance, the Block 1.2 deposits were cut by four stakeholes (Alignment 6) aligned approximately north–south and running down the centre of the passage. These measured 0.04m in diameter and 0.06m deep (illus 2.21A).

In the south half of the passage this deposit (Ia20, Ib20t) was cut by a series of slight gullies (illus 2.21, 2.22B); this area also contained patches of burnt material, but their stratigraphic relationships to surrounding features is unclear. West of the main gulley was an arc of stakeholes (Alignment 9). The northern six measured around 0.04m in diameter, 0.1m deep and lay 0.2m apart (illus 2.22C), while the remaining five measured 0.04m in diameter, 0.08m deep and were 0.2m apart. The mandible (SF312), mentioned above, lay on the arc of these stakeholes (illus 2.21). At the south end of the area were four possible stakeholes aligned east–west and measuring approximately 0.03m in diameter and 0.03m deep (illus 2.21).

In the north half of the passage, three gullies (Ib23f, Ib49, Ib50), each approximately 1.0m long, 0.25m wide and 0.15m deep (illus 2.16, 2.20, 2.21, 2.23), cut Ib20t. The fill of Ib23f comprised a mixture of sand, clay and charcoal and contained two sherds of Fabric B pottery. The fill of Ib50 also contained two sherds of Fabric B pottery and a further sherd not assigned to fabric.

In the west of the passage, Block 1.2 deposits were cut by two groups of stakeholes (Alignments 5 and 7; illus 2.21). Alignment 5 comprised three stakeholes, *c* 0.03m in diameter, 0.07–0.11m deep (illus 2.21A) and *c* 0.2m apart. The three stakeholes forming Alignment 7 measured *c* 0.2m in diameter and *c* 0.25m deep. A further stakehole (dimensions unrecorded) lay further to the north. Against the passage wall was a patch of charcoal and clay (Ic10/11f), 0.2m in diameter and 0.1m deep.

The quantity of pottery from Block 1.2 was substantial, comprising some 155 sherds and associated crumbs (see table 5.4): 42% by weight of the entire stratified pottery assemblage from the Shepherd excavations (see table 5.5). All fabrics found in the overall site assemblage are represented. Block 1.2 also contained

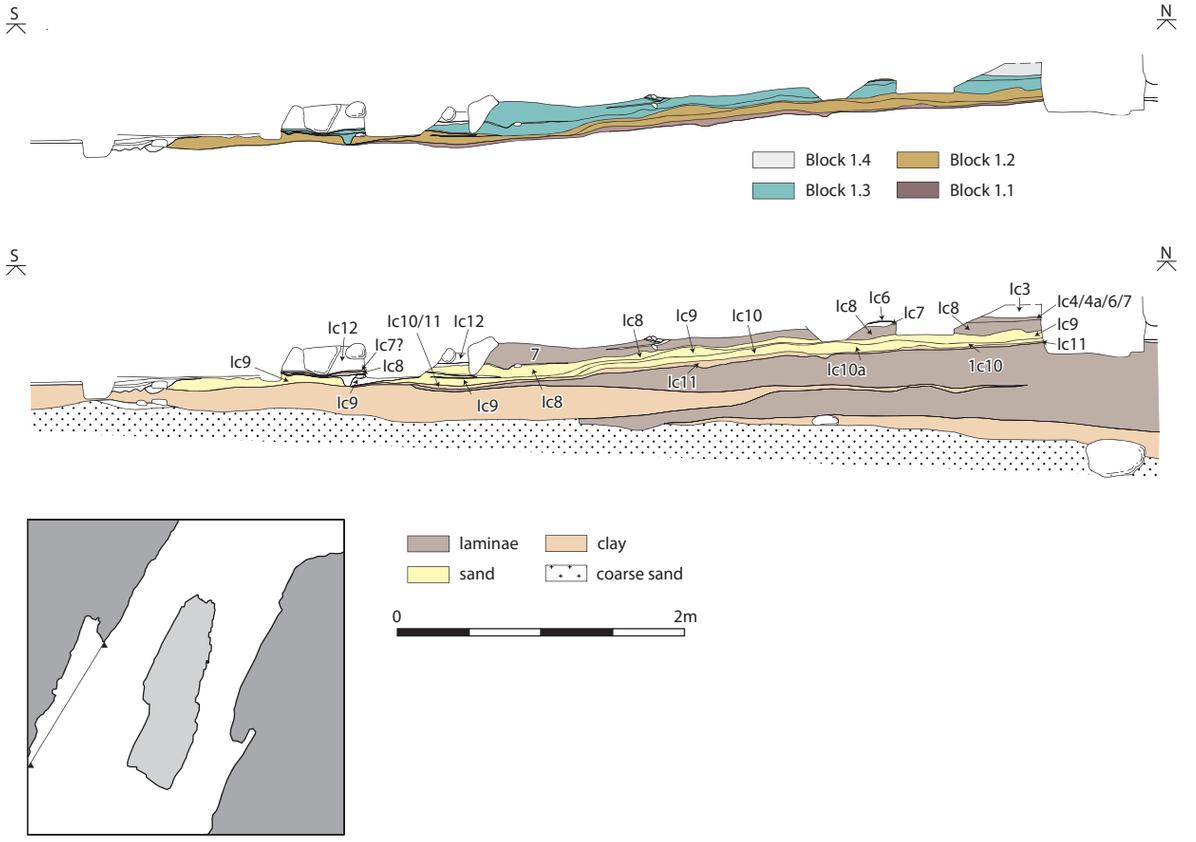


Illustration 2.19
East-facing section through the West Passage (Trench lc)

by far the greatest concentrations of plant macrofossils from the Phase 1 deposits. Cereal grains were relatively plentiful and there were significant concentrations of burnt hazelnut shells (section 7.6), suggesting that the cooking and consumption of food was a frequent activity. Charcoal too was relatively abundant; while much of this (eg the heather and gorse) may represent kindling and firewood, it is also possible that some of the more substantial pieces of oak, hazel, alder, willow etc may derive from the structures represented by the many stakeholes within this block.

2.3.4 Discussion

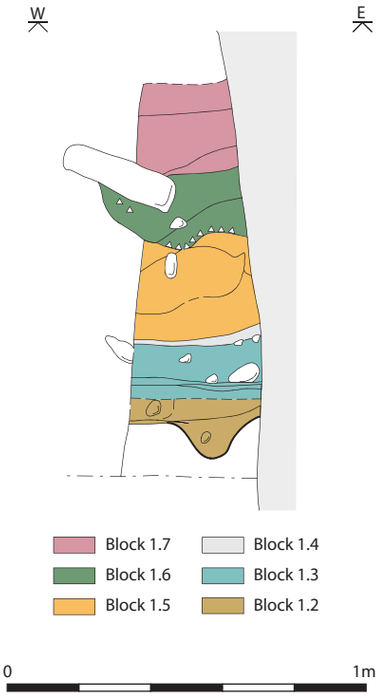
The nature and extent of the Phase 1 deposits

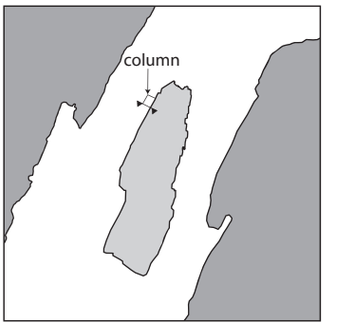
The lack of any physical connection between the excavated deposits within each of the two entrance passages makes it impossible to establish definitive chronological relationships between them. This is made even more problematic by the striking differences in the composition, types of features and depth of deposits in each passage. The major differences can be summarised as follows:

1. The West Passage contains considerable evidence for the presence of timber structures, represented by multiple lines and arcs of stakeholes; these are seemingly absent from the East Passage.
2. The West Passage deposits contain significantly greater quantities of pottery and carbonised plant remains.
3. Human bones and teeth are overwhelmingly concentrated in the East Passage (29 compared to only 5 in the West Passage).

These differences are reflected in the AMS dates which, at first glance, appear to suggest that deposition began somewhat earlier in the East Passage than in the West Passage (chapter 4).

There is, however, an alternative possibility. Midway down Sylvia Benton's published section (illus 2.7A), at around the 5-foot mark, is a clearly marked black line, indicative of 'burning'. This runs through her grid squares –A0 and A0 where, after a short hiatus, it resolves into two black lines visible in grid square A1. The lower of these two lines continues through grid square A2. Overlaying this with the Shepherds' section (illus 2.7D), it becomes apparent that the Phase 1 deposits excavated by the Shepherds closely follow Benton's single line of 'burning' in the outer part of the West Passage (grid square A0); indeed, Ian Shepherd (2007: 195) confirms that this line marks the base of the Late Bronze Age layer. Further into the passage (in grid square A1), however, the Shepherds' Phase 1 deposits appear to follow the *upper* black line





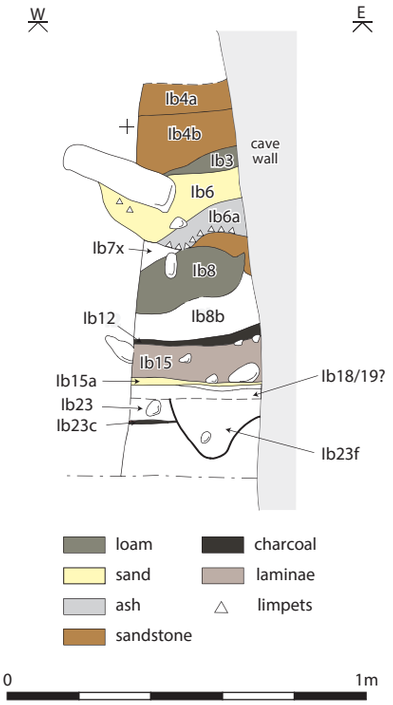


Illustration 2.20
South-facing section and (A) photograph of 'column' of deposits at the north end of the West Passage, adjacent to modern door

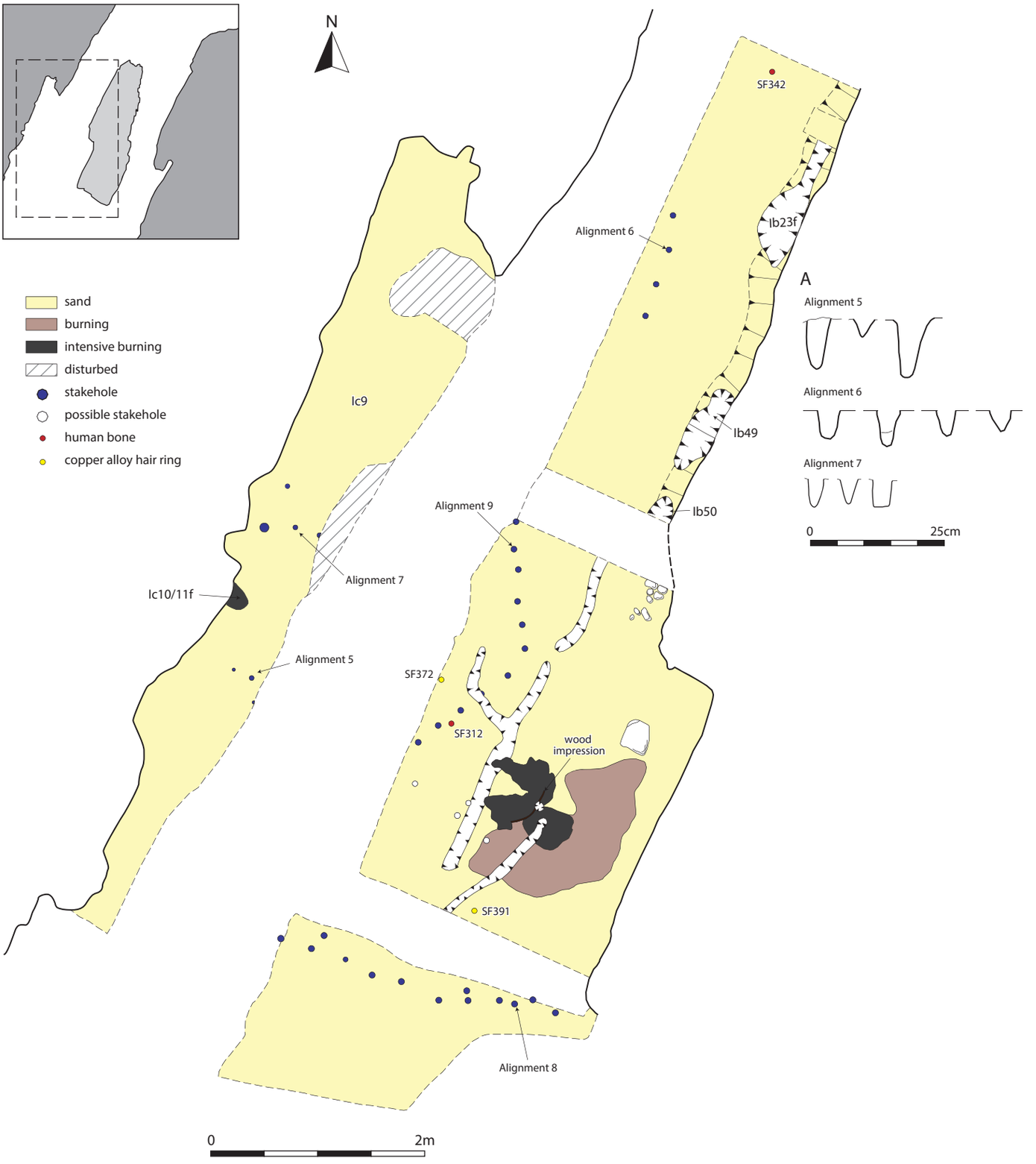


Illustration 2.21
Plan of Block 1.2 in the West Passage. (A) shows profiles through stakeholes in Alignments 5, 6 and 7

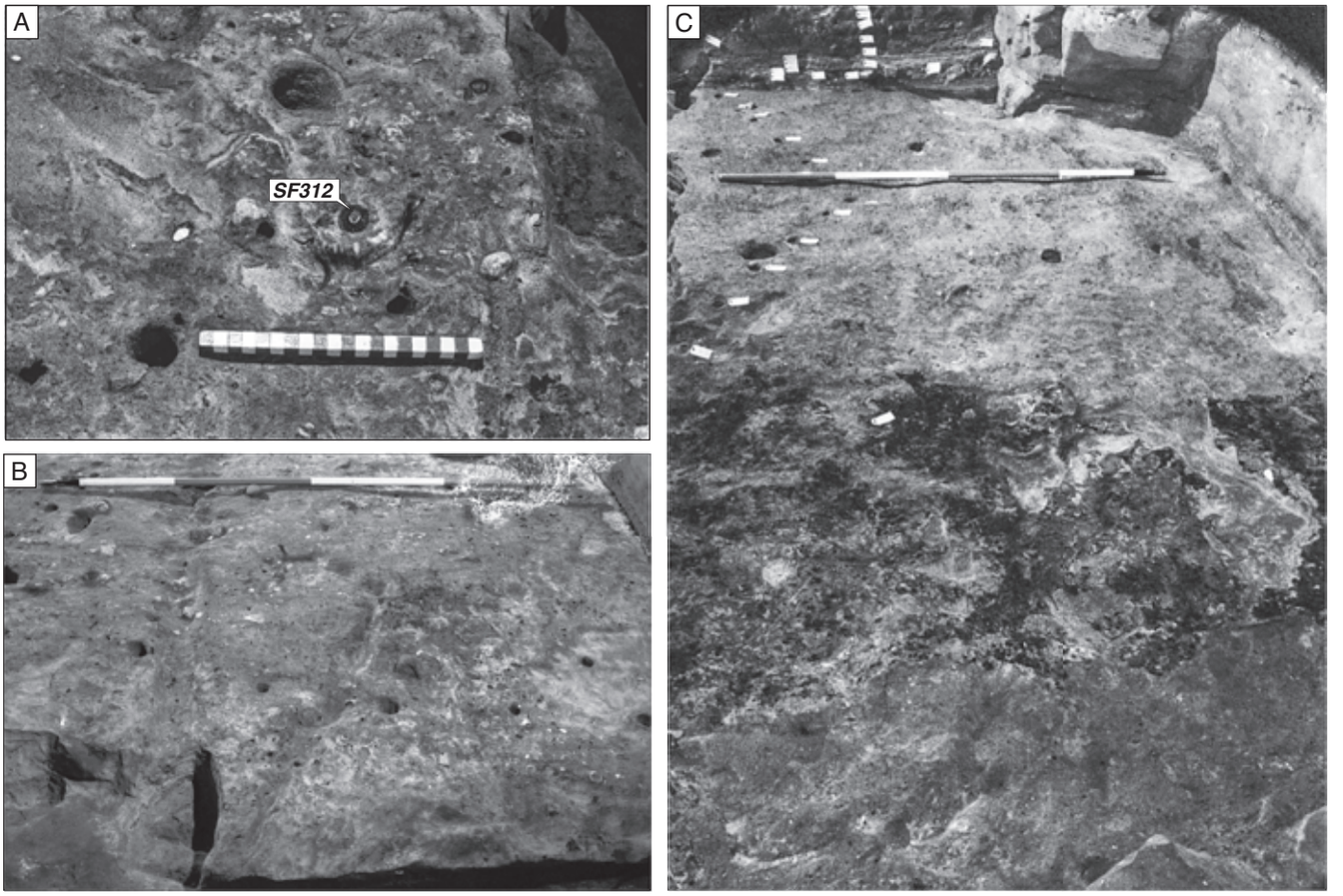


Illustration 2.22
Photographs of (A) child's mandible (SF312) in Ia22, (B) surface of Ia20, looking north (gullies are visible in the foreground), (C) surface of Ia23, looking north, showing stakehole Alignment 9 (top left)

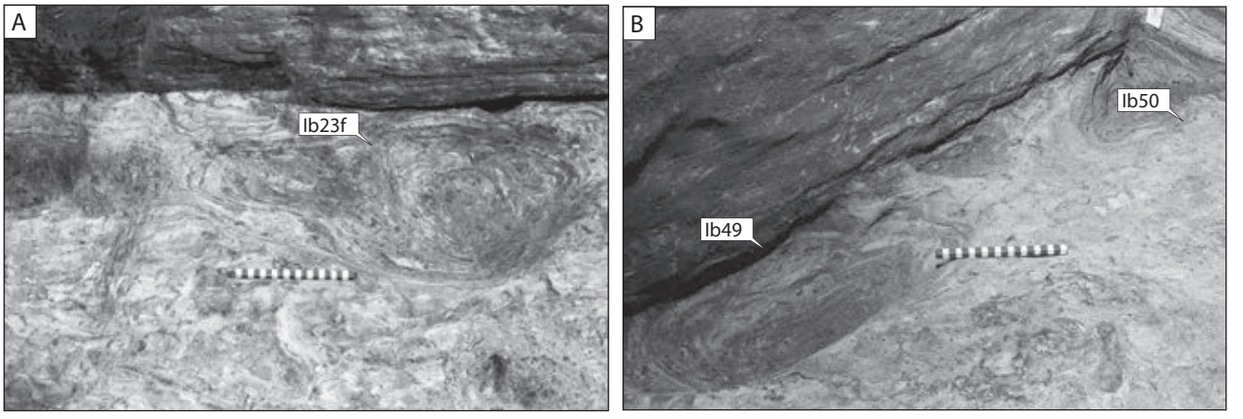


Illustration 2.23
Gullies (A) Ib23f and (B) Ib49, Ib50 against cave wall in Block 1.1 in the West Passage

rather than the lower. If we assume that Benton's lines of 'burning' represent Phase 1 deposits, it becomes possible that around 0.2m of unexcavated material (ie the deposits between the two lines of burning) may not have been excavated by the Shepherds. This material may still survive in situ across much of the West Passage (illus 2.7D).

This scenario is not as unlikely as it may at first seem, since it is clear from field notes contained in the site archive that it was extremely difficult to gauge the point at which anthropogenic activity in the cave began; a problem shared by Sylvia Benton and the Shepherds. In part, this is because the finely laminated deposits of windblown sand and clay particles which formed in the entrance passages for up to several centuries prior to the intensification of Late Bronze Age human activity continued to form throughout Phase 1. Indeed, the earliest deposits within Block 2.1 in the East Passage were regarded as non-anthropogenic by the Shepherds at the time of excavation. In this context, it is entirely possible that deposits underlying Block 1.1 in the southern part of the West Passage were perceived as non-anthropogenic during the 1979 excavations and were therefore not excavated. The drawn section (illus 2.8) does not indicate the nature of the deposits underlying Block 1.1 in this part of the passage, suggesting that these were indeed not excavated.

This interpretation gains further support from an annotation on one of Sylvia Benton's hand-drawn archive sections (the one on which her published section is based), where the deposits between the two black lines are labelled as containing 'bits of bone' (illus 2.7E). It seems highly likely that this denotes human bone, since Benton was very sparing in the use of such annotations on the section. Indeed, none of the deposits later excavated by the Shepherds are annotated in this way, even though we know that animal bone was plentiful. Several tentative conclusions can thus be drawn:

1. Rather than indicating an earlier commencement of human activity in the East Passage, the AMS dates may simply reflect the incomplete excavation of the earliest deposits in the West Passage. That being so, there is no reason to believe that Phase 1 activity did not begin in both passages at the same time.
2. The apparent paucity of human remains in the West Passage may simply reflect the absence of excavation of the earliest Phase 1 deposits in that area. There is thus no reason to assume that funerary activity within Phase 1 was necessarily concentrated in the East Passage.
3. Significant archaeological deposits, potentially including Late Bronze Age human remains, may still be preserved in the West Passage, primarily in the areas of Benton's grid squares A1–A4.

The Phase 1 deposits excavated by the Shepherds extend into the cave only as far as grid square A3, where they quickly peter out. Returning to Benton's published section (illus 2.7A), however, we can see that the deposits between her two lines of burning (ie what are likely to be unexcavated Phase 1 deposits) extend to the middle of grid square A4, where they disappear at a point coterminous with the underlying laminated sand and silt deposits (section 2.2.5). There is no evidence, from either the Shepherd or the Benton excavations, that Phase 1 deposits extended across the whole of the cave interior, the surface of which would have been formed by the coarse sand of the underlying raised beach deposits (see section 2.2.2). Whatever Late Bronze Age cultural activity led to the formation of the Phase 1 deposits must, therefore, have been focused almost exclusively in the entrance passages and in the lee of the entrance canopy. Any activities that might have been conducted inside the cave did not lead to the formation of archaeological deposits.

One potential explanation for this sharp disjunction in the distribution of Phase 1 deposits is the likely presence of water within the cave during the Late Bronze Age (see sections 2.2.3 and 7.3) in contrast to the dry surface formed by accumulations of windblown sand within the entrance passages. This division of the cave into two zones (wet and dry) would have been accentuated as deposits mounded within the entrance passages during Phase 1.

The distribution of objects that can be confidently dated to the Late Bronze Age generally mirrors the location of Phase 1 deposits; metalwork of this period, for example, focuses on the entrance passages and into the interior as far as D5 (illus 5.64A, B). The sole exception is a remarkable cache of six gold-covered hair rings at the rear of the cave, which appear to have been placed (perhaps hidden) there as a special deposit (section 5.7.1; illus 5.64B). Overall, however, there is no suggestion from the finds distribution maps that Late Bronze Age objects were deliberately deposited as votives into standing water within the cave (section 5.14).

Mortuary activity

Human remains in Phase 1 are represented by 25 bones and 4 teeth from the East Passage, compared to only 3 human bones and 2 teeth from the West Passage. As we have seen, however, the latter total may be an under-representation of the original extent of mortuary activity in the West Passage.

The bones are overwhelmingly those of young children, making this a highly unusual collection, since this age group are normally under-represented in prehistoric funerary assemblages. Initial interpretations that the entrance passages were used for the display of children's heads (Shepherd 2007: 199) were based on the apparently exclusive presence of cranial fragments and mandibles (illus 2.13); this idea is undermined, however, by the subsequent recovery from the same excavated deposits of 16 post-cranial bones during post-excavation analysis of the faunal assemblage. Nevertheless, the disarticulated state of the bones, along with evidence for defleshing or polishing on the frontal bone from Block 2.2 (SF231), suggests that these bodies were not simply buried in the cave (chapter 6).

In the context of the human remains, it is interesting to note that many of the objects recovered from the Late Bronze Age deposits appear to be personal ornaments and thus may have been associated with the bodies. They are certainly not the sorts of objects that would be expected on an occupation site. Of particular interest, given the prominence of cranial bones and mandibles, are ten hair rings (or alternatively nose/septum rings; illus 5.35), including two from the Shepherds' excavations (SF139, SF372); on the Continent, such rings are commonly associated with burials (see section 5.7.1). A copper alloy pin shank (SF230) and bracelet (SF391) and an oil shale armlet (SF911) from the

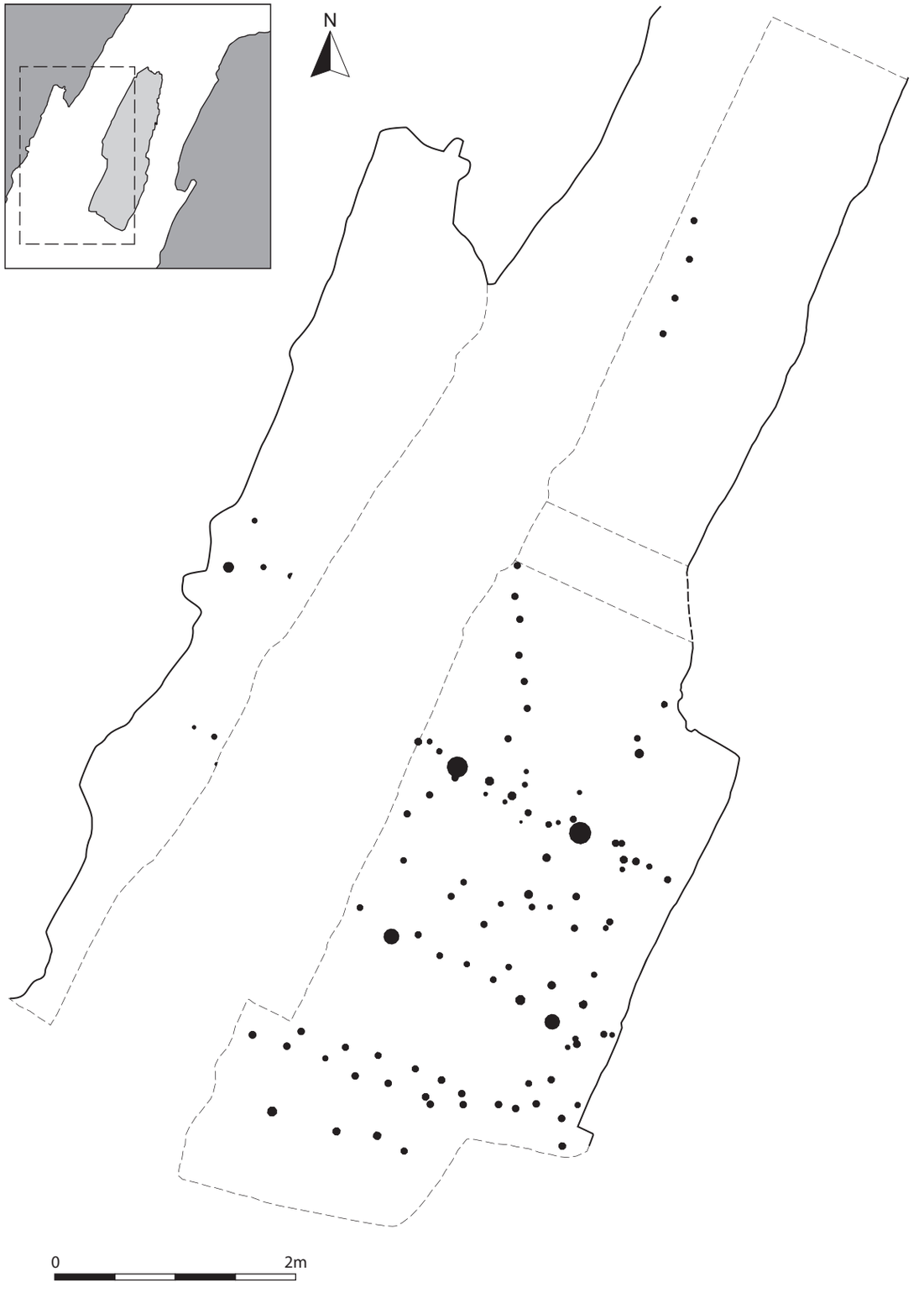


Illustration 2.24
Plan showing all stakeholes recorded in the West Passage

Shepherds' excavations also represent objects worn on the body, as do numerous objects found by Benton (illus 5.64A, B). While these objects may be votives, it seems at least equally likely that they arrived in the cave on the bodies of the dead.

The stake-built structures

Perhaps the most obvious difference between the two passages in Phase 1 is the appearance of a series of apparently sequential stake-built structures in the West Passage. These first appear in Block 1.1, being apparently cut through the earliest identified cultural layer (trampled surface Ia27 and associated contexts). As we have seen above, however, there is reason to believe that there may be earlier unrecognised Phase 1 activity below them. They occur mostly within what would have been Benton's grid square B2 (though Benton does not mention having noticed any stakeholes or postholes in the cave) and were not observed in significant numbers in the outer part of the entrance passage.

There are perhaps three main possible explanations for the presence of so many stakeholes within the West Passage. These can be outlined as follows:

1. They may represent a series of successive wooden barriers or screens across the inner end of the West Passage intended to control access or define activity areas.
2. They may represent the remains of timber structures associated with the mortuary use of the cave; for example, as scaffolds or racks intended to receive and/or display human bodies.
3. They may represent foundations for a sequence of timber platforms.

One key question concerns whether the apparent absence of stake-built structures in the East Passage is genuine or simply an artefact of excavation. There is certainly no indication that access through the East Passage was obstructed during Phase 1, since it appears that the formation of windblown laminae of sand and fine clay particles continued throughout this whole period. It should be noted, however, that the stake-built structures are concentrated in the inner half of the West Passage and that only a relatively small area of the equivalent sector in the East Passage was preserved after Benton's excavations: it is, therefore, impossible to be sure that stake-built structures never existed in the East Passage. Nonetheless, one might expect that, if similar structures had existed in the East Passage, some evidence for stakeholes might have been expected in Trench IIc (illus 2.6). Instead, only a rather formless cluster around the midpoint of the passage is represented (illus 2.14). The tentative conclusion must be, therefore, that the stake-built structures were restricted to the West Passage.

The Phase 1 stakeholes in the West Passage are represented on illus 2.24. Most were in the range of 0.1–0.2m deep and seem to have held wooden stakes around 0.05–0.08m in diameter (illus 2.25). A few, notably in Alignments 1 and 2, were significantly larger, up to around 0.15m in diameter (illus 2.25, 2.26). The excellent preservational environment of the cave meant that some stakes partially survived as charred or even unburnt wood (illus 2.18). Unburnt wood preserved in two unstratified stakeholes

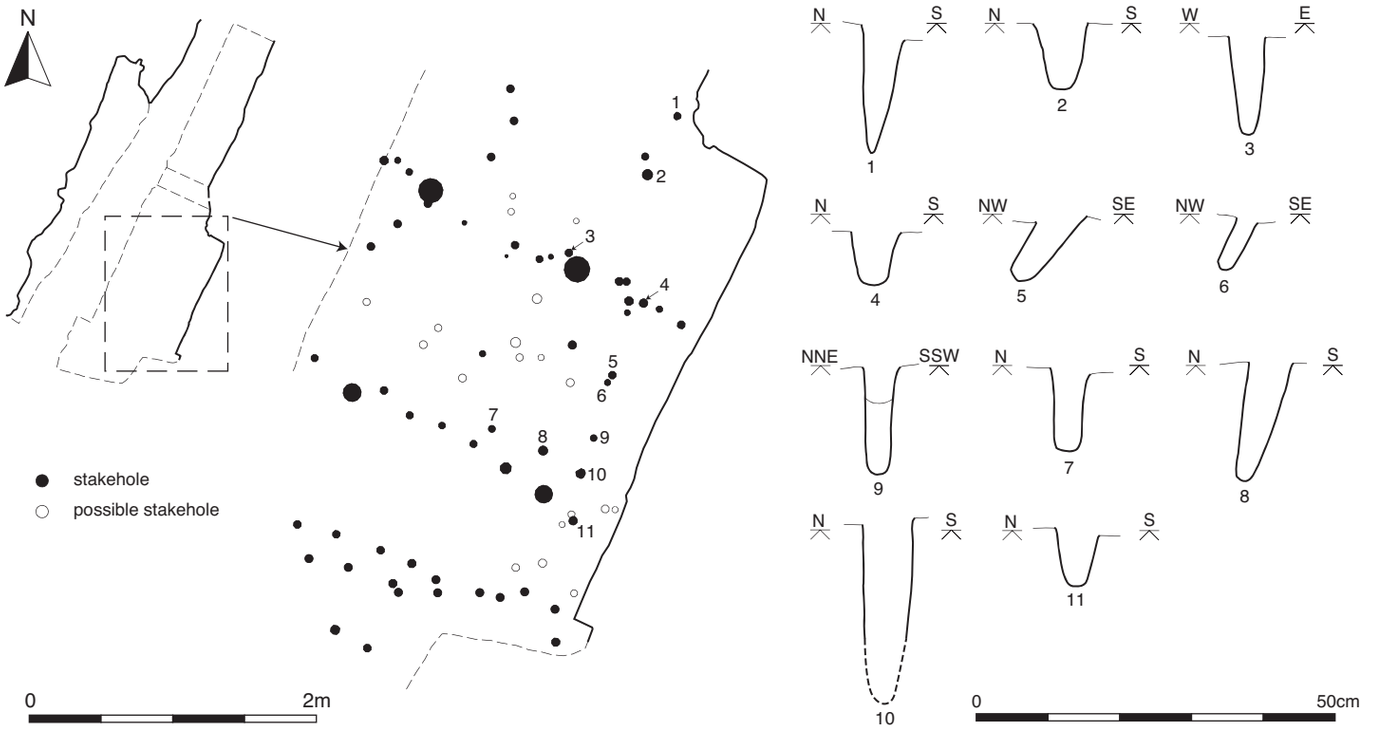


Illustration 2.25
Stakehole sections and profiles in the West Passage

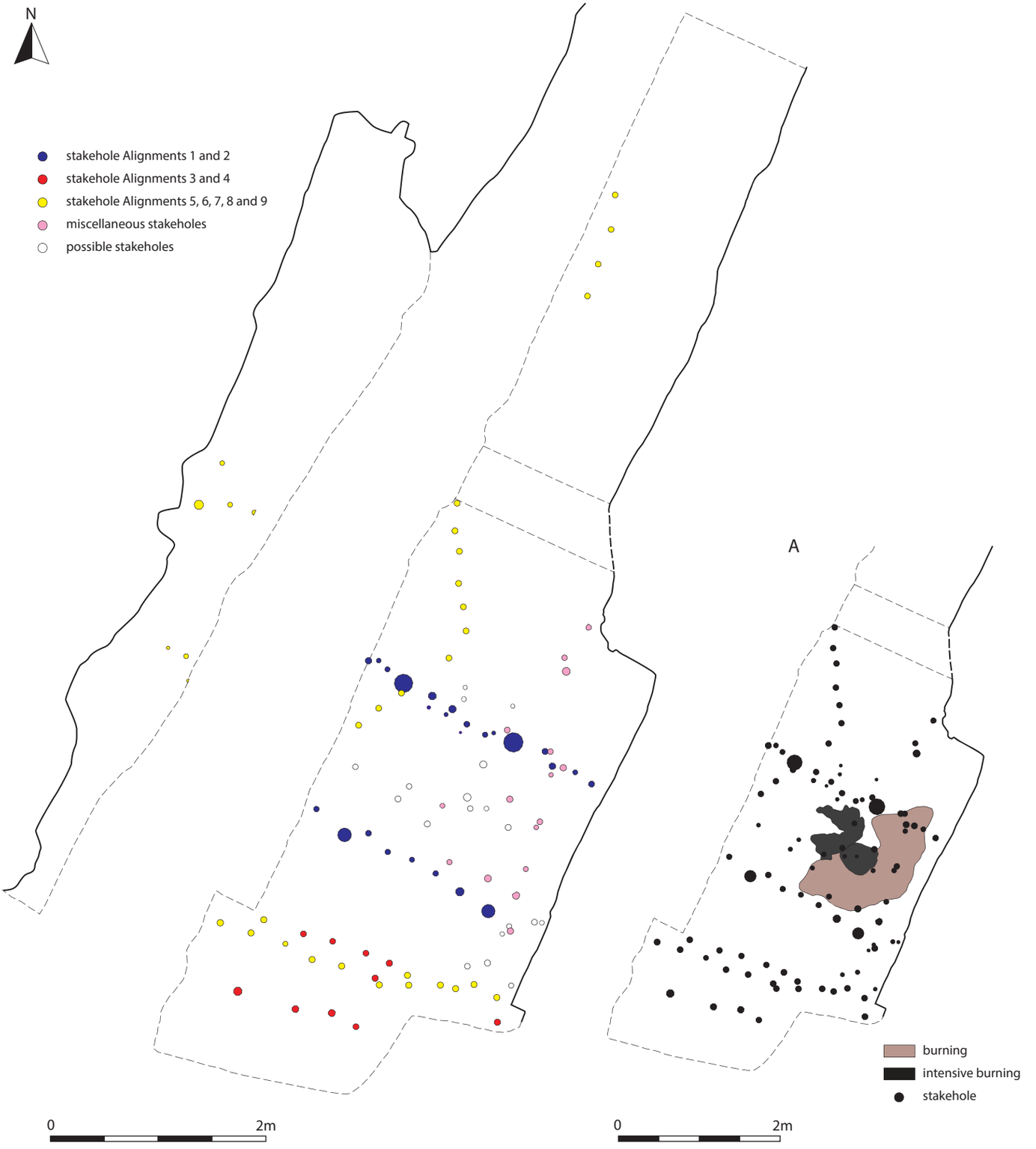


Illustration 2.26
Plan of stakeholes recorded in the West Passage showing the distinct alignments noted during the Shepherd excavations.
(A) shows areas of burning

from the East Passage proved to derive from minimally modified hazel branches (section 7.6.4).

Although the majority appear to resolve into a series of discrete alignments, it proved extremely difficult for the excavators to identify the levels from which the stakeholes had been cut, ie to distinguish which deposits had been driven through by the stakes and which had formed around them; in the exceptional preservational environment of the cave, the structural integrity of the stakes may have been retained long after any superstructure had decayed or gone out of use. For those that do not belong to a specific alignment, therefore, it is often impossible to be sure that they necessarily even relate to Phase 1 rather than Phase 2. Given the exceptional survival of unburnt stakes, there is the additional potential problem of modern disturbance, since it is clear that Sylvia Benton used small wooden stakes to mark out areas within the cave during her excavations (see for example illus 2.4). However, given the well-stratified nature of many of the Phase 1 stakeholes and the wood impressions in Block 1.1 (illus 2.15), it seems unlikely that this is a significant issue.

With the above caveats in mind, the Phase 1 stakeholes can be separated into four broad groups (illus 2.26). The earliest, largest and best-defined of these comprises Alignments 1 and 2 and may represent the foundations of a single structure, apparently constructed during the formation of Block 1.1. The form of construction (large stakes interspersed with four or more smaller ones) suggests that it may have been built of wooden hurdling. Assuming that the two alignments formed part of a unitary structure, this would have been set more or less at right angles to the passage, forming a barrier with a width of approximately 1.5m (north–south) and a length of at least 2.5m (east–west). It may have continued across the whole passage, although any evidence for this will have been entirely removed by Benton's excavation. The lack of stakeholes in Trench Ic on the west side of the passage is probably due to the presence of an overhang of rock and the consequent lack of headroom in this area; the paucity of stakeholes there is thus not especially informative. It is especially noteworthy that the majority of the 'miscellaneous' (ie generally unphased) and 'possible' stakeholes cluster in the space between Alignments 1 and 2, strengthening the interpretation that the latter formed the outer walls of a unitary structure. Several of the internal stakes are set at sharp angles (illus 2.25, eg nos 5, 6, 8), suggesting that they may represent internal supports or *ad hoc* maintenance of the walls of the structure. This would suggest that the structure did not contain any solid packing but may have been of a more open, rack-like configuration, perhaps reinforced using crossbeams.

Alignments 1 and 2 show some evidence for having fallen out of use during the formation of Block 1.1. Windblown sand and clay laminae (Ib33), belonging to this series of deposits, appear to have overlain the stakeholes which, combined with the evidence for collapsed structural elements (in the form of wood impressions on the surface of Block 1.1), suggest that the first stake-built structure fell out of use during this time. Against this, however, it should be noted that the intense area of burning identified in Block 1.2 (illus 2.21) corresponds quite precisely with the footprint of this putative structure (see overlay in illus 2.26A), suggesting that it may have persisted in some form (perhaps with a non-earthfast superstructure, or in a ruinous state) for a longer period.

The second series of stake-built structures comprised Alignments 3 and 4, lying around 1m to the south of the structure just described (illus 2.26). These stakeholes were thought by the Shepherds to be slightly later than Alignments 1 and 2, but the Phase 1 deposits in this area were close to the surface (as left at the end of Sylvia Benton's excavations; illus 2.7D, 2.8) and adjacent to the highly disturbed Area III, so it is harder to be confident of their precise stratigraphic relationships. They still appear to be contained within Block 1.1. Assuming that Alignments 3 and 4 formed a unitary structure, this would have been some 0.6m wide and rather slighter in construction, lacking the larger stakes and internal supports seen in the earlier structure. As before, they potentially formed a barrier extending across the whole entrance passage, though possibly leaving a gap around 1.4m wide at the east end, where the structure would have met the inner end of the central spine of rock that divides the two entrance passages.

The construction of stake-built structures continued into the later part of Phase 1 (Block 1.2). A new, single row of stakes (Alignment 8) appears to have replaced Alignments 3 and 4, suggesting the presence of an even slighter structure (illus 2.21). Two further alignments represent a departure from what had gone before in terms of orientation and position within the entrance. Alignment 6 (illus 2.21) was a simple row of four stakes running parallel with the entrance passage and more or less bisecting its outer part. It would presumably have channelled access to either the right or left. Alignment 9 was an unusual curving structure that cut across the line of the former Alignment 1. Overall, the stake alignments within Block 1.2 suggest a more varied, and perhaps *ad hoc*, set of constructions than those in Block 1.1.

It is tempting to relate the stake-built structures to the exposure, display or storage of human remains. This interpretation, however, has little direct supporting evidence. Only one human bone (a mandible from an individual aged around 14–16 years; SF312) appeared to have any direct association with these constructions, having been found on the line of Alignment 9 (illus 2.21) and above Alignment 1 (illus 2.15). The bulk of the human remains were found in the East Passage and appear to pre-date the stake-built structures. As discussed above, similar evidence may exist in unexcavated deposits within the West Passage, but at a level below the excavated stake-built structures.

It is of course possible that the construction of these timber racks or frames represents a formalisation of mortuary activity within the cave, turning a previously unmodified, natural place into a more organised, built space. In such a context, it may be that human remains were less likely to find their way into the accumulating archaeological deposits. This cannot of course be proven, but it is certainly unlikely that the cave served any mundane domestic purpose. Visits by the Late Bronze Age inhabitants of the region presumably retained a religious or funerary intent, and the stake-built structures must have played some role in the activities carried out there.

Cooking, eating and other activities

Whatever formal, ritualised activity was conducted within the cave, it is clear that it included the preparation, cooking and consumption of meals involving meat, cereals, hazelnuts and other plant foods. This suggests that visits to the cave may have involved

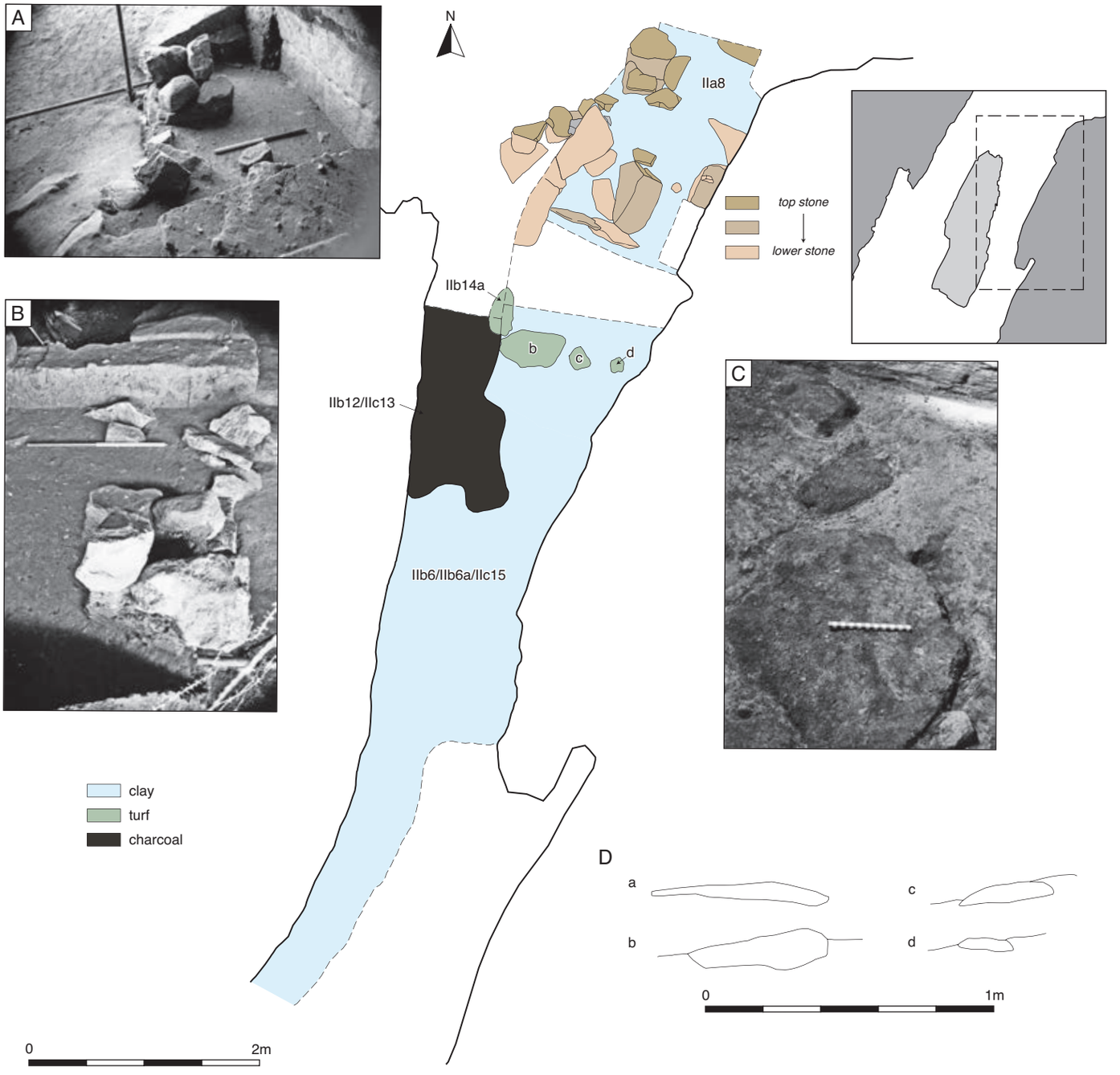


Illustration 2.27
Plan of Block 2.5 in the East Passage. (A) Stones in IIa8 looking north, (B) stones in IIa8 looking south, (C) turves (IIb14) looking east, (D) sections through turves

small groups or families cooking and eating together, perhaps over a few hours or even days. The evidence for such commensal activity is markedly concentrated in the West Passage and particularly in deposits relating to Block 1.2. Phase 1 pottery in the West Passage comprised some 155 sherds weighing 1744g (42% of the stratified pottery assemblage from the cave, with all but a few crumbs deriving from Block 1.2), compared to the East Passage which yielded only 29 sherds weighing 440.1g (11%; tables 5.4, 5.5). Zoning between the two passages is also evident in terms of the relative concentrations of carbonised plant macrofossils (section 7.6.5), which demonstrate a clear focus in Block 1.2 in the West Passage.

Importantly, all of the pottery fabrics identified at the site are represented in well-stratified deposits within Phase 1, suggesting that fabric alone is insufficient to distinguish chronological changes in the ceramic assemblage. The small number of bone tools suggests that some small-scale craft activity was also practised in the cave, perhaps as an incidental by-product of protracted visits.

2.4 Phase 2: Iron Age

2.4.1 General

Phase 2 deposits survived in both the East Passage and the West Passage. In the East Passage, they have been divided into three stratigraphic blocks (2.5–2.7; illus 2.1) with a combined maximum depth of *c* 0.8m at the front of the passage, reducing to around 0.4m at the rear (illus 2.9). In the West Passage, the Phase 2 deposits form five stratigraphic blocks (1.3–1.7), with a maximum depth of *c* 1m at the front of the entrance passage, gradually tapering off to the south (illus 2.8, 2.16). In the West Passage especially, the Phase 2 deposits form by far the majority of the excavated material, greatly exceeding the Phase 1 deposits in volume (illus 2.8).

Phase 2 activity ran from the end of Bronze Age activity, around either *910–885 cal* BC (*26% probability*) or *870–830 cal* BC (*43% probability*); the distinction is in any case rather arbitrary since there is no reason to believe that there was any break in deposition between the two.

Although the Phase 2 deposits seem to date primarily to the Pre-Roman Iron Age, one AMS determination (cal AD 140–390; SUERC-16599) from the Block 2.7 deposits dates to the Roman Iron Age. As will be discussed in more detail below, this sample derives from a deep, mixed layer (IIb2) containing numerous surfaces and deposits that were all excavated under a single context code. Thus, although the great majority of the Phase 2 deposits pre-date the Roman Iron Age, it is impossible to separate these periods entirely and the Block 2.7 deposits are best regarded as belonging to Phase 2/3.

2.4.2 East Passage

Block 2.5

Overlying the Phase 1 material in the East Passage was a thick deposit of stony clay (IIa8, IIb6/6a, IIc15; illus 2.9, 2.12), described by the excavators as redeposited boulder clay. At the mouth of the passage and in the entrance area, this formed a wedge-shaped mound around 0.75m deep (illus 2.9, 2.12), the lower part of which contained many large, angular boulders. On plan, these appear to form a structureless mass around the cave entrance (illus 2.27); photographs taken when the upper stones had been removed, however, appear to show the lower course of a wall around 1m wide running for just over 2m on the same alignment as the East Passage (illus 2.27A, B). It seems probable that the redeposited boulder clay may have formed the core of this wall. Unfortunately, the lower stones were not planned together and the interpretation must be based solely on the photographic evidence. There is no indication that the wall projected into the entrance passage itself and it seems most likely to have formed part of a structure in the lee of the entrance (where most deposits had previously been removed by Sylvia Benton).

Within the boulder clay were four patches of soft dark brown material that appear to represent preserved turves (IIb14a–d; illus 2.27C, D). These form a line perpendicular to the stone-footed wall and seem likely to derive from the same putative structure as that described above. IIb14 contained a fine, bent iron wire fragment (SF877) which presumably comes from one of the turves, though it is unclear which one.

A lens of shell-rich charcoal (IIb12, IIc13, IIc13a), *c* 2–5mm deep, trampled into the surface of the boulder clay, covered an irregular area in the west half of the passage (illus 2.27). This material yielded the largest plant macrofossil assemblage from the excavations, including evidence for a broad range of weed seeds indicative of cereal processing (section 7.6). It also contained 21% of the shell assemblage recovered from the Shepherds' excavations (table 7.9), the vast majority of it deriving from context IIc13a, which also yielded eight perforated shells (32% of the perforated shell assemblage; section 7.5). Although shell was not systematically collected during the excavations, this is still a remarkable concentration in such a thin deposit. IIc13 yielded crumbs of Fabric A pottery, while a sheep/goat metatarsal from IIc13a produced an AMS date of 810–540 cal BC (SUERC-16601).

This block of deposits, which appear to date to the Early Iron Age, suggests continuing human activity involving the construction and collapse of at least one structure, though this activity may have been focused outside the cave or under its entrance canopy.

Block 2.6

Within the entrance area, the deposits of Block 2.5 were overlain by highly mixed layers of clay, sand and ash (IIa6a), in turn overlain in parts by a 2–5mm thick layer of burning (IIa7/IIa7a/IIa7b; illus 2.28). A cattle radius from IIa7 produced an AMS date of 900–790 cal BC (SUERC-16600).

Within the west half of the passage, a series of sand and silt laminae some 15–20mm thick (IIc11), containing lenses of charcoal, overlay the Block 2.5 deposits. These suggest that windblown material continued to be periodically deposited within the entrance passages at this time, interspersed with episodes of human activity. IIc11 yielded a stone grinder (SF944). A long bone shaft fragment from a large terrestrial mammal and a rib from a small terrestrial mammal, both from IIc11, returned AMS dates of 770–410 cal BC (SUERC-65441) and 800–510 cal BC (SUERC-65442) respectively.

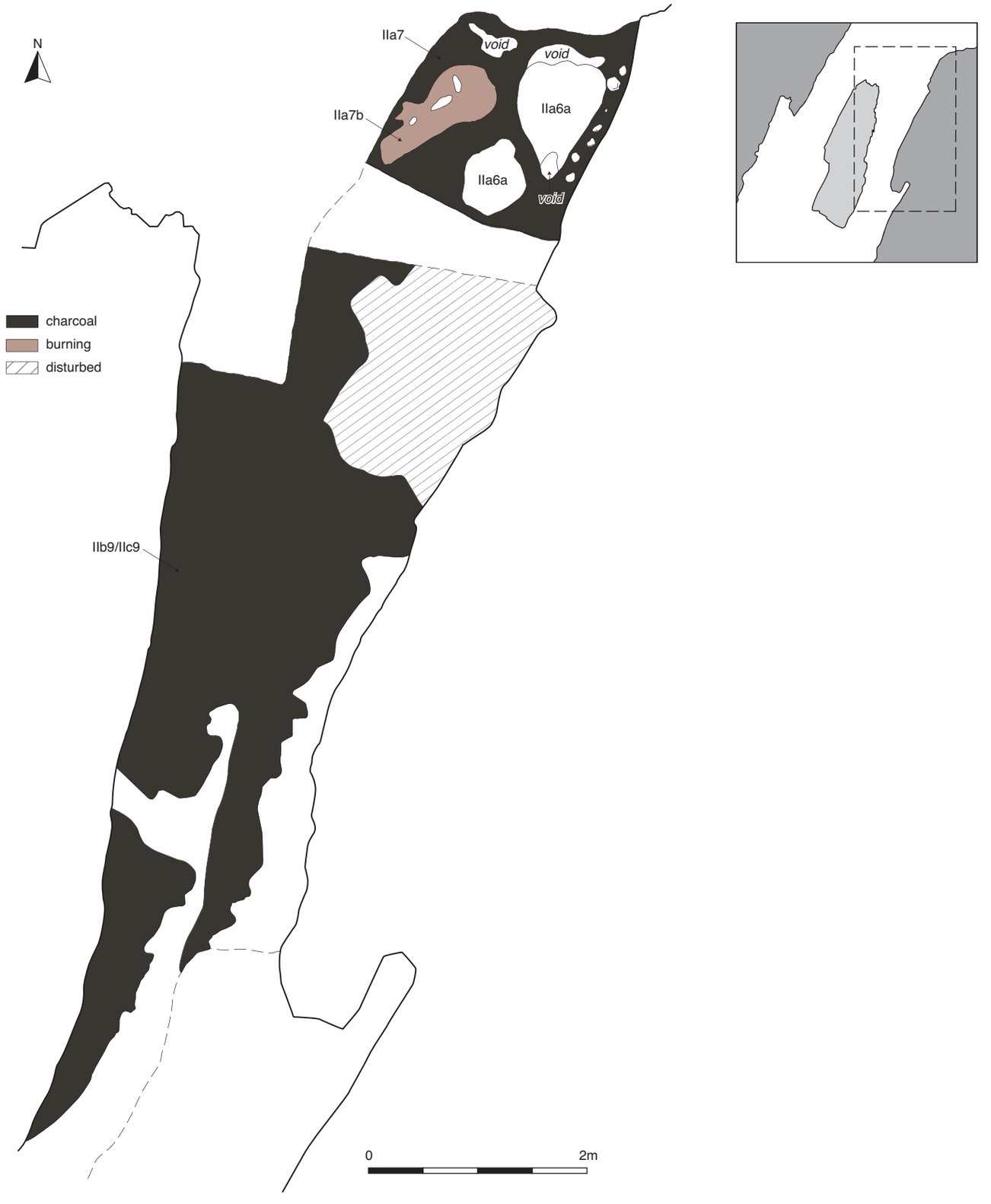


Illustration 2.28
Plan of Block 2.6 in the East Passage

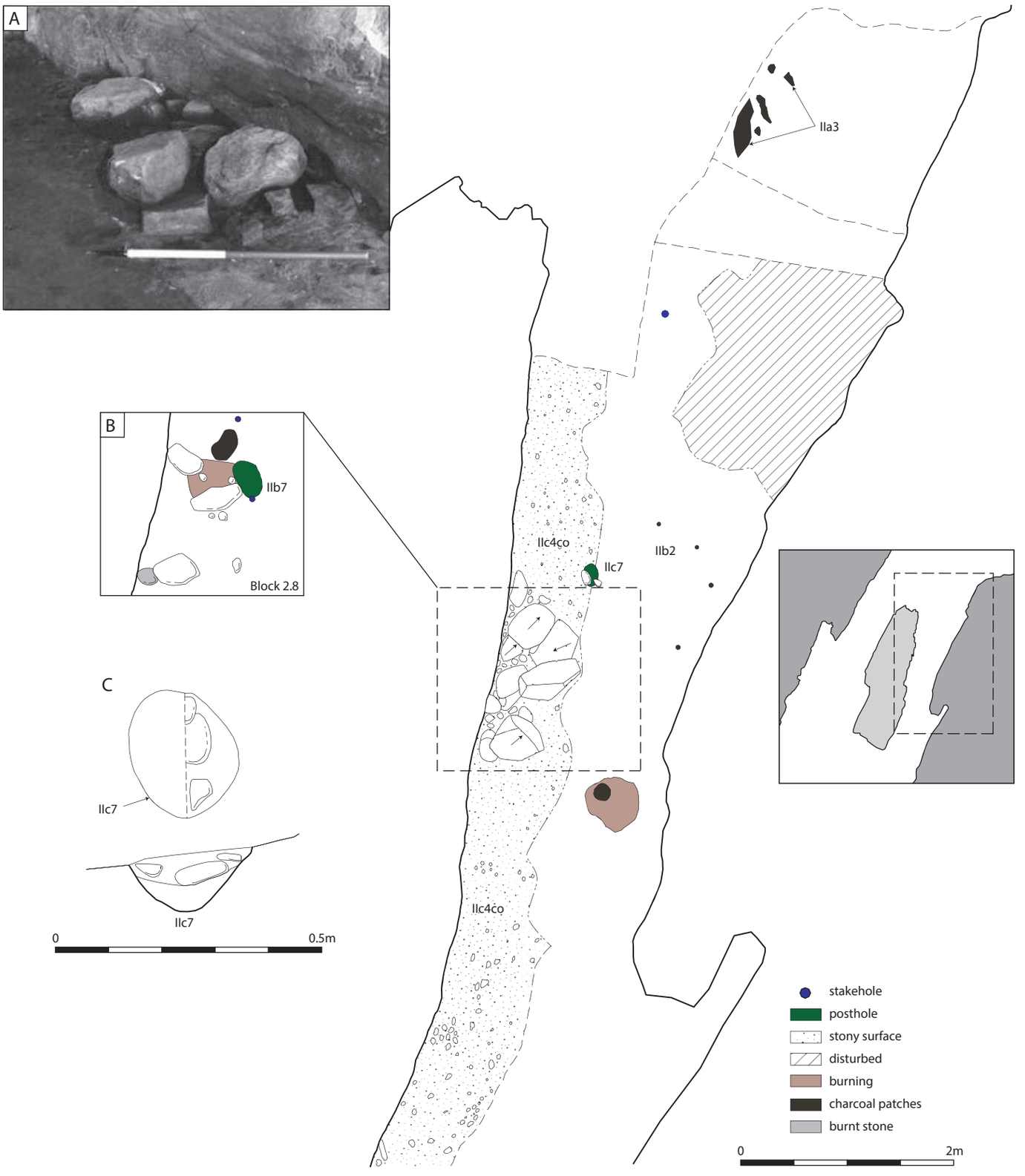


Illustration 2.29
Plan of Block 2.7 in the East Passage. (A) Photograph showing group of boulders within stony surface IIc4co, from the north-east, (B) plan of Block 2.8 features, (C) plan and section of posthole IIc7

In the east half of the passage, these windblown deposits were apparently absent, suggesting that the collapsed remnants of the Block 2.5 wall (see above) may have blocked windblown material from entering this part of the passage. Here, a layer of charcoal-stained, dark grey clay, some 10–20mm thick (IIb4; illus 2.9, 2.12), contained a fragment of iron (SF108), possibly from a nail, pin or tool.

In the north half of the passage, IIc11 was covered by a layer of cobbles in a matrix of soft brown earth and sand-silt laminae (IIc10). Overlying these deposits, predominantly in the west half of the passage, was an extensive layer of ash, mixed with sand and silt laminae, sealed by a distinct and extensive deposit of charcoal (IIb9/IIc9; illus 2.9, 2.12A, 2.28). At the south end of the passage this layer was only 2mm thick but increased to 0.06m thick at the north end. A single sherd of Fabric F pottery was recovered from IIb9.

This block of deposits appears to represent ongoing human activity in the entrance passage during the Early Iron Age. The deposition of large quantities of burnt material (the upper part of IIb9/IIc9) across the East Passage suggests that some form of conflagration may have taken place at the entrance, perhaps affecting the stone-footed structure described in Block 2.5 and/or other structures beyond the excavated area. Natural windblown deposits also continued to form in parts of the entrance passage.

Block 2.7 (Phase 2/3)

Overlying the Block 2.6 deposits was a thick layer of soft silty clay (IIa5, IIb2, IIc4), varying from 0.4m deep at the north end of the passage to 0.25m thick at the south (illus 2.9, 2.12A, 2.29). This was by far the thickest anthropogenic deposit within the East Passage and the drawn section shows indications of some internal complexity (illus 2.9). The deposits that comprise the block clearly formed over a significant period and incorporate many individual layers that were not differentiated during excavation, leading to some problems of interpretation.

Among these discrete deposits, towards the bottom of Block 2.7 in the west half of the passage, was a stony surface (IIc4co; illus 2.29) formed largely of small rounded stones. This surface also contained a group of larger boulders forming a distinct, low feature butted against the west wall of the passage, some 4m from the entrance (illus 2.29A). The presence of this feature effectively narrowed the passage at this point from *c* 1.7m to *c* 1m. A small posthole some 0.24m deep (IIc7) lay close to the north of the feature (illus 2.29C).

At the bottom of the silty clay (IIb2) in the east half of the passage, *c* 5.2m from the entrance, was a sub-circular area of laminated deposits, 0.5m in diameter and 0.08m thick (no context code recorded). This had a surface of grey crumbly clay and charcoal and appears to represent the remains of a hearth (illus 2.29). If contemporary with the stone feature described above, it would create a further obstacle to accessing the passage.

High within the soft silty clay, in the north end of the passage, was a hard-packed surface of small, angular stones, some 0.05m thick (IIb8, IIc8, IIb2a; illus 2.9), containing quantities of charcoal. A scatter of large stones/cobbles (IIb2b), many of which were fire-cracked or blackened, lay above this surface. Five circular patches of charcoal, around 0.04m in diameter, were also observed within IIb2 (illus 2.29); these may be the remains of stakeholes, though the attribution is uncertain.

Despite the large volume of material contained within Block 2.7, finds were sparse. A patch of soft clay and sand (IIb5) within IIb2 (illus 2.9) contained a copper alloy pin fragment (SF114). IIb2 itself produced eight sherds of Fabric F pottery, while a few crumbs of Fabric D pottery were recovered from IIc8 and IIb10 (the latter being a patch of clay at the base of IIb2). IIa5 contained a small fragment of a sub-adult human maxilla (SF1121), which is the only human bone recovered from post-Phase 1 deposits. IIb2 also produced a dense concentration of Scots pine charcoal (section 7.6); since coniferous wood is otherwise extremely unusual on the site, this might derive from a single piece of driftwood.

The dating evidence from this complex group of deposits is problematic. A cattle femur from IIc4 produced an AMS date of 770–410 cal BC (SUERC-16597), while a sheep/goat tibia from the same context produced an AMS date of 810–670 cal BC (SUERC-16598). These both suggest a date in the Early Iron Age. A pig/boar radius from IIb2, however, produced an AMS date of cal AD 140–390 (SUERC-16599), dating to the Roman Iron Age. Although this seems a highly disparate collection of AMS dates, the complexity of the Block 2.7 deposits (evidenced by the occurrence of various, unnumbered surfaces and layers within IIa5, IIb2, IIc4) is such that it is entirely possible that they formed over a period of several centuries. This hypothesis finds support in the ceramic evidence, since the Fabric F sherds appear to belong to V16: a fine orangey-red vessel with crude geometric decoration which suggests a date in the latter part of the Iron Age (section 5.2). The presence of human bone (if not redeposited) might also hint at a date in the Roman Iron Age, since all the directly dated human bone known from the site belongs to either the Late Bronze Age or the Roman Iron Age (see table 4.1).

Given that there is no stratigraphic reason to dispute the veracity of the AMS dates, or the late date suggested by sherds of V16, the Block 2.7 deposits are interpreted as having formed over a prolonged period of low-intensity human activity within the East Passage. The structural features (eg IIc4co) observed within Block 2.7 appear to have been constructed relatively early within the formation of the deposits, though there is clear evidence for the creation of various surfaces at higher levels within the block.

2.4.3 West Passage

Block 1.3

The Phase 1 deposits in the north half of the passage were sealed by a thin lens of sand (IIIN6, Ia18) overlain by deposits of sand and clay (IIIN5, Ia17a). Ia17a contained 14 sherds, plus crumbs, of Fabric A pottery (weighing 321g) and a further 4 not identified to fabric. IIIN5 contained 18 sherds of Fabric A pottery (weighing 847g) plus 1 sherd not identified to fabric. These deposits were in turn sealed by a 0.01m thick sandy surface (Ia17, Ib20, Ib21; illus 2.8) containing charcoal and shell. Ia17 contained 17 sherds, plus crumbs, of Fabric A pottery (weighing 176g) along with 3 further sherds (Fabrics C and D). A further 11 Fabric A pot sherds, plus crumbs (weighing 348g), and 6 sherds not identified to fabric, were recovered from Ia17/17a.

This series of contexts yielded the greatest amount of pottery by weight (table 2.2) of any of the deposits from the Shepherd

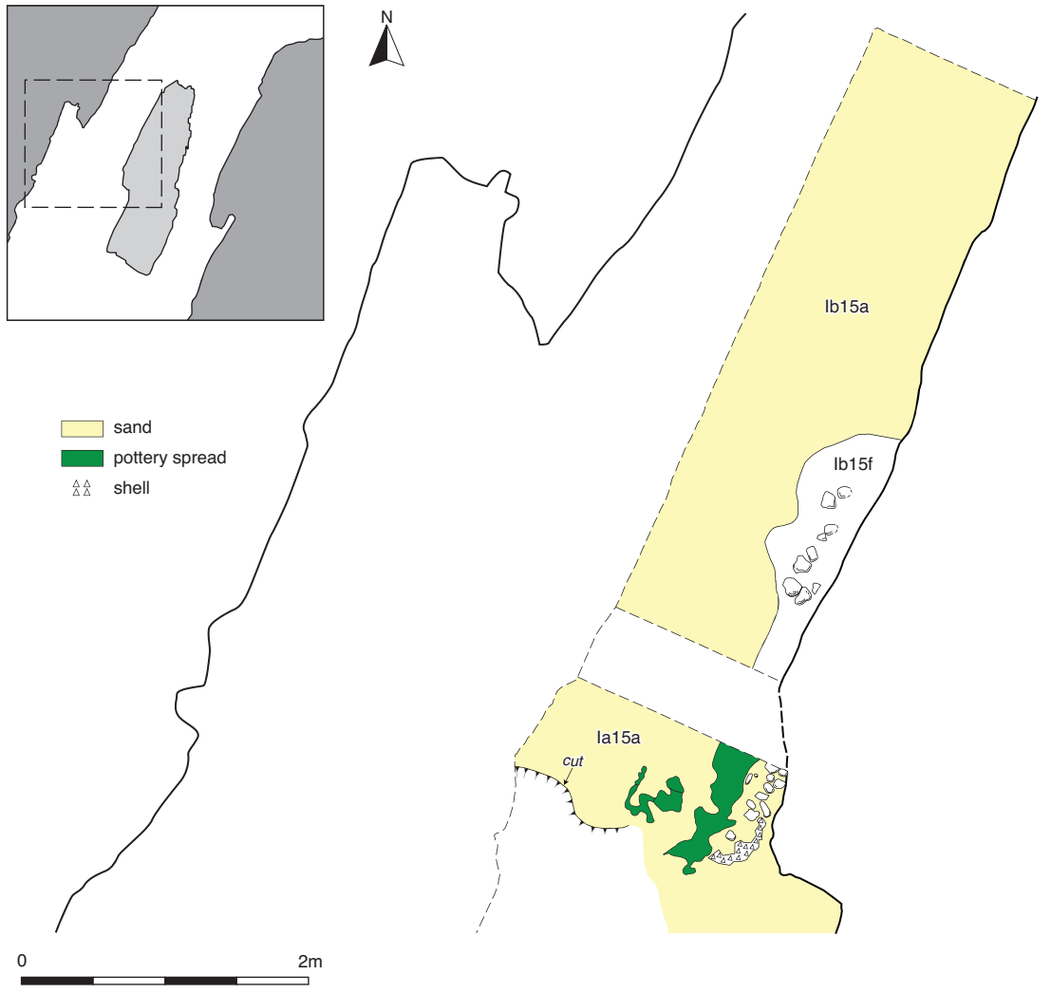


Illustration 2.30
Plan of Block 1.3 in the West Passage

excavations; it is possible that they contained at least one or two complete Fabric A vessels (V1/2). Further spreads of Fabric A pottery were associated with stones and shell (illus 2.30); the former had become so embedded within the clay matrix of the deposits that they could not be recovered as individual sherds. A fragment of carbonised hazelnut shell from Ia17 (part of a large quantity of hazelnut shells from this context; see section 7.6) produced an AMS date of 800–540 cal BC (SUERC-65412). Despite the large amounts of cultural material in these deposits, however, no features of any kind were evident.

These deposits were overlain by sand and clay laminae containing shell and charcoal up to 0.07m thick (Ib18/19; illus 2.8, 2.16, 2.20). A carbonised cereal grain from Ib18/19 produced an AMS date of 770–400 cal BC (SUERC-65423).

These laminae were overlain by further deposits of sand and clay (Ib15a–d, Ia15a) with a maximum depth of 0.07m (illus 2.8, 2.30). Ia15a/Ib15a is described as having an undulating or puddled surface (illus 2.16, 2.20, 2.31), suggesting the presence of standing water in the entrance passage during its formation. It yielded crumbs of Fabric A pottery, as did the interface between Ia15a and underlying deposit Ia17. The equivalent of these deposits in the west part of the passage (Ic8) contained charcoal, bone and a large quantity of burnt hazelnut shells (illus 2.19). Ia15a/Ib15a were in turn overlain by a mixed deposit of sand, clay, charcoal and stones (Ib15f) butting against the east wall of the passage and measuring approximately 1.5m by 0.4m (illus 2.30). Ib15f yielded a stone hammer (SF943).

All of these deposits were sealed by finely laminated deposits of sand and clay (Ib15, Ia15, Ic7), varying from 0.02 to 0.16m deep with indications of iron panning (illus 2.8, 2.16, 2.20). These deposits appear very similar to the windblown laminated sands that underlie the main phases of human activity in the cave, although they contain small quantities of cultural material. Ib15 yielded a stone pounder/hammer (SF940). The mandible of a large terrestrial mammal from Ia15 produced an AMS date of 770–400 cal BC (SUERC-65424).

The quantities of pottery from Block 1.3 suggest relatively intense human activity (tables 5.4, 5.5) dating to the Early Iron

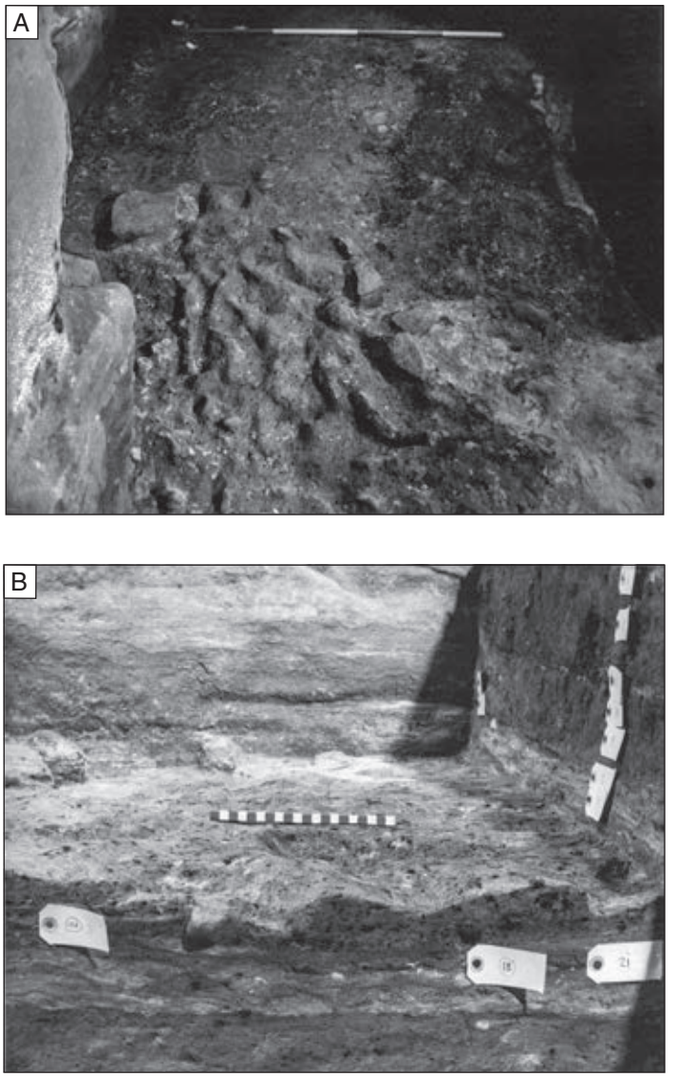


Illustration 2.31
Photographs of Block 1.3 in the West Passage. (A) Undulating surface of Ia15a, looking south, (B) section through surface Ia15a, (C) profiles showing the surface of Ia15a (not precisely located)

Age. This comprised some 70 sherds weighing 1835.9g (44% by weight of the stratified pottery assemblage from the cave). Block 1.2 (Phase 1) had a similar density of ceramics, and together the two blocks contain 86% by weight of all pottery from the stratified deposits. This suggests that some aspects of the spatial organisation of human activity within the cave did not necessarily materially change between the two periods, despite the apparent cessation of mortuary activity. Aside from pottery, however, other indicators (notably the formation of windblown laminae and the apparent evidence for waterlogging) suggest less intense activity. It seems likely that the block formed over a protracted period during which human visitations were interspersed with periods of abandonment.

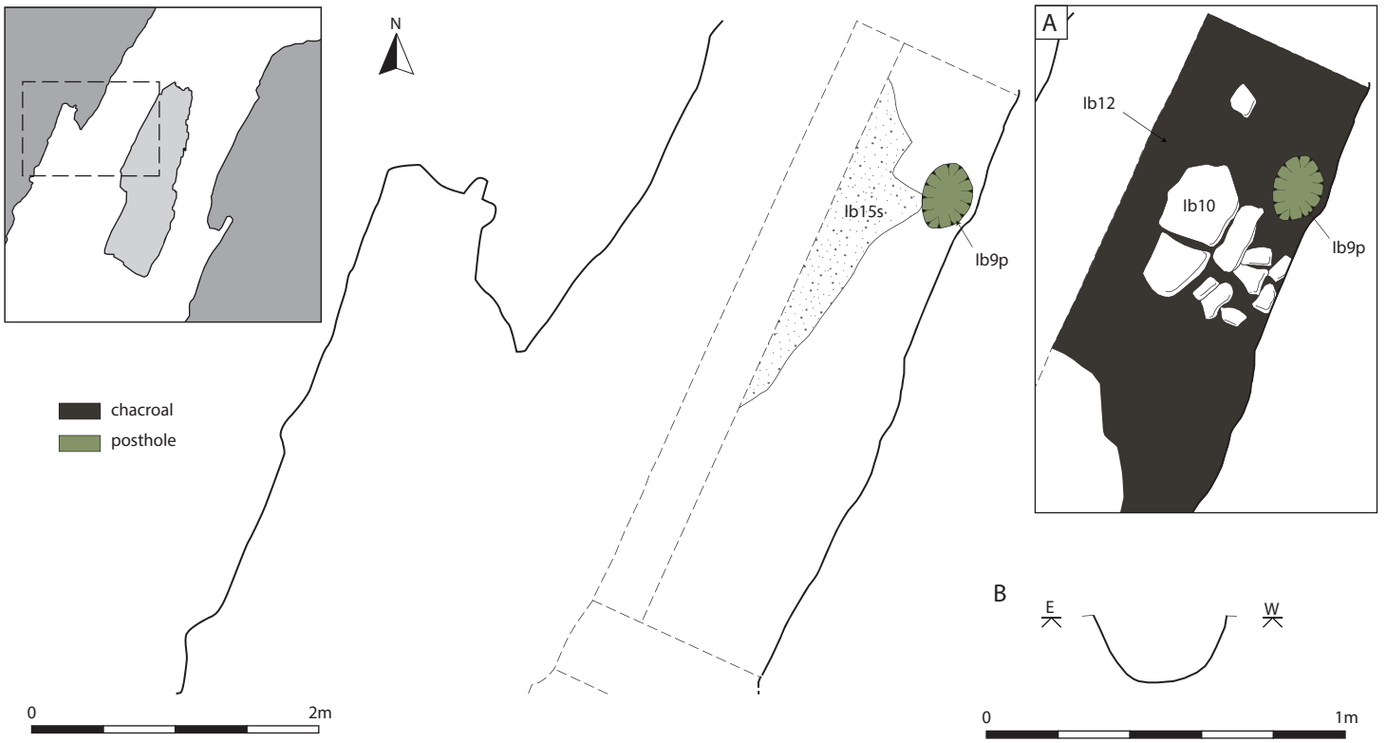
Block 1.4

Block 1.4 deposits were largely restricted to the northern part of the passage (illus 2.8). Close to the entrance and extending for 2.8m, the central part of the passage was 'cobbled' with small stones (Ib15s; illus 2.8, 2.32C), which yielded crumbs of Fabric A pottery. This cobbling appeared to be associated with a posthole (Ib9p; illus 2.32) cut into the surface of the underlying Ib15 (Block 1.3) close to the wall. This measured approximately 0.35m by 0.48m by 0.18m deep (illus 2.32B). The overhang of the passage wall would have limited the height of any post within this posthole. A pig femur and a sheep/goat ulna from the cobbled surface (Ib15s) produced AMS dates of 790–430 cal BC (SUERC-65425) and 800–540 cal BC (SUERC-65426) respectively.

Overlying these deposits was a distinct hard clay and charcoal floor up to 0.01m thick (Ib9, Ia9; illus 2.8, 2.16) marked by iron panning. These deposits were in turn overlain by a charcoal layer (Ib12) some 0.02m thick (illus 2.8, 2.16, 2.20, 2.32A). A group of large stones (Ib10; illus 2.32A, D) lay on this layer, approximately 1.4m from the entrance. These may, as Ian Shepherd (1983: 333) suggested, have formed the base of a barrier across the entrance passage, perhaps integrated with a timber gate supported in the pit/posthole Ib9p. A carbonised cereal grain from Ib12 produced an AMS date of 750–400 cal BC (SUERC-65422).

Ian Shepherd (1983: 333) regarded Ib12 as a highly significant context, marking for him (in the absence at that time of any radiocarbon dates) the end of the intense Late Bronze Age activity and associated 'hard floors'. The layers above he characterised as 'thick, soft, grey and brown loams' (ibid). This marked change in the nature of the deposits is obvious from the photograph of the section through the baulk in the West Passage (illus 2.16A). Although it is now evident that Block 1.4 formed during the Early Iron Age, the change in the character of the deposits is nonetheless likely to be significant in terms of the intensity of human activity within the entrance passage.

Although these deposits were more similar in nature to those underlying them than to those that formed subsequently, it is perhaps significant that the amount of pottery recovered from Block 1.4 (31.3g) was almost negligible compared with quantities in the underlying Blocks 1.2 and 1.3, suggesting a change in the nature of human activity within the passage.



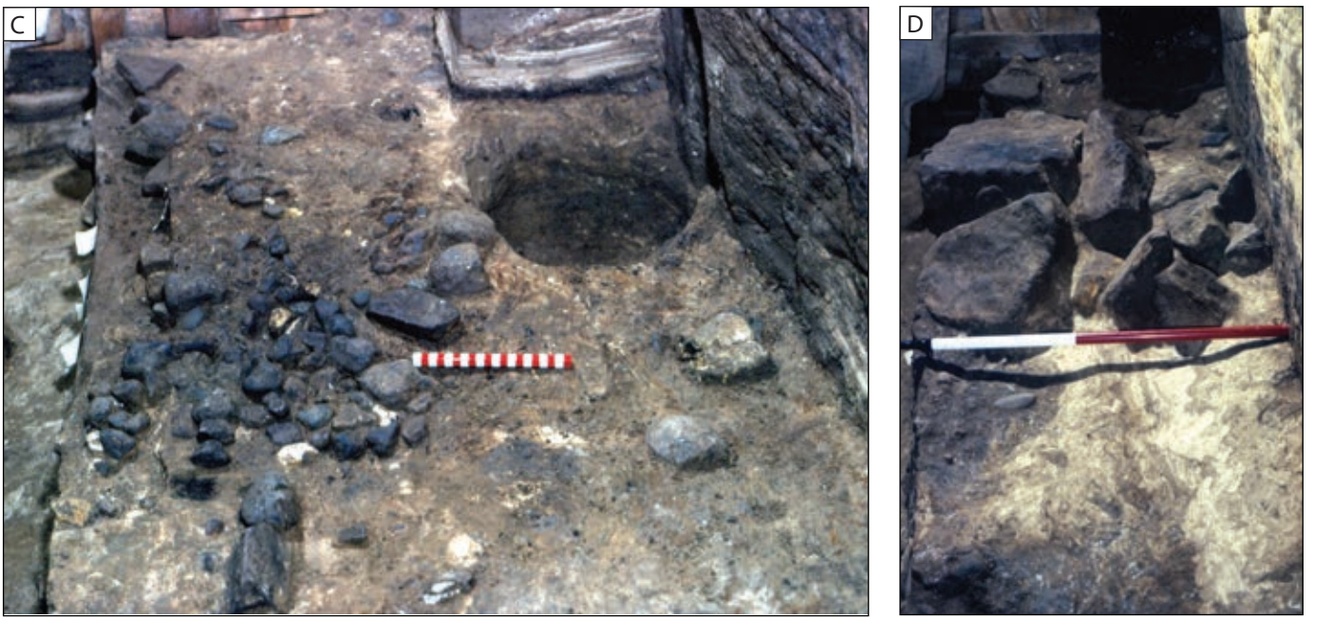
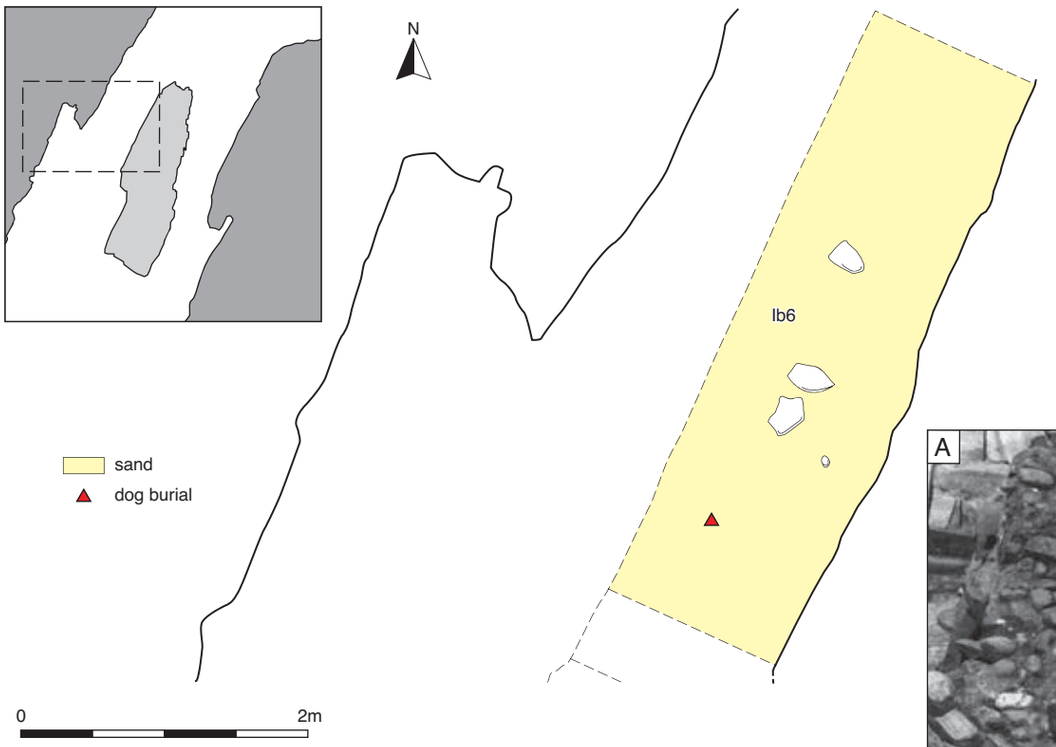


Illustration 2.32
Plan of Block 1.4 (lower deposits) in the West Passage. (A) Plan of stones lb10, which overlay lb12 (upper deposits), (B) profile of posthole lb9p, (C) photograph of posthole lb9p and cobbled surface lb15s, (D) photograph of stones lb10



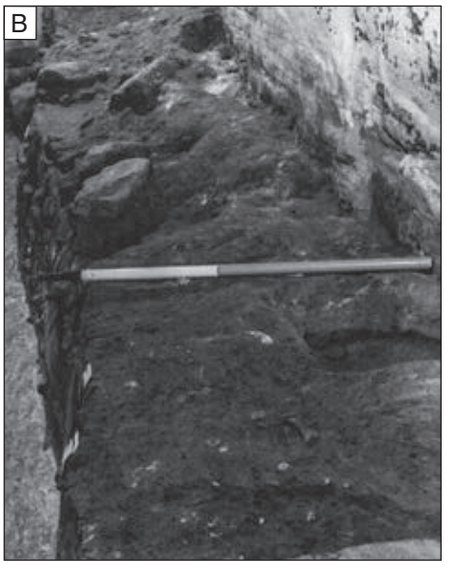


Illustration 2.33
Plan of Block 1.6 in the West Passage (also indicating the position of the articulated dog remains from Block 1.7). (A) Photograph of Ib6a, (B) photograph of the uneven surface of Ib6

Block 1.5

The Block 1.4 deposits were overlain by relatively soft, silty sediments (Ib8, Ib8b, Ia8d/16d; illus 2.8, 2.16) which were shallow in the entrance area (although they mounded against the passage wall; illus 2.20) and became deeper further to the south. In the southern part of the passage these deposits had apparently been affected by water/sloughing from the cave wall to a width of 0.3m. Overlying these deposits was another mixed deposit (Ib7r/7d, Ia8/16; illus 2.8, 2.16), around 0.15m deep and containing crumbs of Fabric A pottery. A cattle mandible and the sacrum from a medium terrestrial mammal from Ia16 produced AMS dates of 770–410 cal BC (SUERC-65430) and 800–540 cal BC (SUERC-65431) respectively.

Approximately 2.5m from the entrance, what appears in section (illus 2.8) to be a small pit was cut through Ib7r and Ib8; this was approximately 0.12m by 0.5m long in section. This cut was lined with a thin sand lens (Ib7c), which was overlain by clay containing charcoal flecks (Ib7b).

Overlying this material was a deposit (Ib7, Ia7; illus 2.8, 2.16) measuring 0.1m thick and containing high concentrations of shell in the north part of the passage and thinning to 0.05m in the south, where it contained shell, bone, charcoal and pebbles. Ib7 yielded a sherd of pottery not identified to fabric. A sheep metatarsal and a fragment of long bone from a medium terrestrial mammal, recovered from Ia7, produced AMS dates of 800–540 cal BC (SUERC-65433) and 800–510 cal BC (SUERC-65432) respectively.

Although Block 1.5 made up a significant proportion of the West Passage deposits by volume, there was no indication of any structural features within it, other than the pit identified in section. It appears to represent lower-intensity activity than in earlier periods, though it still dates to the Early Iron Age.

Block 1.6

Sealing Block 1.5 was a sandy deposit containing charcoal flecks, pebbles and iron pan staining (Ib6, Ia5/6, Ib5). It was up to 0.2m deep at the north end of the passage and thinned to 0.05m at the south (illus 2.8, 2.16, 2.20, 2.33). Ib6 contained the only stratified horse bone from the site (a left lateral metacarpal) as well as one of only two roe deer bones (see section 7.4.3). The northern part of Ib6 contained a layer of densely packed stones and cobbles (Ib6a), some blackened and many split, within a matrix of dark grey ash, extending for some 2m into the passage (not planned; see illus 2.8, 2.33A) and sealing a concentration of limpet shells (illus 2.20) which itself yielded nine perforated shells (section 7.5). Against the east wall of the passage, the cobbling was sealed by eroded sandstone from the cave wall (illus 2.20). The surface of Ib6 was markedly uneven (illus 2.33B).

A sheep mandible from Ib5 returned an AMS date of 770–400 cal BC (SUERC-65436), while, from Ib6a, a phalanx bone from a calf and a fragment of a long bone from a medium terrestrial mammal produced AMS dates of 770–410 cal BC (SUERC-65434) and 790–430 cal BC (SUERC-65435) respectively.

As with Block 1.5, Block 1.6 comprised relatively soft, sandy and silty deposits that appear to represent generally low-intensity activity, though with greater evidence for anthropogenic activity in the form of cobbled surfaces. It is also noteworthy that this block contained 44% of the shell assemblage recovered from the Shepherds' excavations (table 7.9), the vast majority of it deriving from context Ib6a (which also yielded 45% of the perforated shell assemblage; section 7.5). Although shell was not systematically collected during the excavations, this is still a remarkable concentration. Block 1.6 contained no artefactual material.

Block 1.7

The deposits forming Block 1.7 comprised mixed sandy material up to around 0.35m deep with no evident structural components. Their composition resembles that of Blocks 1.5 and 1.6. Within the passage, the Block 1.6 deposits were cut by several small features filled with sand (Ib3b; illus 2.8), but these appear to be rather ephemeral and are not indicated on plan. At the north end of the passage is a deposit of degraded sandstone (Ib4, Ib3a, Ib4a, Ia4b; illus 2.8, 2.20) up to 0.35m thick that appears to have formed either through erosion of the cave roof (perhaps the most likely scenario, since it is confined to the more exposed part of the passage) or from decomposed rockfall material. A long bone shaft fragment from a large terrestrial mammal from Ib3a produced an AMS date of 410–230 cal BC (SUERC-65440).

Overlying the decayed sandstone was mixed sandy deposit Ib3, which formed the most extensive deposit in Block 1.7, covering most of the passage to a depth of around 0.2m (illus 2.8, 2.16, 2.20). The surface of Ib3 was cut by a small, truncated feature (Ib2b) containing an articulated adult dog 'burial' (illus 2.8, 2.33; see section 7.4.3), which has been AMS dated to 400–200 cal BC (SUERC-16593). The partial skeleton comprised mainly the skull, torso and lower right leg, but it is likely that other elements had been disturbed, as the burial lay virtually on the surface of the deposits left exposed at the end of Benton's excavations. The dog skeleton was partially sealed by sand and clay laminae (Ib2a) containing a small area of cobbling.

The Block 1.7 deposits contained no artefactual material. The consistency of the two AMS dates, however, suggests that they can be reliably placed in the Middle Iron Age.

2.4.4 Discussion

The nature and extent of the Phase 2 deposits

Overlaying the Shepherds' section onto that published by Sylvia Benton (illus 2.7D), it is apparent that the Phase 2 deposits (at least in the West Passage) broadly equate to the upper part of Benton's Layer 2. Comparison of the sections further demonstrates that, in the outer part of the West Passage (grid squares A0 and A1), the upper part of these deposits had been removed prior to the 1979 excavations. Further into the passage, however, there is little evidence of truncation.

The Phase 2 deposits in the West Passage extend into the cave only as far as the northern part of grid square A3, where they terminate slightly north of the underlying Phase 1 deposits (illus 2.7D). As in the Late Bronze Age, therefore, Pre-Roman Iron Age activity seems to have been restricted to the entrance passages and the area immediately inside the cave. The surface of the cave interior, as before, would have been formed by the coarse sand of the underlying raised beach (see section 2.2.2). It is likely, therefore, that the interior remained wet; indeed, it may have become even wetter as deposits built up in the entrance passage, further impeding drainage. Since artefactual material of the

Pre-Roman Iron Age is generally undiagnostic, it is impossible to determine whether any objects were deposited into the wet interior during Phase 2.

There are a number of deposits within the West Passage that seem to suggest the presence of standing water, at least for short periods of time. These comprise 'puddled' laminae (Ia15a) in Block 1.3 and evidence of iron-panning in various deposits within Blocks 1.3, 1.4 and 1.6. The cobbles laid down at various times within Phase 2 in the West Passage may reflect the need for a dry and consolidated floor surface. None of these indicators of waterlogging was reported in the East Passage, suggesting that such conditions must have been highly localised and possibly of limited duration.

As with Phase 1, it is impossible to establish definitive chronological or stratigraphic links between Phase 2 deposits in each of the two entrance passages (although see below). Unlike Phase 1, however, the general character of the two passages is similar; both comprise highly mixed deposits containing persistent evidence of a human presence in the form of pottery, animal bone, areas of burning and other anthropogenic indicators, but with few structural elements. The presence of windblown sand layers, though less obvious than in Phase 1, suggests that the passages remained open to the elements. During Phase 2, in both passages, the deposits become softer and less consolidated, suggesting a reduction in trampling as the result of less intensive use of the cave; this is particularly so for Block 1.5 and above in the West Passage and for Block 2.7 in the East Passage.

Mortuary activity

Human remains from Phase 2 deposits were limited to a single small fragment of sub-adult human maxilla from Block 2.7 (IIa5; SF1121). As discussed above, Block 2.7 should be treated as containing both Phase 2 and 3 deposits; the most parsimonious interpretation, therefore, would be to see this solitary bone as belonging with the corpus of human remains from Sylvia Benton's excavations now known to date to the Roman Iron Age (chapter 6). There is, therefore, nothing to suggest that there was any mortuary activity within the cave during the Pre-Roman Iron Age.

Structures

There is no evidence in Phase 2 for the sorts of stake-built constructions seen in Phase 1. There is, however, evidence in each of the passages for two episodes of structural activity and the laying of surfaces.

The first Phase 2 structural evidence in the East Passage comprises the collapsed wall and turves (IIb14) in the entrance area (Block 2.5). These suggest the presence of a stone-footed structure in the lee of the entrance canopy, with most of the building presumably lying outside the limits of the 1979 excavation. The earliest Phase 2 activity in the West Passage (Block 1.3), by contrast, contains no obvious structural features, although the density of pottery suggests relatively intensive activity. In the succeeding Block 1.4, however, a posthole (Ib9p) and associated cobbled surface (Ib15s) suggest some form of gated access. In both passages, these features are covered by layers of intense burning: notably deposit IIa9/IIc9 in the East Passage and IIb12 in the West Passage. Although these episodes cannot be directly linked stratigraphically, the extent and intensity of burning in both passages is unusual and it is tempting to relate them to destruction by fire of a structure or structures in the entrance area, located largely outside the area of the 1979 excavations. The construction of a wall-footing (Ib10) in the West Passage appears to represent the remodelling of the entrance barrier after the burning episode, suggesting that the cave was not abandoned following the fire.

Following a period when no structures can be detected, a group of features in Block 2.7 appears to represent a barrier or doorway intended to control access through the East Passage (illus 2.29). This seems to have begun with the construction of a stone feature that may have supported some form of timber superstructure (set in posthole IIc7) and an associated cobbled surface (IIc4co). Interestingly, the cobbled surface was preserved only along the west half of the passage: if we see the stone feature as representing an entrance structure, it is possible that it acted to concentrate footfall along the east half of the passage, which may have degraded and removed the cobbled surface in this area. A later posthole (IIb7; Block 2.8) hints at the maintenance of this feature into Phase 3 (sections 2.5.2, 2.5.3). While no equivalent structure can be detected in the West Passage, Block 1.6 contains a built surface of stones and cobbles (Ib6a) that may equate to the cobbled surface IIc4co in the East Passage.

Cooking, eating and other activities

The evidence for the use and discard of pottery that we see in the West Passage during the Late Bronze Age (Block 1.2) seems to continue into the Early Iron Age (Block 1.3). The 70 sherds from Block 1.3 form 44% by weight of the stratified pottery assemblage from the Shepherd excavations (Blocks 1.2 and 1.3 together form 86%). As before, visitors to the cave engaged in the preparation, cooking and consumption of meals, involving meat, cereals, hazelnuts and other plant foods (see section 7.6). It appears, therefore, that there was no real break in the nature or spatial organisation of the activities carried out in this part of the cave between the Late Bronze Age and the Early Iron Age.

After Block 1.3, however, the quantities of pottery found in the Phase 2 deposits declines markedly. For Blocks 1.5–1.7 in the West Passage and Block 2.7 in the East Passage, anthropogenic material is relatively sparse and the deposits themselves are softer and less consolidated (although it is noteworthy that Blocks 1.5 and 1.6 account for 57% of the entire marine shell assemblage recovered from the Shepherds' excavations). Although visits to the cave undoubtedly continued through the middle centuries of the first millennium BC, the paucity of artefactual material other than pottery (notably the absence of bone tools) suggests that the craft activities practised in the cave in Phase 1 had declined in importance. Indeed, non-ceramic artefactual material is limited to a few coarse stone tools that may have been used in food preparation and some fragments of iron.

Closing deposit?

Among the last deposits in the West Passage was the dog burial from Block 1.7. The burial of articulated animals in the cave is very rare (the only other example being the goat in Block 1.1) and

it is likely that this dog represents a votive offering. Although it is tempting to regard this as a closing deposit of some kind, it should be borne in mind that an estimated 0.2–0.3m of deposits had been removed by Benton's excavations in this area (illus 2.7D), so its near-surface location is essentially fortuitous.

2.5 Phase 3: Roman Iron Age

2.5.1 General

The only deposits from the Shepherds' excavations that can be linked unequivocally to Phase 3 are the uppermost deposits in the East Passage (Block 2.8). The attribution of this material is based on the presence of typologically distinct Roman Iron Age pottery (V16) and an AMS date of cal AD 140–390 (SUERC-16599) in underlying Block 2.7.

All other potentially related material in both the entrance passages appears to have been removed during Sylvia Benton's excavations. Overlaying the Shepherd section onto that published by Benton (illus 2.7D) shows that up to 0.5m of deposits (all of Benton's Layer 1 and the upper part of her Layer 2) had been removed from the West Passage in the area closest to the cave entrance.

It is unlikely, though it cannot be proven, that there was any significant break between Phases 2 and 3. There is certainly no indication of a break in the Phase 2/3 deposits of Block 2.7. Bayesian modelling of radiocarbon dates (chapter 4) suggests that Roman Iron Age activity in the cave ended in *cal AD 270–380* (*68% probability*), while the deposition of Roman coins indicates that the end date cannot have been before AD 364 (see section 5.7.3).

2.5.2 East Passage

Block 2.8

The layers overlying Block 2.7 in the East Passage were heavily truncated and difficult for the excavators to interpret. A layer of ash and sand laminae (IIb3, IIc2) covered most of the passage to a depth of 0.05–0.2m (illus 2.9). Cutting this layer was a posthole (IIb7; illus 2.9, 2.29B), some 3.8m from the entrance and 0.8m from the west wall. It measured some 0.5m by 0.25m at the top, narrowing to around 0.25m in diameter (illus 2.29C). Part of the wooden post was preserved within the cut. What appears to be a small hearth is indicated on plan adjacent to the posthole (illus 2.29). Patches of charcoal (IIa3) some 5mm thick were also observed in the west part of the entrance area.

IIb3 contained five fragments of what was probably a single copper alloy sheet object of uncertain form (SF100, SF101). No pottery was recovered. A rib and a humerus from medium terrestrial mammals, recovered from IIb3, returned AMS dates of 370–160 cal BC (SUERC-65443) and 1270–1050 cal BC (SUERC-65444) respectively. Both appear to represent residual material and suggest that all material from these very disturbed upper deposits should be treated with caution.

The residual material identified by the AMS dates and the survival of wood in the posthole (IIb7) may raise doubts over the antiquity of any of the deposits within Block 2.8. It is worth noting, however, that the posthole does appear to relate spatially to the earlier stone feature in Block 2.7, which appeared to form some deliberate constriction of the entrance passage (illus 2.29). The two features are stratigraphically quite separate, but they do hint at some persistent structural arrangement by which access to the inner part of the passage could be controlled, even if the archaeological manifestations of this are only sporadically preserved. The survival of unburnt wood is not unequivocally an indicator of contamination given the presence of other organic material (eg human hair; chapter 6) from Sylvia Benton's excavations.

2.5.3 Discussion

Given the taphonomic uncertainties associated with Block 2.8, almost all of our information about the Phase 3 deposits must come from Benton's excavations, where they appear to equate to her 'Layer 1'. What is most immediately striking is the quite different spatial distribution of Layer 1 relative to earlier deposits. Based on Benton's published section (illus 2.7A), it appears that the Roman Iron Age deposits were relatively thin both in the West Passage (perhaps around 0.2m in maximum depth) and in the lee of the entrance canopy; unlike the earlier deposits, however, they not only extended across the interior of the cave at least as far as the end of grid square A5 (where the published section ends), but grow thicker in the interior, where they are up to around 0.4m deep.

This spatial patterning, which is reflected in the distribution of finds relating to the Roman Iron Age (chapter 5), would appear to suggest that the interior of the cave had dried out by this time. Entering the cave by this point would have involved walking up and over the mound of material at the entrance, itself formed by Late Bronze Age and Pre-Roman Iron Age activity, and descending the gentle slope into the interior.

Roman Iron Age features appear to have existed within the cave interior. An 'absidal' hearth (illus 2.4), identified in Area III, was believed to date to this period (Benton 1931: 181) and is described as being 'at the bottom of the Roman period layer'. Benton also mentions that other similar features had been found, though she does not describe them in any detail (ibid). A posthole (IIb7) in Block 2.8 (see below) may represent the maintenance or re-establishment of the entrance feature identified in the East Passage in the latter part of Phase 2 (section 2.4.4).

Overall, our understanding of the Phase 3 deposits is insufficient as the basis for any detailed interpretation of the activities carried out within the cave at this time. Instead, this will have to wait until we have considered the other strands of evidence from Benton's excavations, notably the human remains and artefactual assemblage (chapters 5 and 6).

2.6 Later activity

Aside from various superficial features indicative of modern disturbance, none of the excavated deposits within the Sculptor's Cave appear to post-date the Roman Iron Age. It is of course impossible now to be sure that deposits relating to later activity did not exist in the upper levels removed by Benton (especially given the presence of a small number of early medieval artefacts, see section 5.14.3) but, if such deposits were present, they are unlikely to have been substantial or extensive.