

BOS SWALLET, BURRINGTON, SOMERSET; BOILING SITE AND BEAKER OCCUPATION SITE

by

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ABSTRACT

Bos Swallet was excavated initially by pupils of Sidcot School, first as a cave dig and later as an archaeological dig. Subsequent excavations by Dr. H Taylor in 1956-8 on behalf of the Society were interpreted as showing the site had been disturbed by mining in historic times and the archaeological finds were re-deposited. Re-examination of the records confirms suspicions that this was not so. Two main phases of activity were present, a late Beaker occupation and a 'boiling site', most probably of Middle Bronze Age date, with minor Early Neolithic activity also.

INTRODUCTION

Bos Swallet is situated on the western side of Burrington Common about 500 m west of Burrington Combe, some 20 km south-west of Bristol (Figure 1). The site, which owes its name to the discovery of cattle remains during the first excavation, lies at about 180 m AOD on the broad col between the lower slopes of Black Down, the highest point of the Mendip Hills, to the south and the hill partly occupied by Mendip Lodge Wood to the north. To the west is the entrenched valley of the Hunter's Brook, to the east a gently sloping plateau extends towards the West Twin Brook and Burrington Combe.

Geologically the site lies on Black Rock Limestone of Namurian age just to the north of the boundary between the limestone and the Lower Limestone Shale to the south. The limestone is covered by reddish brown, silty clay loam soil of the Lulsgate series (Findlay, 1965, p. 63). The shales are mostly covered by yellowish to reddish brown, sandy-silty stony loams of the Ellick series (Findlay, p. 57), but about 60 m south of the site there is an area, some 300 m across, of peaty surface water gley soil belonging to the Thrupe series (Findlay, p. 60), developed on the impervious shales. The vegetation is dominated locally by bracken with patches of grass and encroaching birch and thorn scrub, with damp heath on the Thrupe soils and regenerated ash-oak woodland in places on the limestone.

The actual site lies in a depression about 28 m across approached from the south by a shallow dry valley about 30 m long, with a faint continuation for a further 20 m southwards (Figure 2). The head of this dry valley is crossed obliquely by a disused leat which runs north-eastward from the Hunter's Brook. Before 1946 the depression was 5 m deep with grass covered sides, but excavation has exposed the limestone in its north face. Immediately to its south-west there is a smaller depression about 15-20 m long by 6 m wide and 3.6 m deep, with two further small steep sided pits beyond its south-west end.

Bos Swallet is one of a line of depressions and small caves (Crickmay, 1949, fig. 9), including Bath Swallet and Rod's Pot, the nearest being Drunkard's Hole (Williams and Farrant, 1992), some 70 m to the north-east, while Read's Cavern is 300 m to the west. There are three Early Bronze Age barrows on the plateau to the east, including barrow T.5 (Burrington 1; Grinsell, 1971, p. 92), with its associated Bronze Age cemetery, also excavated by Dr. Taylor, and two others west of the Hunter's Brook.

The Sidcot School excavations

The first excavations at the site were by the Sidcot School Caving Club in 1946-7, leading to the discovery of a small cave (Stanton, 1949; 1951). Contemporary records of the dig are provided by the personal log kept by Dr. W.I. Stanton, who has kindly made available copies of relevant entries, and by an entry by E.K. Tratman, dated 29 June 1947, in the Society's field work logbook for the period. Stanton's log contains sketch plans and sections indicating a cutting located immediately south of the rock face, about 4.5-4.8 m long, north to south, and 3.6-3.9 m wide, reducing to about 2.5 m wide at its southern end, where a series of access steps was cut. During this work a hearth layer containing charcoal, burnt bone, flints and sherds of Beaker pottery, was encountered in the upper filling of the depression.

In 1954-5 pupils of Sidcot School, superintended by a master, Mr. W.M. Smith, carried out an archaeological excavation on the site. Although no records of that excavation have been traced, Taylor's photographs and notes allow some reconstruction of the stratification, discussed below. The evidence indicates the use of a site grid of 5 ft (1.52 m) squares oriented roughly north-south and east-west, with the x-axis pegs numbered 1-4 from east to west (surviving in 1956, Figure 3) and the y-axis pegs lettered A-D from north to south (shown in 1954 photographs). The excavation trench was 'L' shaped, confined to squares A2, A1, B1, C1. Pegs AD were probably just east of the line of section 9, hence the finds from that excavation labelled

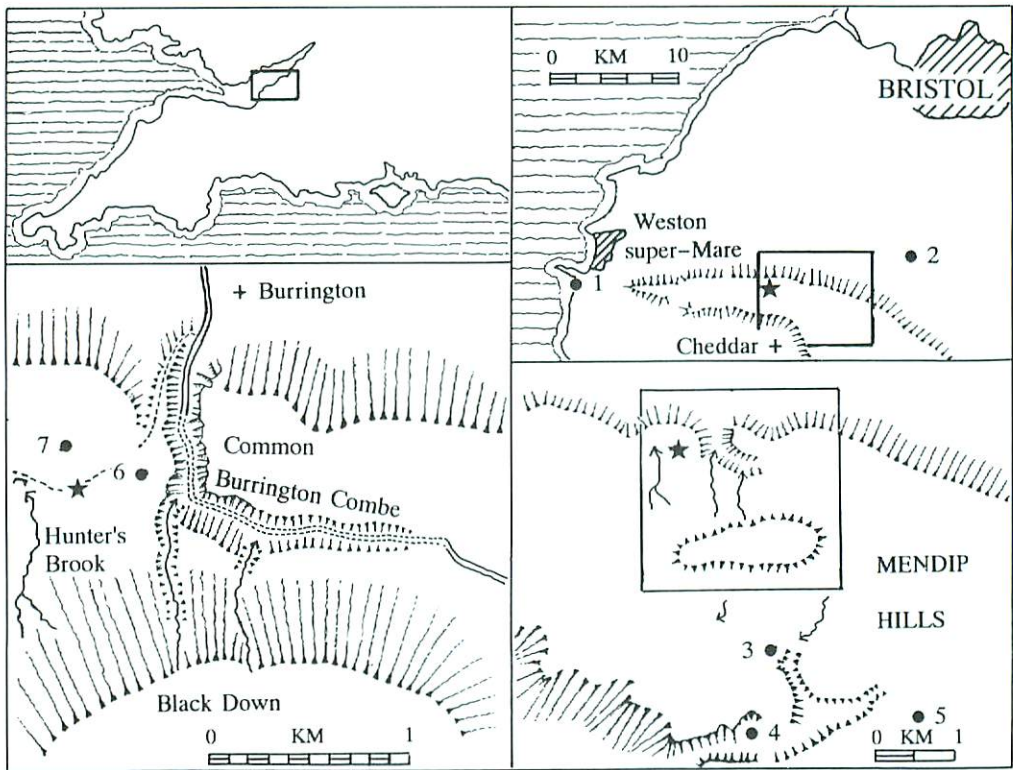


Figure 1. Sketch maps showing location of Bos Swallet and other sites. Key: ★ Bos Swallet, 1. Brean Down, 2. Chew Valley Lake, 3. Gorsey Bigbury, 4. Bone Hole, 5. Charterhouse Warren Farm Swallet, 6. Barrow T.5, 7. Hill Farm, surface finds (Yorke 1954).

'A1', 'A2', were from the northern limb of the trench, falling within squares 22 and 23 of the 1956-8 excavation. The subsequent removal of those pegs to allow the eastward extension of the trench made their exact position irrecoverable.

Excavations by Dr. Taylor

At the request of Dr. E. K. Tratman, Dr. Herbert Taylor carried out further excavations on the site on behalf of the Society, between September 1956 and May 1958. This work was done mostly at weekends, very largely by Dr. and Mrs. Taylor and their friends Mr. and Mrs. Masterman, with assistance from various casual helpers, including Tratman. The time worked was very considerable, amounting to about 600 manhours. Visitors to the site included Dr. D.T. Donovan, Dr. Grindley, L.V. Grinsell and P.A. Rahtz, as well as Tratman and the writer.

Taylor's excavation used a grid of thirty-six 8 ft (2.44 m) squares in six rows of six squares, numbered sequentially 1-36 from west to east and north to south, starting at the south-west corner (Figure 3). The north-south (magnetic) central axis of the grid was aligned with a line through peg 2 at the south side of the Sidcot grid and the bench mark established by Crickmay (1949, 37, fig. 9) on the rock face on

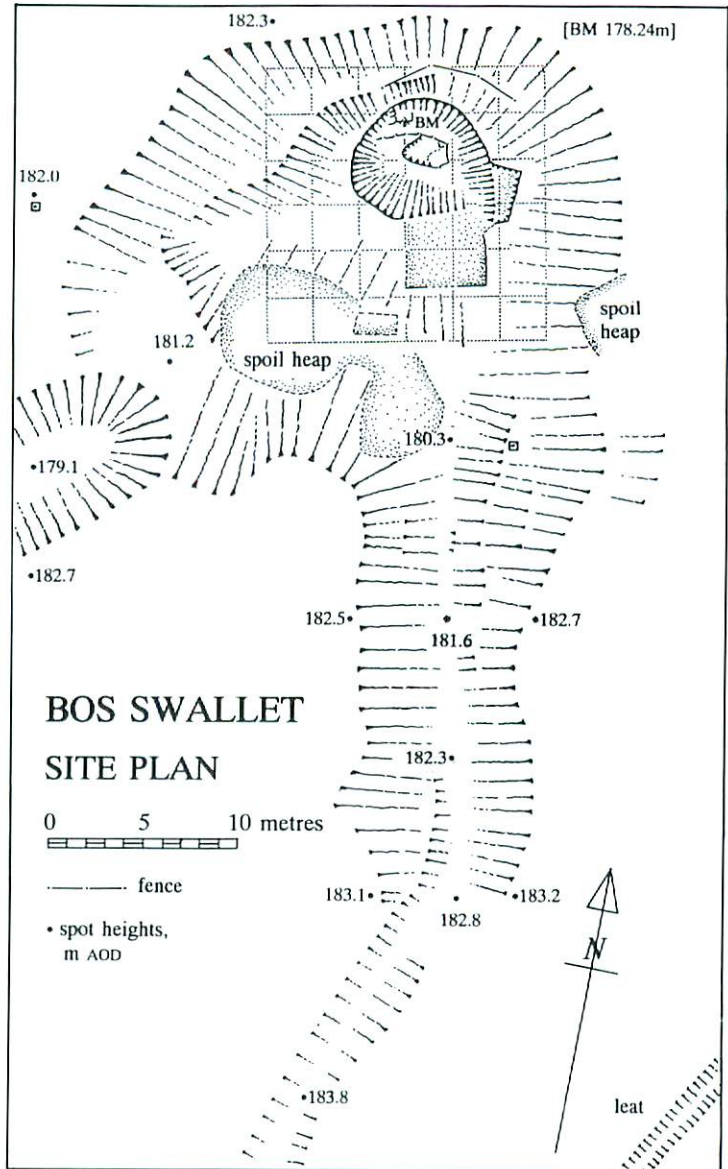


Figure 2. *Bos Swallet, site plan with excavation grid superimposed. Survey by A.M. ApSimon, 1994.*

the north side of the swallet. This bench mark (584.76 ft = 178.23 m AOD) was used as the site datum.

At the time of Taylor's excavations, the deep pit dug to open the cave occupied the northern part of the site, limited on the north by the limestone cliff exposed by the cave dig. The deep trench of the Sidcot School archaeological dig occupied the eastern side of square 22 and most of square 23, with a shallow extension into square 17. The east face of this trench was partly cut away by a still shallower excavation extending into squares 18 and 24. The south side of the depression was encumbered by the spoil dumps of the cave dig, hiding the lower end of the dry valley. These dumps are still present, except where Taylor dug through them. The spoil dumps of the archaeological excavation were mostly on the eastern side and were removed by Taylor to his dumps, outside and to the east of the swallet.

Excavation began in 1956 with cuttings in squares 10, 11, 16 and 17. In 1957 the area of the deeper Sidcot excavation, mainly in squares 21-23, was investigated. In 1958 a deep cutting was made by removing back-fill from the southern part of the area affected by the 1946-47 cave dig. Its approximate position is shown in Figure 3. Also in 1958, a separate trench was dug in square 3 and this was partly reopened by the present writer in 1995.

The excavation was careful, with significant deposits being washed through a sieve with 1/16 inch mesh, to recover fragmentary charcoal, flint debitage and scraps of pottery and fired clay, as well as burnt bone. Unfortunately the excavation method of working to a vertical face militated against the recovery of pits and other contexts in plan and against recording of significant sections. Taylor's initial adoption of a box trench layout left him with far more section faces than he could clean for drawing and photography, and his not drawing formal plans and sections on site allowed errors to escape detection.

The archive

This is held in the Society's museum and comprises Taylor's site notebook (*notebook*), site plans, measured profiles across the older excavation, generally incomplete section face drawings, a number of sketch plans with measurements and ms catalogues of finds and photographs. No photographic negatives have been located, but there are 36 monochrome prints, mostly without captions, and not always identifiable in the catalogue. Material in the Society's collections is catalogued under the site code, M.25, with individual items cited here by category code and catalogue number, e.g., .5/75. The site notebook takes the form of an 85 page excavation diary, often almost illegible, with many interpolated sketch plans and sections. There is no consolidated list of layers or contexts. The only practical course was to transcribe the whole, word by word, with inevitable gaps, on to the computer. The entries referring to each square were then brought together and separate context lists for each square were compiled, the total number of contexts being of the order of 150. The survey data, the charcoal samples and finds lists were also computerised.

This process was made more difficult by the diary form allowing a drift in the names and descriptions of individual contexts, by Taylor's mistakes in attributing work to squares or areas, and by his having later overwritten interpretative comments. There are thus many remaining uncertainties as to what Taylor actually saw and wrote. However, Taylor's excavation was stratigraphically based, so that despite the inadequacy of the photographic record and the lack of substantive drawn sections, it is possible to reconstruct the general outlines of the stratification from notes and sketch drawings, even though these often seem to be idealised versions of what

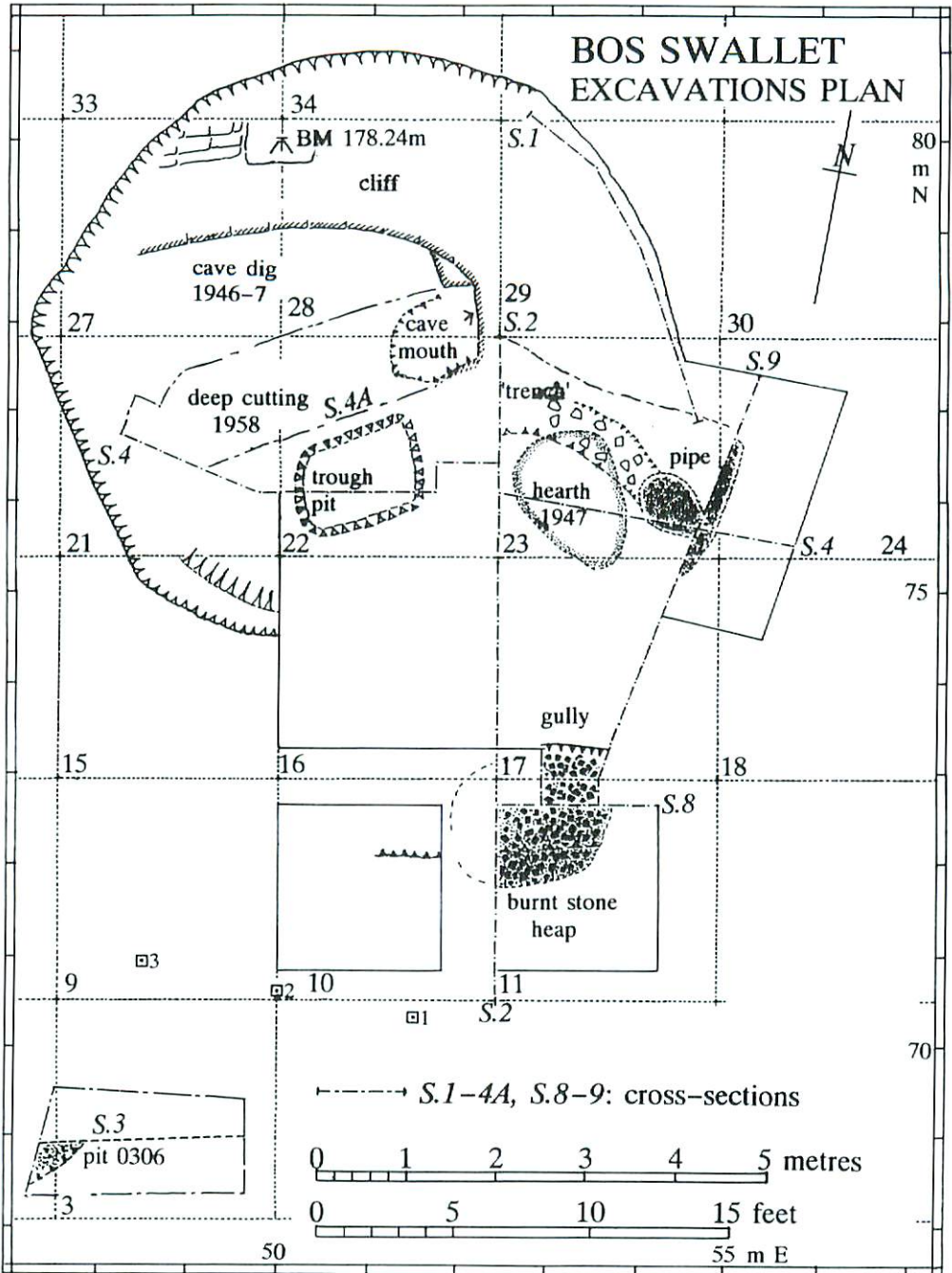


Figure 3. Bos Swallet, plan of excavations, showing grid squares and cuttings, based on plan by Taylor, with additions. See Figure 5 for location of sections S.5 and S.6, see text for location of section S.7. The marginal frame shows the coordinates of the metric site grid.

Taylor believed to exist rather than sketches of actual faces, with too few specific measurements for absolute confidence.

The report (Taylor and ApSimon, 1964)

The first section of the report, describing the circumstances of the excavation, its interpretation and the conclusions, is subtitled "A Disturbed Beaker Age Deposit" (p.98-9), and bears Taylor's name. However, a carbon copy of a draft text with an attached covering letter dated 11 June 1962, to Taylor from Tratman, shows that it was written by the latter, leaving gaps for Taylor to supply measurements. The conclusion reached in it was, that "... the [supposed Beaker] hearths were spurious and that what was being dug was a miners' spoil heap as there was mining debris above and beneath the hearths, and mining activity had extended downwards for at least 30 ft. before the spoil containing the Beaker material was tipped in from the west."

My contribution was limited to the reports on flint implements and Beaker pottery, and although I was surprised by this conclusion, I accepted it out of respect for Taylor's judgement (cf. ApSimon, 1969, 43).

Reassessment

The stimulus for this came from the paper by Stanton (1989) commenting upon the Beaker deposits in the entrance shaft at Charterhouse Warren Farm Swallet and the account and interpretation of them published by Levitan *et al.* (1988). Those authors had cited Bos Swallet (*op.cit.*, p. 232), as showing a superficial resemblance to the Charterhouse Warren Farm entrance shaft in "... having a 'swallet' shaft fill containing Beaker sherds and flints. ...", which, following Taylor and ApSimon, they discounted on the grounds that "Although the material was found in a 'swallet' shaft, it was very obviously dumped in the shaft and the vessels were incomplete, having originated elsewhere. ..." Stanton's paper takes up these comments on Bos Swallet, criticising the defects of the report (*op. cit.*, p. 397), summarising the circumstances of the 1946-48 excavation and reiterating his belief that, "... the 1947 black layer, continuous and sharply defined, was in situ and undisturbed." (p. 398). He further notes that, "The assumption of mining disturbance seems purely speculative. ... There was no evidence of ... [mining] activity in the cave or its entrance shaft." To anticipate, my reassessment has not only fully validated Stanton's comments, but by bringing to light a great deal of previously unpublished and unsuspected information about the site, may be thought to justify this paper.

DESCRIPTION OF THE EXCAVATIONS

The description of deposits and archaeological contexts retains Taylor's code numbers for his grid squares, but all imperial measurements have been converted to metric ones, using a metric grid aligned with Taylor's grid, with an imaginary origin 80 m south, 50 m west and 10 m below the bench mark established by Crickmay. The three-dimensional co-ordinates of that bench mark are thus 50.00 m east, 80.00 m north and 10.00 m above site datum (asd). In the text such coordinates are given in the form: 50.00 E 80.00 N 10.00 m asd (Figure 3). Individual contexts have been given four-figure code numbers in which the first two digits identify the square and the last two indicate the attributed place in a sequence for each square, numbered in

stratigraphic order from top to bottom. These numbers are printed in parentheses, thus: (2241). Where possible, contexts have been attributed on depositional and archaeological criteria to a sequence of stratigraphic units, numbered in descending order.

Stratigraphic Sequence

Unit 0:	Old spoil dumps
Unit 1:	Humus
Unit 2:	Reddish yellow-brown loam
:	'Pipe' and 'trench'
Unit 3:	Black ash with burnt stones
Unit 4:	Reddish brown loam with Beaker occupation
Unit 5:	Pale yellow silty-sandy loam
Unit 6:	Red clay (central area)
	Purple clay (north side)
Unit 7:	Old Red Sandstone fragments in sandy matrix
Unit 8:	Loose limestone blocks and boulders (within swallet depression)

Because the eastern side of the site was separated by the area dug in 1954-5 from the area dug by Taylor and its stratification was not recorded by him in detail, it is difficult to integrate it with this sequence, although the photographs and notes do, however, permit some reconstruction of that stratification. The section drawings (Figures 4-6, *S.1-9*) which illustrate this description have been prepared using the data available. Use of 'non-naturalistic' conventions indicates those parts which are necessarily conjectural 'best estimates'.

Description of stratigraphic units

Unit 8: 'large limestone blocks with air spaces, loose'

This was found in the area of deep excavation in squares 21 and 22, the north-west corner of square 23 and the south-west corner of square 28. In all these it was the lowest deposit reached. The 1946-7 cave dig penetrated the layer close to the cliff in square 28, encountering boulders with voids in-between - "huge blackened waterworn rocks" (Stanton, log book, p. 68). The filling was generally otherwise described only as earth or mud, except for a "stratum of ORS pebbles - stream bed?", marked on a sketch section at about 1.8 m deep and close to the cliff (*log*, p. 64, 2 June, 1946). Boulders belonging to it were still visible in 1956-8 in square 29 on the east side of the original dig.

In square 29 the upper surface of the unit reached around 9 m asd at the cliff (Figure 4, *S.1*), falling southwards to below 7.56 m along the square 23-22 boundary; westwards it fell to about 6.19 m in the south-west part of square 21. The limestone blocks appearing at the base of section S.2, c. 75 m N, 8.78 m asd (square 17), are more likely to belong to this unit than to unit 7, as their position might otherwise suggest. In squares 17, 23 and 22 the unit was overlain either by unit 6 or by unit 5, but in the west of square 22 it was overlain by unit 4, the Beaker loam, and in square 21 by unit 3, the black ash and stones. The apparent stratigraphic sequence overlying it in square 29 is noted below (Figure 4, *S.1*).

In the north-west of square 23, the rocks in the 'linear feature' (2333) were continuous downwards with it, the only distinction being the absence of matrix in unit 8. Immediately to the west, "lightly discoloured red loam with a few (un-shattered) sandstone stones", containing Beaker sherds and flint artefacts clearly derived from the beaker deposit, was found filling pockets in its upper surface. Similar finds also occurred where unit 5 was absent in the west of square 22.

Unit 7: Old Red Sandstone fragments in sandy matrix

This was found in square 3 where it is described as: "consisting of ... [illegible] flat small fragments [of sandstone] in a greater quantity of compact sandy soil [(0317), Figure 4, S.3]. These fragments ... are exactly like those of the Rubble Layer where not black; the Black Rubble differs only in its colour, presence of burnt (redder) pieces, and many sharply cracked ones, doubtless due to fire" (*notebook*, p. 80-1).

The surface of the unit was at about 11.14 m asd and it was excavated to about 10.64 m. The upper 0.45 m was less compact (0316). In the north-west corner of the cutting, it was cut by pit 0306 belonging to unit 3 (Figure 4, S.3), but no pre-pit soil (0315) was distinguished in 1958. The 'stony subsoil' (1019) found in the middle and southern half of square 10 (*notebook*, p. 15) is probably also attributable to this unit rather than to unit 4.

Unit 6: Red clay

Taylor records the eastern part of the south face of the deep pit left in square 22 by the Sidcot excavations as bounded by red clay (2245). This is supported by a tiny sketch section (*notebook*, p. 56, 22-06-57) which suggests a considerable depth of clay, overlain by whitish yellow loam (2241) of unit 5 and cut through westwards by a steeply sloping surface which became a vertical cut at about the square 22 - 21 boundary. Taylor equated it with the 'very tenacious red clay' (*notebook*, p. 82, 19-04-58), or 'red clayey loam' (*ibid.* p. 84, 10-05-58) (2245), exposed in the south face (?) of the 1958 deep cutting, where it rested on the loose limestone blocks (2246) of unit 8 and was overlain by unit 4. A sketch section of the same date (Figure 4, S.4A) represents this as discontinuous and dipping steeply westwards before tapering out at about 6 to 6.5 m asd on the western side of square 22 or in the adjacent part of square 21. Examination with Dr. D.F. Williams of a small extant sample (.9/22) shows it to be a reddish brown (Munsell 2.5YR, intermediate between 5/4 and 4/4) silty clay with silt-sized quartzes, with two inclusions of surface decalcified limestone about 5 to 7 cm in size. The notes suggest that this clay was also present on the eastern side of square 22 where it ended abruptly against the 'linear feature' (2333), but no further details are given and one note seems to imply its local absence there, with unit 5 resting directly on unit 8. The 'red-brown/yellow loam' (2239) (Figure 4, S.4, S.5), into which the bottom of pit 2216 had been dug, is presumed to be part of this unit.

Two isolated contexts have been grouped with it: the 'purple clay' (2341) in the north-west corner of square 23 (Figure 4, S.2) and the 'purple loam' (2440) in the north-west corner of square 24 (Figure 6, S.9); excluding the 'fine loamy rubble' (2339) overlying (2341). All three contexts show a southward dip. No finds are recorded from this unit and no thicknesses or other measurements are given.

Unit 5: Pale yellow silty-sandy loam

This was described as a pale yellow or whitish-yellow, slightly sandy, silty loam and was observed in squares 16, 17, 22 and 23 (Figure 4, S.2, S.4, S.5). Munsell 7.5YR 6/3 - light brown, is a good match for the colour of the matrix of a charcoal sample (.4/20) from the upper part of the unit; the matrix of a charcoal sample (.4/25) from the main body of the unit (2241) is a light yellowish brown (Munsell 2.5Y 6/3) fine sandy silt with low clay. The upper surface of the unit sloped down from south to north, from around 9.24 m asd in the north-west part of square 17 to 8.63 m asd in square 23, and also from east to west across squares 17 and 16. It was at least 0.9 m thick in the south-east corner of square 22 and the adjoining area of square 23, where its base was not reached. It was described as semi-stratified, which suggests the presence of internal laminations. In squares 22 and 23, the upper 15 cm or so was noted as almost stoneless, although photographs show a stony horizon below this and a block about 30 cm long is shown in the top of the layer towards the southern end of two sketch sections. In squares 16 and 17, the upper part contained some larger sandstone and partly decalcified limestone blocks. The sketch sections in the notebook suggest that the body of the unit (2241, 2335) was largely stoneless and the extant photographs of the east side of square 22 and the adjacent face in square 23, though not very clear, seem to confirm this. Ochreous sandy concretions occurred throughout the unit but were especially numerous in the top 5-8 cm. In square 23, many scraps of charcoal continuous with the 'Beaker Hearth' (2329) were found apparently trodden into the top of the loam. Small charcoal fragments, although again more abundant in its upper part, were scattered throughout down to a horizon with what were described as fairly

numerous large pieces of charcoal but which examination of a conserved sample suggests were sandy concretions, found on the west side of square 23 at about 0.9 m below its top (ref. 52.74 E, 75.69-76.76 N, 7.64-7.56 m asd). No charcoal was found below this horizon, but a reddish-ochreous band (2337), 1-2 cm thick, underlay part of it.

On the north in square 23, unit 5 ended against the roughly vertical edge of the linear feature, the so-called 'trench' (2333), between refs. 52.44 E, 76.76 N and 53.05 E, 76.61 N. It clearly extended further into square 23, presumably rising eastwards, but there is no record of this. Westwards in square 22, it had been cut into by pit 2216, of which it formed the south and east sides. Beyond this the evidence had been destroyed by the 1946-47 dig.

The sketch of the sloping section face (*notebook*, p. 56) exposed in the south face of the deep pit left by that dig shows the layer underlain in the middle of square 22 by red clay (2245) of unit 6, and cut through westwards by a steeply sloping surface covered by unit 3. It is not clear whether the bottom of the layer was reached elsewhere although the notes of the final excavation down to 8.78 m asd in the south-west [recte north-west?] quarter of square 17 say:

- [1720] "Whitish yellow intact loam in south-west [unit 5];
- [1722] Reddish brown loam [unit 4?] in extreme south-west, [both with] scanty traces of charcoal;
- [1721] Intact natural (reddish yellow & intense [?] orange yellow) on north, barren;
- [1723] Limestone blocks with air spaces [unit 8?] over main area" (*notebook*, p. 76-7).

Since there is no reference to the unit in squares 10 and 11, it presumably tapered out towards the south sides of squares 16 and 17. It was generally overlain by the Beaker layer, unit 4.

The very few artefacts from the unit included a flint leaf-shaped arrowhead (Figure 8B, 1) at ref. 51.60 E 75.85 N, 7.97 m asd and a large chert flake (.5/42) at ref. 52.13 E 76.76 N, 7.79-7.71 m asd, at least 0.3 m below the bottom of the beaker hearth, both from square 22, and a small flint flake from square 17. A few finds from the top of the layer, including Beaker potsherds (Figure 7, 7; Figure 8A, 17), from ref. 51.37 E 75.39 N to 52.44 E 75.69 N, 8.32 to 8.02 m asd, are attributable to the Beaker occupation.

Unit 4: Reddish brown loam with Beaker occupation

The full thickness of this unit, stratified between units 3 and 5, survived only in square 11 and square 16, in the western half of square 17, where it was about 0.5 m thick, and in a narrow strip along the south side of squares 22 and 23, where it attained a maximum thickness of 0.9 m (Figure 4, S.2, S.5). In this area Taylor distinguished two subdivisions, a stonier lower component in which lay the Beaker occupation horizon, and an upper component of clean loam with few stones comprising most of its thickness.

The lower component, described as containing a few small pieces of sandstone (1718), was about 8 cm thick in square 17, in which it sloped down from about 9.3-4 m asd at the south side to about 8.9 m at the north side, with a steeper westwards slope in square 16 to perhaps as low as 8.32 m asd at 51.37 E. This component was not recorded in square 11, where the base of the unit was apparently not reached, while in square 16 the two components seem to have merged southwards, with the unit 'feathering out' up-slope in square 10, unless the 'stony subsoil' found there represented its continuation. Other than charcoal, the only finds in it from these squares were a single Beaker sherd and a flint scraper from square 17 and part of a flint core from square 16.

The upper component was described as red, reddish, reddish-brown, or reddish yellow in colour, and in texture as loam or clayey loam. Where it was overlain by unit 3 in squares 11 and 17, the top 8-10 cm was a slightly greyish brown or yellowish loam (1116). No artefacts and only a little charcoal occurred in this component. The upper surface of the unit was at about 10.0 m asd at the south side of square 11, falling northwards to about 9.5 m at the north side of square 17, with a steeper westward slope in square 16.

The Sidcot excavations had removed unit 4 from the eastern half of square 17 and almost entirely from squares 21-23. Fortunately a remnant of the Beaker occupation layer, triangular in cross-section, about 0.6 - 0.9 m wide and 1.4 m long, survived along the boundary between squares 22 and 23. It was limited on the west by the 1946-7 pit, below by the surface of unit 5 sloping up eastwards and above

by the horizontal base of the 1954-5 excavations so that it wedged out where the two surfaces intersected at about 52.75 E in square 23. Most of the upper part of unit 4 had already been removed from this area, except towards its southern end.

The Beaker occupation layer: This was stratified within the stony lower component of Unit 4 and consisted of a layer of stony, greyish-brown clayey-loam (2227), generally 10-15 cm thick. As seen in the section face it apparently sloped downwards in a south-westerly direction with a gradient of about 33% from about 8.25 m asd at its northern end (ref. 52.0 E 77.5 N), level with the top of a pile of limestone slabs (2237), to 7.79 - 7.94 m asd at its southern end (ref. 51.0 E 75.5 N), although in this area it may have been affected by later slumping into pit 2216 (Figure 5A). As the excavation was carried eastwards to the square 22-23 boundary, the southern end of the occupation layer was found to rise sharply to over 8.5 m asd in the south-east corner of square 22, so that along the north-south axis the northerly dip of the layer conformed to that in squares 16 and 17.

The layer yielded sherds of at least 10 Beakers (Figure 7, 1?, 2, 2a, 3, 5-7, 10; Figure 8A, 13, 15, 17), scraps of fired clay, flint artefacts - mainly small chips, scattered charcoal and fragments of burnt bone.

Features associated with the occupation comprised two hearths and a small pit.

The 1947 hearth: This was in the eastern part of Stanton's cutting, at a depth of about 1.2 m. Comparison with his plan (Stanton, 1951, fig.) shows it to have been located in the south-west quarter of square 23 (Figure 3, Figure 4, S.4). His section represents it as about 15-30 cm in thickness, sloping down gently northwards before levelling out. He describes it as "a hearth layer, several inches thick, of charcoal with whitened bone fragments," (*log*, p.116, June 21st, [1947]). The finds included Beaker potsherds, a flint knife, 2 scrapers and flint chips. One scraper was found "in the débris at the bottom of the pit, having fallen down through the boulders". This account is confirmed by Stanton (1989).

Hearth 2228-2328, - the 'Black Band': This lay at the base of the occupation layer (Figure 4, S.4). It was described as "dark grey sticky clay with much fairly large charcoal and specks of disintegrating calcined bone", its colour varying from dark grey to black depending on the quantity of charcoal present. It contained no distinct structures but Taylor considered that burning had taken place in situ. The hearth also contained burnt tooth fragments, possibly including sheep, sherds and scraps of Beaker pottery (Figure 7, 1, 3-5, 10; Figure 8A, 13, 16) and pieces of fired clay, and flint implements, including 3 knives (Figure 8B, 5; Figure 9, 1, 5), 4 scrapers (Figure 9, 11, 17, 21, 25), a core and 2 waste flakes, and 225 flint chips from wetsieving through 1/16 in (1.6 mm) mesh, of which 174 fill a level 5 ml spoon; also a sandstone artefact (Figure 10, 1). Ochreous concretions like those abundant in the top of context 2241 were also found by sieving. A little of the pottery and flint had been burnt.

As noted, this hearth seems to have ended northward at the level of the top of the pile of limestone blocks, but the loamy matrix (2237) of this contained material identical with that from the hearth, including charcoal, calcined bone and teeth, a flint scraper (Figure 9, 26) and a beaker sherd, at between 8.10 and 7.99 m asd, while a layer of black ash and charcoal fragments (2238) at between 7.99 and 7.94 m asd produced a scrap of beaker pottery, a round scraper and some burnt flint chips. Pockets of dark earth with charcoal (2240) in the surface of unit 8 (2246) at a lower level (7.71 to 7.4 m asd) and a little further south (52.2 E 76.4 N, 51.83 E 76.72 N), also contained material, including a beaker sherd (of Figure 7, 1) and a flint scraper (Figure 9, 24), clearly derived from the Beaker hearth. Another pocket of 'dark soil within whitish yellow sandy loam' (2241), at 51.45 E 75.92 N 7.56-7.51 m asd, must have been similarly derived (the catalogue entry for the associated charcoal, sample 34, corrects the notebook). This contained 5 weathered scraps of Beaker ware (.7/98), a good scale-flaked small round flint scraper (.5/52) and a burnt flint flake (.5/53).

As the excavation was pursued into square 23, the hearth (2328) was reduced to a north-south breadth of only 25 cm and a thickness of 8 cm, with a maximum of only 15 cm of grey (discoloured red) stony loam (2327) left above it. As in square 22, it was sharply cut off to the north by the 'linear feature' (2333), already noted, but a 'tail' of charcoal fragments (2329) extended southwards up slope for a further 0.45 m, with about 23 cm of (2327) preserved above it.

Pit 2232: This pit was located in the south-east corner of Square 22 (Figure 5). It is described as dug into the greyish brown loam (2227). Its diameter was not noted but was possibly about 65-70 cm north-south and 50-55 cm east-west. It is described as floored with “apparently baked, or at least very compact yellowish loam” (2239). There were two upright sandstone lining slabs (2235) on its south side, but none on its east side and none were noted on its west side, although “stones had previously been dug from there”. A mass of dark earth (2233), containing large pieces of charcoal and some calcined bone and flint was heaped against the slabs. Finds in this dark earth and the greyish loamy filling of the pit comprised a flint scraper (Figure 9, 22), 2 flakes and 3 chips, and 12 Beaker sherds, including sherds from the base of a large Beaker (Figure 7, 5) and a sherd of another (Figure 7, 1). The height of 8.10-7.87 m asd recorded for these finds would take its base deep into the yellow silty sandy loam (2241), as is implied by Taylor (*notebook*, p. 58), suggesting a depth of 40-50 cm for the pit, somewhat at variance with its description as a ‘little pit’, and much lower than suggested by a photograph taken at the time which may show the lining slabs (2235). The northern side of the pit was formed by a pillow shaped mass of red clay (2234) with a vertical plane face to the south, resting on a large limestone slab (2236) and with its top noted as “at the level of the Beaker hearth”, again suggesting that the pit was dug down below this. This clay was noted as “suitable for potting” and as apparently the same as the red clay (2245) of unit 6. The reconstructed section (*S.6*) has been drawn to illustrate these relationships.

At the extreme southern end of the preserved remnant of the occupation layer, its thickness had increased to as much as 46 to 60 cm, but there and across the south side of square 22 it had become indistinguishable from the reddish loam (2230) of unit 4, containing very little charcoal and no artefacts. Possibly for this reason the south-west of square 22 and the adjacent part of square 16 were very inadequately recorded in 1957; no excavation below c 8.78 m asd is recorded in square 16 even though photographs taken at the end of June 1957 suggest that excavation in this area had reached 7.87-7.56 m asd.

As exposed in the 1958 deep cutting, unit 4 comprised two components, the upper described as red clay or red clayey loam (2226), without signs of occupation, and the lower, the ‘Beaker layer’ (2229), characterised as reddish brown clayey loam with a variable degree of greyish brown discolouration “only slightly less stiff than the deep red clay [2245] beneath it” (*notebook*, p. 83). It was noted as containing many fragments of charcoal, and some traces of calcined bone.

Taylor’s sketch section (Figure 4, *S.4A*) depicts the unit as dipping steeply to the west before tapering out at the foot of the section. It is shown as overlain by ‘Black Rubble’ (2215) of unit 3, and resting on the discontinuous red clay (2245) of unit 6 where this was present, but resting directly on unit 8 (2246), where it was absent. Finds from (2229) included two chips of highly burnt flint (*notebook*, p. 82, 19-04-58), and a flint scraper (.5/70), Beaker sherds and pieces of accidentally fired sandy clay (.7/107, 108), found at a point where the red clay (2245) was absent so that the Beaker deposit occupied the mouth of a void in the loose limestone blocks of unit 8 (*notebook*, p. 82, 03-05-58). The location of this group of finds was estimated as 7-8 or 8-9 ft below Taylor’s datum (= 7.87-7.56-7.26 m asd). The upper figure seems improbably high in relation to the previous excavation, thus the lower estimate is probably to be preferred. Support for this is provided by the figure of 6.95-6.50 m asd for the further find on 10-05-58 of several joining sherds of a Beaker not otherwise represented on the site (.7/106; original find label reads: “Sq 22? ... from bottom of slope, -10'0" to -11'6"”), since the extant photograph (.0/22) taken on the same day confirms excavation at this depth, though unfortunately showing no details of the stratification.

Unit 3: Black ash with burnt stones

The first record of this unit is in Tratman’s 1947 note, recording the presence in the south face of the Sidcot School pit of a black layer containing charcoal, burnt Old Red Sandstone fragments and an occasional scrap of burnt bone. His sketch shows it thickening westwards to 4 ft (1.2 m), and lying on an ancient sub-soil (unit 4) and covered by up to 2 ft (0.6 m) of more recent subsoil (unit 2). He was told that no artefacts had been found in this layer.

This unit, generally referred to in the notebook as ‘black ash and rubble’, was noted by Taylor as “consisting of 60-80% of small sharp (fire-shattered?) Old Red Sandstone pieces, with no limestone, the matrix being black ash with some black sand, but with no trace of normal soil, described as resembling the ash of cremation deposits or bonfires ...” (given the base-poor, pervious character of the unit, the survival

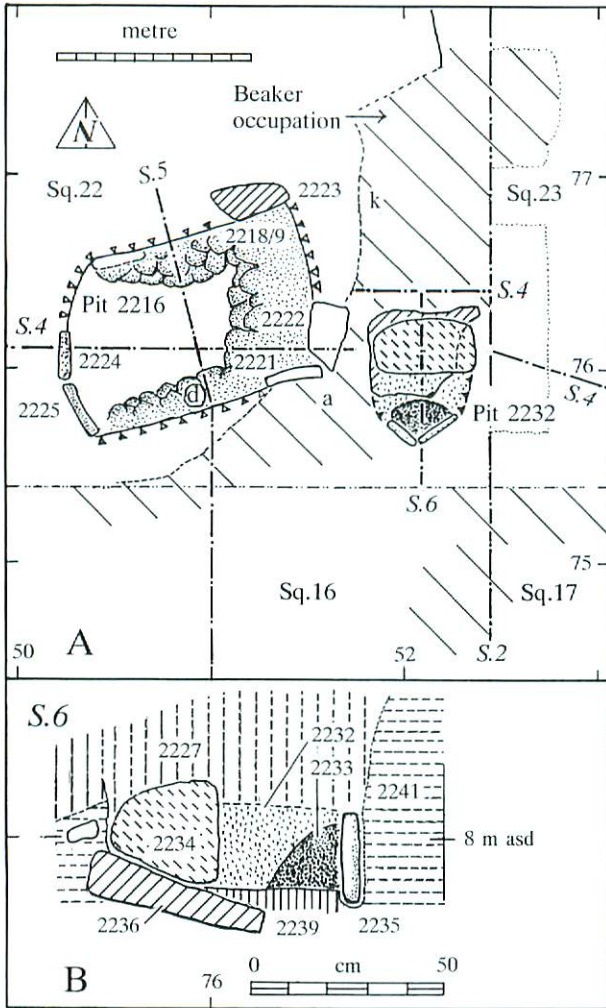


Figure 5. *Bos Swallet*, A) detail plan of central area with Beaker pit, 2232, and trough pit, 2216; B) cross-section of pit 2232; after Taylor: a = arrowhead, Figure 8B, 1; k = knife, Figure 9, 1; d = disc, Figure 10, 2.

probably the same as the 'red clayey loam' forming its vertical north side. This had been truncated by the previous excavations in the swallet but survived to about 25 cm high. There were traces of similar loam on its west side which had been excavated before the presence of the pit was realised. The lower 45 cm or more of the south side of the pit presented a vertical plane face of hard pale yellow silty-sandy loam (2241), as did the east side, described as slightly sloping.

Four or five upright slabs and one fallen slab (2221-2225) of limestone or sandstone, were found at the foot of the sides of the pit. On the west side there were two sandstone packing stones, one 25 cm high (2224), the other 36 cm high (2225). There were two further slabs, one upright (2221) the other fallen (2222), at the south-east corner, while the vertical face of the north side was continued to the east by the upright face of a limestone slab 40 cm long and 25 cm high (2223) at the east end of the north face, with just possibly another slab at its west end.

of wood ash is unlikely). Stones in the layer were blackened externally, some sandstone fragments were bright red on fracture. No artefacts and only a very few scraps of charcoal were found in it, although several possibly rubbed or polished sandstone stones lay in or on its upper surface. The surface beneath it was compact, as if trodden.

Structures associated with this unit comprised a large rectangular pit (2216) which it is suggested below probably originally contained a wooden trough, a gully (1714) and a heap of burnt stones (1114) (Figure 3). The edge of what may have been similar pit (0306) was located in square 3.

Pit 2216: The presence of the pit was first suspected following the excavation to about 8.17 m asd of the 'black ash and rubble layer' (2214) along the south side of square 22, exposing the top of a deposit of brown stony loam with occasional scraps of charcoal (2217). This appeared in section as if filling a pit with a nearly vertical side on the east, dug into 'undisturbed less stony loam' (cf. 2230). As excavated the pit was approximately 1.4 m long by 0.9 m wide, its long axis oriented roughly west south-west to east north-east (Figure 5.A; Figure 4, S.4, S.5). It had been dug through units 4 and 5 to a depth of about 1.2 m, into what is described as 'redbrown/yellow loam' (2239),

The basal deposit in the pit was variously described as red or reddish sandy clay or clayey loam 8-15 cm thick (2220), interspersed with 2-12 mm thick laminae of black ash and scanty dark grey gravelly [?, word illegible] soil. These layers which appeared horizontal but actually sloped slightly down to the north-west, extended completely across the floor but did not pass beneath the slabs.

The level of the pit bottom is uncertain; a sketch section (*notebook*, p. 43, 8-6-57) suggests 7.41 m asd at the middle and 7.51 m asd at the foot of slab 2224 and this has been followed in the reconstructed sections (Figure 4, S.4, S.5). However a sketch plan (*notebook*, p. 50, 16-06-57) while confirming the position of slab 2224, gives 7.26 m asd for the base of slab 2223 and as a maximum for the base of the laminated red clay and black ash deposit (2220), and a height of 7.18 m asd was recorded for the sandstone disc (Figure 10, 2; marked "d" on plan, Figure 5A, and section, Figure 4, S.5) found in that deposit at about the same time. The inferred lower position for the pit bottom seems the more likely and has accordingly been indicated on the sections. The disc, a small flint chip (.3/45) and some calcined flint fragments, also from (2220) were the only artifacts from the pit.

Banked against all sides of the pit except the west was a mass of pieces of hard ["baked?"] yellowish red loam or red clayey loam (2218/9) similar to that around the mouth of the pit [?], but loosely packed, with spaces containing black ash, the amount being greatest on the east. On the north side this was overlain by a big vertical slab of brown stony loam (2217), similar to that already noted on the eastern side, which likewise showed a nearly vertical face, presumably indicating slumping of the upper sides of the pit. In the middle of the pit the laminated deposit (2220) was overlain directly by the black ash and stones (2214) which overlapped the deposits round its sides and filled its upper part.

The gully (1714): This lay on the boundary between squares 11 and 17, continuing westward into the northern part of square 10. Although not defined in plan, it was at least 2.4 m long, perhaps 0.6 m wide and 0.25-0.30 m deep, and had been dug into the surface of unit 4 (1116) (Figure 4, S.2, Figure 6, S.9). Its filling was black ash and burnt stones, underlain on its southern side by the northern edge of the heap of burnt stones.

The burnt-stone heap (1114): This was about 1.2 m east-west and 1.2 m north-south and about 0.3 m high (Figure 6, S.8, S.9). Southwards it tapered out on a rising surface (1116). Its western limit was lost in the baulk between squares 10 and 11, eastwards it ended abruptly. The stone content is described as the "same small shattered ORS rubble" as the black ash and stones, the matrix as dirty brown soil. A photograph suggests that it was composed of stones up to about 5 cm in diameter.

The black ash and burnt stones, had been removed from most of the area of the earlier excavations, except for traces round the top of the pipe in squares 18 and 24. In 1957 Taylor cut a narrow east-west trench down to about 7.6-7.3 m asd, at the base of the face north of pit 2216, left in squares 21 and 22 by the 1946-47 dig. A sketch section of the south face of this trench represents layer 2214 sloping steeply down from a high level on the east, with the upper and lower boundaries of the layer passing beneath the floor of the deepest part of the trench at refs 49.6 E 76.1 N and 50.6 E 76.0 N respectively. However, this trench must have passed very close to or cut the north-west corner of pit 2216, so that the accuracy of the observation is doubtful. Possibly the section conflates the spread of the layer into the pit and its spread down slope beyond it, the degraded north edge of the pit having escaped observation. Eventually in 1958 Taylor traced the 'black ash and sandstone rubble' (2215) down to c 7.0 m asd in this area where it lay first on unit 4 and then at the lowest level directly on loose limestone blocks (2246) of unit 8 (Figure 4, S.4A).

To the south of pit 2216, the black ash and burnt stones sloped upwards from north to south, decreasing in thickness from about 15 to 8 cm. An east-west sketch section across squares 17 and 16 shows it sloping down westwards at first gently and then more steeply, increasing in thickness to more than 43 cm in the west of square 16, where spot height measurements indicate a steeper overall north-westerly slope, while on the north of the square it was as much as 60 cm thick. In square 17, its upper part was noted as having "a matrix of dirty brown soil ... overlying fine black ash with burnt ORS stones (1712)", but no other subdivisions are recorded. Southwards its limit was marked by the gully and the stone heap.

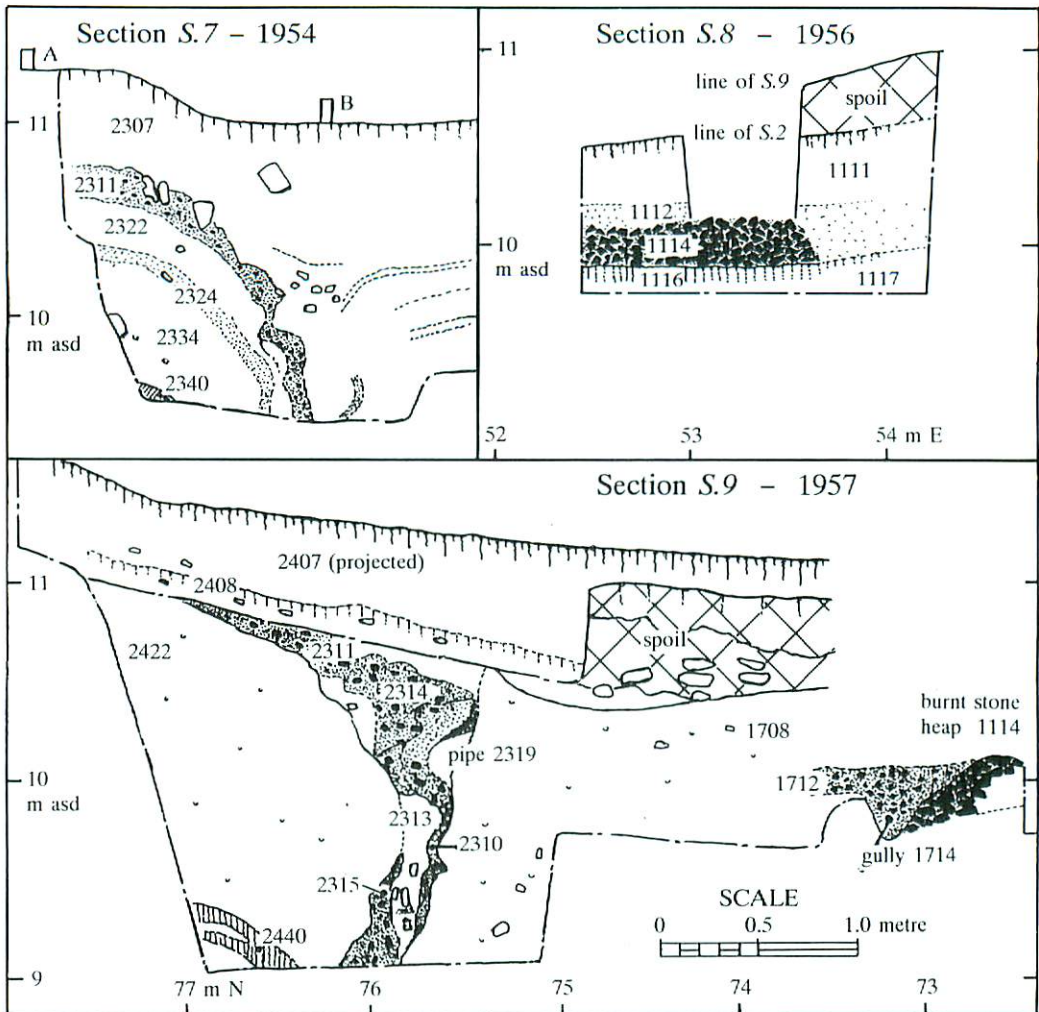


Figure 6. *Bos Swallet, reconstructed cross-sections on the east side of the site. S.7 from photograph, May 1957; S.8 from Taylor, notebook, 1956; S.9 from photographs, 1957.*

“Considerable traces” of black earth were found in the north-east corner of square 10, ending at a sharp rise in the stony subsoil (1019) at the south side of the gully. Discoloured (“faintly [?] blackish-looking”) loam in the middle and southern part of the square may represent the contemporary surface soil. Above the black ash and burnt stones in square 17 there was 3-5 cm of greyish brown soil, increasing westwards to 8 cm with a few stones, and above this clean loam of unit 2 (1708, 1111).

The ‘chimney’ [pipe] (2319): This was first recorded in photographs of the eastern face of the Sidcot School trench, taken by Taylor in May 1954. In these (Figure 6, S.7) the strongly marked black stony layer (2311), with larger stones apparently lying on edge in it, is clearly visible, dipping gently southward before falling more steeply to intersect the floor of trench. The southern edge of the pipe is not apparent in these photographs and the remaining part of the section face to the south of the pipe is not clean enough for the stratification to be visible.

In 1956-57 the pipe was visible as a vertical feature cutting down through the deposits exposed in the cut face at eastern side of square 23 (Figure 6, S.9), about 0.9- 1.0 m to the east of the 1954 face, its westward extension having been excavated in 1954-5. The upper funnel-shaped part was about 1.15 m

across from north to south, and extended about 0.3 m east of the cut face. In cross-section it was asymmetric, the northern side sloping down more gradually, the southern being steeper. It merged with the pipe proper at about 0.45 m below the cut surface, roughly 10.3-10.4 m east, where it was from about 0.3 m to 0.45 m across.

The pipe itself was irregular in section, with a darker vertical edge (2310) on its south side. It contained a deposit of black ash with shattered stones (2314), smaller and less abundant in the upper part. Patches of loose stony discoloured loam with un-shattered stones (2313) gave a mottled appearance. Removal of these deposits exposed the funnel shaped upper end of the pipe, the sides of which Taylor considered to be "clearly burnt", with a thin layer of "light greyish-white ash" (2312) present on the gently sloping northern side. This in turn was covered by a black layer with burnt stones and charcoal (2311), which sloped down into the 'funnel' and merged with the filling of the pipe. In the middle of the 'funnel' there was a cone shaped filling of brown soil (2308). The 'rubble' exposed at the foot of the pipe was very loose with a void present. Immediately to the west, a sub-oval area of black ash and burnt stones (2316) surrounded by "a burnt layer with whitish grey ash" (2317), about 0.75 m across, was exposed in the level platform left by the 1954-5 excavation, extending at least 0.6 m west of the section face, and evidently representing the downward continuation of the pipe.

To the north-west of this horizontal section across the pipe, a linear feature, the 'trench' (2323, 2237), was visible in 1956-57 as a band of stony brown loam with large limestone blocks (2333), without black ash, burnt stone or other signs of burning, about 1.2 m long and 0.5-6 m across. As seen in section where it was cut through on the west by the excavated face in square 22, it butted to the south against a roughly vertical, seemingly well-defined 'cliff' of the sandy loam of unit 5 (2241, 2335), whereas northwards it appeared continuous with the pile of limestone blocks thought to have fallen from the cliff.

Between the blocks filling the 'trench' was stony grey-brown sandy loam with charcoal, similar to the Beaker occupation, but apparently displaced downwards by 20-30 cm, with a distinct ashy horizon about 10 cm thick, resting on larger blocks, below which voids appeared between the blocks, seemingly forming the top of unit 8. At the north end of the face, from 77.52 to 77.83 N, this displaced hearth material appeared to rest on purple clay (2341) of unit 6.

Following a fall from the face in square 23, a steeply sloping 1 cm thick band of charcoal (2332) was exposed at the south side of the feature at ref. 53.1 E 76.6 N, separating intact sandy loam (2335) from "unstratified loam, some whitish yellow, some reddish brown" (2331). This was thought to be possibly the edge of a burnt plank or board but was not investigated further.

Finds from this feature were similar to those from the Beaker occupation, including a sherd of Figure 7, 1, and two flint scrapers (Figure 9, 12, 26).

Unit 2: reddish yellow brown loam

This was variously described as yellow to reddish to red-brown loam with a few small stones. In square 17, the lower 10 cm was locally stony with sandstone blocks (1709). In square 3 unit 2 was represented in 1995 by "yellowish red clay loam with occasional flat pieces of sandstone" (0305) (Munsell 5YR 4/4 (moist) - reddish brown) at least 0.25 m thick. At the west end of section S.1 (Figure 4) it was at least 1.5 to 2 m thick (2111), elsewhere it may have been up to a metre or more in thickness. Unit 2 rested on unit 3 where this was present, where it was absent no clear distinction from unit 4 seems to have been made. No artefacts or charcoal were found in the unit.

Unit 1: Humus

This was not described by Taylor, but where now exposed appears to correspond to the description of the L and H horizons of Ellick series soils given by Findlay (1965, p. 58), with thin bracken litter overlying thin black stoneless humose loam, passing at the north side to a soil resembling the Lulsgate series (*ibid.*, p. 63-5), with a thin dark reddish brown stoneless humic horizon of mull type.

Unit 0: Old Spoil Heaps

Where excavated in squares 3, 10, 11 and 16, these were mainly composed of large limestone blocks clearly derived from the excavation to open the cave and were devoid of archaeological material.

Stratification on the east side of the excavation

Squares 29 and 23: The eastern face of the pit dug in the 1946-7 cave dig provided a section running south-eastward from the cliff, which is shown in photographs taken by Taylor in 1954 and 1956-7. The first of the 1954 photographs, taken in March at the start of the Sidcot excavation (54.01), shows the upper part of the southern end of the face cut away by the beginning of their L-shaped trench, with what appear to be two dark layers sloping southwards at about 15° in the lower part. The upper dark layer appears about 10 cm thick and perhaps 0.5-6 m below turf, the lower layer about 20-30 cm thick and 30 cm below it. In the later photographs, taken in May, this part of the face has been cut through by the trench, but two southward dipping darker zones (2311, 2324) at about 0.7-1.0 m deep in the adjacent part to the north may be the continuation of these two layers (Figure 4, *S.1A*), although an apparently more stony, possibly darker zone (2350), perhaps 15-20 cm thick, is visible at the base of the exposure, about 1.3-1.5 m below turf.

In 1957 the sloping face about 2 m high, running for about 4 m across squares 29 and 23, was straightened and cleaned by Taylor. The section drawing (Figure 4, *S.1*) is based on a photograph taken in May 1957 (fortunately including reference pegs and a datum string), which shows a series of lighter and darker toned strata sloping southward with an apparent dip of around 20°. The three basal strata (2907-2909) ran down to meet the surface of a shelf cut in the deposit by Taylor. Rocks and boulders of the swallet fill, unit 8, protruded below this, but the junction with them was obscured by fallen material. The lowest (2909) of these strata, might be the equivalent of the 'barren purple clay' (2341), noted by Taylor in 1957. The next two, (2908) and (2907), might be the equivalent of the fine rubbly loam (2339), and perhaps represent the continuation of the stony stratum in the 1954 photographs.

Although unit 2 must be represented in the upper part of the section face, the lack of written description and the limited resolution of the photographs prevents further correlation. While the 1954 photographs do suggest the eastward continuation of the two dark layers, which may be the equivalent of those seen in section *S.7*, the link with the stratification of the east face of the 1954 trench and of square 23 is unclear.

Squares 24 - 23 - 17: The section (Figure 4, *S.9*) is based on photographs taken on 25th May, 1957, which show the section face set up for drawing with a datum string (no drawing survives). The pipe (2319) is clearly visible in the photographs, but except for what is probably the purple loam (2440) in the lower left hand corner, no differentiation can be seen in the face on either side of it. Some details of the stratification can however be gleaned from Taylor's descriptions and the photographs taken in May 1954 (Figure 6, *S.7*). These show the layer of black ash and burnt stones (2311) overlain by about 0.25-0.3 m of 'clean reddish-yellow-brown loam' without large stones (2307), covered by turf and humic soil (2306), both removed prior to 1956. Below it was 'reddish loam', with occasional large stones (2322), about 0.25-0.30 m thick, decreasing in thickness down slope to the south, covering a less well defined darker layer, 'faint blackish band' (2324), perhaps about 15 cm thick. All three layers dipped southwards, gently at first, then more steeply. Below came further loamy soil with few stones (2334), and finally 'purple loam' (2340).

Layers 2311 and 2324 probably correspond to the upper two of the three 'hearth levels' reported by Tratman in 1954 (Yorke, 1954, p. 45, Editorial Note), the middle one described as "very faint". The lowest hearth was said to be yielding Beaker pottery and flint implements, whereas neither of the others had produced anything datable. The Beaker 'hearth' is unfortunately not visible in any of these photographs.

ARCHAEOLOGICAL FINDS AND SAMPLES

The pottery and flint artifacts were described in 1964; necessary up-dating of those reports is given below, including provenances, omitted in 1964, but without repeating descriptive details or comparanda. The illustrations have been repeated for ease of reference (Figures 7-9).

Beaker pottery

The Beaker pottery amounts to about 180 sherds and 120 tiny scraps, representing perhaps 20 vessels. These vessels are generally very fragmentary, the best preserved being represented by no more than 20-21 sherds, which an approximate calculation suggests may represent less than 20% of the pot, and the worst by only single sherds, say 3%, with the average for the vessels in Figure 7 being about 9%. Very few of the sherds showed signs of burning and no carbon encrustation was noted.

The fabric and firing are typical for late Beaker pottery in the region, with much of the pottery having the brick-red oxidised exterior characteristic of earlier material, while some is yellowish or brown. The shapes and decorative mode are again typical with predominant comb-impressed decoration, often more deeply impressed than in earlier Beakers, as well as finger-pinch rustication in Holdenhurst style. The combination of the two techniques on no. 16 is worth note, as is the presence of two very well made handles. Some of the pottery is of very fine quality, e.g. nos. 3, 4, 11, some is less good with slipshod clay preparation, more careless decoration and not as well fired. The very close resemblances in all these characteristic to the series from Gorsey Bigbury was noted in the original report.

Mr. Michael Russell has examined thin sections of a representative selection of sherds, together with a series from Gorsey Bigbury (Jones, *et al.*, 1938; ApSimon *et al.*, 1976). The results of his study will be presented in a paper written with Dr. David Williams, but the authors have kindly outlined their main findings for me. They conclude that at both sites the pottery was made locally and confirm the original surmise of the presence of grog tempering in much though not all of the pottery.

Except for a few sherds from the 1946-7 excavations, retained by Dr. W.I. Stanton, all the pottery is in the Society's collections, the finds from the 1954-5 excavations having been kindly donated to the Society. The pottery is catalogued under U.B.S.S. catalogue code M.25.7, 1956-8 finds as nos. 1-108, 1954-5 finds as 120-61.

Provenances for pottery illustrated {catalogue numbers thus [99], context numbers thus (2237)}.

Figure 7:

1. [10, 56, 79] greyish-brown loam with stones (2227), [14-20, 22, 55] hearth (2228), [88] fallen material from hearth (2230), [73] dark fill (2233) in pit 2232, [97] pocket of dark earth and charcoal (2237), [75] mass of black ash (2238), [100-103] hearth and ash spread (2328), [104] charcoal and ash spread (2329);
2. [68, 69] (2227), [83] reddish loam (2230); 2a.[138] 1954-5;
3. [3] (2227), [41] (2228);
4. [54] (2228);
5. [63] (2227), [33-5, 70, 77-8] (2228), [72] fill (2233) of pit 2232, [121, 131, 134] 1954-5, Squares A1, A2;

6. [61-2] greyish-yellow beaker loam (2227), [1] dark soil [discoloured clayey loam] (2327), [135, 137, 153, 159] 1954-5;
7. [85-6] whitish yellow silty loam (2241), [120, 123, 142, 158] 1954-5, Squares A1, A2;
8. [129, 143] 1954-5;
9. [126, 140, 146-7, 156] 1954-5, Squares A1, A2;
10. [2] (2227), [44] (2228);
- 11-12. [149-150] 1954-5.

Figure 8A:

13. [11] (2227), [32, 37-9, 42, 45-6] (2228);
14. [130] 1954-5;
15. [67] (2227), [30] (2228), [87] stony discoloured red loam (2230), [128] 1954-5, Squares A1, A2;
16. [40] (2228);
17. [4, 5] (2227), [36] (2228), [84] (2241), [154] 1954-5.

The finds from the occupation layer (2229) in the 1958 deep cutting, not previously noted, comprised:

[106]. 5 joined rim sherds from a Beaker with comb decoration like no. 2, except that the pattern is a reserved running chevron;

[107a]. 7 calcite tempered sherds, 1 with punched decoration like no. 17.

Fired clay

Taylor collected over 20 pieces of fired clay from the Beaker occupation layer, many by sieving. None of these show any indication of deliberate shaping. Three pieces examined with Dr. D.F. Williams were seen to be fired sandy clay containing small fragments of flint, charcoal and burnt bone, clearly resulting from accidental firing in hearths. No evidence was seen to indicate pottery making on site, although the clay 'pillow' from pit 2232 might have done so, had the sample survived.

Artefacts of flint, chert and stone

Some 395 finds are catalogued under M.25.5; 1956-8 finds as 1-72, 1954-5 finds as 139-76 and 1946-7 finds as 201-8. Of these 3 are natural and 3 of sandstone, leaving 389 artefacts of flint and chert, classifiable as follows:

unretouched flakes (complete)	6
unretouched flakes (broken)	13
unclassified, burnt	21
cores	3
core fragments	2
edge-trimmed flakes	5
scrapers	36
knives	9
leaf arrowhead	1
miscellaneous retouched	3
chips	290

Weights: flint 543 g, chert 150 g.

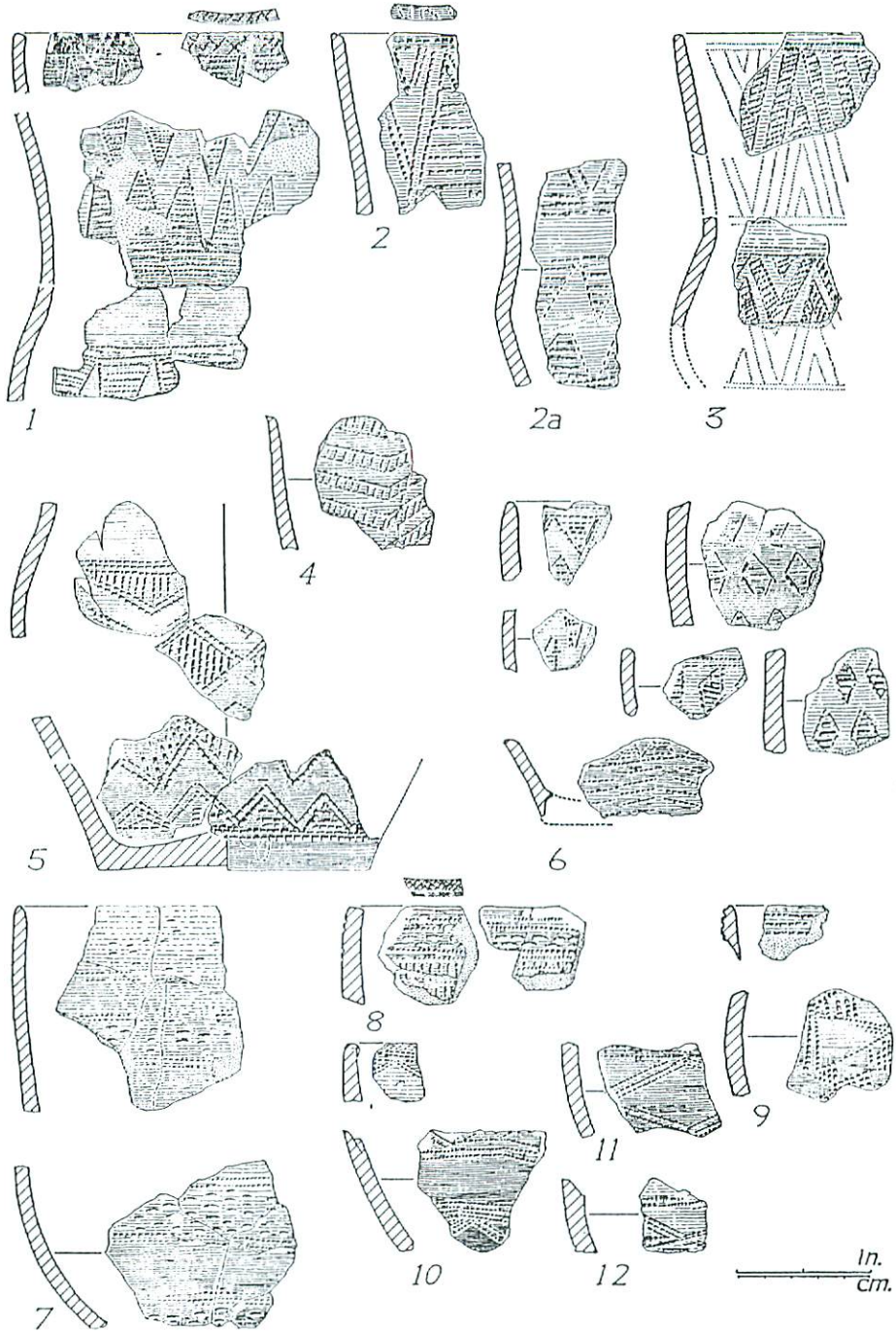
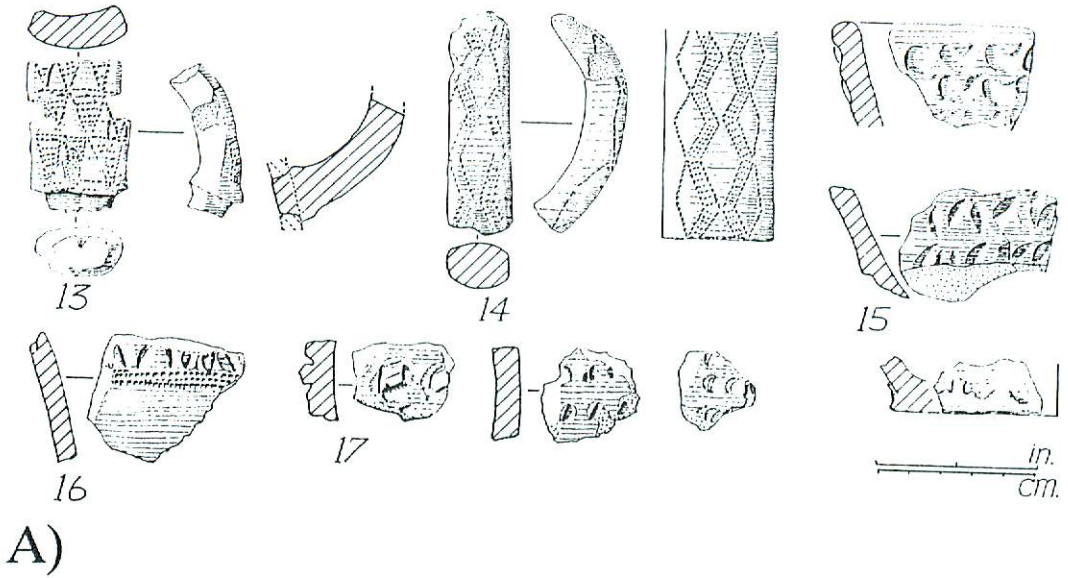
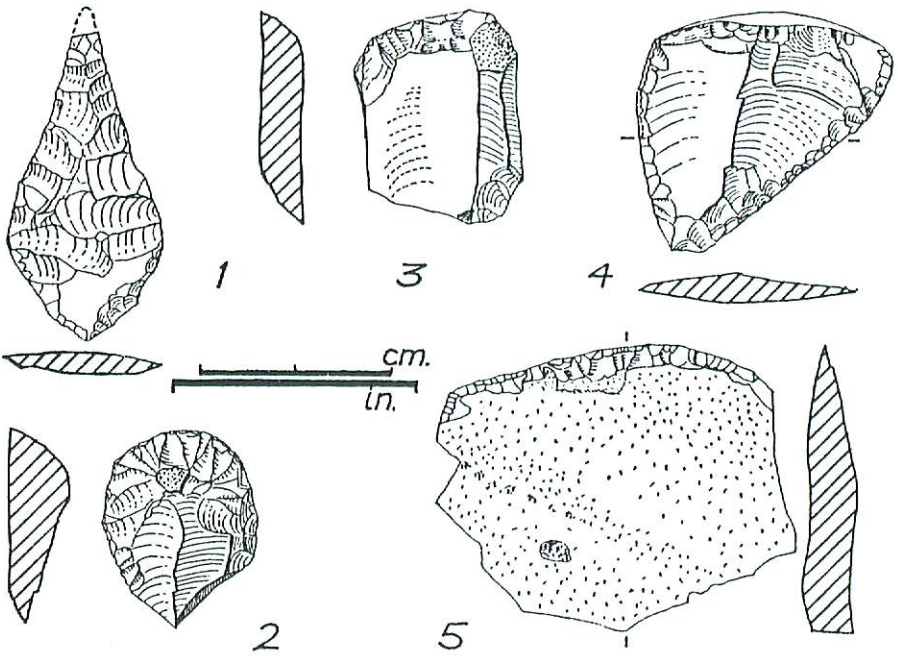


Figure 7. *Bos Swallet, Beaker pottery, scale 1/3, from Taylor and ApSimon (1964); for provenances see text.*



A)



B)

Figure 8. *Bos Swallet*, A) Beaker pottery, scale 1/3; B) flint implements, scale 1/1, from Taylor and ApSimon (1964); for provenances see text.

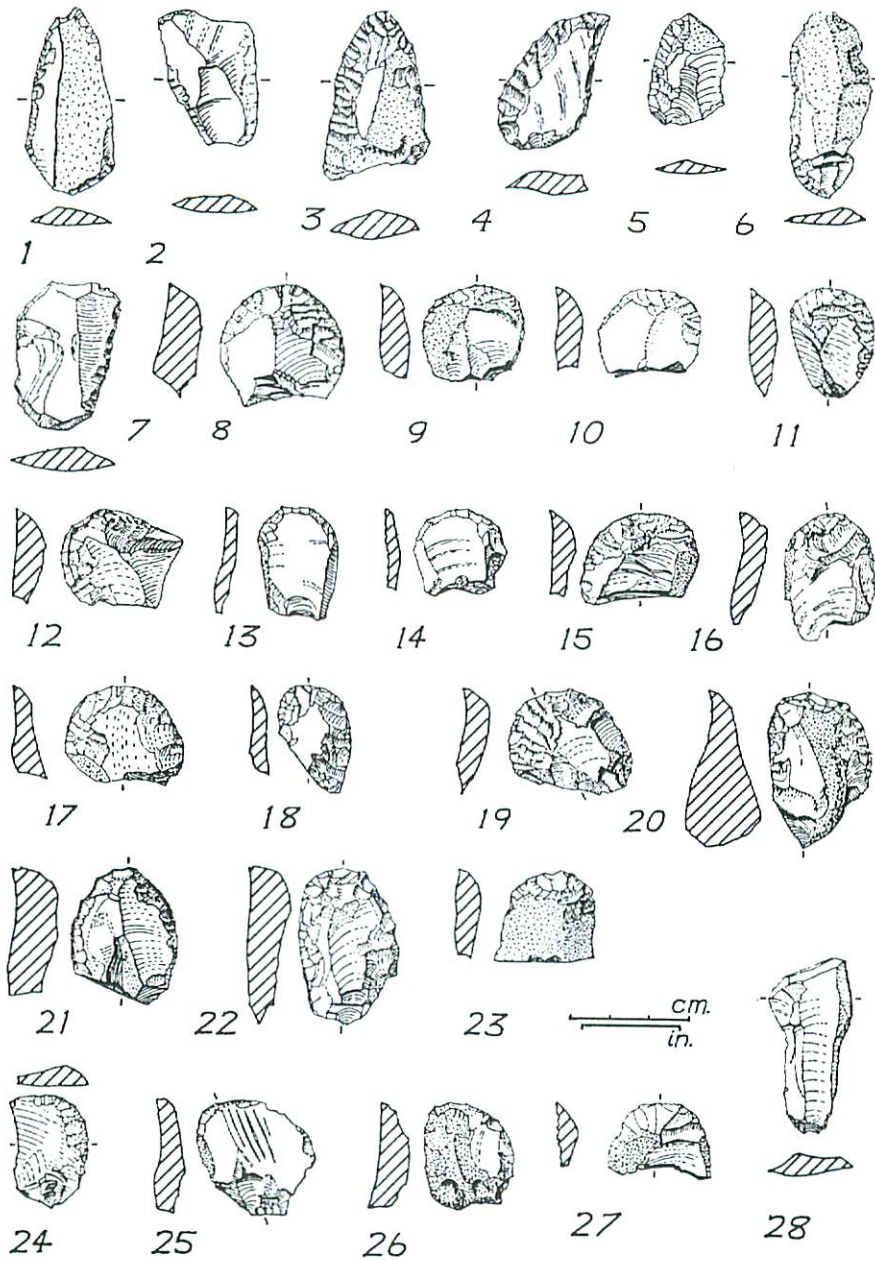


Figure 9. *Bos Swallet*, flint implements, scale 1/2, from Taylor and ApSimon 1964);
for provenances see text.

The material used is flint except for 2 flakes, a chip and a thermally shattered lump of mostly dark grey chert. Dr. A. Farrant (British Geological Survey) has kindly examined the chert specimens and considers (*in litt.*, 3-12-97) that they are almost certainly derived from the chert beds in the Black Rock Limestone, locally exposed in the cliff above Read's Cavern and in Burrington Combe (Green and Welch, 1977, 24-5 and fig. 19). The flint varies from light to very dark grey, sometimes mottled, the only exception being the arrowhead which is in a yellowish-amber coloured flint, noted as used for leaf arrowheads and other early Neolithic implements on the Chew Valley Lake sites (Rahtz and Greenfield, 1977, p. 179) and elsewhere in north Somerset.

Patination or cortication is generally absent from the struck surfaces of this material, where unburnt, excepting the waste blade (Figure 9, 28) and a few other obviously 'second hand' pieces. Where cortex is present it is of chalky type, indicating import from the Cretaceous outcrops in Wiltshire, the nearest being some 40 km away in the Westbury area. The resulting need to make the best use of the flint available is shown by there being virtually no unused 'usable' waste and by the cores and core fragments, which are all in the final stage of reduction. Details noted as follows:

- [13] possible core fragment, was white patinated, finally snapped (?), - too small to be useful (2227);
- [22] irregular core, 25 mm, chalky cortex present, fresh, 3 platforms remain, (2228);
- [67] core, half end of nodule with thick chalky cortex. 3 previous flake removals in cortex, single platform reworked but flaking attempt failed, cf. flint in Beaker occupation, (1618);
- [152] struck core, cf. levallois (?), bifacially worked, 35 x 35 mm, distal end has cf. convex scraper retouch, reverse partly cracked away, whole is white patinated and crazed (burnt), 1954-5, Square A1;
- [154] core fragment of grey flint with large pale opacities, 35 x 22 x 30 mm, single platform, form suggests just possibly from a polished axe, 1954-5, Square A1.

Further evidence of the need for economy is shown by the 63% ($\Sigma = 73$) of implements and flakes which bear patches of cortex. The material is small, the chert flake from unit 5 (71 mm) is the longest piece, and only two flints, a waste flake (61 mm) and a flake knife, reach 50 mm. Excluding chips and unclassified burnt pieces, 18% ($\Sigma = 78$) of the material is burnt.

Virtually all the provenanced finds are from unit 4, except for the arrowhead, a chert flake and a few burnt scraps from unit 5, and a few burnt chips from unit 3. In form, the slender, medium sized, slightly ogival leaf arrowhead falls within Green's class 3Bo (Green, 1980; 1984). Critical assessment of the evidence suggests that such arrowheads are of Early Neolithic date.

The 1946-7 finds, not previously noted, included:

- [201] knife with fluted flaking on edge, made on blade, calcined, broken;
- [203] 'thumb scraper' on cortical flake from small flint nodule, marbled grey flint;
- [204] small convex scraper on flake, 1 patch chalky cortex, platform patinated, snapped removing most of working edge;
- [205] knife on flake, traces shallow fluted flaking on both edges, snapped, part fire cracked;
- [207] Steep round scraper on thick flake, thin cortex, edge heavily used;
- [208] knife on flake, fine shallow fluted flaking on edges (15-06-47, *log* p. 116).
- [201- 208] square 23, unit 4, Beaker Hearth, June-July 1947; [207] square 22, unit 8, "fallen down through boulders" (24-06-46? *log*. p. 68).

This Beaker industry from unit 4 is essentially based on broad flakes, with an average L/Br ratio of 1.9 for 13 measurable flakes (excluding the patinated waste blade), and only a few finds reaching a ratio of 2.3 to 2.5. The 'chips' are significant because while larger ones up to about 1 cm or so are 'micro-debitage' resulting from re-sharpening or re-working flint tools, many of the tiny chips, particularly those recovered by sieving appear to be the result of wear and tear on the working edges of implements while in use.

The tool inventory is characteristically dominated by small convex scrapers with finely worked scale flaking. The most frequent length range is 21-30 mm, with a marked peak in the range 26-30 mm; the most frequent breadth range is 21-30 mm, with only 1 exceeding this, whereas 7 have a breadth less than 21 mm. These dimensions compare well with those cited by Healy (1984, table 3, 9, 10) for late Beaker industries, and reasonably well with the earlier Beaker groups from Chew Valley Lake, though those scrapers tend to be longer, with several broader scrapers (Rahtz and Greenfield, 1977, figures 85, 90). Scrapers on longer flakes are technically end scrapers (Figures 8B, 3; 9, 13), those on thick supports may be steeply worked (Figure 9, 21-2), while smaller examples are generally known as thumb-nail scrapers (Fig. 8B, 2, Fig. 9, 9-11, 14, 27), or 'button scrapers'.

Virtually the only other types represented are knives with fine fluted edge working (Figure 9, 3-5), and flakes with delicate edge trimming (Figure 8B, 4, 5; 9, 1-2, 6), probably also specialised knives.

Provenances of flint artifacts illustrated

Figure 8B:

1. [41] arrowhead, pale-yellow silty loam (2241);
2. [40] scraper, reddish loam (2230);
3. [140] scraper, square A1;
4. [171] knife, square A1;
5. [17] knife, 'black band' (2228).

Figure 9:

1. [1] knife, Beaker occupation (2227);
- 2-4. [143, 169, 168] knives, 1954-5, square A1;
5. [16] knife, (2228);
6. [2] knife, (2230);
7. [175] knife, square A1;
8. [166] scraper, square A2;
- 9-10. [163, 144] scraper, square A1;
11. [21] scraper, (2228);
12. [8] scraper, occupation debris among blocks fallen from cliff (2237);
13. [176] scraper, square A1;
14. [165] scraper, square A2;
- 15-16. [173, 174] scrapers, square A1;
17. [19] scraper, (2228);
- 18-19. [167, 170] scrapers, square A1;
20. [72] scraper, (2227);
21. [18] scraper, (2228);
22. [31] scraper, black earth (2233) in pit 2232;
23. [13] scraper, square A1;
24. [51] scraper, (2237);
25. [20] scraper, (2228);
26. [10] scraper, (2237);

27. [146] scraper, 1955, "N.F.";
 28. [145] waste blade, square A2.

Sandstone (Figure 10)

- [36] tabular piece of fine grained laminated sandstone, 112 x 100 x 25 mm, weight 440g, edges naturally fractured except for the right hand side which has been shaped by chipping, band of pecked marks across one face; square 22, SE corner, Beaker hearth, stony discoloured red loam (2228), 7.71 m asd, 25-5-57.
- [73] ovate slab of fine grained sandstone, 115 x 102 x 30 mm, weight 620g, surfaces highly abraded, rounded edges probably artificially shaped, damaged, possible area of pecking on face. "Burnt and fire blackened?" - some blackened patches, reddening and surface spalling. Red clay with laminae of black ash (2220) in bottom of pit (2216), 50.91E 76.45N 7.18 m asd.

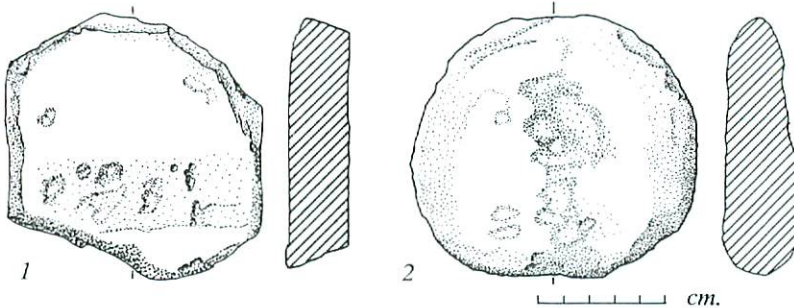


Figure 10. *Bos Swallet, sandstone artifacts, scale 1/3: 1. from Beaker occupation, 2227; 2. from pit 2216, basal filling, 2220.*

Burnt bone

Twenty-two small samples, all those recovered by Taylor, including much found by sieving, were examined. Two samples were from unit 5 (context 2241), two from unit 3 (context 2220), the remainder from unit 4. Almost all consisted of unidentifiable burnt scraps, although Taylor had noted possible long bone and rib fragments. Four samples, including material noted by Taylor as calcined teeth fragments, were kindly examined by Dr. Adrienne Powell (Department of Archaeology, University of Southampton), and noted as follows:

(M.25.2/)

- | | | |
|-----|---------------------------------------|------------------------------------|
| 1. | (2227) "calcined sheep tooth?": | un-identifiable; |
| 2. | (2227) "calcined incisor or canine?": | bone fragment; |
| 6. | (2228) "tooth scrap, <i>Bos</i> ?": | tooth fragment, sheep size; |
| 15. | (2238) "cheek teeth of sheep": | too small for cow, might be sheep. |
- Nothing to suggest the presence of burnt human bone.

No unburnt bone was recovered by Taylor.

Charcoal Samples

Sixty-one charcoal samples were retained by Taylor, catalogued under M.25.4. These have not been examined, but 19 contain potentially identifiable material, including scraps of hazel nut (*Corylus*) shell from the Beaker occupation (2227) [23]. Three samples [12, 22, 24] from this occupation might be suitable for conventional radiocarbon dating, one [35] from the basal filling (2220) of pit 2216 might be suitable for accelerator dating.

ANALYSIS AND INTERPRETATION

The interpretation of the site presents complications beyond those of the ordinary archaeological site, since in addition to the normal processes of accretion there is the factor of its location in what may be regarded as a 'doline' (cf. Ford, 1964, 153), within which progressive deepening due to collapse may stimulate further deposition from the sides of the depression and together with downwards transport of fine sediments by percolating water and their removal into the underlying cave system, may lead to localised or general slumping of the deposits. Here the possibility of further complication due to the earlier excavations is noted by Stanton (1989, 398): "From 1948 onwards the clay walls of the shaft suffered successive collapses extending up the depression sides."

Possible former presence of a stream at Bos Swallet

Strongly suggestive evidence in favour of this lies in the incised valley (Figure 2), comparable to those leading to Rod's Pot and Bath Swallet, the latter still carrying a stream (Crickmay, 1949, Figure 9). All three valleys are incised into the gravelly sandstone head covered by acid brown earth of the Ellick series that here overlies the Black Rock Limestone and their catchment is formed by the area of water retaining Thrupe series soil which overlies the impervious Lower Limestone Shale. As Tratman (1963, p. 50) noted, the Bath Swallet stream formerly flowed the year round and "did not go dry even in the drought of 1921, ...". There is thus good reason to believe that before the creation of the leat cut it off from its catchment, the valley carried a stream comparable to the Bath stream, with a flow of around 2000 l/hr (450 gal/hr) (author's measurement, c. 1950). The plan suggests that this valley entered the swallet immediately to the west of the excavated area in squares 10 and 16, with its eastern side in square 16, corresponding to the steeper westwards slope and thickening of units 3 and 4 observed there. It seems possible too that the greater thickness of unit 2 in square 21 indicates sedimentary infilling of the valley, which as cut may have been substantially bigger than now appears. This could accord with the sandstone pebbles in unit 8 noted by Stanton as evidence of a former stream bed, which might suggest an episode with a higher energy stream than that inferred from the present appearance of the dry valley.

Analysis of the Stratigraphic Units

Unit 8:

The limestone boulders comprising this are clearly the result of preferential solution of the limestone along joints and bedding planes leading to the fracture and collapse of the unsupported limestone beds into the resultant voids. With percolating water removing the products of

solution and disintegration, it seems likely that unless there was a substantial external input of sediment, the unit as formed was originally clast supported, i.e. the boulders were in contact. The surviving clayey matrix may be a later infill since it seems essentially similar to the overlying unit 6. Whatever the case, the development of voids between boulders even in the upper part of the unit suggests downwards translocation of the matrix by percolating water. Given the steep northward dip of the limestone the resultant depression may have been asymmetric in cross section with a near vertical cliff on the north side, as now, and a slope corresponding approximately to the dip on the south, although this is nowhere exposed.

The apparent fall in height of the top of unit 8 from close to 9 m asd near the cliff in square 29 to just above 6 m asd in the west of the 1958 trench, a distance of about 5 m poses a problem. Is this simply a matter of the boulder fall which the 1946-7 excavators encountered close to the cliff declining in height with increased distance from the cliff, or is it more likely that the former stream draining into this area led to continuing collapse of the swallet floor?

The archaeological evidence and particularly the presence of a Neolithic arrowhead in unit 5 indicates that formation of the depression was well advanced before c. 4000 BC, while the early Holocene age suggested below for unit 6 suggests at least a late Pleistocene age for its inception, even though positive evidence of this is lacking.

Unit 7:

The description of this corresponds closely to that of the B horizon of the Ellick Series soils as described by Findlay (1965), developed on sandstone head derived from Black Down. It is unfortunate that the junction of this unit with the deposits in the swallet was not observed, although if, as seems likely, the unit was represented by the stony subsoil reported in square 10, it was at least older than unit 4. In any case the presence of head on the southern side of the depression provides a source for the sandstone debris of varied sizes found in the deposits, while gravity and slope wash explain its inclusion within them.

Unit 6:

The stone content of the reddish brown silty clay (2231) and of the fine loamy rubble (2339) and the layers overlying it (Figure 4, *S. I*), clearly derives from the limestone and in the latter case explicitly from the north side of the swallet. While these layers and the red clay (2245) may incorporate residues directly derived from the Carboniferous Limestone, the major source was probably through colluviation of relict soil material present in the Lulsgate series soils covering the hill slope to the north of Bos Swallet. The purple clay (2341) and the purple loam (2440), grouped with unit 6, lie towards the base of this sequence of slope deposits. As such they invite comparison with the palaeosol developed on the Pleistocene deposits at Brean Down (Macphail, 1990, p. 188-91), of which the lower part, described as a dark reddish brown clay, incorporates fragments of Beta B clay derived from a relict weathered soil. Significantly Taylor's 1936 field notes (UBSS archive) also call that palaeosol 'purple clay'. Such comparison, by suggesting an early Holocene age for the deposition of unit 6, as does the archaeology, support a pre-Holocene age for the formation of the depression and of unit 8.

The clay component indicated by Taylor's description and by the extant sample of (2231) suggests that this unit could have functioned as a plug obstructing the drainage of the depression and allowing at least temporary ponding of water on its floor.

Unit 5:

The limestone and larger sandstone blocks in this unit must derive from the sides of the swallet. The apparent relation between the limestone blocks of context 2230 at the north end of section S.2 and the purple clay (2341) and loamy rubble (2339) attributed to unit 6, which appear to be dipping beneath them, suggests that these blocks derive from continuing minor falls from the cliff while unit 5 was being deposited, and are not the top of unit 8, as Taylor thought. The silty-sandy matrix could have been derived by colluvial washing out of the matrix of unit 7, or if the sides of the swallet were covered by vegetation, through erosion of the Ellick soils by the hypothetical stream. The reportedly semi-stratified character of the unit may indicate flushes of sediment into temporary ponds in the bottom of the depression, while its paler colour as compared with the parent material might suggest reduction of the ferric iron components of the sand and silt, aided by the base-poor environment and possibly the presence of decaying vegetation. The presence of ochreous sandy concretions in it and the reddish ochreous band (2237) at or near its base suggest fluctuating water levels in the deposit, with drainage impeded by the underlying red clay, as suggested above.

This unit was apparently accumulating during the earlier Neolithic, *c.* 4000-3500 BC and this was effectively complete by *c.* 2200 BC when the Beaker activity began. The presence of charcoal and a few artefacts indicates occasional human activity in the vicinity, although it seems doubtful whether this would have disturbed the vegetation cover sufficiently to produce erosion of the Ellick soils beyond that caused by the small stream cutting the now dry valley.

Unit 4:

The loamy-clayey texture, reddish colouration and stoniness of this unit suggest colluvial mass flow deposition mediated by disturbance of vegetation cover and surface soil. The observed gradient of the dry valley increases from about 8° to more than 14° as it approaches the depression, quite sufficient for the initiation of colluviation. The increased clay content could suggest a contribution from the variable stony clay, clay-loam or silt-loams of the Thrupe series which may have reddish-yellow colouration (cf Munsell 6.5YR 6/8; Findlay, *passim*), rather than from the more sandy Ellick soils. The suggestion of possibly "catastrophic" colluvial action necessarily implies some erosion of the underlying surface of unit 5. The ochreous and manganese (MnO₂) concretions in the base of unit 4 may be evidence of this, although the human activity which took place early in this phase clearly contributed to erosion and mixing of the two deposits.

Although the absence of any trace of unit 4 in the face exposed on the eastern side of the site (Figure 6, S.7) indicates that the event was probably restricted to the stream valley and the swallet, the occurrence of a reddish stony horizon about 0.25 m thick interpolated in the generally pale brown - yellowish silty loamy deposit exposed in the southern end of the small depression 25 m south-west of Bos Swallet (Figure 2) suggests a similar event there, with the process not restricted to the occupation site as such. Even if the proximate cause was natural, the effects may have been aggravated by disturbance of vegetation and soil cover by livestock associated with the human activity for which the archaeological features and Beaker artefacts give ample evidence. The grey-brown colour of the actual occupation layer, Taylor's 'discoloured red loam', seems likely to have been due to reduction of the ferric iron components of the layer, triggered by the combustion products of wood fires and the likely presence of decaying organic matter. The archaeological interpretation and significance of this occupation are discussed below.

The less stony upper component of unit 4 and the yellow colour of some of the contexts described (e.g. 1716, 2321) may be evidence of decreased disturbance, with lower energy reworking of the surface of the unit up-slope and consequent lessened exposure leading to less oxidation of the sediments, which could correlate with the absence of archaeological features and artefacts.

Unit 3:

The interpretation and archaeological significance of this unit and the features associated with it are discussed below. Requiring discussion here are the natural features linked to it, the pipe and the 'trench'. Both features show evidence of downward translocation of material, of unit 3 material in the pipe, and of unit 4 material in the 'trench'. The former displays features, including a differentiated lining, in this case charcoal rich, and a central cone of loamy soil, found in pipes developed in unconsolidated sediments as a result of collapse and slumping due either to the removal of a calcareous substrate by solution, or, as in this case, to the mechanical removal of matrix from an underlying deposit such as unit 8, by percolating water, under conditions where the drainage input is localised. Taylor's notes indicate that he believed the rock rim of the swallet lay only just to the north and east of the excavation in square 23. In the area to the north of the swallet, the limestone is covered with a heavy clayey soil, probably comparable to unit 6. After heavy rain, water can be seen there draining from hollows in the track along the northern edge of the common into immediately adjacent depressions, providing a model for what may have happened at Bos Swallet.

Taylor's interpretation was coloured by his observation of 'light greyish white ash' overlying the north side of the funnel-shaped upper end of the pipe and lining the horizontal section through it, which led him to infer burning, hence his calling it the 'chimney'. A more plausible explanation for this material may lie in leaching and reduction of the ferric iron component of the surface soil resulting from dumping on the site of the pipe of water-saturated black ash, fresh from the trough and rich in the combustion products of burnt wood (CO, H₂CO₃), combustion having been arrested by plunging into the trough. However, certainty on this point is unobtainable without examination of an exposure or a soil sample, although the observed stratification makes it quite impossible that the pipe could ever have functioned as a flue or chimney!

The 'trench' clearly relates physically to the pipe, even though its contents, as Taylor observed, include nothing later than the Beaker occupation. It seems possible that the downward movement of percolating water which produced the pipe was arrested when it reached either a temporary saturation level in the swallet filling or the sloping rock wall, after which the water moved laterally towards 'drain holes' in the bottom of the depression, removing matrix from the deposits and allowing the overlying Beaker occupation layer to slump down locally by some 30 cm or so.

Unit 2:

This unit seems to have returned to the conditions of deposition prevailing before unit 3 was deposited and despite the substantial depth of the unit, the absence of artefacts and charcoal suggests that human agency had little or no direct influence. Although slumping of the older deposits could have resulted in renewed slope wash because of the steepening of the sides of the swallet, the time interval available for the formation of this unit was probably at least 3000 years, giving an average rate of accretion of less than *c.* 0.3 mm per year. Given this slow

rate, some contribution from wind-borne material seems likely, assuming a more open local environment following the gradual conversion of forested uplands to heath and rough grazing.

Stream erosion and the stratigraphic sequence

The suggestion near the beginning of this section of a stream formerly flowing into the western part of the swallet, may help to explain the contrast between the southern and eastern sides of the site, where the records and the generally even run of units 3 and 4 in the reconstructed sections, particularly section *S.2* (Figure 4), suggest a simple slope deposit mode, interrupted neither by slumping nor by major erosion, and the more problematic and fragmentarily recorded western side. Here, several aspects suggest erosion.

Points to consider are:

- a) The discontinuous nature of unit 6 where it rests on unit 8 as shown in section *S.4A*, perhaps suggesting downward translocation through the boulder layer, unit 8.
- b) The contrast between the east side of square 22, where a thickness of a metre or more of unit 5 may separate unit 4 from unit 6, or unit 5 may lie directly on unit 8, and the west side, only 2-3 metres away, where unit 5 is absent and 4 lies directly upon unit 6.
- d) The final tapering out of units 4 and 6 in the deepest part of the 1958 cutting with unit 3 coming to overlie unit 8.
- e) Taylor's sketch section of the stratification of the south side of the deep pit in square 22, showing an erosion surface cutting through units 5 and 6 and overlain by unit 3.

The following sequence of events may be suggested in explanation:

- 1) Colluvial deposition of unit 6 on unit 8 in the lowest part of the swallet (or possibly by wind deflation of soil mantle during a dry phase of the last glaciation (Devensian) ?);
- 2) (Erosion of unit 6 by subduction? - conjectural);
- 3) Unit 5 washed in down the stream valley from unit 7, covering unit 6 and overlapping on to unit 8;
- 4) Stream erosion removes unit 5 from the western side of the swallet, perhaps connected with the onset of 5);
- 5) Colluvial deposition of unit 4 broadly down the valley, possibly taking the form of a mass mud flow, similar to those observed in chalkland dry valleys, Beaker occupation;
- 6) Further stream erosion before the deposition of unit 3;
- 7) Deposition of unit 3, Boiling site, followed by abandonment;
- 8) Downward translocation of material in the pipe and trench, no evidence for further major erosion?

The possibility that some of these were 'flash-flood' events similar to, though on a much smaller scale than those of the 'great Mendip storm and floods' of July 1968 (Savage, 1969) should not be discounted.

ARCHAEOLOGICAL INTERPRETATION

*The Unit 4 Beaker occupation***The 'Hearths':**

Despite Stanton's reiteration (1989, p. 398) of the discrete limits of the 1947 hearth, the plans (Figures 3 and 5) suggest that it and the 1957 'black band' in square 22 must have been virtually confluent. There is a difference though, the former was described as "sloping gently north-west", whereas the latter seems to have been deposited on a steep slope, too steep in my view for actual occupation. What seems possible here is that the area dug in 1957 had been affected by slumping due to the later digging of pit 2216, immediately to the west, and subsequent partial collapse of its sides. My experience of digging Beaker occupation sites suggests that these 'hearths' really represent deposition of rubbish in shallow hollows, adjacent to the actual fire sites, which need have been no more than reddened areas of soil with associated spreads of charcoal and ash, possibly in the area later occupied by pit 2216.

Pit 2232:

The function of this is unknown; although it contained burnt material the absence of any signs of heat or burning in the pit makes it unlikely that it was a pit oven, unless Taylor was correct in describing the loam floor as "apparently baked". The 'clay pillow' from it might suggest storage of clay for use in potting.

Lacking preserved records, the exact location of the 1954-5 Beaker finds remains uncertain, probably they came mostly from the western and northern sides of square 23.

The evidence both of excavation and of field walking indicates that Beaker pottery left on the surface disintegrates rapidly; thus the reasonably fresh condition of most of the sherds preserved indicates that soon after breakage they were incorporated in the deposits where they were protected. Conversely the worn condition of some sherds and the preservation of less than 10% of most of the pots indicates that most of the pottery must have remained on the surface, with some broken pots not preserved at all. Primary deposition is indicated by the joining sherds of the large beaker (Figure 7, 5) found together in pit 2232, while the dispersal of the joining sherds of beaker no. 1 (Figure 7, 1) through almost all pottery-producing contexts suggests that these contexts were contemporary. The apparently closely circumscribed distribution of material on the site, with the same pots represented in the 1954-5 and the 1956-8 finds, suggests a single period of occupation only.

The hearth debris containing burnt flint, sherds and animal bone, as well as discarded flint tools and broken pottery, points to a range of domestic activities on the site. The relative deficiency of waste from flint tool making, even though there is some waste resulting from maintenance and many tiny chips produced by tool use, suggests that its users came with ready made tool kits, while a similar inference can be drawn from the absence of overt evidence for pot making on site, the fired clay lumps being accidentally burnt occupation deposit. It is notable too that although the supply of available flint was limited and intensively used, no attempt was made to exploit locally available chert for implements.

*The Unit 3 Boiling Site***Pit 2216:**

Taylor interpreted this as having been designed to hold water, the laminated deposit of black ash and reddish clay (2220) in its bottom as laid down in water and as evidence of repeated episodes of use, the lumps of red clayey loam (2219) as evidence of a clayey lining, the slabs of brown stony loam (2217) as evidence of the collapse of its dry sides into the by then dry pit, and the deposit of fractured sandstone in black ash and sand (cf. 2214) as due to thermal shattering of heated stones by contact with cold water. He noted that: "The clay (2220) appears to be that (2245) which occurs in the swallet below the pale yellow loam (2241) and is certainly NOT the red loam of the surface soil. It was probably dug from the swallet and used as a lining of the pit which would not be water tight otherwise ... The vertical extension of the black ash layer (2214/2215), ... [about?] the Square 21/22 boundary indicates a cut dug down through the red clay (2245)". (*notebook*, p. 57). He also observed that: "the black ash obviously came in mostly from the east, falling over the top of the fallen baked [indurated] loam (2217)."

With hindsight it is possible to recognise the probable function of the upright slabs at the base of the sides of the pit as packing for a water-holding trough constructed from wooden planks. These are familiar now from what are known as 'Boiling Sites', 'Burnt Mounds', or in Irish '*fulachta fiadh*', which are widely distributed in the British Isles and northern Europe (for a recent survey see Buckley, 1990). With this hindsight the 'black ash and fractured stones' can be seen to be the product of shovelling heated stones from a wood fire into the water-filled trough to heat the water (rather than pouring cold water over hot stones as Taylor thought) and their subsequent removal prior to the next boiling, while the laminated basal filling of the pit will have accumulated in the undisturbed void beneath the floor of the trough. Since no traces of a timber lining were seen, this may have been removed after the trough had gone out of use, alternatively periodic drying out of the swallet would have allowed aerobic decay of the timbers even though the pit may have been waterlogged for much of the time.

With floor and side planking in place, the trough will have been around 1.2 m long by 0.75 m wide internally. Its depth is difficult to determine, the 20th century disturbance of the swallet fill having cut down the north side and destroyed any possibility of distinguishing the upcast material, but judging from the reconstructed sections of the south and east sides a depth of 0.9 m would be possible, with the sides rising above ground to prevent debris falling into the trough (Sheehan, 1990). This is somewhat smaller than the "standard size of trough for a fulacht fiadh" of 1.9 by 0.9 by 0.9 m (Buckley, 1990a, p. 170), but would still give a probable volume of around 0.8 cu m, 800 litres or about 180 gallons. The indications that the permeable subsoil constituted by unit 5 was saturated at least seasonally, suggests that the trough could have filled by percolation. Alternatively, the size of stream postulated above would have been sufficient to fill the trough within 2-3 hours, using sections of hollow log as a conduit.

Taylor did not locate the site of the fire used to heat the stones, but he did interpret the discordance between the height of c. 10.8-11.0 m asd for unit 3 adjacent to the top of the pipe in square 24, and the height of around 9.4-6 m asd for the only gently sloping deposit in square 17, less than 2 m away, to suggest that a platform had been "dug level" in squares 17 and 23 for the site of the fire (*notebook*, p. 52), although this would have resulted in the debris having to be thrown up a further metre or more to the north and east. The abrupt steepening of the southward dip of unit 3 in square 23, as observed in 1954-5, might be connected with this, or with the pipe already discussed. Unfortunately those excavations not only destroyed the putative site of the fire, but also created a gap in stratigraphic observation between the two locations.

The heap of burnt stones and the gully:

The first of these is a normal feature of boiling sites, the second, which lay at right angles to the line of the valley but on its eastern side, may have functioned, as Taylor suggested, to divert surface water from the working area and trough.

Pit 0306:

The function of this pit, found in square 3, is unknown. It may have been for a second trough, if so it could not have been filled by natural percolation or directly from the stream.

The volume of shattered stone in unit 3 is difficult to calculate, but working on the assumption that the debris covered an area of about 33 m² in squares 15-17, 21-24 and 27-28, with a mean thickness of 0.3-0.5 m, the estimated total volume would be of the order of 10-22 m³. Using estimates from experiments, suggesting that a single boiling cycle might produce a volume of heat-shattered stone approximating to half the volume of the trough (Fahy, 1960), this would allow for perhaps 25 to 55 firings, very much in line with estimates from elsewhere (Russell-White, 1990). On the basis of 10 firings a year, the period involved might have been no more than two to five years, if only 5 a year, then perhaps five to ten years, although reuse of burnt stone might prolong this to even twenty or at the very outside thirty years.

I believe the interpretation of these features and of unit 3 as a 'boiling site' to be well founded and secure; Taylor's plans on which Figure 5A is based are clear, his descriptions specific and unambiguous and his interpretations logical and thought through. The main concern is whether the pit may have been affected by the slumping noted by Stanton; while it would be difficult to be sure that the whole block of sediment in which it lay had not subsided, the integrity of the structure seems unaffected, so on balance I do not think that the interpretation can be rejected on this account.

ARCHAEOLOGICAL DISCUSSION

The Beaker Site

The site was presumably chosen because it was a sheltered dell (Stanton 1989, p. 399) with a water supply, located in the upland at the junction between two ecologically distinct zones, that of the Carboniferous Limestone and that of the Lower Limestone Shale and Old Red Sandstone, differing in soil, and natural vegetation.

The small size of the site suggests that only a small group of persons was involved. If so, then 20-25 broken pots (allowing for those which did not survive at all) seems excessive for a single brief visit, unless they arrived each carrying 4 or 5 pots which they deliberately broke before leaving. More probable seems a routine of periodic visits, conducting much the same range of activities on the same chosen spot, each visit disturbing the surface soil and rubbish sufficiently to erase any distinction from the previous one. Perhaps they did not always break a pot, but carefully carried away those they brought with them, none of the pots found being beyond the limit of what will have been reasonably portable (cf. Case, 1995, p. 65).

Taking into account the points discussed in this and the previous section, short term visits to the site would seem more likely than long term occupation, thus 'activity camp' might be a better description than settlement. There is no evidence to suggest crop cultivation or processing, and animal husbandry seems more likely given the poor quality of the immediately

local soils. The Gorsey Bigbury evidence indicates pig, cattle and sheep keeping, in decreasing order of numbers (WijngaardenBakker, in ApSimon *et al.*, 1976). Here there is just a scrap of evidence from the burnt bone to suggest that the inhabitants were eating mutton, so it is just possible that what was involved was a pattern of local transhumance with sheep belonging to a number of families being herded together on the hill during the summer months, although scraps of hazel nut shell from one sample suggest a stay sometimes prolonged to early autumn.

With the evidence of essentially local ceramic production noted by Russell and Williams (in prep.) and contra ApSimon *et al.* (1976, 181), it seems safer now to think of Bos Swallet and Gorsey Bigbury as occupation sites belonging to distinct though closely related groups. Gorsey Bigbury, which produced a much greater quantity of material, and pieces of clay daub (*ibid.* pl. 16) as evidence of built structures, could be seen as a major focal site with longer term occupation, in an area with locally much deeper soils perhaps better suited to cattle and pig husbandry than Bos Swallet. Seductive though this picture is, some scepticism is in order, remembering the Mendip plateau's cooler and wetter micro-climate. The Chew Valley Lake Beaker sites are a reminder of Beaker exploitation of valleys, while the Brean Down Beaker site (Bell, 1990) shows the settlement potential of the lower south-facing slopes of the Mendip Hills and the fringes of the Somerset levels. My suspicion is that sites on the freely drained deep loamy soils of the Langford series (Findlay 1965, 82-3, p. 174-5) developed on gravel fans overlying Keuper Marl at the mouths of Cheddar Gorge and Burrington Combe, and situated so as to exploit upland, lowland and wetland, may have played a key role in the year round subsistence and settlement patterns of these Beaker communities.

Comparisons:

Using the various published schemes of classification for British Beaker pottery this series could be called 'type A' (Abercromby, 1912), 'long-necked' (Piggott, 1963), 'southern British' (Clarke, 1970), 'Wessex area, step 6' (Lanting and van der Waals, 1972), 'regional group D' (Case, 1995), or just 'late' (Case, 1977). More immediately useful is the comparison with the Gorsey Bigbury assemblage as representative of late Beaker material in south-west England, one of the largest known, and itself closely comparable to the well known series from beneath barrow 5, Chippenham (Cambs) (Leaf, 1940; Gibson, 1982). Locally this assemblage can be contrasted with the rather earlier one, fragmentary but with sherds of around 20 Beakers, from the Chew Valley Lake sites, Ben Bridge and Chew Park Farm (Rahtz and Greenfield, 1977).

The comments made in the 1964 report on the character of the flint assemblage as a typical example of a Beaker associated flint industry have been generally validated by later research. It provides another example of Bradley's category of assemblages with high percentages of scrapers correlating with pastoral based activities on marginally located sites (1978, p. 56-60), while the suggestion that typological impoverishment of Beaker flint assemblages reflects progressive replacement by copper and then bronze tools, finds ample reinforcement now from the discovery of the Beaker copper mines at Ross Island, Killarney (O'Brien, 1995; 1995a).

Dating:

The close proximity of Bos Swallet to Gorsey Bigbury and the high degree of comparability between the finds from the two sites suggests that the age estimate from the six radiocarbon dates from the latter (BM-1086-1091; ApSimon *et al.*, 1976, 157-8; Burleigh and Hewson, 1979) should be valid for Bos Swallet also. Taking all factors into consideration these dates

seem compatible with a date for the occupation within the range 2150-1900 cal-BC, around the Final Neolithic / Early Bronze Age transition. For this reason and because the site lacks unburnt bone to provide a check on possible problems from firewood dates (Schiffer, 1986), dating of charcoal from the Beaker occupation has not been attempted.

The Beaker occupation on the surface of a deposit interpreted as colluvium, later buried by further colluvial accretions, calls to mind Allen's identification of colluvial deposits containing Beaker pottery as basal or near basal elements of dry valley fillings at a number of sites in the Wessex and Sussex chalklands (Allen, 1988, 84-5; 1994; Smith *et al.*, 1997). Pig keeping may have been a common causative factor, remembering the propensity of pigs for breaking up the vegetation cover and rooting in the soil. Pigs were the most numerous animals at Gorse Bigbury and were substantially represented at Charterhouse Warren Farm Swallet (Levitan *et al.*, 1988). Stanton (1989) has noted the erosive effects of modern pig keeping locally.

The Boiling Site

These are most common in Ireland; since they tend to be preserved in marginal areas of poor soils, the majority of British sites are in Scotland and Wales with comparatively few in southern England outside areas such as the New Forest. In this case the term, 'burnt mound', seems inappropriate, since the heap of burnt stones was buried beneath later sediment. Not surprisingly, most are located by streams, though they also occur in marshy or poorly drained areas.

They have generally been thought to have been used for boiling large joints of meat, although scarcity of preserved animal bones led Barfield and Hodder (1987) to suggest their use as sweat baths. Ó Drisceoil (1988) pointed out however that most sites are on acid soils where unburnt bones are not preserved, whereas sites on calcareous terrain do have associated animal bones, and that in any case cooking pre butchered joints for consumption away from the immediate rather damp spot would not be expected to leave bones.

Radiocarbon dates for Irish and British sites indicate that they date to the Bronze Age (Brindley and Lanting, 1990), beginning in 'Early', probably most frequent in 'Middle', but definitely continuing into Late Bronze Age time. Here the stratigraphic position on the surface of a stabilised 'Beaker' colluvium, probably showing the beginnings of soil development, favours an Early to Middle Bronze Age date.

The sandstone disc from pit 2216 would be of interest, if contemporary, since stone discs of varied size found in a couple of Irish sites (Cherry, 1990) are among the comparatively few finds from such sites, but is perhaps more likely to be derived from the Beaker deposit in which another sandstone 'disc' was found only about a metre distant.

The miners' spoil heap hypothesis

Although the features of the boiling site phase are highly diagnostic of this type of site, it is not surprising that Taylor was not fully successful in interpreting it, for when he dug it, none were known in southern England; the Boiling Mounds in the New Forest were only recognised from 1959 onwards and the first excavated only in 1967 (Pasmore and Palister, 1969). Published references to early work on sites in Wales, the west Midlands and East Anglia (conveniently cited by Buckley, 1990, p. 9-10, and Hodder, 1990) were in periodical literature unavailable to him. He will have had no reason to consult general works mentioning the Irish *fulachta fiadh* (cf. Raftery, 1951; Ó Riordáin 1953), and O'Kelly's experiments and major study

(1954) will have been inaccessible and unknown to him. Sadly, no one he consulted, myself included, seems to have known about these sites.

In the circumstances, the development of the ‘disturbance by miners’ hypothesis, arising from the need to account for the burnt stone deposit when other explanations seemed to have failed, is not surprising. It can be traced in notes and memoranda, too long to quote in full. In these Taylor excludes charcoal burning for lack of recognisable charcoal (*notebook*, p. 49, 16.6.57), or “burnt or other soil, or turfs”, notes a suggestion that: “the Black Ash & Rubble layer was the product of forges for forging and tempering miners’ tools”, going on to comment that: “The absence of slag, partly smelted ore, dross, etc., excludes smelting ... The absence of finds suggests medieval or ...[?] age or at least pre-clay pipe times ...” (p. 55, 21.6.57). Later notes equated the burnt stone, ‘black ash and rubble’, of unit 3, with the ‘black rubble’ of unit 8, black, because consisting of blocks of Black Rock Limestone, and loose, with voids, because of the washing out of matrix. Since this appeared to undercut the other deposits, he concluded that it filled intrusive pits which he then assumed to be due to disturbance by mining, influenced by the supposition that the adjacent doline was also the work of miners (p. 77, 12-10-57). Lastly came suggestions that: “the miners or ‘Black Rubble’ people, dug through a Beaker site either here, throwing their spoil behind them, or elsewhere, & redeposited it on their tip, so that some stratification was produced” (*idem.*, adapted), and that the pale colour of unit 5 might indicate mining for Calamine (p. 83, 3-5-58), and the hypothesis was complete.

Bos Swallet and the prehistoric landscape

The leaf-shaped arrowhead (Figure 8, 1) and chert artefacts from unit 5, like other local stray finds of arrowheads, polished flint axes and even the Ebbsfleet style bowl from Rowberrow Cavern (Beale, 1960; Taylor, 1926; Yorke, 1954), need imply no more than casual visits within a pattern of Early Neolithic pasture-woodland exploitation in what may have still been essentially ‘wildwood’ (Rackham, 1990), there being hardly any earlier Neolithic monuments on the high Mendip plateau.

Though this picture may have begun to change in the Late Neolithic, the first concrete evidence locally is from the Final Neolithic Beaker burial and initial barrow at T.5 (Read, 1925; ApSimon, 1969, p. 41, fig. 6; Aston and Iles, 1986, p. 23, fig. 2.9B), 300 m from Bos Swallet. This marks the local beginning of monument building, suggesting more intensive exploitation of this upland area as increasingly open pasture-woodland, at least in the immediate neighbourhood. This seems to provide the most likely context for the Bos Swallet occupation.

For the period following the Beaker occupation the presence locally of barrows with Early Bronze Age burials (T.5, Read, 1925; Taylor, unpublished excavations; and T.7 (Shipham 4), Read, 1925) confirms continuity of activity and exploitation of the area, even if the site itself was no longer used. As in other areas of poor soils, repeated cycles of interference and clearance for grazing, probably led eventually to the replacement of closed woodland by rough grazing, scrub and heath, without intervening phases of cultivation (Ashbee and Dimbleby, 1974).

The small cemetery of cremation graves and pits on the periphery of barrow T.5, with a leaf-shaped bronze razor indicative of a date late in the Early Bronze Age or early in the Middle Bronze Age, roughly around 1600-1500 cal-BC, confirms continued use of the area, and since it may well imply a settlement near by, provides a possible context for the boiling site. This makes it unlikely that Bos Swallet was a hunting camp in the ‘wildscape’ as has been suggested for sites found isolated without associated huts or settlements (Barber, 1990, p. 98, ‘class 1’), and pastoral exploitation in by then rather open pasture woodland seems a more probable context.

CONCLUSIONS

1. The archaeological deposits at Bos Swallet were not disturbed by mining or by other human action or by animals.
2. There was minor Early Neolithic activity on and around the site.
3. The late Beaker occupation was in-situ and the material found was de facto rubbish produced and deposited on site in the normal course of domestic activity.
4. The site was later used as a Boiling Site, probably of Middle Bronze Age date and perhaps the first to be excavated in southern England.

Despite the defects noted, Taylor's detailed observation salvaged a great deal of information, allowing hypotheses to be formulated concerning the formation processes affecting the site and the developing human exploitation of the surrounding landscape, from Early Neolithic to Middle Bronze Age. The excavation added to the still small number of un-disturbed Beaker occupation sites that have been investigated, helping to kill the myth of Beaker pottery as part of a 'prestige package' (Burgess and Shennan, 1976), rather than everyday domestic pottery (Case, 1995), even if not necessarily used for cooking as Case suggests, and providing a precious window onto the pattern of activities on such a site. The successful excavation of the boiling site was an unexpected bonus. Because of Taylor's care and pertinacity, the potential for further work still exists, with the opportunity to refine our understanding of the site and its context.

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Figure 4. Bos Swallet, reconstructed cross-sections. Sections S.1, S.2, S.5, North-South, S.3, S.5, West-East, for location see Figures 3 and 4; S.1, S.1A and S.2 partly from photographs, S.3-5 from notes and sketches in notebook. Unit numbers bold, thus: 5; marginal numbers show the incidence of the site grid and heights above site datum (asd); d = sandstone disc.

