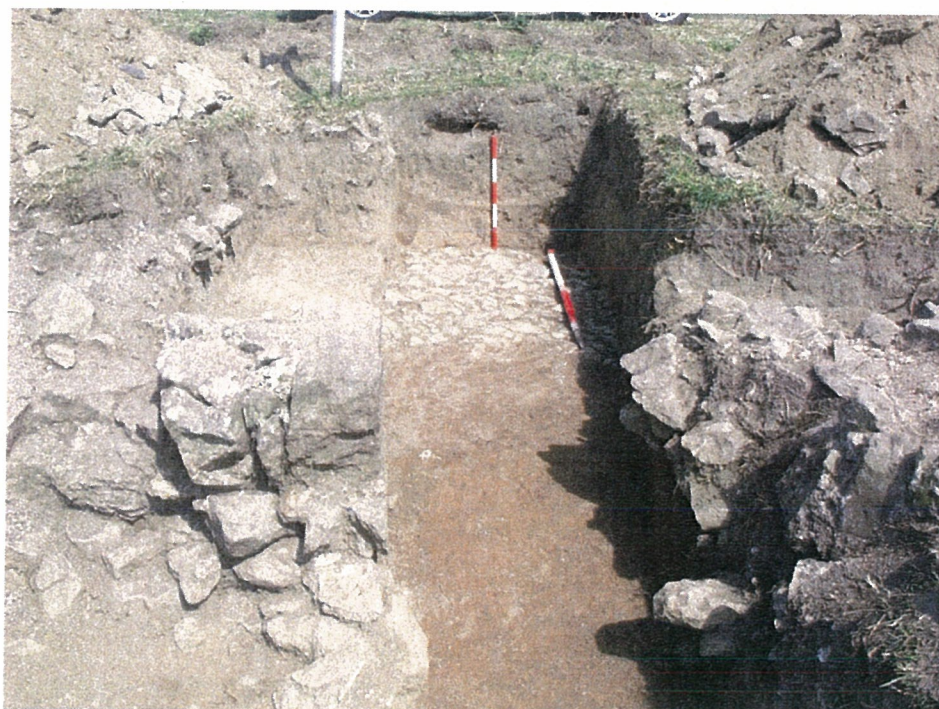




BROWNSLADE BARROW, CASTLEMARTIN, PEMBROKESHIRE

**ARCHAEOLOGICAL EVALUATION,
APRIL-MAY 2003**



Report No. 2003/57

Report Prepared for:
MOD DEFENCE ESTATES

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CAMBRIA ARCHAEOLOGY

**REPORT NO. 2003/57
PROJECT RECORD NO. 47999**

MAY 2003

**BROWNSLADE BARROW, CASTLEMARTIN, PEMBROKESHIRE
ARCHAEOLOGICAL EVALUATION,
APRIL-MAY 2003**

By

**Neil Ludlow
with contributions by
Dee Brennan and Ros Coard**

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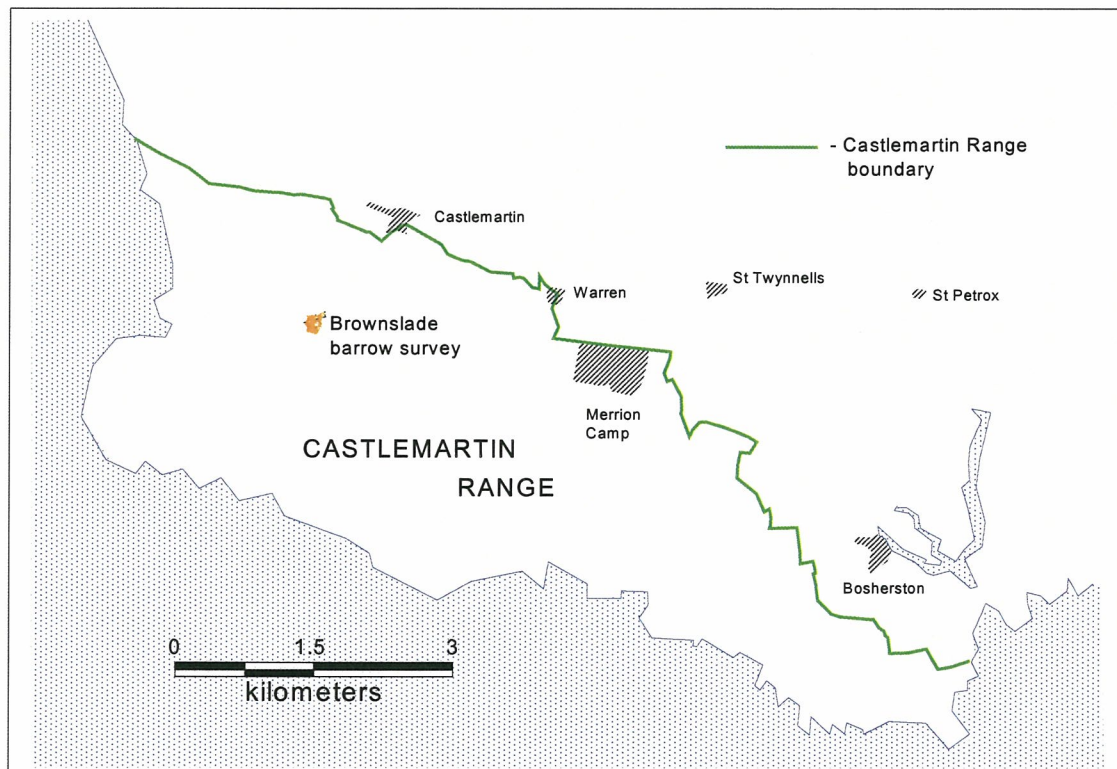
1.0 SUMMARY

- 1.0.1 A field evaluation, and osteoarchaeological analysis of bone samples from the scheduled Brownslade Barrow, Castlemartin, were commissioned by site owners, MoD Defence Estates, via their agent Wessex Archaeology, in Spring 2003.
- 1.0.2 Brownslade Barrow (NGR SR 905 972; PRNs 542 and 543; SAM Pe 315 (Pem)) is a low mound of sand, conventionally thought to be bronze age in origin. It was excavated in the 1880s when a large number of extended, oriented inhumations, some in stone-lined graves or cists, were uncovered, in addition to an earlier burial which may be Romano-British. The extended burials were assumed to be Christian.
- 1.0.3 The site is under threat from badger activity, and as a preliminary to any mitigation works MoD Defence Estates commissioned Cambria Archaeology to undertake a topographic and geophysical survey of the site in 2002. A possible earthwork enclosure was identified immediately east of the barrow, into which the burial area may extend. In addition, the remains of a small, E-W masonry building were recorded c.62m north of the barrow, at NGR 905 973. This was tentatively identified as the possible late medieval chapel that had been noted during the 1880s. In addition, a large collection of unstratified human bone, unearthed by badgers, was gathered from the surface in the area of the barrow in 2002, and deposited with Cambria Archaeology.
- 1.0.4 The 2003 field evaluation comprised a trial trench at the east end of the supposed chapel building. The results were inconclusive, only confirming map evidence that the building was in decay by the late 19th century. No grave cuts, or evidence for liturgical features, were observed, although two small fragments of bone that were recovered may be human. Therefore the origins of the building as a possible medieval chapel were not disproved.
- 1.0.5 The bone assemblage is very well-preserved and regarded as nationally important. At least six individuals were present, three females and three males, ranging from a teenager/young adult through to adults of 40 years plus. In general it seems to have been a very healthy population. There were few indicators of stress on the skeletal remains and most disorders were within the boundaries of normality.
- 1.0.6 Five samples of bone, from three individuals, were radiocarbon dated. All dates fell within the early medieval period (AD 410-1100). The radiocarbon dates spanned 510 years, from cal AD 450 to cal AD 960, possibly representing burial within the 7th-8th century.
- 1.0.7 However, the bone was unstratified and represents only a small sample. In addition, it is not known whether the bone was derived from the barrow itself or from the possible enclosure on its east side.
- 1.0.8 Until a chronological burial sequence can be established, any model for the development of the site from ?bronze age/Romano-British barrow inhumation, through post-Roman barrow inhumation and any inhumation within the apparent enclosure, to the establishment of the possible late medieval chapel, must remain inferential.

2.0 INTRODUCTION

- 2.0.1 The site known as Brownslade Barrow lies within an area of wind-blown sand on the MoD RAC Range at Castlemartin, Pembrokeshire. It is a Scheduled Ancient Monument (SAM Pe 315 (Pem)), but the scheduled area is confined to the barrow itself. The barrow was excavated by a local antiquarian, Edward Laws, in the 1880s when it was found to have been re-used for later burial (Laws 1882, 51-58; Laws 1888, 57-59). This included a possible Romano-British burial and a large number of extended, oriented inhumations - some in cists - that were presumed to be Christian.
- 2.0.2 The site and its environs were subject to topographical and geophysical survey by Cambria Archaeology in 2002 (Ludlow 2002). The survey identified a possible small, rectilinear earthwork enclosure immediately east of the barrow, possibly delimiting the Christian cemetery, and also identified the remains of a building 62m to the north of the barrow, tentatively identified as the chapel that was possibly noted during the 19th century.
- 2.0.3 The site is under threat from a large badger sett that has been established within the bank of the possible enclosure on its east side, with burrows leading towards, and possibly into the barrow itself. The magnetometer data did not locate any anomalies associated with the known archaeological features including the barrow. As a result the subsequent resistivity and ground-probing radar surveys (GPR) were located on visible features. The resistivity data appeared to confirm the suggestion of an enclosure on the east side of the barrow, and located anomalies possibly associated with Building 544, as well as defining the extent of the barrow. The GPR survey identified the badger burrows including three seen to be leading into the barrow.

Fig. 1 – Brownslade Barrow location map



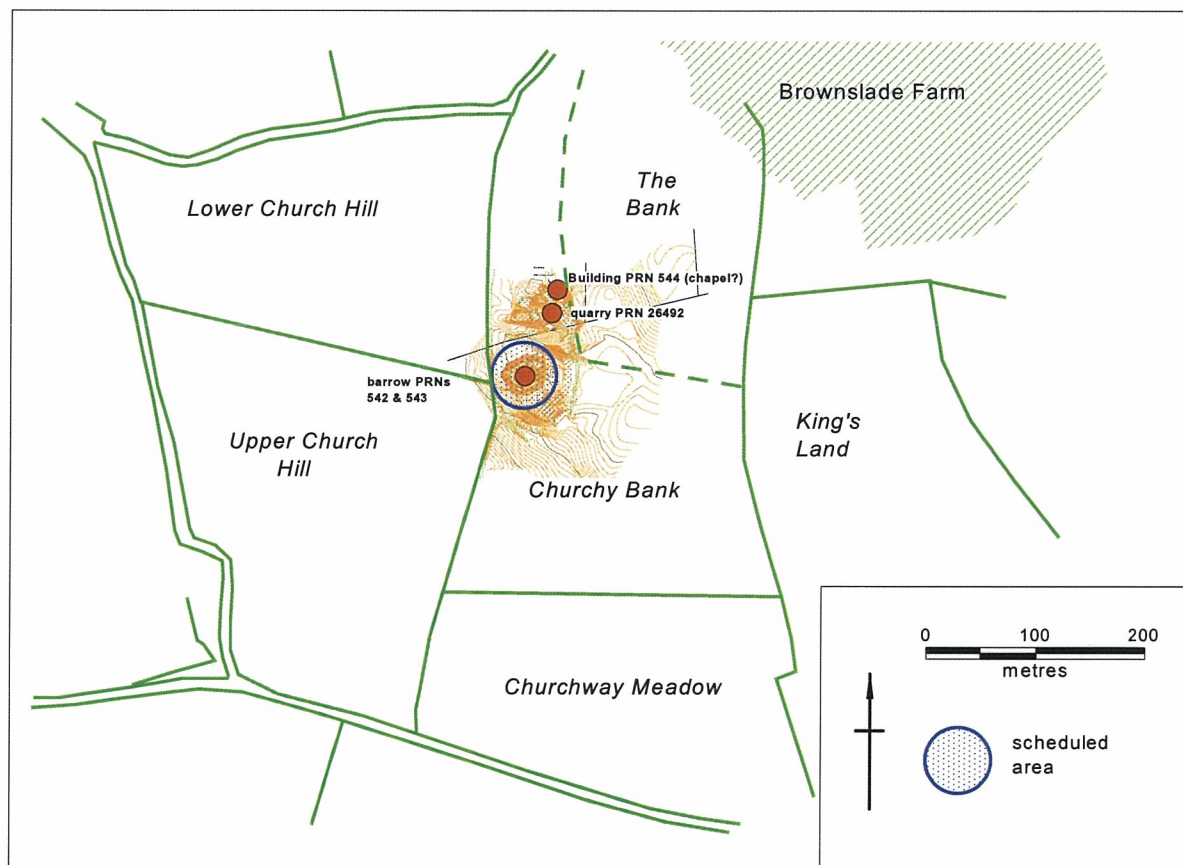
- 2.0.4 The extent of the cemetery was not revealed but burial may extend into the possible enclosure, where badger activity has brought much human bone to the surface. A large sample of this unstratified bone was collected from the area of the barrow, by various individuals during 2001-2, and given to Cambria Archaeology for further analysis.
- 2.0.5 In order to more fully understand the site, Wessex Archaeology, acting for the site owners – MoD Defence Estates – commissioned Cambria Archaeology to undertake an intrusive field evaluation within Building 544 and to undertake osteoarchaeological analysis of the human bone sample.
- 2.0.6 The barrow itself is given the Primary Record Number (PRN) 542 on the Sites and Monuments Record for west Wales. The medieval burials are given the PRN 543, and the chapel building is PRN 544.
- 2.0.7 No Ordnance Survey datum was available during the 2002 survey and all heights in this report are given relative to the arbitrary datum used in 2002 (see Ludlow 2002).

3.0 SITE LOCATION AND DESCRIPTION

3.1 Location

- 3.1.1 Brownslade Barrow, Castlemartin parish (PRNs 542 and 543) lies at NGR SR 905 972, towards the western tip of the Castlemartin peninsula, in an area of wind-blown sand. The area has been owned by the MoD as part of the Castlemartin RAC Range since 1948 (Fig. 1). Geographically the range is a plateau dissected by two small streams that enter the sea along the western coastline through a system of sand dunes. Vertical sea cliffs define the southern boundary.
- 3.1.2 The underlying geology is Carboniferous limestone which, over most of the range, lies beneath drift deposits characterised by very fine *loess* deposits. The soils are everywhere deep and rich; prior to military use the area was primarily arable on what was considered to be the best corn-growing land in Pembrokeshire.
- 3.1.2 The site lies towards the west end of the range, 700m inland from the dune slacks of Linney Burrows, but within an area of blown sand.

Fig. 2 – Brownslade Barrow relative to published Ordnance Survey map field boundaries, showing scheduled area



3.2 The barrow

- 3.2.1 The barrow stands on a slight E-W trending ridge, a position of high visibility, at an approximate height of 42m above sea level. It is oval rather than circular in plan, measuring 40m WSW – ENE, and 34m SSE – NNW, and averages 2m in height with a smoothly rounded profile (Plate 1; Fig. 3). It is apparently largely constructed from sand.
- 3.2.2 It stands near a modern fence line off of the main firing area. It is mostly in good condition, possibly because of the RAC artillery star-markers that stand at its base to the north and south (Plate 1). It is grass-covered, but the irregular surface to the turf is evidence of the excavations undertaken by Edward Laws during the 1880s (see below). The area around the northern marker is in good condition, but the area around the southern marker is eroded. The erosion is largely superficial but the turf layer has gone exposing the underlying sand.
- 3.2.3 The 1880s excavations revealed a large number of burials, of 'men, women and children', some of which were seen to occupy cist graves without lintel slabs. They were described as lying in 'tiers', up to four deep, which appear to indicate successive re-cuts of graves. The burials were extended and oriented, and therefore presumed to be Christian, and from the medieval period, but no conclusive dating evidence was recovered from the site. The contemporary description suggests that the burials were intercut and may therefore occupy a considerable time-scale.
- 3.2.4 The scheduled area is 60m in diameter, centred on the middle of the barrow (Fig. 2). Lying at its foot, on the eastern side, and largely beyond the scheduled area, is an apparent enclosure. The southern bank of this suggested enclosure has probably been enhanced by the action of badgers, who have dug an extensive sett in the bank and are actively damaging both it and the deposits – which, judging from the quantities of human bone brought to the surface, appear to include burials within the enclosure, as possibly suggested by the numbers involved in the 1880s account. Also lying within this enclosure is a large recumbent stone.

Plate 1 – Brownslade Barrow from the east



- 3.2.5 The age of the barrow is not known. It is generally regarded as bronze age, but Edward Laws' account of his 1880 excavation, though somewhat vague and sometimes confused (Laws 1882, 51-58; Laws 1888, 57-59), makes no reference to any burial that can be interpreted as bronze age. A central cist was regarded by the excavators as being a primary inhumation and 'older than the others' (Ibid.), although the 'wheel-turned' pottery that accompanied the burial was not adequately recorded and its date is unknown. In fact, the burial appears to be Romano-British (Ludlow 2002). Its dating is discussed in Section 8.1 below.
- 3.2.6 See the 2002 survey report for a full description of the barrow (Ludlow 2002).

LANDSCAPE PAGE

Fig. 3 – Topographic survey of Brownslade Barrow showing its relationship with Building 544

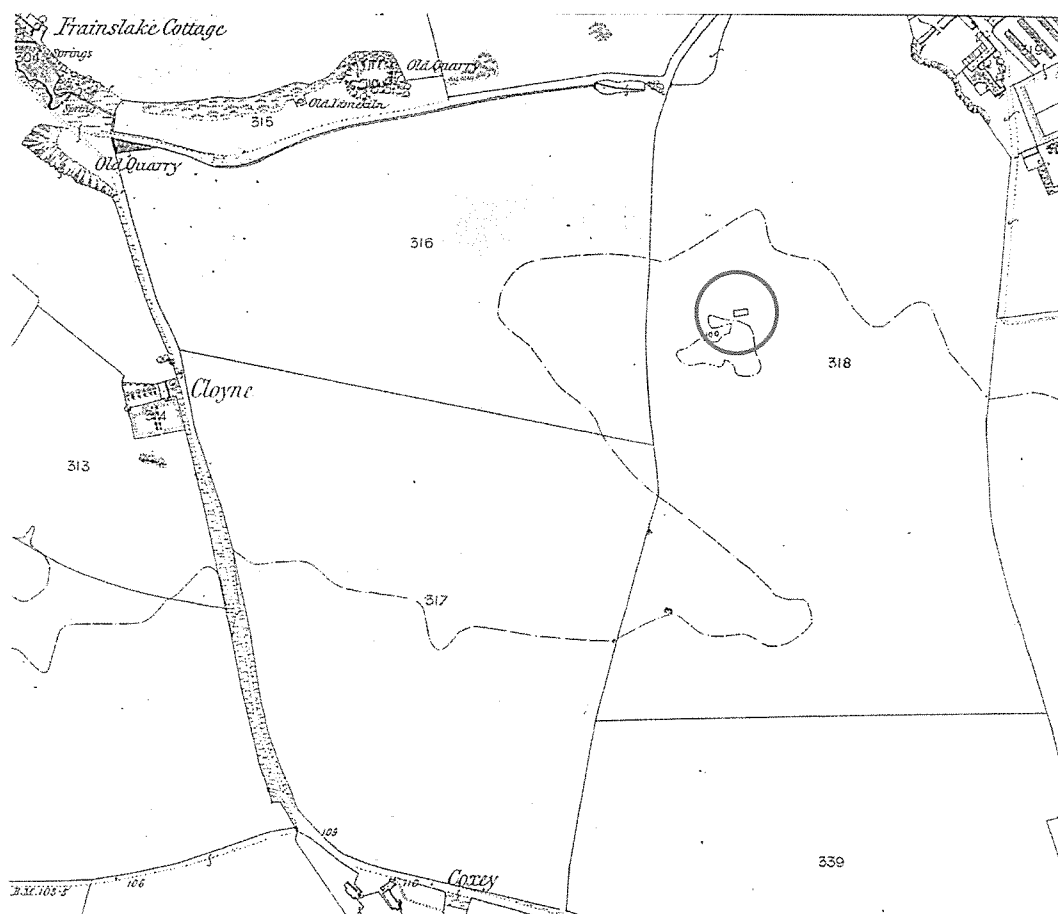
3.3 Building 544

- 3.3.1 The fragmentary remains of a small, oriented rectangular masonry building (PRN 544) lie 62m north of the barrow and scheduled area, at NGR SR 9055 9730 (Figs. 3 and 4; Plates 2 and 4). It was thought to possibly represent the chapel that is said, by Laws, to have stood near the barrow (Laws 1882 and 1888).
- 3.3.2 Building 544 appears to be shown as an open rectangle on an estate map of 1790, though it is vague (Pembrokeshire Record Office, D/Angle 74). It is clearly represented by an open rectangle on the Ordnance Survey 1:2500 First Edition map of c.1880, suggesting that it was then roofless (Plate 3). It appears to have become ruinous by 1908 when it was not marked on the Second Edition map (only selected buildings are shown on the tithe map of Castlemartin parish, drawn in 1838, its absence from which is not significant).
- 3.3.3 Prior to the evaluation, Building 544 was represented by a rectangular, E-W depression. The east, north and west sides were additionally defined by intermittent, limestone rubble masonry which showed through the turf. In addition, a large orthostat occupies what appeared to be the southern wall line of the building. The area around the orthostat has been poached due to its use as a sheep-rubbing stone.
- 3.3.3 The south side of the building is truncated by a small limestone quarry, or possible sand-pit (PRN 26492), with an irregular outline and profile. It measures approximately 60m east-west and 40m north-south, and extends to within 30m of the barrow. It is now grass-covered. It is not marked on any historic maps and must be post-c.1880 as the south wall of Building 544 is shown in Plate 3, and it may be a 20th century feature. Nevertheless, limekilns are shown to lie to the northwest on both the First and Second Edition maps (Plate 3). Irregular mounds to the north may represent dumping, possibly of spoil from lime-burning.

Plate 2 – Building 544, and orthostat, from the southwest, before excavation



Plate 3 – Detail from Ordnance Survey 1:2500, First Edition, Pembs. Sheet XLII.6, c.1880, showing outline of Building 544 (circled), and limekilns to the northwest



3.4 Boundaries and field names

- 3.4.1 The field boundaries shown on all editions of the Ordnance Survey maps and the Castlemartin tithe map of 1838 (Fig. 2; Plate 3) are no longer functional and are now represented by low, stony earthworks averaging 0.2m high. A modern post-and-wire fence divided the area of the barrow from Brownslade Farm to the north (and from the quarry/sand-pit and Building 544). Both areas are used for sheep-grazing.
- 3.4.2 The account of the 1880s excavations (Laws 1882, 51-58; Laws 1888, 57-59), and many other sources, have made much of the statement that the barrow stood in a field named 'Churchways' (Laws 1888, 57; RCAHMW 1925, 61 No. 140). In fact, in 1790 both the barrow and Building 544 stood in a field called 'Churchy Bank' (Pembrokeshire Record Office, D/Angle 74; Fig. 2).
- 3.4.3 By 1838, 'Churchy Bank' had been united with the field to the east, 'The Bank', to form a large field called 'Bank Piece' (Castlemartin tithe map, 1838). 'Churchway Meadow' lay immediately to the south, to the west lay 'Upper' and 'Lower Church Hill', and to the east was 'Kings Land' (Fig. 2).

4.0 PROJECT OBJECTIVES

- 4.0.1 The barrow has not been subject to modern, scientific excavation and cannot at present be dated. However, the extended burials encountered in the 1880s were assumed to be Christian and of early medieval date, representing re-use of an earlier feature.
- 4.0.2 Although 26 cemeteries of presumed early medieval date have been recorded in Pembrokeshire (out of 37 possible cemetery sites), only five have produced any form of dating evidence and two of these dates - at Cilgerran and Eglwysrw - are post-Conquest. The other three produced early medieval radiocarbon dates. Obtaining dates from the Brownslade burials, and from other cemeteries, is of crucial importance in understanding the development of Christian burial in west Wales.
- 4.0.3 The primary objective of this project was therefore to obtain radiocarbon dates from the bone sample held by Cambria Archaeology, and to establish basic information about the sample including number of individuals present, their gender, age and pathology.
- 4.0.4 In addition, an intrusive archaeological field evaluation was undertaken in Building 544, to the north of the barrow, in order to understand its nature and date, ie. to establish whether it may have been a chapel, and also to evaluate the extent, survival and archaeological potential of its associated deposits and features. Recommendations for future management are also made.
- 4.0.5 The incomplete nature of current understanding of burial practice, and its development, in medieval West Wales, and of ecclesiastical practice generally, prompted Cadw, in 2001, to initiate a pan-Wales assessment of the early medieval ecclesiastical resource. The west Wales component of this study – the Cadw-funded Early Medieval Ecclesiastical Sites Project – is currently being undertaken by Neil Ludlow of Cambria Archaeology. It provides a research framework against which the results of the Brownslade project can be assessed.

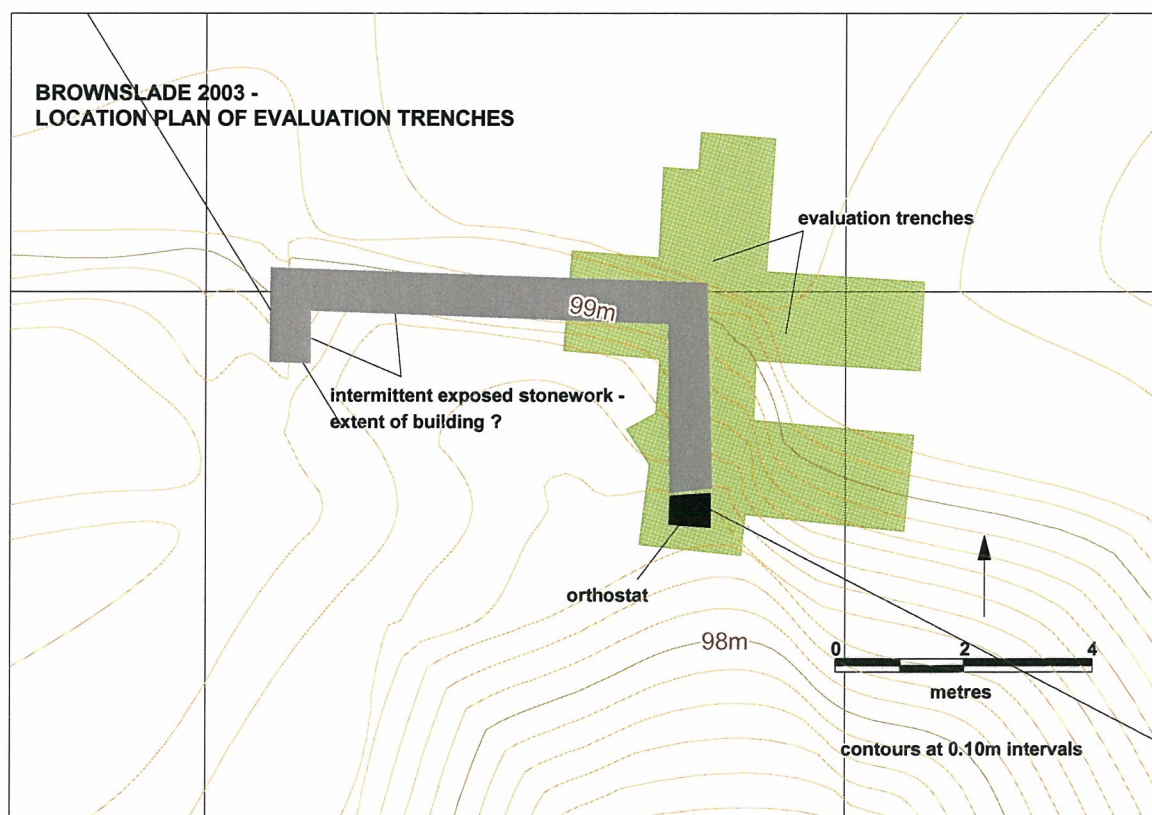
5.0 METHODOLOGIES

- 5.0.1 The archaeological work comprised two parts: an intrusive field evaluation in Building 544, and the osteoarchaeological analysis of the bone sample currently stored by Cambria Archaeology. The two parts were undertaken concurrently beginning 14 April 2003, and were undertaken in accordance with a brief issued by MoD Defence Estates on 5 March 2003.

5.1 The field evaluation

- 5.1.1 The field evaluation comprised an archaeological test trench measuring 20m² in total area (ie. the maximum area permitted by the brief). It was located at the east end of Building 544 (Fig. 4), within which - if the building was a chapel - burial would be most likely to be expected, and within which archaeological evidence for liturgical features such as an altar base would be most likely to occur.
- 5.1.2 The trench was positioned just within the inferred east wall of the building, ie. the area least affected by quarry/sand-pit PRN 26492. It was irregular in plan, with extensions beyond the east and north wall lines to test for the presence of extra-mural burial.
- 5.1.3 The trench was hand-excavated to the level of the top of archaeological deposits which were then hand-cleaned and recorded. Within the main N-S trench, selected deposits were then removed so that all archaeological features could be sampled to the level of the undisturbed natural subsoil.
- 5.1.4 All features and deposits were identified using the open-ended context numbering system employed by Cambria Archaeology Field Operations and recorded on *pro forma* recording sheets. All archaeological features and deposits were drawn at 1:20 scale, with a detailed section drawn at 1:10. Photography was in digital format. The trench was backfilled immediately after excavation.

*Fig. 4 – Detail of topographic survey showing Building 544
and location of evaluation trench*



5.2 The bone analysis

- 5.2.1 Three separate collections of unstratified human bone were deposited with Cambria Archaeology in 2002. All had been gathered from the surface, in the area of the barrow, where the bone had been unearthed and deposited by badger action. It must be emphasised that the precise findspots are not known, but the majority of the bone is thought to have been found near the sett entrances, which are located east of the barrow and within the bank of the possible enclosure.
- 5.2.2 The sample comprised c.3.5 kg of bone. However, the bone collection was not selective and many turned out to be animal bones. These are dealt with separately in Section 6.2. The human bone was extremely well-preserved, having been interred in wind-blown, calcareous sand, and many were slightly mineralised. Analysis of the sample was undertaken in two stages –
- A. A preliminary examination (by Dr Ros Coard, University of Wales, Lampeter), to identify certain basic information on the number of individuals present, sex, age, stature and significant pathology, and to make recommendations for further more detailed work. All of the bones were air dried for several days before handling, and then cleaned by a light brushing using a small, soft natural bristle brush. Some of the bone showed fresh breaks and some conjoining pieces were present. Any fresh breaks, where conjoining parts were found, were glued back together. Old breaks were left untouched, even when they joined. Each bone was marked with a specimen number. All were bagged, according to anatomical element, and the bags were labelled with the specimen numbers.
 - B. Following the osteoarchaeological examination, a number of samples were subject to radiocarbon dating. The sample was sufficiently large that AMS dating (Accelerator Mass Spectrometry) was not required, and standard radiometric dating was used. Samples were obtained from 3 individuals, from which 3 radiocarbon dates were obtained.

5.3 Data processing and end products

- 5.3.1 The end products specified in the brief comprised a report in both hard-copy and digital form. The digital data was requested as a text-only rtf. with images in tiff. format, and also as a pdf. complete with all illustrations and plans. Both are submitted on the CD that accompanies this report.

6.0 THE FIELD EVALUATION: RESULTS

- 6.0.1 Prior to excavation, Building 544 was represented by a rectangular, E-W depression in the general south-facing slope forming the northern edge of quarry/sand-pit PRN 26492 (Figs. 3 and 4; Plate 4). Overall, the depression measured 8.5m E-W and 4m N-S. Its east, north and west sides were additionally defined by intermittent, limestone rubble masonry which showed through the turf. The rubble was particularly well defined on the east side - where it was thought to represent the line of an *in situ* east wall, running for 2.6m - but nowhere was more than one course visible above ground level.
- 6.0.2 The southern half of the building appeared to have been entirely lost to the quarry/sand-pit. However a large orthostat, 0.7m E-W x 0.6m N-S at the base, and 1m in height, was located 3.5m south of the north wall line. It appears to be an erratic - although the stone type was not determined - and was thought to occupy the southern wall line of the building.
- 6.0.3 Prior the evaluation, the area was tested, by the Army, for live ordnance. Two shells were found to be located at the southern end of the proposed trench. They were both dug out, resulting in some minor damage to the archaeological deposits (Figs. 5 and 6).

Plate 4 - Building 544 from the east, before excavation



Fig. 5 – Building 544: composite plan of evaluation trenches

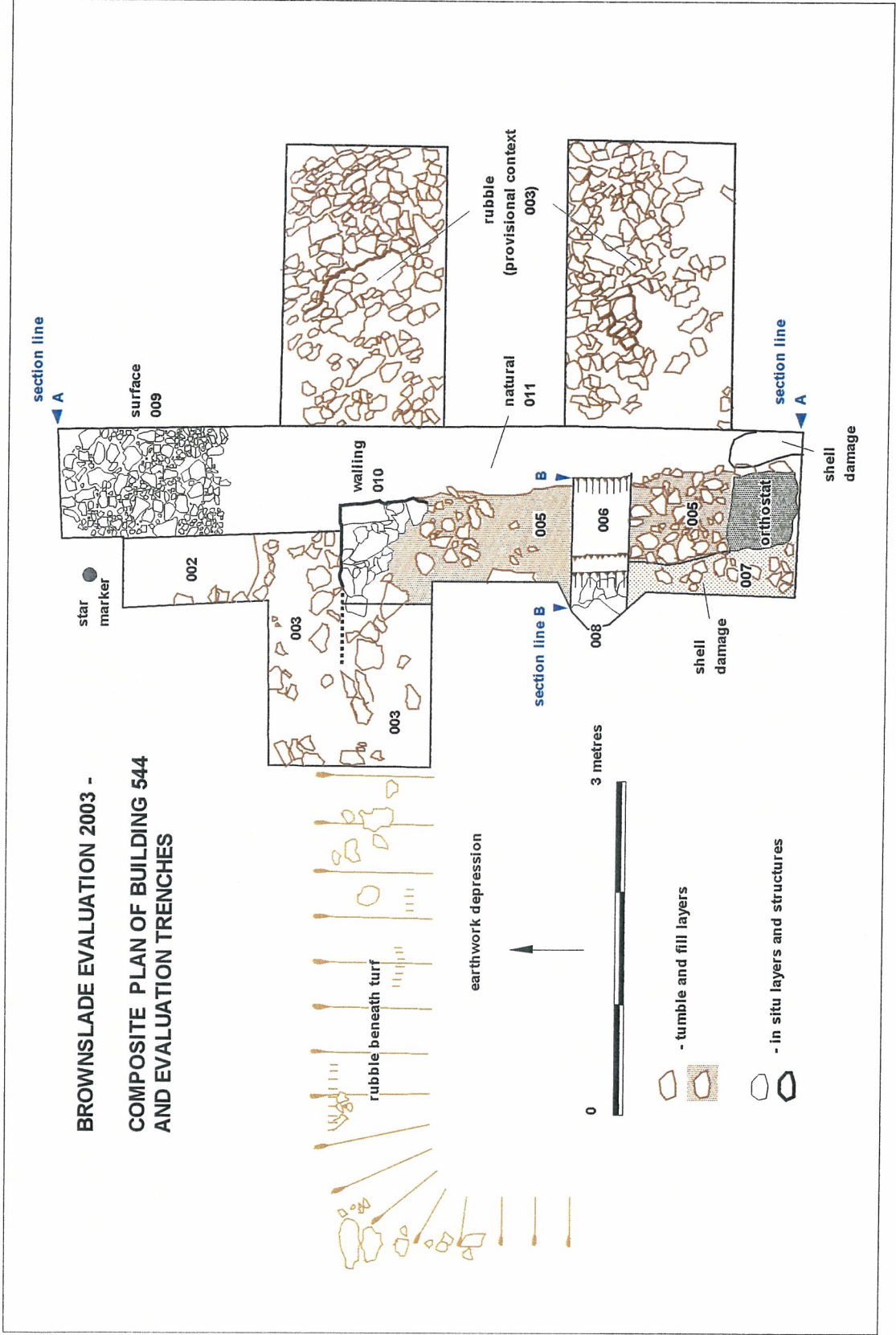
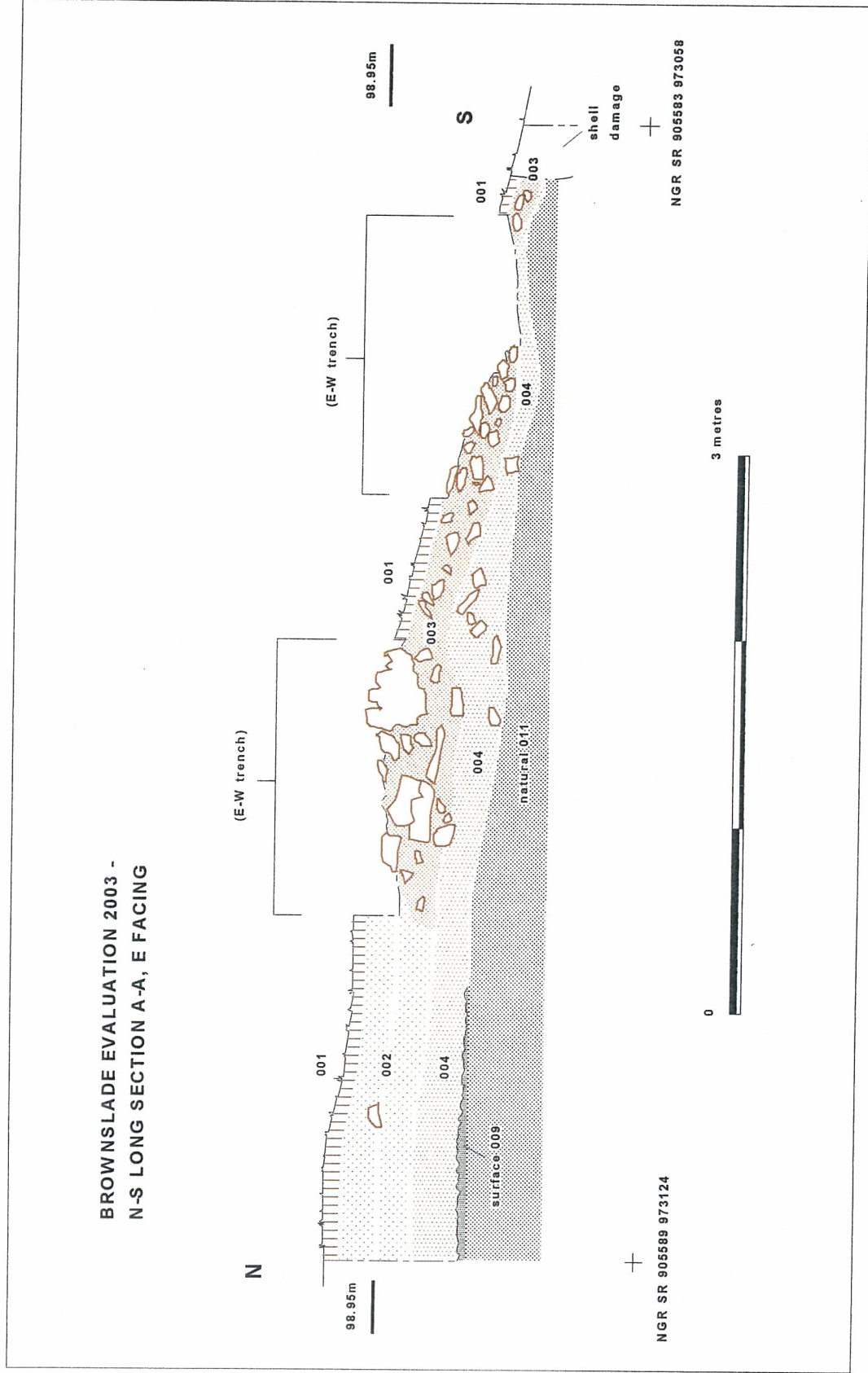


Fig. 6 – Building 544: long section of main evaluation trench



6.1 The evaluation trench (Figs. 5 and 6)

- 6.1.1 The trench was irregular in plan. A main, N-S trench measuring 6.5 x 1.5m was positioned just within the inferred east wall of the building and running south to the orthostat, to assess its relationship with the building and to test for any surviving southern wall line. The trench extended north of the building, to test for the presence of extra-mural burial. Two extensions were excavated east from the main trench, each measuring 2.5m x 1.5m, with the initial intention of testing for further extra-mural burial, and an extension measuring 1.5m x 1.5m was excavated west from the main trench along the inferred north wall line. The trench was excavated to a maximum depth of 0.8m and eleven contexts were recorded, including the natural subsoil. The site was excavated during the week beginning 14 April 2003, in very dry conditions.
- 6.1.2 **Context 001** - The topsoil was represented by Context 001, a dark brown, loose-friable sandy loam, with bands of lighter material suggesting that it was largely a wind-blown deposit. It supported a turf which was closely-cropped through sheep grazing. It averaged 0.1m in depth but was shallow or non-existent where it overlay wall lines and buried rubble.
- 6.1.3 **Context 002** - In the northern quarter of the trench, external to Building 544, Context 001 overlay a 0.4m thick deposit of loose-friable loamy sand, in alternate grey and orange bands (Context 002). Otherwise similar to the topsoil, Context 002 appears to represent a natural, wind-blown deposit. Two distinct horizons may be separated by an episode of building collapse, possibly represented by a scatter of slate debris (5% of deposit), although it will be seen that little of the building can have been standing.

Plate 5 - The N half of the trench after removal of topsoil, looking NE



- 6.1.4 **Context 003** - In the remainder of the trench, removal of the topsoil revealed an extensive spread of limestone rubble, apparently representing collapse from Building 544. It was this collapse which, showing through the turf, was initially regarded as the east wall line; excavation however proved the east wall line to lie 2m further west. The rubble was recorded as a single entity, Context 003, but it will be seen that it probably comprises two unrelated episodes, separated by a distinct deposit (represented by Context 004, see below). However, as recorded, Context 003 consisted throughout of 70% medium-large, subangular stones in a dark brown, loose-friable sandy loam matrix with 15% mortar inclusions/lenses and slate debris. Many of the stones bore extensive remnants of mortar, while some entire sections of mortared masonry were present. The rubble that was exposed by the removal of topsoil in the two eastern extensions was left *in situ*, removal of Context 003 being confined to the main body of the evaluation trench. Here, it had a maximum thickness of 0.5m, mainly concentrated within the northern half of Building 544 and around its north wall line. It became significantly thinner towards the southern end of the trench, being only 0.15m thick at the south end, presumably having been truncated by quarry/sand-pit 26492. It also occupied the western trench extension but here it was only partly excavated. Removal of rubble 003 revealed the scanty standing remains of the northeast corner of Building 544 (Context 010).
- 6.1.5 The rubble deposit was particularly concentrated within the two eastern trench extensions, where the stones lay largely on their sides, forming a well-defined pattern that appeared to 'fan out' from the line of the east wall (Plate 5). They appeared to represent the collapse - in a single episode - of a standing portion of the east wall of Building 544. However Context 003 did not directly relate to Context 010, the remains of the building, which in the main trench, were overlain by an intervening deposit, Context 004.

Plate 6 - The collapse (recorded as Context 003) in the N eastern trench extension, looking west after removal of topsoil



- 6.1.6 **Context 004** - Context 004 was an extensive deposit of orange-brown, loose-friable sandy loam with <50% subangular limestone fragments. With an average depth of 0.2m it was a thick layer, and fairly consistently so, being fairly consistent throughout the main evaluation trench. The deposit appears to represent blown sand that had accumulated over time, but the coarse components were apparently derived from Building 544.
- 6.1.7 **Contexts 005 and 006** - Context 004 occupied the whole of the main evaluation trench and overlay Context 005, the fill of a N-S trench (Context 006) which ran south from the remains of the northeast corner of the building, down the middle of the evaluation trench, to the orthostat - which then appeared to represent the southeast corner of the building. The full width of the trench was not revealed, but where sectioned, it was at least 1.2m wide and 0.2m deep, steep-sided with a fairly flat bottom (Plate 6; Fig. 7). It clearly follows the line of the east wall of Building 544. Its fill, 005, which comprised a 'dirty' orange-grey-brown, loose-friable sandy loam, with <50% subangular limestone fragments, was reminiscent of the fill of a robber-trench, and indeed it overlay the truncated walling (Context 010) of the building's northeast corner. The trench was also cut through late feature 008 (see below). The relationship between fill 006 and the orthostat was obscured by the damage caused by the prior excavation of the two shells.

*Plate 7 – Walling 010 after removal of 004, and soilmark 005
(filling sectioned trench 006), looking SW*



Fig. 7 – South facing section of trench 006 and feature 008

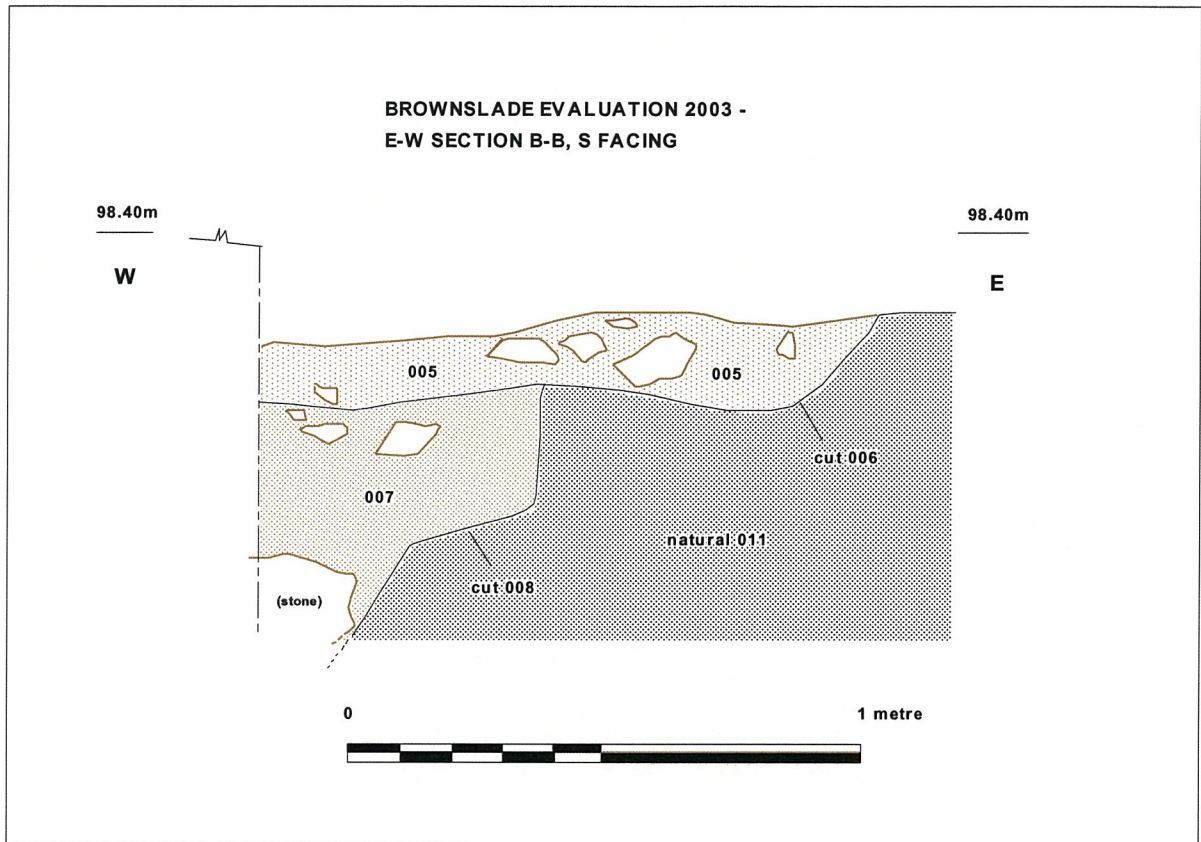


Plate 8 – South facing section of trench 006 and feature 008



- 6.1.8 **Contexts 007 and 008** – Externally to the building, trench 006 was cut directly through the natural subsoil 011 which was an orange-brown, friable sandy clay loam. However, within the east wall line was a feature, which was cut by trench 006 and therefore predates it. The feature, Context 008, was filled by a mid brown, friable sandy clay loam (Context 007) with 30% medium-sized subangular/rounded stones and <2% coal fragments. Pottery and glass from the 17th-18th century was also present within the fill (see Section 6.2 below). The shape and extent of the feature could not be determined in the restricted area available for excavation. However, part of its eastern edge was seen. It dropped vertically for 0.5m before becoming very shallow, and then dropping steeply for another 0.4m. Large subangular stones lined the bottom of the feature, which it was not possible to fully excavate. However, the feature was at least 1m deep in the excavated area.
- 6.1.9 **Context 009** - the northernmost 1.5m of the evaluation trench, external to the building, was occupied by Context 009. This was a gravel/cobble surface, comprising small-medium sized subangular/rounded stones, apparently laid directly upon the natural subsoil 011. It had a well-defined southern edge running parallel to, and 1m north of, the north wall of Building 544. The remainder of the surface ran beneath the edge of the evaluation trench.

Plate 9 – Surface 009 after removal of 004, looking N



6.1.10 **Context 010** - Context 010 was the surviving walling of the northeast corner of Building 544, which survived to a height of 0.6m (6 courses), represented by a 0.7m length of the east wall, and an unassessed length of the north wall (running beyond the excavated area). No construction trench - or pointing trench - was visible at the base of the walling, which appeared to be built directly onto, or into, the natural. The walling comprised medium-large, subangular limestone rubble, roughly coursed, with crude quoin stones. The *in situ* mortar was coarse, very limy, with small rounded Old Red Sandstone and coal grog. It was brittle, and still very white with little breakdown apparent.

Plate 10 – Walling 010 and surface 009 after removal of 004, looking S



6.2 The finds

*The artefacts (by Dee Brennan, University of Wales, Lampeter)
see Appendix 1*

- 6.2.1 The evaluation produced a total of 101 sherds of pottery recovered from three contexts. Of the total, 7 sherds are medieval and 94 are post-medieval in date. Much of the pottery comprises thin flakes from body sherds, at least some of which may originate from elsewhere and be sand-blown, like the surrounding deposits.
- 6.2.2 The bulk of the pottery, and other finds, came from the topsoil 001. In addition, datable finds were recovered from Context 004 and from Context 007, the fill of the feature cut by the east wall trench 006. Although a variety of pottery was present within each context, all included material datable to the 18th century at the earliest.
- 6.2.3 The very small and poorly preserved sample of medieval pottery is clearly residual. Six of the seven sherds are from the topsoil 001. These comprise rim, body and base sherds from one, possibly two unglazed cooking pots and a body sherd from a glazed jug. One other small body sherd from an unglazed cooking pot is from Context 004. All vessels are in a 'locally' manufactured gravel-tempered fabric. The fabric was first identified by Cathy O'Mahoney (1985a) and a recent survey of medieval ceramics in Wales gives a brief summary of the fabrics, forms, dating and distribution of this 'locally' made gravel-tempered ware (Papazian & Campbell 1992, 56-59). Although no chronological type series is yet available for these wares, associated pottery provides a means of dating (see, *inter alia*, Brennan & Murphy 1996, 1, Brennan 2003, 46-7), and proves that they are the products of a west Wales pottery tradition that evolved in the twelfth century, with a terminal date sometime during the late 16th or early 17th century when North Devon wares arrived on the Welsh market (Papazian & Campbell 1992, 56).
- 6.2.4 The bulk of post-medieval pottery is imported from North Devon. The majority of sherds fall into the 17th-18th century period of production, in what was a long pottery-making tradition centred on Barnstaple and Bideford (*ibid.*). This North Devon ware is extremely common in west Wales, with which Devon had close cultural associations and a thriving maritime trade from the medieval period into the early 20th century.
- 6.2.5 Most of the recovered sherds are from vessels made in the distinctive North Devon gravel-tempered fabric. From the topsoil there are at least six different bowls recognised from varying rim profiles. Additionally, there are a number of body and base sherds, which may represent other vessel forms produced and sold in this fabric. From Context 004 there are another two bowls, one jar and a handful of body and base sherds. A single indeterminate body sherd is from Context 007. All sherds are internally glazed green or greenish-brown. Evidence for use as cooking vessels is visible on several sherds, which are fire-blackened and sooted externally.
- 6.2.6 Four sherds of North Devon Sgraffito-decorated ware found in the topsoil are from two vessels comparable to Type 1 dishes found at Exeter (Allan 1984, 149). The Brownslade examples bear complex designs consisting of linear grooves, swirls and dots. A similarly decorated dish was found in a cesspit at the Tudor Merchant's House, Tenby, in a context datable to the 17th-18th centuries (Murphy 1989, 261; O'Mahoney 1985b, fig.3, no.14 and p.32). At Exeter most of the stratified Sgraffito-decorated wares' date from c.1660-1700, and there they are absent from c.1720 (*ibid.*, 132).
- 6.2.7 Two other pottery fabrics recovered from the topsoil are two body sherds from a large black-glazed jar of probable Welsh manufacture and five unglazed red ware body sherds of indeterminate form and uncertain provenance. On appearance a 17th-18th century date is likely for both wares.

- 6.2.8 The topsoil 001 also produced part of a single glazed ceramic ridge tile of fifteenth-sixteenth century date, of either local or North Devon manufacture. Additionally there are several body fragments from 18th century free-blown wine bottles and two clay pipe stems of uncertain post-medieval date.
- 6.2.9 See Appendix 1 for the full finds catalogue. Note that there is no firmly identifiable 19th century material.

The animal bone (by Dr Ros Coard, University of Wales, Lampeter)

- 6.2.10 A small sample of animal bone was present within both the finds from Building 544, and the unstratified human bone. This was briefly examined by Dr Ros Coard. The bones represent four species of animal, *Bos* (cattle), *Equus* (horse), *Ovis* (sheep) and *Oryctolagus* (rabbit). All are either modern forms, or domesticates.
- 6.2.11 Some cattle bones, from both juvenile and adult individuals, showed signs of butchery including unfused (juvenile) proximal tibia, distal humerus and vertebrae, and a fused (adult) distal tibia. Other cattle bones included a mandible and skull fragments, a metatarsal and podials. The sample suggested that two individuals were present, one butchered around 12-18 months and the other nearer 2-21/2 years or older (Silver, 1969).
- 6.2.12 *Equus* was represented by a single bone, the 1st phalanx. This was fused, suggesting an individual over 15 months (Silver, 1969), but fragmented.
- 6.2.13 *Ovis* was represented by long bones (radius, femur), pelvis fragments, a scapula and a single calcaneum. All appear to have been fused, therefore the animal was at least 3 years old (Silver, 1969) but there was no indication that the bones had been butchered.
- 6.2.14 The rabbit bone, which was represented by skull and mandible fragments, was probably modern and intrusive. Rabbits like free-draining sandy soils for burrowing and their presence is unsurprising.
- 6.2.15 A domestic dog was also represented by a considerable quantity of bone. This included cranial and post-cranial material, suggesting that the dog was smaller than *Canis lupus* (wolf), but larger than *Vulpes* (fox).
- 6.2.16 In terms of the colour and texture of the bone, the lack of mineralisation and the evidence of butchery, the sample showed strong similarities with the material recovered with the human remains from near the barrow, and some were clearly archaeological in context (cattle, horse etc.). The relationship between the two animal bone samples, and with the human remains, is unclear, but the evidence of butchery suggests that some of the bone could be contemporary with some of the burials. clearly the bone could provide much information on land-use, economy, settlement and human behaviour.
- 6.2.17 There is the slight possibility that two femoral heads, highly fragmented, may not be animal bone. They do not readily match the animal species in the Lampeter collection but they do have morphological similarities with human examples.

7.0 THE HUMAN BONE ANALYSIS: RESULTS

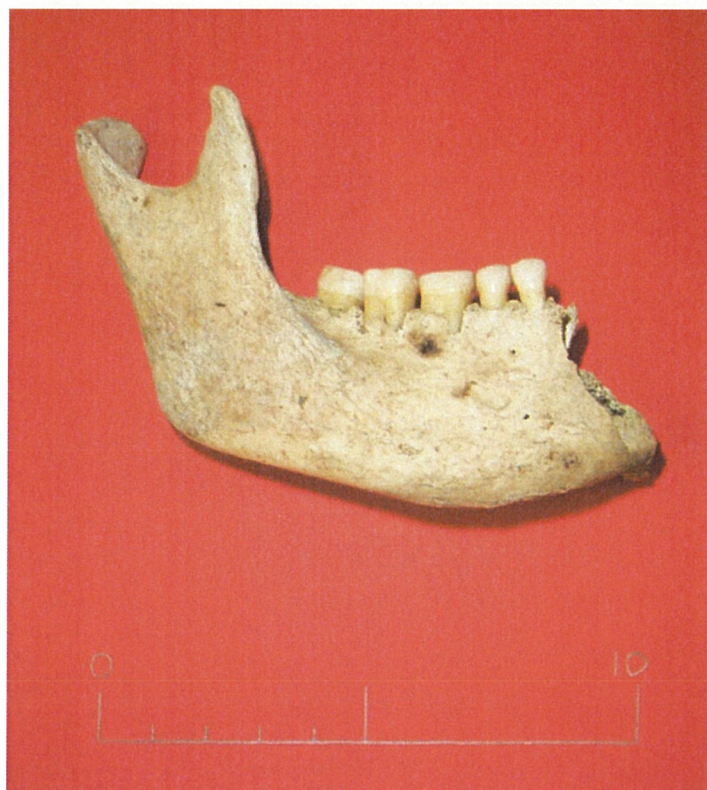
7.1 The osteoarchaeological analysis

(by Dr Ros Coard, University of Wales, Lampeter, assisted by Dr A T Chamberlain, University of Sheffield)

See Appendix 2

- 7.1.1 The human remains from Brownslade Barrow are generally in very good condition, preserving good surface detail (Plate 11). The good bone survival and preservation is no doubt due to the depositional environment of the site, particularly its free draining, calcareous sandy soil. Certainly, the more acidic soils that are widespread, and typical, of Wales do not preserve the bone so well (Caseldine, 1990), and the survival of bone, human or animal, is generally rare in Wales. This means that the Brownslade assemblage is of national importance. See Appendix 2 for a tabular catalogue of the bone.
- 7.1.2 In total, 104 human bones were present. Each was marked with a specimen number. A further 10 bones consisted only of rib bones and these were not marked. All were bagged, according to anatomical element, and the bags were labelled with the specimen numbers.
- 7.1.3 The bone was mostly complete and reasonably clean, and some was partly mineralised. Some bones exhibited mechanical damage, largely due to badger action, but some may have been damaged during their collection.
- 7.1.4 The bones were initially sorted by their anatomical location. Some long bones had clean breaks mid-shaft, but the matching section was absent. The skull fragments had particularly suffered from both fragmentation and more recent damage, resulting in missing elements. However, some other bones with fresh breaks were accompanied by conjoining pieces.

Plate 11 - Mandible 065, from the barrow area, showing good bone preservation



Age determination

- 7.1.5 The most reliable indicator in age determination is the dental eruption rate. However teeth, and in particular *in situ* dentition, were poorly represented in the Brownslade sample and of the few present, some were loose although they could be matched with mandibular/maxillary sockets. This lack of diagnostic dentition meant that age determination had to rely on the less-reliable method based on the known skeletal fusion rates.
- 7.1.6 The bones were grouped according to the stage categories of 'Juvenile', 'Young Adult', 'Adult', 'Old Adult', 'Senile adult' etc., based on to the degree of fusion, or age related change, that was exhibited. Comparisons with known and published fusion rates were made (Brothwell 1992; Loth and Işcan, 1989; Lovejoy *et al.* 1985; Meindl and Lovejoy 1985; Scheuer and Black, 2000).
- 7.1.7 It was possible to age 75% of the sample. The vast majority of bones were fully fused, indicating a largely adult presence within the sample. Skeletal fusion is usually complete by the age of 25-30 years, after which with degenerative and age-related changes are the major indicators of age (Bass 1987; Lovejoy *et al.* 1985). The vast majority of bones in this collection fall into the latter stage category and are listed as 'Adult'. Only a very small number of bones were unfused, or sub-fused or showed age-related changes indicative of either juveniles or young adults.

Stage	Number	Percentage (of dateable sample)
Juvenile	7	6.8 %
Young Adult	11	10.5 %
Adult	54	52 %
Old Adult	4-5	4.2 %
Senile adult	2-3	2.2 %

Sex determination

- 7.1.8 Gender was mainly determined from skull and pelvis morphology, but the general size and robustness of the bones was also an indicator. Where possible, the bone measurement and suggested sex was recorded. Sex determination was based on the following bones: femur and humerus (Dittrick and Suchey, 1986), femoral shaft (Black, 1978), tibia (Işcan and Miller-Shaivitz, 1984), sacrum (Flanders, 1978) and cranial fragments (Holland, 1986). In some cases gender could not be determined because the bones fell into the 'indeterminate' category, ie. could belong either to a large female or a small male.
- 7.1.9 However, it was possible to sex 38.5% of the sample. The assignation of the sex was recorded as male (M) or female (F) or probable male (M?) and probable female (F?) where possible or 'Indet.' when the sex is indeterminate. Where a bone is listed, in Appendix 2, by gender followed by a question-mark, it indicates that the bone is near the limit of the indeterminate range and very close to the suggested gender category. Of the bone that could be sexed, female bone outnumbered male bone by a ratio of nearly 1.6:1.

Gender	Number	Percentage (of sexed sample)
Female	20	19.6 %
Female ?	3	2.9 %
Male	13	12.5 %
Male ?	4	3.9 %

MNI and population profile

- 7.1.10 The minimum number of individuals present in an assemblage (or MNI) is normally calculated on the presence of the most frequently occurring skeletal element. With the Brownslade sample, as with many others, this was the humeri, from which it was ascertained that a minimum number of 6 individuals were present in the sample.
- 7.1.11 The individuals present range from a teenage/young adult female through to adults of 40+, and at least one older adult showing some significant wear and tear on the bones and teeth. There is also a marked range in the sizes of the individuals .
- 7.1.12 One was a particularly robust individual, probably male and one of the minimum of 3 males that were present. Another male was also robust. Two of the males fall into the young adult range. The youngest was in his very late teens or early 20s, the other being slightly older and possibly mid 20's (20-30 year range). The third male was much older. Wear was evident on all molars, dentine being exposed on two of them, making him around 35-45 years, and the heavy and uneven wear on the whole occlusal surface of the first molar suggests that he was at the top end of the age range.
- 7.1.13 A minimum of 3 females were also identified. One was a younger juvenile with an age range possibly around the mid teens or younger, <15yrs. Of the other two, one was in the 20-30s age range (possibly early to mid-twenties) and the other was an older female of 50+, showing significant age-related changes in both the dentition and the pelvis.
- 7.1.14 With an unstratified sample such as Brownslade, it is difficult to determine with confidence whether the same individual is represented by more than one of the bones. However, two individuals can be recognised from pairs of bones (as opposed to conjoining fragments). They are –
One individual = scapulae **040**, **041** and **042**.
One individual = humeri **022** and **025**
These bones were bagged separately.

Stature estimates

- 7.1.10 Height is normally calculated from the long bones, but very few complete long bones survived in the Brownslade sample. However, the size of humerus **022** and tibiae **010** and **103**, suggest that the individuals were reasonably tall, being around 174 cm (68½ in. or 5ft 8 ½ in.). The tibiae measurements fall within the upper end of the female scale and the lower end of the male, but the humerus falls well into the male category. Another complete humerus **026** indicates a slightly smaller individual, with measurements falling within the female range. The length of the humerus suggests that she was approximately 160 cm in height (60 in. or 5ft.). Estimates are compared to those published in Bass (1987).

Pathology (From the personal communications of Dr A.T. Chamberlain.)

- 7.1.11 The pathology of the bones is not untypical of an adult and ageing population. Apart from the most common ailments (degenerative joint disease, arthritis etc.), few specimens show a wider range of disorders. Where age-related disorders occur, it is in specimens that show other signs of ageing. Several bones have degenerative joint disease (DJD), some arthritis is present and several dental disorders are also evident. DJD and arthritis are most common in the vertebrae, and on the TM joint of the mandible.

- 7.1.12 The only unusual pathology is an excellently healed break within a young adult radial fragment **020**. The break occurred mid-shaft, and is clearly evident on the posterior view (Plate 12). However the ulna had acted as a splint and the injury had healed to the extent that it was almost imperceptible on the anterior surface. This perhaps indicates that the break occurred early in life, ie. childhood.

*Plate 12 - Posterior view of radius **020** showing break*



- 7.1.13 Dental disorders include:
- | | | |
|---------------------|------------------|---|
| Specimen 065 | Male mandible | Periodontal disease, hyperplasia, calculus |
| Specimen 066 | Mandibular torus | Periodontal disease, calculus |
| Specimen 068 | Female mandible | Antemortem tooth loss, severe DJD to TM joints. |
| Specimen 073 | Male? mandible | Severe arthritis of TM joint. |
- 7.1.14 In general, the population appears to have been very healthy. There were few indicators of stress on the skeletal remains and most disorders were within the boundaries of normality. DJD and arthritis appears on the older individuals. The dental disorders are commonplace. The juveniles show little signs of stress and the one broken bone had healed extremely well. All this suggests a reasonable lifestyle and good diet. It may be that some occupational disorders are present (specific over-developed muscle attachments, for example) but this cannot be determined from unrelated specimens.

7.2 The radiocarbon dates (from Beta Analytical, Florida)

On the recommendation of the osteoarchaeologist, a sample comprising five bone specimens, from three individuals, was submitted for radiocarbon dating by Beta Analytical, Miami, Florida, USA (see Appendix 3).

The sample was sufficiently large that AMS dating (Accelerator Mass Spectrometry) was not required, and standard radiometric dating was used. Three dates were obtained. At 2 sigma calibration, the dates were –

Specimen 004 (femur)	1240 +/- 60 BP	Cal AD 660 to 910 (Cal BP 1280 to 1040), Cal AD 920 to 960 (Cal BP 1030 to 1000)
Specimen 022 (humerus)	1290 +/- 60 BP	Cal AD 650 to 880 (Cal BP 1300 to 1070)
Specimen 040-2 (3 x scapulae)	1480 +/- 50 BP	Cal AD 450 to 660 (Cal BP 1500 to 1290)

Femur **004** produced only one date (1240 +/- 60 BP) but has two corresponding calibrated ranges. The two ranges occurred because a very small segment of the calibration curve runs beyond outside of the two sigma limit on this date (see Appendix 3). Since the gap is small (only 10 years) it is perhaps appropriate that the two ranges are combined to cal AD 660 - 960.

8.0 DISCUSSION

- 8.0.1 This discussion will focus on the outstanding problems associated with the Brownslade site which have yet to be resolved. It is an extension and an update of the discussion contained within the report of the 2002 topographic and geophysical survey (Ludlow 2002, 19-25), emphasising certain points. See Appendix 5 for a full reproduction of Edward Laws' account of his 1880 excavation, and the 1884 excavation by Colonel Lambton.

8.1 Building 544 - a chapel?

- 8.1.1 The excavated features/structures appear to belong to a building (PRN 544), constructed from mortared limestone rubble, measuring c.6.5m E-W and c.4m N-S (if the orthostat, which was not excavated, does represent its southeast corner). However, at present that is all that can be said with certainty and neither the date nor the function of Building 544 can yet be firmly demonstrated.
- 8.1.2 For instance, as can be seen from Section 3.1, the stratigraphical sequence as recorded within the evaluation trench is not without its problems and in this respect is typical of such 'keyhole' excavations.
- 8.1.3 In particular, the deposits recorded as Context 003 must represent two events, separated in time by the (gradual?) deposition of Context 004, for the sequence to make sense. The character of the rubble in the eastern trench extensions clearly indicates that it represents the collapse of the east wall of Building 544, which the sequence suggests to be one of the earliest episodes to occur within the excavated area. So it clearly cannot be the same as Context 003 within the main trench, which was deposited over the already truncated east wall of Building 544 (ie. Context 010) and may then be derived from an unexcavated area of the north wall, in a later period of collapse. The horizon between the two may coincide with, and thus be obscured by the eastern edge of the main evaluation trench - and by the dry, sandy conditions.
- 8.1.4 Moreover, Contexts 005 and 006 clearly represent a robber-trench - fill 005 also overlying walling 010. The robber-trench was excavated and backfilled before the deposition of 004, and therefore before the deposition of Context 003 as recorded in the main trench.
- 8.1.5 All this is of great significance to the dating of the building. The interpretation of all excavated features, except walling 010 and cobble/gravel surface 009, as belonging to the collapse or robbing of Building 544, means that we have no dates for its construction - only for its destruction. No dating evidence was recovered from the surface of natural 011 (as, for instance, sealed by cobble/gravel surface 009). Datable finds were recovered only from topsoil 001, Context 004 and from Context 007 (the fill of feature 008). All three contexts included artefactual material datable to the 18th century at the earliest. However, the only relationship between Context 007 and the rest of the site is its truncation by robber-trench 006, and so feature 008 may also post-date the disuse of the building.
- 8.1.6 It is worth noting that no recognisable finds of 19th century date were recovered (being mainly 18th century, albeit probably residual), even though the collapse and robbing of the east wall must have occurred after the 1880s, when the building was depicted with all four walls on the Ordnance Survey 1:2500 map (Plate 3).
- 8.1.7 So might the building be much earlier? And might it represent a chapel - the chapel suggested by Edward Laws but only vaguely located? It has been noted above that, in 1790, it stood in a field called 'Churchy Bank' (Pembrokeshire Record Office, D/Angle 74). The dimensions are consistent - small medieval masonry chapels, often devotional chapels or oratories, are recorded elsewhere within west Wales. One survives at St Non's, near St David's, Pembrokeshire (measuring 10m x 4m). However, no contemporary documentary sources for a chapel have yet been identified by the author.

- 8.1.8 The *in situ* lime mortar present on and within walling 010 was very white, with little breakdown apparent, and it contained some coal fragments. This suggests that the mortar is post-medieval, and late. However, it may belong to a period of rebuilding, or at least repointing. The remainder of Building 544 would need to be examined. It is feasible that the building was re-used, perhaps for agricultural purposes, and therefore rebuilt or maintained through the post-medieval period.
- 8.1.9 Of possible great significance was the fragment of glazed ceramic ridge tile, of 15th-16th century date, that was recovered from topsoil 001. The piece was far too large to have been wind-blown, and so may have been derived from the immediate location. It may suggest medieval origins for building 544, whatever its function.
- 8.1.10 The absence of an identifiable construction trench, moreover, fits in with the tradition of medieval building in southwest Wales where such trenches are either very shallow or non-existent. Nevertheless, a later farm-building may have employed the same method of construction. In addition, a chapel building might be expected to have been surrounded by an eaves-drip trench, however slight.
- 8.1.11 The orthostat was not excavated and so its position within the stratigraphical sequence can only be guessed. It alone appears to occupy a cut (ie. stone-socket) and there exists the possibility, however slight, that it may be a bronze age standing stone (and the possibility - slighter still - that if so, it may be *in situ*). This is discussed below in Section 8.2. However, large stones such as this - often erratics, sometimes locally-derived boulders - are used in the basal courses, often as basal quoins, in many Pembrokeshire buildings. They can be seen in buildings ranging from medieval chapels to 19th century farm buildings, where they can be pitched on their sides or standing upright. At present, therefore, the orthostat cannot be used to interpret the building. It exhibits no evidence of any tooling (including any 'Early Christian' re-use in the form of an inscription or incised cross).
- 8.1.12 Cobble/gravel surface 009 could not be dated. It was laid directly upon the natural, but was not removed and so any artefactual material that it may have sealed was not revealed. It terminated as a straight line 1m north of the north wall of the building, apparently a deliberate edge, which might be viewed as unusual in an ecclesiastical context - indeed, it may not relate to the building at all. It may belong to the agricultural use of another part of the site. However, such use may only represent re-use and so does not in itself preclude ecclesiastical origins.
- 8.1.13 No soilmarks identifiable as human burials were seen, but only a restricted area of undisturbed natural soil was revealed. Nevertheless, burial close into the east and north walls might have been expected if the building was a chapel. It is noteworthy that at Tywyn-y-capel, Anglesey - a chapel occupying a similar blown-sand site, currently being excavated by the Gwynedd Archaeological Trust - the grave cuts are not visible as their fills are an identical sandy material (Andrew Davidson, GAT, *pers. comm.*). However, the natural soil at Brownslade was more loamy and compact than the overlying deposits, and grave fills would probably been observed (although of course further natural horizons may lie further below). No burials were picked up by the 2002 resistivity survey, but one of the shortcomings with geophysics, at ecclesiastical sites, is that the probe intervals are normally too far apart to detect graves. In addition, the slight possibility that two femoral heads from the evaluation may have been human has been noted in 6.2 above.
- 8.1.14 How can feature 008 be interpreted? Its irregular profile suggests that it isn't a wall trench, while the artefactual material from its fill suggest that it was cut - or was at least kept open until - the 18th century. The restricted area of the feature that was available for excavation probably militates against any interpretation at the present time, but it does indicate a longer and more complex site history than the remainder of the contexts, taken alone, would suggest.

- 8.1.15 Edward Laws' account does not provide a precise location for his chapel. He merely says '*at the further end of the tumulus*' (Laws 1882, 51-58; Laws 1888, 57-59), presumably to the north of the barrow and his excavations, while the Building 544 is c.62 metres north of the barrow. Furthermore, his dimensions of 16ft by 12ft do not accord with Building 544 (c.20 ft by 4ft). The RCAHM account of the excavation, of 1925, placed the chapel 'immediately north of the Brownslade tumulus, on one of two fields called Upper and Lower Church Hill' (RCAHMS 1925, 66 No. 152). However, these fields lie immediately west of 'Bank Piece', the field in which the present building stands (see Fig. 2). By 1925 the 'remains of foundations (were) practically buried beneath the sand'. Neither account, moreover, mentions the quarry/sand-pit 26492, but this may of course be later.

8.2 The date of the barrow

- 8.2.1 As noted in Section 3.1, the sand construction of the barrow is unusual in a bronze age context. In fact, Wales pre-eminent prehistorian Prof. W F Grimes considered that the barrow was not bronze age at all. Dr J. M. Lewis (National Museum of Wales) repeated his statement, in the Cadw Scheduled Ancient Monuments Record, that 'this barrow appears not to be prehistoric. Excavations at various times have produced skeletons, and chance finds suggest a medieval date. In any case, the barrow itself is made of sand – a circumstance that renders a prehistoric origin unlikely'.
- 8.2.2 However, the possibility exists that the orthostat that forms part of Building 544 represents a bronze age standing stone. Its size, form and siting are all consistent, as are its origins as a probable erratic. If so, and if the stone is *in situ*, then its relationship with the barrow is of interest. Paired barrow/standing stone sites are by no means unknown in the bronze age of west Wales and a number have been recorded, in Pembrokeshire, in the Cadw-funded Prehistoric Ritual and Funerary Monuments Project (Dr Nikki Cook, Cambria Archaeology, *pers. comm.*)
- 8.2.3 Laws' account of his 1880 excavation (and the 1884 excavation by Colonel Lambton), is reproduced in full in Appendix 5). However, his description of what he regarded as the primary burial is again reproduced here - '*...we...had not sunk more than 3ft. when we struck on a large slab (flat stones had hitherto been conspicuous by their absence). It proved, as we anticipated it to be, the covering stone of a kistvaen, measuring about 4ft. by 3ft. In it we found portions of a human skeleton much decayed, mixed with charred bones and animal bones, and apparently of an older date than the others, which were all as well preserved as recent bones. In the kistvaen (was)... a well burned, wheel-turned potsherd, which resembled those discovered by Colonel Lambton in the adjacent camp, and not like such as are usually found in barrows in Pembrokeshire...*' (Laws 1882, 51-58; Laws 1888, 57-59).
- 8.2.4 Laws evidently thought that the central burial (the 'kistvaen') was earlier than the other inhumations and suggested that it was the primary burial, but there is no way of establishing this as fact. It cannot be interpreted from his description as a bronze age burial. In fact, the '*wheel-turned potsherd*' may refer to a Romano-British sherd, suggesting that the burial was Romano-British or, if the sherd was residual, later still.
- 8.2.5 Laws' excavation of the later burials commenced '*on the southeastern side, where the bones seemed thickest, and found that this portion of the barrow consists of blown sand, in which skeletons of men, women and children are packed in tiers at least three deep, like pigeons in a pie*' (*ibid.*). Assuming that the description relates to the barrow itself - and not to the putative burial enclosure to the east - then the description is most odd. It appears to describe intercutting graves - but how could they be intercut, and therefore of differing ages - if they were excavated within a pre-existing, bronze age barrow?

- 8.2.6 It may be that the barrow is not bronze age at all, and is Romano-British at the earliest. It may have originated as a small construction, within which the 'kistvaen' was deposited, that was successively built up during the early medieval - medieval periods. A comparison may be provided by Tywyn-y-capel, Anglesey, currently being excavated by the Gwynedd Archaeological Trust (Andrew Davidson, GAT, *pers. comm.*). This site is represented by a similar mound derived from wind-blown sand, cut by a sequence early medieval graves. But the mound was built up over time, as the graves were excavated, so that they intercut one another. Several burial horizons are represented. Unlike Brownslade, the final stage in the sequence was the erection of a chapel *on top* of the mound. However, the sequence is highly reminiscent of Laws' graves '*packed in tiers... like pigeons in a pie*'. Both sites may also have affinities with another Pembrokeshire site, St Patrick's Chapel, which lies near the shore of Whitesand Bay, St David's (PRN 2638). Here, the remains of a chapel and cist cemetery occupy the summit of a substantial, low mound of sand (Hague 1970, 47).
- 8.2.7 However, whilst the early medieval funerary re-use of bronze age barrows is well-documented in west Wales (see, inter alia, James 1987 and 1992; Edwards and Lane 1992), and was discussed in full in Ludlow, 2002, re-use of Romano-British funerary monuments is less well-known. Indeed, few Romano-British burials in Wales appear to be associated with a *contemporary* barrow, although re-use of earlier barrows was widespread, as it had been in the Iron Age and continued to be during the early medieval period. However, a close comparison may be furnished by the site at Dyffryn Bern, Penbryn parish in Ceredigion (although the records of this site are somewhat confused). Here, a 5th-6th century Early Christian Monument (ECM) was recorded by Edward Lhuyd, in 1695, as having recently stood on the summit of a 'cairn of stones' (Edwards forthcoming). The cairn was levelled in c.1806 and a cremation urn uncovered, which found its way to the National Museum and Gallery of Wales where it was dated to the Roman period, the urn being of 1st-2nd century form. The Roman coins apparently found alongside the cremation are now missing, but included an *aureus* of Titus, c.AD 74 (*ibid.*). Nevertheless, it is thought that a here, bronze age cairn was re-used for the Roman burial, and re-used again for the ECM (*ibid.*) although no accompanying burial was recognised in c.1806.

8.3 The early medieval burials

- 8.3.1 The total of 104 human bone specimens, from a minimum of 6 individuals, was in good condition, virtually unique for the early medieval period in Wales. However, it is a small sample from what, if Laws' description is accurate, was a very large cemetery. The bone was also unstratified. These facts must be acknowledged when drawing any conclusions from the sample.
- 8.3.2 The three radiocarbon dates all fall within the early medieval period, which in west Wales is generally regarded as lying between 410 AD and 1100 AD. They occupy a considerable time-span (510 years). However, it should be noted that due to a plateau on the calibration curve between 450 AD and 530 AD (see Appendix 3), the period between the late 5th century and the mid 6th century produces wide distributions of radiocarbon dates, meaning that radiocarbon dating is not wholly reliable (Petts 2002, 27). Given the calibration plateau it may be that the dates represent a much shorter time-span, possibly entirely within the 7th-8th century.
- 8.3.3 None of the dates lie within the immediate post-Roman period. Some continuity of burial from that within the barrow might be expected, if the primary interment within the barrow was indeed Romano-British, but the small size of the dated sample must be borne in mind. It cannot be known whether the bone samples came from cist burials, as observed by Laws in the 1880s, or from dug graves. Therefore their occurrence within any proposed model for the development of the Brownslade cemetery is unknown. Similarly, the dated samples include no later medieval dates. Again, the limitations of the sample size must be remembered, but this may indicate that the burial focus had shifted elsewhere (ie. to a chapel?). See Section 8.4.

- 8.3.4 The bone assemblage indicates a very healthy population enjoying a good diet etc., which is perhaps to be expected in this notably fertile area of west Wales. This population may or may not be contemporary with butchered cattle bone which was present in the unstratified human sample and as a residual deposit from the evaluation. Similarly, any relationship between the possible domestic dog and the early medieval population cannot at present be suggested.

8.4 The development of the cemetery

- 8.4.1 The cemetery excavated by Laws clearly compromised both long-cist graves and dug graves, described by him thus '*Some of the bodies were protected by an enclosure of long water-worn stones about the size of ninepins, but without any covering; others lay in the bare sand; all were oriented.*' The cists appear to have been without lintel slabs and the burial illustrated in 1884 is similarly a long-cist with side slabs, and apparently also without lintel slabs (Laws 1888, 59).
- 8.4.2 The radiocarbon dates indicate that the five bone samples submitted in 2003 are all of early medieval origin. It is not known whether they were derived from either cist graves or dug graves. However, the two burial practices appear to have co-existed in both early medieval, and later medieval west Wales. Laws' cists cannot be assumed also to have been early medieval.
- 8.4.3 The Sites and Monuments Record for Carmarthenshire, Ceredigion and Pembrokeshire lists records of 33 long-cist cemeteries in west Wales (discussed in James, 1987). They have usually been chance observations and there is normally little indication of their date; at the time of writing, only six have produced any form of absolute dating evidence. Two of these dates - at Cilgerran and Eglwysrw - are post-Conquest. Excavations at Eglwysrw churchyard, in 1996, revealed forty-six medieval inhumations. The fills of two of the cist graves, and a feature cut by one of the dug graves, produced pottery dateable to the late 12th - 13th century at the earliest (Ludlow 2003a). A cist grave at Cilgerran churchyard, opened in the mid 19th century, contained 13th century coins (Anon. 1859, 350). Meanwhile, the re-use of a Group II Early Christian Monument (ECM) as a lintel-slab over an undated cist at St Patrick's Chapel, St Davids (Hague 1970, 47), suggests a later rather than earlier date. Some excavated long cist cemeteries have, in England, produced almost exclusively post-Conquest dates, for instance the 11th-16th-century cemetery at Winchester Cathedral (Kjølbye-Biddle 1975, 87-108). The tradition was remarkably persistent in Scotland, too, represented by 13th-14th century cists at Jedburgh Abbey (Youngs *et al.* 1985, 220-221), and possibly at Iona (Reece 1981, 104), while similar post-Conquest dates have been suggested in Cornwall (Preston-Jones 1984, 157-177). Moreover the presence of 'headstones' at the cemetery site on Ramsey Island (one of them a re-used 8th-9th century inscribed stone) suggests a post-medieval cist tradition that has been alluded to by, *inter alia*, Charles Thomas (Heather James, *pers. comm.*)
- 8.4.4 Nevertheless, the other four dated cemetery sites in west Wales, all in Pembrokeshire, have produced pre-Conquest radiocarbon dates. A cist cutting the defensive bank at Caer, Bayvil, an 'undeveloped' cemetery site within an iron age enclosure, produced a radiocarbon date, recently calibrated to AD 650-890 at 2 sigma range (James 1987, 72 and Fig. 12, no. 18, Petts 2000, 301). A date of cal AD 880-1020 was obtained from a cist at St Brides cemetery, exposed by marine erosion (James 1987, 72 no. 34). This latter site may lie inside a large enclosure containing both the parish church and a medieval chapel. A cist from the churchyard of Llanychlwydog parish church, in association with five Group II and Group III ECMs, produced a date of cal AD 853-1004 at 1 sigma range (Murphy 1987, 88 n. 24; James 1987, 72 and Fig. 12, no. 17), but recently recalibrated to AD 810-1160 at 2 sigma range (Petts 2000, 304). Finally, a cist burial from the cemetery at Croesgoch has recently produced two dates, which at 2 sigma calibration were AD 370 to 540, and AD 410 to 600 (Ludlow 2003b).

- 8.4.5 Taken together, the evidence from Croesgoch and Eglwysrw conclusively demonstrates the longevity, and continuity of early medieval burial traditions in Pembrokeshire. The post-Conquest cists at Eglwysrw exhibited varying degrees of slabbing, but a large number were fully slabbed lintel-cists identical in form to the early post-Roman Croesgoch cist showing that the form itself persisted unchanged, in Pembrokeshire, for at least 600 years. The cists observed at Brownslade, by Laws, may therefore be from any of these periods.
- 8.4.6 In general, medieval Christian cemeteries in west Wales are normally grouped into two main categories -
'undeveloped' cemeteries, not always short-lived but within which no church or chapel appears ever to have been constructed, and which may have remained unenclosed, and
'developed' cemeteries, in which a church or chapel building was eventually constructed, and which are generally enclosed.
Further analysis of these sites may reduce the number of undeveloped cemeteries, as new evidence emerges for the presence of chapels and enclosures. Potential models for the origins of cemeteries including bronze age etc. re-use, and their development (or otherwise) into church/chapel sites have been proposed by Heather James (1987 and 1992), and Edwards and Lane (1992).
- 8.4.7 If Building 544 is indeed a medieval chapel, then the cemetery at Brownslade represents a 'developed' cemetery site, where burial continued, and was formalised by the creation of a defined physical space and the erection of a building. However, the association between the barrow and the apparent enclosure on its east side is unclear. It is not clear from Laws' descriptions whether the burials encountered during the 1880s excavations were all from the body of the barrow, or whether they extended beyond (see Appendix 5). Certainly, given the numbers indicated, and the relative lack of evidence for disturbance of the barrow, it appears that at least some of them must have lain beyond. However, it cannot be suggested with any certainty that they occupied the possible enclosure to the east. Laws' 1880 account contains the vague statement that *'we then laid bare a place rather to the north of where we had been digging hitherto, and found a skeleton oriented...'*, but this is the only locational information provided. Moreover it is also impossible, as the 2003 human samples were unstratified, to know whether they were derived from the body of the barrow, or from the possible enclosure to the east. However, the 2002 GPR survey would tend to suggest the latter, as none of the badger burrows appears to have extended far into the body of the barrow (Ludlow 2002). Nevertheless, the sequence between barrow inhumation, any burial within the enclosure and the establishment of the any chapel can only, at present, be suggested. Moreover burial may have continued within the barrow after the establishment of any chapel.

9.0 CONCLUSIONS AND RECOMMENDATIONS

- 9.0.1 The evaluation failed to conclusively identify either the date or the function of Building 544, though it is considered likely that it may represent a medieval chapel.
- 9.0.2 The human bone sample indicates that the unexcavated burials represent an resource of potential national importance. However, the sample is only small, and was unstratified. In addition, although the bone was very well-preserved, there had been some mechanical post-mortem damage, mainly due to badger activity. All of these factors compromised the value of the sample. It is therefore not recommended that any further analysis be undertaken on the present sample.
- 9.0.3 Archaeological deposits within the barrow and enclosure are under immediate threat of total loss through badger activity. It is therefore recommended that controlled excavation of the site, and recovery of the remaining burials, should be undertaken. There are a number of arguments, some of them specifically applying to the burial assemblage -
Human remains in such good condition, and especially from the early medieval period are extremely rare in Wales, due to acidic soil conditions. This makes them virtually unique.
Known samples of this potential quantity are rare from the early medieval period in Wales.
The long-term survival of the remaining human bone assemblage is under threat from further badger activity.
The analysis of unstratified bones has a limited value compared with the study of a stratified sample, from which the results of DNA analysis, elemental analysis, isotopic analysis etc. would be of great value to, for example, population studies. Even basic information, such as stature estimate, is of limited value as the bones in the present sample are largely incomplete.
Some of the animal bones show human intervention, including butchering. However, they may have been residual and their relationship to the human remains is not clear. If stratified samples demonstrate that the two are contemporary then this would give further information on lifestyles, diet etc.
- 9.0.4 On a general level -
Excavation at the site has been limited to the unstructured efforts of 19th century antiquarians, of which no proper records were kept.
Further excavation in and around Building 544 will yield more information on its date and function.
Until a burial sequence can be established, any model for the development of the site from ?Romano-British barrow inhumation, through post-Roman barrow inhumation and any inhumation within the apparent enclosure, to the establishment of the possible *late medieval* chapel, must remain inferential.
- 9.0.5 Excavation should seek to establish the extent of the Christian cemetery, and locate any primary burial within the barrow to ascertain its date and origins. A separate excavation can be undertaken in the area of Building 544. The extent of the badger sett suggests that its removal would not be practical. In any case, any such removal would have to be preceded by archaeological excavation. The active sett does not appear to extend into the northern half of the enclosure. It is therefore suggested that the badgers should be temporarily excluded and that this northern half of the enclosure – and the adjacent section of the barrow itself – should be totally excavated before any further damage takes place. These areas appear to be undisturbed by active burrows (but may contain earlier, collapsed burrows). The badgers may then be re-introduced.

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11.0 ARCHIVE DEPOSITION

The archive, indexed according to the National Monuments Record (NMR) material categories, will be deposited with the Sites and Monuments Record for Carmarthenshire, Ceredigion and Pembrokeshire, curated by Cambria Archaeology, Shire Hall, 8 Carmarthen Street, Llandeilo, Carmarthenshire. It contains the following:-

- A.1.** Copy of the final report
- A.2.** Interim report
- A.4.** Disk copy of report

- B.1.** Context record - paper

- C.2.** Site drawings

- D.1.** Catalogue of site photographs

- E.1.** Catalogue of boxed finds
- E.3.** Index to storage location of finds
- E.14.** Specialist correspondence and notes

- F.6.** C14 reports

- G.1.** Source documentation

- H.2.** Location of remains
- H.3.** Unpublished analyses

- I.4.** Final report - manuscript
- I.4.** Final report - typescript
- I.4.** Final report - disk
- I.4.** Proofs

- L.1.** Project research design/specification
- L.4.** General admin.

- M.1.** Non-archaeological correspondence

There is no material for classes **J**, **K** and **N**.

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APPENDIX 1

The finds catalogue (by Dee Brennan, University of Wales, Lampeter)

CONTEXT: 001 (TOPSOIL)

POTTERY:

No. sherds: 1 rim, 3 body, 1 base.
Form: Jars or cooking pots. Simple upright rim form with a diameter exceeding 100mm.
Fabric: Dyfed gravel-tempered ware. Tempered with frequent gravels and fewer quartz grains. The body and base sherds are heavily eroded.
Surface treatment: Unglazed.
Decoration: None.
Source: 'Local'.
Date: Medieval.

No. sherds: 1 body.
Form: Jug. Body sherd with raised cordon externally.
Fabric: Hard-fired, bluish-grey with red interior; tempered with gravel and quartz inclusions.
Surface treatment: Thin olive green external glaze, unglazed interior.
Decoration: None.
Source: 'Local'.
Date: Medieval.

No. sherds: 9 rims (6 joining), 49 body, 1 handle, 3 base
Form: Six bowls, one small rod handle of oval section is probably from a jug, and indeterminate body and base sherds from bowls and/or jar forms. The bowls are all open forms with varying rim profiles; these include simple upright and projecting rolled rims.
Fabric: Standard North Devon gravel-tempered ware. All contain quartz and gravel inclusions in varying quantities.
Surface treatment: Interior surfaces are glazed olive green or brown, exterior surfaces are unglazed. A few sherds are sooted externally.
Decoration: None.
Source: North Devon.
Date: 17th-18th century.

No. sherds: 2 body, 2 base.
Form: Dishes. Compare Type 1 dishes from Exeter (Allan 1984, 149)
Fabric: Hard-fired and fully oxidised, containing only occasional quartz grits.
Surface treatment: Interior surfaces are covered in a white slip. A design is then incised into the clay and then covered in glaze. The result is a greenish-brown design against a yellow ground. Exterior surfaces are unglazed.
Decoration: Sgraffito decoration. Complex designs consist of a combination of swirls, dots and incised lines.
Source: North Devon.
Date: Mid-late 17th century. At Exeter most of the stratified Sgraffito-decorated wares date from c.1660-1700; and there they are absent from c.1720 (Allan 1984, 132).

No. sherds: 2 body.
Form: Indeterminate jars or jugs.
Fabric: Black-glazed ware. A very hard-fired fabric, reddish-brown throughout, with quartz and limestone inclusions.
Surface treatment: A very dark brown, almost black lustrous glaze covers both surfaces; the glaze is pitted in patches.
Decoration: None.
Source: Unsourced.
Date: 17th or 18th century.

No. sherds: 5 body.
Form: Indeterminate.
Fabric: Hard-fired, fully oxidised red. Tempered with rare quartz grits and fine sands.
Surface treatment: Unglazed and self-coloured surfaces.
Decoration: None.
Source: Unsourced.
Date: Post-medieval, possibly 17th or 18th century but nothing diagnostic.

GLASS:

No. fragments: 2 body.
Form: Wine bottle glass. Fragments are too small to determine their exact form; on appearance they look to be from free-blown 18th century bottles.
Details: Olive green, now with enamel-like surface weathering.
Date: 18th century.

BUILDING MATERIALS:

CERAMIC:

No. fragments: 3 joining
Type: Ridge tile.
Details: Hard-fired fabric reduced dark bluish-grey with red interior surface and partial red exterior. An olive green glaze does not quite cover the upper surface. The clay has equal quantities of gravel and quartz inclusions.
Source: North Devon or possibly local.
Date: Probably 15th-16th century.

No. fragments: 5
Type: Fired clay, fully oxidised.
Details: Amorphous lumps. Largest lump incorporated in mortar mix.

STONE:

No. fragments: 10
Type: Roof slates.
Details: Nine fragments are of a shale-like slate that is soft, shiny, and has a tendency to laminate. Three fragments have nail/peg holes. One fragment is a denser, heavier slate that is dull in appearance.

MORTAR:

No. fragments: 8

METAL SLAG:

No. fragments: 1 iron.

ANIMAL BONE:

No. fragments: 26 including 1 burnt fragment.

SHELL:**No. fragments:** 3**COAL:****No. fragments:** 2 very small lumps.**FLINT:****No. fragments:** 1 unworked.**CONTEXT: 004****POTTERY:**

No. sherds: 1 body.
Form: Indeterminate. A very small flake only.
Fabric: Dyfed gravel-tempered ware.
Surface treatment: Unglazed surfaces.
Decoration: None.
Source: 'Local'.
Date: Medieval?

No. sherds: 4 rim, 16 body.
Forms: Two bowls, one jar, and indeterminate body sherds.
Fabric: North Devon gravel-tempered ware.
Surface treatment: Internally glazed olive green or brown. Two sherds are double-glazed.
Decoration: None.
Source: North Devon.
Date: 17th-18th century.

GLASS:

No. fragments: 3 body.
Form: Wine bottle glass. Fragments are too small to determine their exact form; on appearance they look to be from free-blown 18th century bottles.
Details: Olive green glass, now with enamel-like surface weathering. One fragment has mortar adhering to the inner surface, possibly used in mortar mix.
Date: 18th century.

CLAY PIPES:

No. fragments: 1 plain stem fragment.
Date: Post-medieval, 17th/18th or even 19th century.

FIRED CLAY:

No. fragments: 4
Details: Four small lumps of red-fired clay, of which three have one darker surface. Hearth material?
Date: Unknown.

METAL SLAG:**No. fragments:** 1 iron.**COAL:****No. fragments:** 1.**ANIMAL BONE:****No. fragments:** 58 mixed.**SHELL:****No. fragments:** Oyster, 23 bivalves.**CONTEXT: 007****POTTERY:**

No. sherds: 1 body.
Form: Indeterminate.
Fabric: North Devon gravel-tempered ware.
Surface treatment: Internal olive green glaze, unglazed exterior.
Decoration: None.
Source: North Devon.
Date: 17th-18th century.

GLASS:

No. fragments: 1 neck, 2 small body.
Form: Free-blown wine bottle. Too small to determine form.
Details: Olive green glass with weathered surfaces.
Date: 18th century.

BUILDING MATERIALS:**STONE:**

No. fragments: 3 small flakes.
Type: Slate roofing tile.

MORTAR:**No. fragments:** 3.

APPENDIX 2

The catalogue of human bone (by Dr Ros Coard, University of Wales, Lampeter)

All measurements are given in mm.

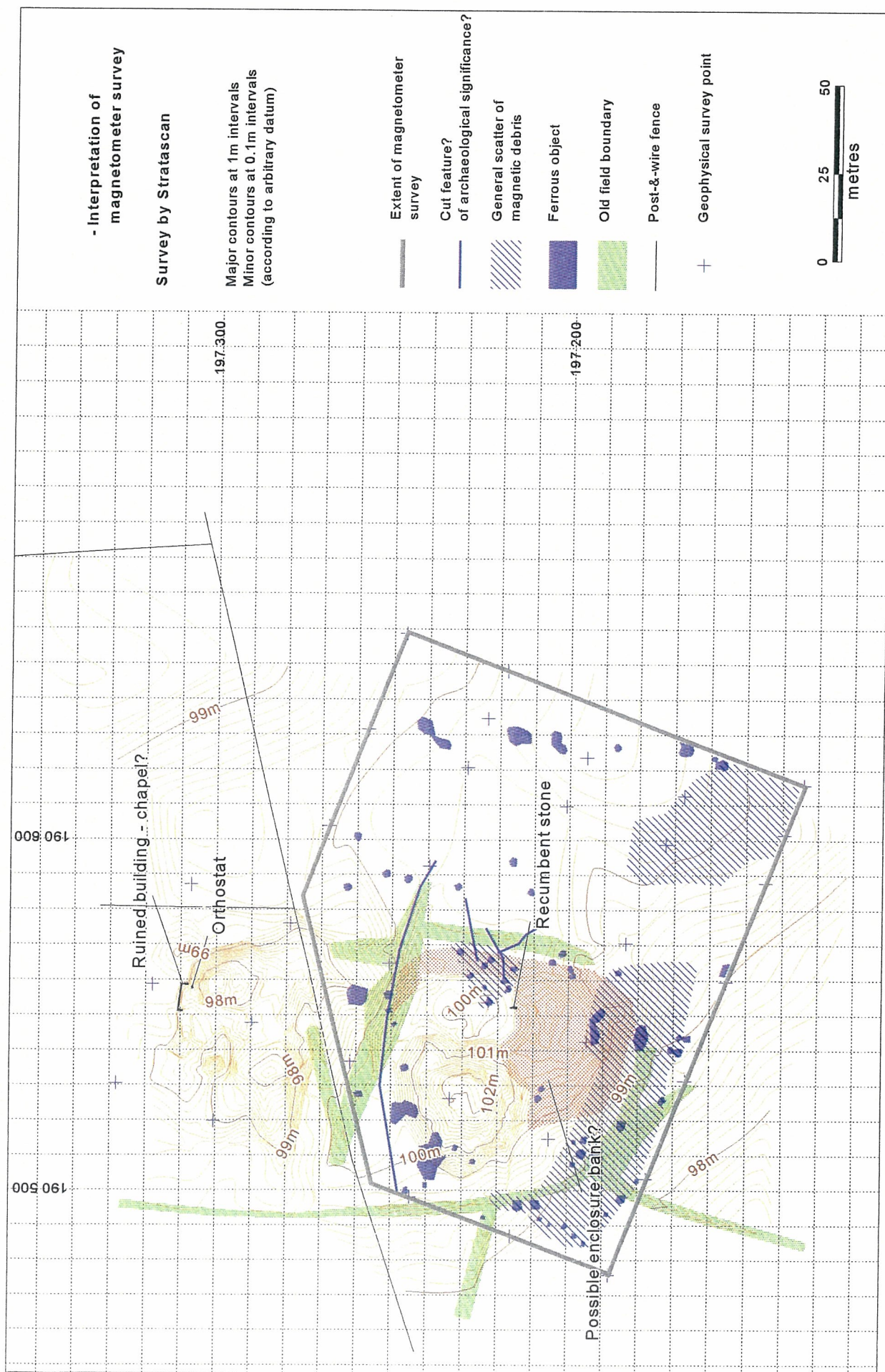
Specimen number	Element	Fragment	Side	Fusion	Age est.	Measurement	Sex
001	Femur	Proximal	R	Fused	Adult	Vertical diameter of head = 46.48	M?
002	Femur	Proximal	R	Fused	Adult	Vertical diameter of head = 46.53	M
003	Femur	Proximal	L	Fusing	Mid-Teens	Vertical diameter of head = 38.78	F
004*	Femur	Proximal	L	Fused	Adult	Vertical diameter of head = 50.54	M
005	Femur	Head	-	Fused	Adult	Vertical diameter of head = 40.11	F
006	Femur	Distal	L	Fused	Adult	Bicondylar width = 76.51 est.	F?
007	Femur	Distal	L	Fused	Adult	Bicondylar width = 67.65	F
008	Femur	Distal	R	Fused	Adult	Bicondylar width = 75.56	F
009	Femur	Distal fragment	L	Fused	Adult	-	
010	Tibia	Complete	L	Fused	Adult	A-P width = 31.28 M-L width = 23.90 Circ. = 87.9 Length = 376	F?
011	Tibia	Distal	R	Fused	Adult	-	-
012	Tibia	Proximal fragment	L	Fused	Adult	-	-
013	Tibia	Complete	R	Fused	Adult	A-P width = 32.92 M-L width = 25.07 Circ. = 91.1 Length = 378	M?
014	Tibia	Distal	R	Fused	Adult	A-P width = 28.86 M-L width = 21.89 Circ. = 78.6	F
015	Tibia	Proximal	R	Fused	Adult	A-P width = 35.23 M-L width = 28.73 Circ. = 105.8	M
016	Tibia	Distal fragment	R	Fused	Adult	-	-
017	Fibula	Distal	R	Fused	Adult	-	-
018	Fibula	Distal	L	Fused	Adult	-	-
019	Ulna	Distal	R	Fused	Adult	-	-
020	Radius	Proximal	-	Fused	Adult	-	-
021	Radius	Distal	R	Fusing	Young Adult Early 20s	Pathology	-
022*	Humerus	Complete	R	Fused	Adult	Diameter of Head = 51.46 Transverse Diameter = 44.33 Epicondylar width = 66.38 Length = 335	M
023	Humerus	Complete	R	Fused	Adult	Diameter of Head = 46.31 Transverse Diameter = 40.42 Epicondylar width = 58.78	F
024	Humerus	Proximal	R	Fused	Adult	Diameter of Head = 42.70 Transverse Diameter = 38.16	F
025	Humerus	Proximal	L	Fused	Young Adult	Diameter of Head = 51.56 Transverse Diameter = 44.87	M
026	Humerus	Complete	L	Fusing	Adult	Diameter of Head = 40.65 Transverse Diameter = 36.30 Epicondylar width = 56.63 Length = 305	F
027	Humerus	Distal	L	Fused	Adult	Epicondylar width = 52.83 est.	F
028	Humerus	Distal	L	Fused	Adult	Epicondylar width = 53.01	F
029	Humerus	Distal	L	Fused	Adult	Epicondylar width = 59.88	Indet.
030	Ulna	Proximal	L	Fused	Adult	-	-
031	Ulna	Proximal	R	Fused	Adult	Robust, pronounced muscle markings	M?
032	Talus	Complete	L	Fused	Adult	-	-
033	Talus	Complete	R	Fused	Adult	-	-
034	Calcaneus	Complete	R	Fused	Adult	-	-
035	Metatarsal 4th	Complete	L	Fused	Adult	-	-

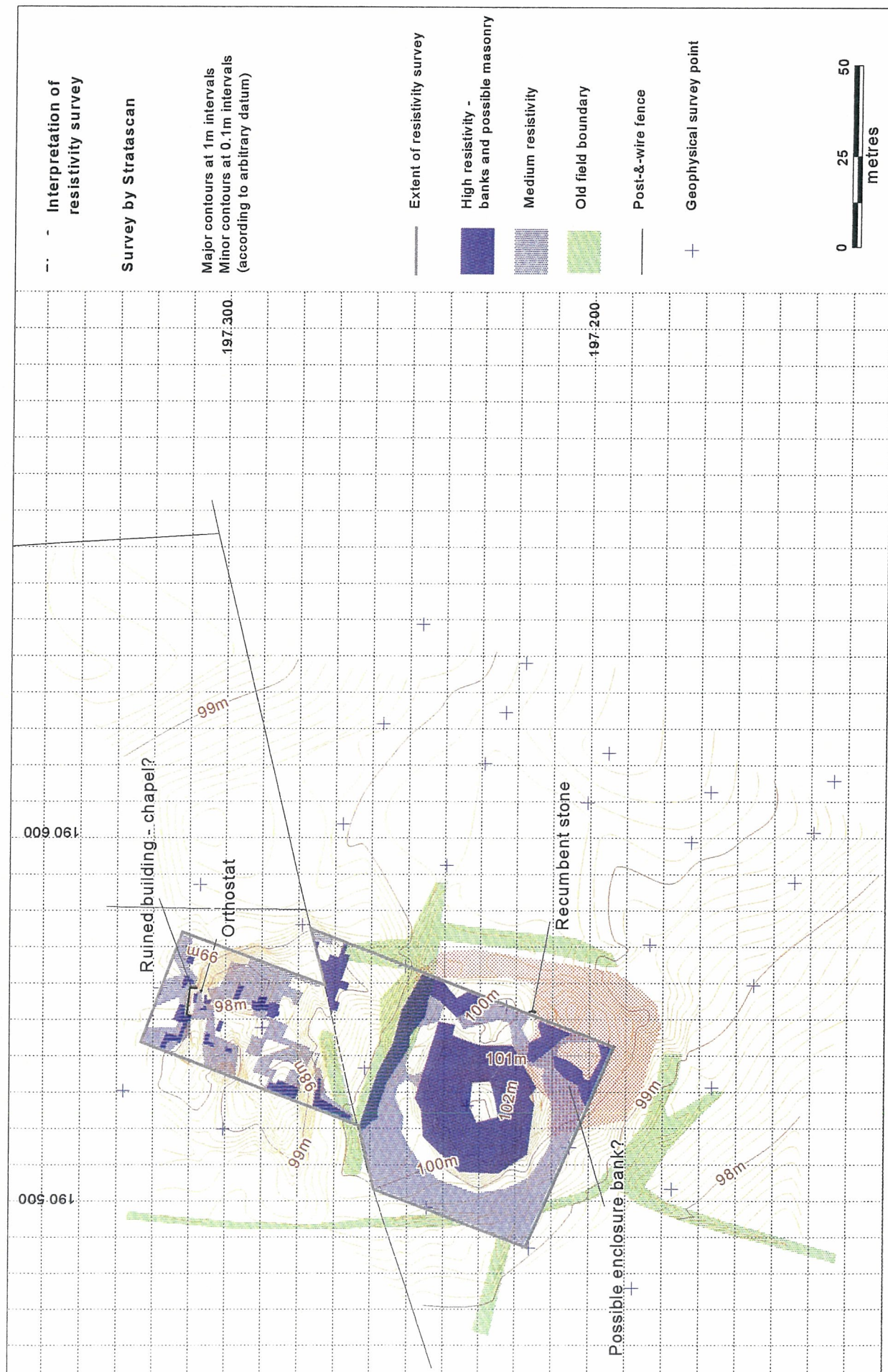
036	Metatarsal 2nd	Complete	L	Fused	Adult	-	-
037	Sacrum	Complete	-	Fused	Adult	Sacral Index = 101.75 Transverse diam. of S1 = 56.81 A-P diam. of S1 = 31.98	M
038	Sacrum	Proximal fragment	-	Fused	Adult	Transverse diam. of S1 = 46.83 A-P diam. of S1 = 31.48	F
039	Humerus	Shaft fragment	-	-	Juvenile	-	-
040*	Scapula	Distal fragment	L	Fused	Adult	Glenoid Length = 33.47	F
041*	Scapula	Distal fragment	R	Fused	Adult	Glenoid Length = 33.58	F
042*	Scapula	Acromion fragment	R	-	-	Joins 041	F
043	Clavical	Shaft fragment	R	-	-	-	-
044	Pelvis	Iscial tuberosity	L	Fused	Adult	Coinjoins 045. Robust with vertical Diameter = 51.78	M
045	Pelvis	Acetabulum fragment	L	Fused	Adult	Conjoins 044	M
046	Pelvis	Ilium & Acetabulum fragment	L	Unfused	Juvenile <15 yrs	-	F
047	Pelvis	Ilium & Acetabulum fragment	L	Fused	Older Adult >50	-	F
048	Pelvis	Ilium fragment	R	Fused	Young adult <mid 20s	-	F
049	Skull	Frontal	-	Unfused	Young/adult <29 yrs	-	F
050	Skull	Cap	-	Fused	Older adult 50-60 yrs	-	F
051	Skull	Fragment	-	Unfused	Young/adult	-	-
052	Skull	Fragment	-	-	-	-	-
053	Skull	Frontal Fragment	R	-	-	-	-
054	Skull	Fragment	-	Unfused	Young/adult	-	-
055	Skull	Fragment	-	-	-	-	-
056	Skull	Fragment	-	-	-	-	-
057	Skull	Temporo-mandibular Joint	R	-	-	-	M
058	Skull	Mastoid	L	-	-	-	M
059	Skull	Zygomatic	L	-	-	-	-
060	Skull	Fontal Fragment	R	Unfused	Young/adult <29 yrs	-	-
061	Skull	Parietal fragment	R	Fusing	Adult >29 yrs	-	-
062	Skull	Occipital fragment	-	Unfused	Young/adult <31 yrs	-	-
063	Skull	Occipital fragment	-	Unfused	Young/adult <31 yrs	-	-
064	Skull	Maxilla fragment	L	-	-	-	-
065	Mandible	Fragment	R	-	Young Adult 17-25 yr	M3 just in occlusion, not worn Condyle large, Pathology	M
066	Mandible	Torus fragment	L	-	Older Adult 35-45 yr	M3 dentine spots, Uneven wear on M1 suggest nearer 45 yrs.	M
067	Maxilla	Fragment	R	-	Old-Senile Adult	Heavily worn	-
068	Mandible	Complete	-	Fused	Senile Adult	Ramus height = 55.67 Length = 89.71 Symphysis height = 27.63 Bigonial breadth = 77.58 Pathology	F

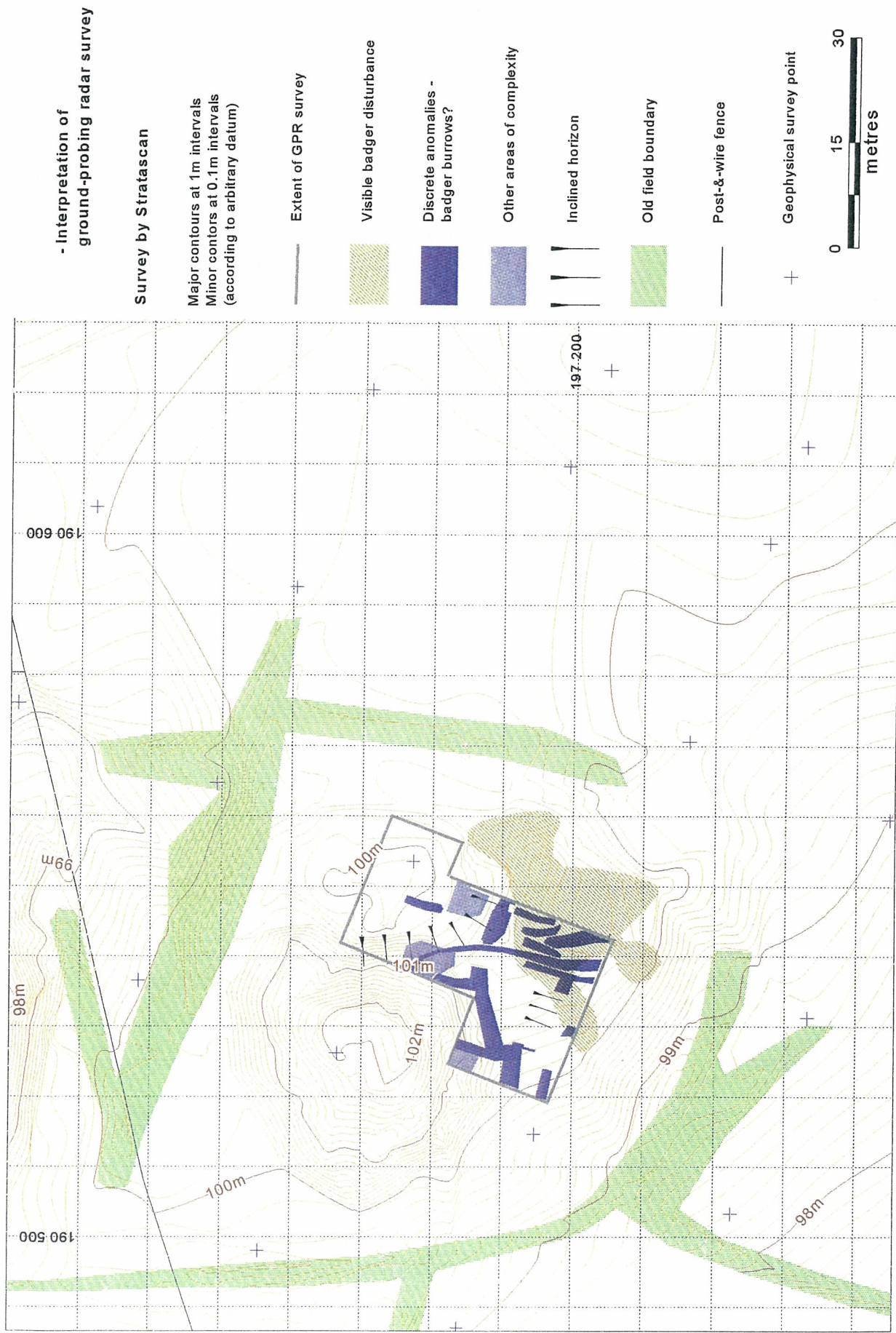
069	Mandible	Fragment	L	-	Young Adult Mid 20s	M3 in occlusion and worn, Robust, Wide ramus	M
070	Maxillary	Nasal fragment	L	-	-	-	
071	Maxillary	Fragment	R	-	Old Adult	-	-
072	Tooth	-	R	-	-	Fits in 071	-
073	Mandible	Ramus fragment	R	Fused	Adult	Pathology (Possible condyle to 066)	M?
074	Skull	Parietal fragment	R				
075	Vertebra	C2 fragment	-	Fused	Adult	-	-
076	Vertebra	C2 fragment	-	Fused	Adult	Pathology DJD	-
077	Vertebra	T2 fragment	-	Fused	Adult	-	-
078	Vertebra	T12 fragment	-	Fused	Adult	-	-
079	Vertebra	L3? fragment	-	Fused	Adult	Pathology	-
080	Vertebra	L5? fragment	-	Fused	Adult	-	-
081	Vertebra	Fragment	-	-	-	-	-
082	Vertebra	L5 fragment	-	Unfused	Juvenile	-	-
083	Vertebra	Centrum	-	Fused	Adult	-	-
084	Vertebra	C1 fragment	-	-	-	-	-
085	Vertebra	Cervical	-	Unfused	Juvenile	-	-
086	Vertebra	Cervical	-	Fused	Adult-	-	-
087	Vertebra	T fragment	-	-	-	-	-
088	Vertebra	Lumbar	-	Fused	Adult	Pathology	-
089	Vertebra	Lumbar	-	Fused	Adult	Pathology	-
090	Vertebra	Lumbar 4?	-	Fused	Adult	Pathology	-
091	Vertebra	Thoracic	-	Fused	Adult	-	-
092	Vertebra	Lumbar 1?	-	Fused	Adult	-	-
093	Mesosternum	Complete	-	-	Juvenile/young adult	Small in stature	F?
094	Rib	Aticular end fragment	-	-	-	-	-
095	Rib	Aticular end fragment	-	-	-	-	-
096	Rib	Aticular end fragment	-	-	-	-	-
097	Rib	Aticular end fragment	-	-	-	-	-
098	Rib	Fragment	-	-	-	-	-
099	Femur	Fragment	-	-	-	Conjoins with 008	
100	Rib	Fragment	-	-	<16 yrs Mid-teens	-	-
101	Skull	Frontal fragment	R	fusing	-	-	-
102	Skull	Sphenoid fragment	-	-	-	-	-
103	Skull	Temporal fragment	L	-	-	-	-
104	Skull	Base fragment	-	-	-		

* denotes bones removed for radiocarbon dating.

A further 10 bones consisting of rib fragments have been identified but not marked or numbered. These have been bagged separately.







CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEAR

(Variables: C13/C12=-19:lab. mult=1)

Laboratory number: Beta-179378

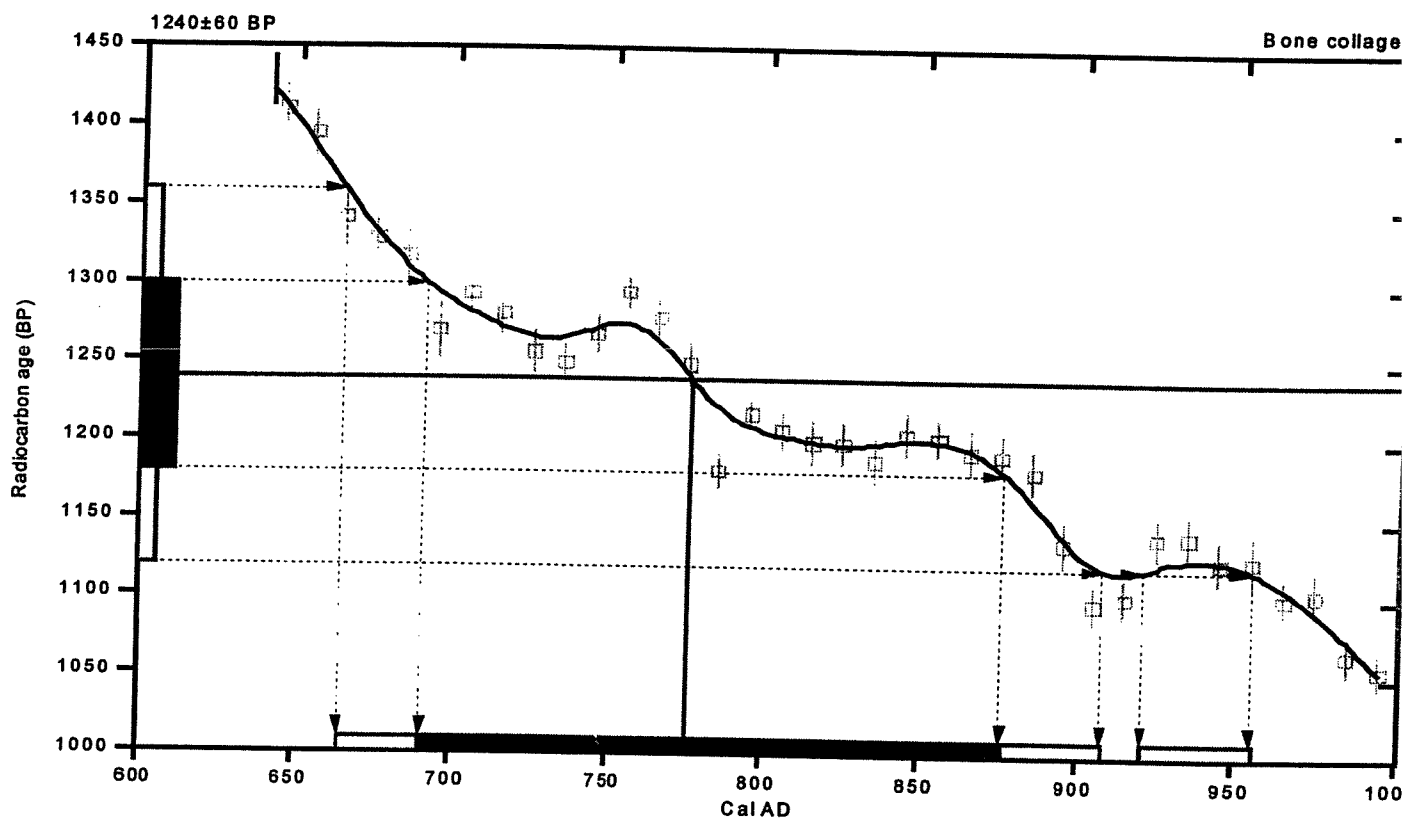
Conventional radiocarbon age: 1240 ± 60 BP

2 Sigma calibrated results: Cal AD 660 to 910 (Cal BP 1280 to 1040) and
(95% probability) Cal AD 920 to 960 (Cal BP 1030 to 1000)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 780 (Cal BP 1170)

1 Sigma calibrated result: Cal AD 690 to 880 (Cal BP 1260 to 1070)
(68% probability)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, *Radiocarbon* 40(3), pxi-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, *Radiocarbon* 40(3), p1041-1083

Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2), p317-322

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-19.1:lab. mult=1)

Laboratory number: Beta-179379

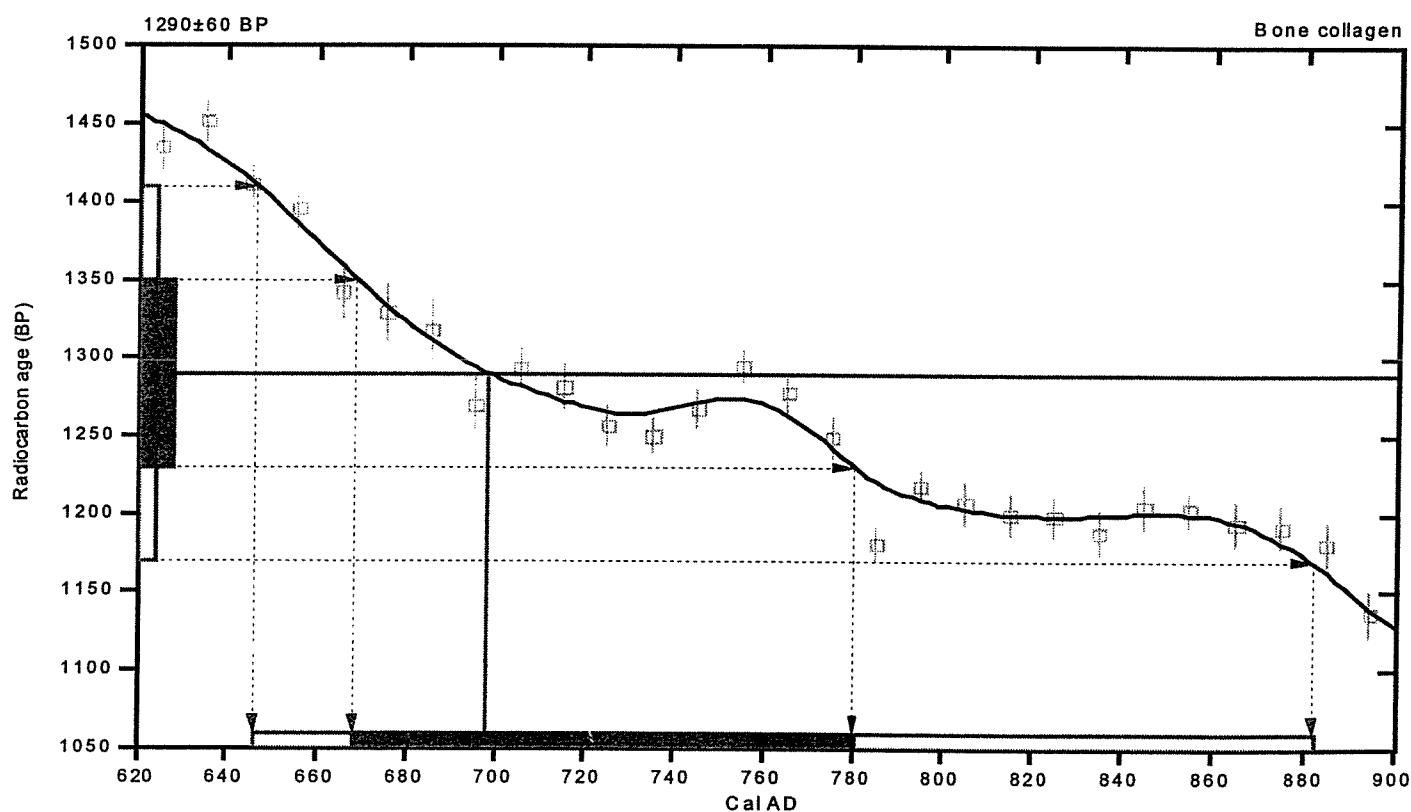
Conventional radiocarbon age: 1290±60 BP

2 Sigma calibrated result: Cal AD 650 to 880 (Cal BP 1300 to 1070)
(95% probability)

Intercept data

Intercept of radiocarbon age
with calibration curve: Cal AD 700 (Cal BP 1250)

1 Sigma calibrated result: Cal AD 670 to 780 (Cal BP 1280 to 1170)
(68% probability)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, *Radiocarbon* 40(3), pxii-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, *Radiocarbon* 40(3), p1041-1083

Mathematics

A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2), p317-322

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CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-19.5:lab. mult=1)

Laboratory number: **Beta-179380**

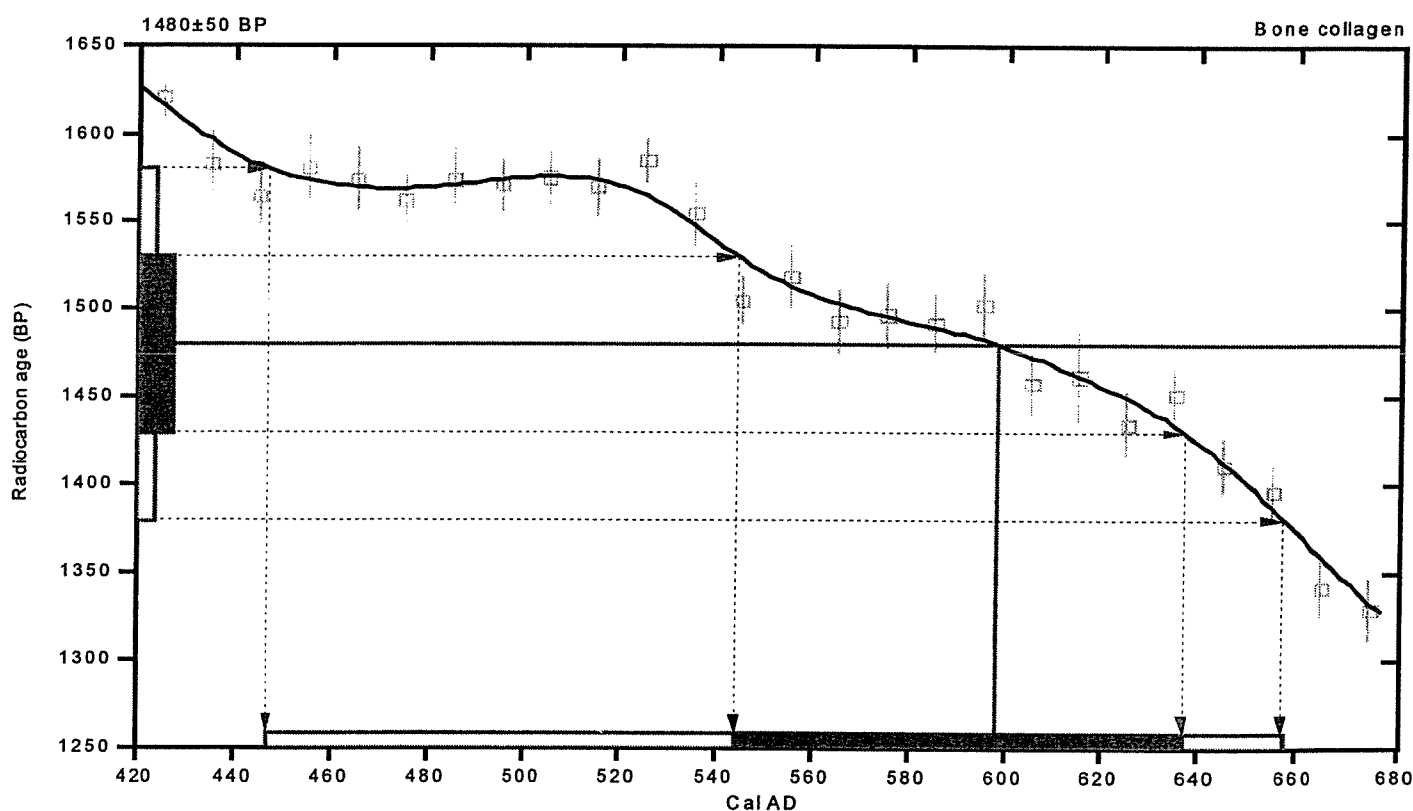
Conventional radiocarbon age: **1480±50 BP**

2 Sigma calibrated result: **Cal AD 450 to 660 (Cal BP 1500 to 1290)**
(95% probability)

Intercept data

Intercept of radiocarbon age
with calibration curve: **Cal AD 600 (Cal BP 1350)**

1 Sigma calibrated result: **Cal AD 540 to 640 (Cal BP 1410 to 1310)**
(68% probability)



References:

Database used

Calibration Database

Editorial Comment

Stuiver, M., van der Plicht, H., 1998, *Radiocarbon* 40(3), pxii-xiii

INTCAL98 Radiocarbon Age Calibration

Stuiver, M., et. al., 1998, *Radiocarbon* 40(3), p1041-1083

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A Simplified Approach to Calibrating C14 Dates

Talma, A. S., Vogel, J. C., 1993, *Radiocarbon* 35(2), p317-322

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APPENDIX 5

The 1880s excavations (from Laws 1880; Laws 1888)

Edward Laws' account of his 1880 excavation, and the 1884 excavation by Colonel Lambton, is somewhat vague and sometimes confused (Laws 1882, 51-58; Laws 1888, 57-59). It is reproduced here in full –

'From its shape and construction, a careless observer would pass (the barrow) by as one of those natural hillocks of blown sand which abound on the burrows in the neighbourhood; but, on closer inspection, the surface is found to be strewn with bones, mostly human, which the rabbits have thrown out from their holes. We commenced operations on the southeastern side, where the bones seemed thickest, and found that this portion of the barrow consists of blown sand, in which skeletons of men, women and children are packed in tiers at least three deep, like pigeons in a pie. Some of the bodies were protected by an enclosure of long water-worn stones about the size of ninepins, but without any covering; others lay in the bare sand; all were oriented. With these bones we found a piece of fine bronze, which might have been an earring, or a finger ring, I think the former; and a small brass ring with a rude pattern of spots pounced on it. On the following day, a small stoup, roughly hewn out of a block of red sandstone, 14in. by 18in., was found in this part of the tumulus. Mixed with the human bones were small quantities of bones of oxen (bos longifrons), and sheep or goats, with a few limpet shells, and a flint flake; but as these occur on the burrows it might be accidental.

We then laid bare a place rather to the north of where we had been digging hitherto, and found a skeleton oriented, and surrounded by made ground (clay) and rough, dry masonry, but without any covering. With this body there was a horse's nipper, a calf's tooth, and the jaw of a sheep or goat, with some shells of oyster and limpet.

By this time we had accumulated so many human bones, that decency suggested we should proceed to re-interment. For this purpose we selected the centre of the barrow, and had not sunk more than 3ft. when we struck on a large slab (flat stones had hitherto been conspicuous by their absence). It proved, as we anticipated it to be, the covering stone of a kistvaen, measuring about 4ft. by 3ft. In it we found portions of a human skeleton much decayed, mixed with charred bones and animal bones, and apparently of an older date than the others, which were all as well preserved as recent bones. In the kistvaen there were bones of oxen (bos longifrons), sheep or goat, and roebuck; a well burned, wheel-turned potsherd, which resembled those discovered by Colonel Lambton in the adjacent camp, and not like such as are usually found in barrows in Pembrokeshire; and along with these was a piece of chert about the size of half a brick, with a cup bored on each side, the borings being immediately opposite to each other, with a diameter of 2 in., and the same depth, the inside of them being as highly polished as though they had just left the lapidary's hand. Then we came on a block of red sandstone, 2ft. long and 6in. wide; on it were scratches like V's and Y's, resembling those known as mason's marks. The last and most curious discovery was a flat piece of limestone, 7in. wide by 10in. long, on which was roughly inscribed a cross within a circle, with a V or arrow-head in one segment. We found nothing more, although we dug down to the sand; still we discovered that although the privilege of burial in this mound was so appreciated that the dead were laid in four tiers, no interments had taken place near the kistvaen.

Having reserved three skulls for the inspection of the late Professor Rolleston, we put the other bones in the pit and covered them up. We then began to look about the surroundings of our tumulus, and found adjoining, the remains of a wall, enclosing the space of about an eighth of an acre, and, at the further end of the tumulus, two small buildings; one of them has, in the memory of man, been used as a cottage; the other the labourers declared was the ruins of a chapel, some saying they could remember an east window. It is very tiny, being only 16ft. by 12 ft., and is pitched with water-worn stones; it stands east and west. The native legend about it is, "That they tried to build a church, but the other people would not let them, and pulled it down again."

In 1884 the British Archaeological Association during their Tenby Congress visited Brownslade, when Colonel Lambton again opened the barrow on the western side and exposed several skeletons; one of these was drawn....'

**BROWNSLADE BARROW, CASTLEMARTIN, PEMBROKESHIRE
ARCHAEOLOGICAL EVALUATION
APRIL-MAY 2003**

REPORT NUMBER 200357

47999

This report has been prepared by Neil Ludlow

Position Project Manager

Signature

Date

13/6/2003

This report has been checked and approved by Ken Murphy on behalf of Cambria Archaeology,
Dyfed Archaeological Trust Ltd.

Position Deputy Director

Signature

Date

13/6/03

As part of our desire to provide a quality service we would welcome any comments you may have
on the content or presentation of this report