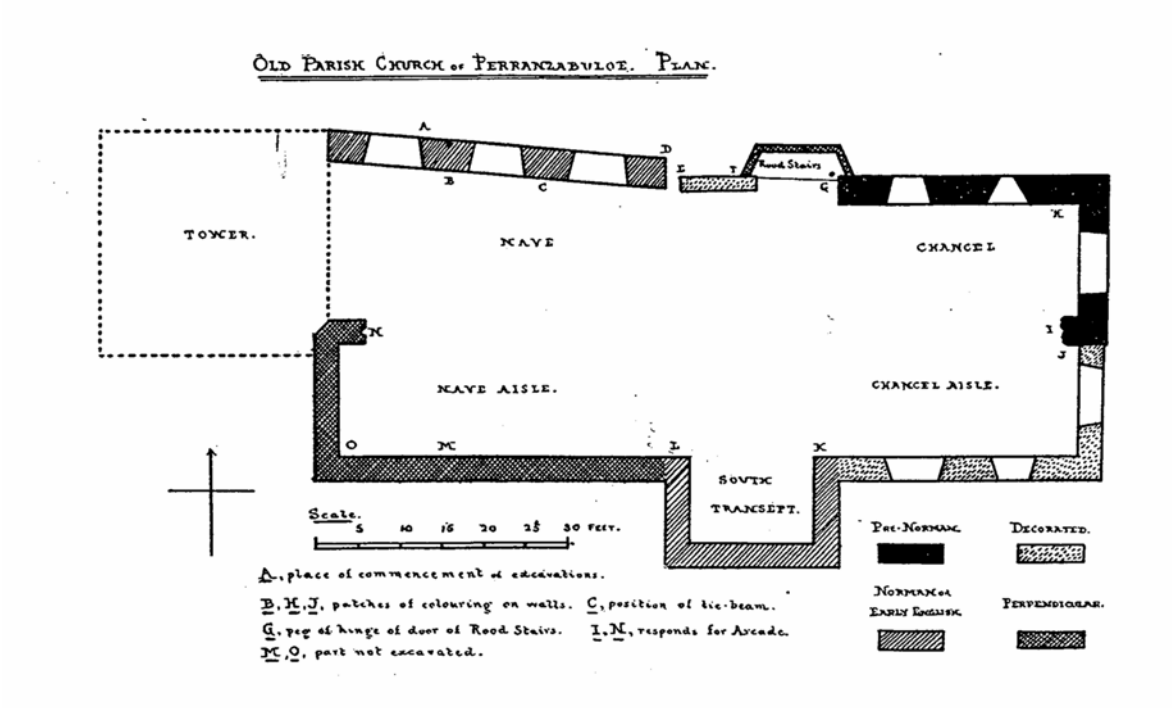
Report No: 2004R059

St. Piran's Church, Perranzabuloe, Cornwall

Excavation of test pits



Historic Environment Service (Projects)

Cornwall County Council

A Report for the St. Piran Trust

St. Piran's Church, Perranzabuloe, Cornwall

Excavation of test pits

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September 2004

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Acknowledgements

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We would like to thank Eileen Carter of the St. Piran Trust who located Figs. 3, 4 and 5 used in this report and Angela Broome of the Royal Institution of Cornwall for her assistance.

Ann Preston Jones, Daniel and Tommy Rose assisted with the excavation work. Ann Preston Jones also commented on this report.

The views and recommendations expressed in this report are those of the Historic Environment Service projects team and are presented in good faith on the basis of professional judgement and on information currently available.

Cover illustration

Plan of St. Piran's Church (from Dexter 1920, 458).

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Abbreviations

CRO	Cornwall County Record Office
HER	Cornwall and the Isles of Scilly Historic Environment Record
HES	Historic Environment Service, Cornwall County Council
NGR	National Grid Reference
PRN	Primary Record Number in Cornwall HER
RIC	Royal Institution of Cornwall

1 Summary

St. Piran's Church is one of two religious structures which survive in the sand dunes in the northern-most part of Gear Sands, some distance to the north of Perranporth. The medieval church for the parish of Perranzabuloe, it was abandoned to the encroachment of sand in the early 19th century. It was subsequently part-excavated in the early 20th century by Dr. T. F. G. Dexter.

The St. Piran Trust, a charitable group whose primary objective is to protect and enhance archaeological sites in the Perranzabuloe area associated with the name of St. Piran, is developing a project to excavate the sand from within the interior of the ruined church while, at the same time, carrying out a range of related conservation and interpretation works in order to improve the amenity value and setting of this important monument.

To inform the development of a detailed project design for this work, two small test pits were excavated by the projects team of Cornwall County Council's Historic Environment Service, to examine the nature and depth of deposits within the structure.

2 Introduction

2.1 Project background

The St. Piran Trust is a charitable group whose primary objective is to protect and enhance archaeological sites in the Perranzabuloe area, associated with the name of St. Piran, the national saint of Cornwall. These remains include the medieval St. Piran's Church (Scheduled Monument Cornwall 15009; HER SMR 19726; NGR SW 7721 5646) which was abandoned to the encroachment of sand in the early 19th century and subsequently part-excavated in the early 20th century (Fig. 1).

The Trust is presently developing a project to excavate the sand from within the interior of the ruined church while, at the same time, carrying out a range of related conservation and interpretation works in order to improve the amenity value and setting of this important monument. The aim is also to produce a management plan for the church and related sites.

In order to inform the development of a detailed project design for the excavation of the interior of the church, two small test pits were excavated by the projects team of Cornwall County Council's Historic Environment Service to examine the nature and depth of deposits within the structure.

The church is owned by Perranzabuloe Parish Council and lies within a Site of Special Scientific Interest (SSSI) and a candidate Special Area of Conversation (SAC). Permission was sought and granted from both Perranzabuloe Parish Council and English Nature to allow the works to proceed.

3 Background

St. Piran's Church is one of two religious structures which survive in the sand dunes in the northern-most part of Gear Sands. The other structure is St. Piran's Oratory (NGR SW 7685 5639) which is an early Christian chapel which acquired fame in the 19th century as the 'oldest Christian building in Britain.' Owing to repeated problems with vandalism and flooding, the Oratory was re-buried in 1980, but has since acquired iconic status, because of its association with St. Piran. The Oratory is also protected as a Scheduled Monument (Cornwall 29670).

3.1 St. Piran's Church

It is generally argued that St. Piran's Church was built around 1150, following the abandonment of St. Piran's Oratory. It has been suggested, however that the church is positioned within an earlier enclosure or round. The Domesday Book records a complex at Lanpiran, as set out below, which may have been here or at the Oratory.

> "The Canons of St Piran's hold 'Lanpiran'; before 1066 it was always free. 3h. Land for 8 ploughs; 2 ploughs there; 2 slaves.
>
> "4 villages and 8 smallholders.
>
> "Pasture, 10 acres. 8 cattle; 30 sheep.
>
> "Value 12s; value when the Count received it, 40s.
>
> "Two lands have been taken from this manor which before 1066 paid 4 weeks' revenue to the Canons and 20s. to the Dean by custom. Berner holds one of them from the count of Mortain; the Count has taken away all the stock from the other hide, which Odo holds from St. Piran's." (Thorn and Thorn 1979, 121b).

The church was enlarged in the fifteenth century, but was abandoned in 1805 due to the encroachment of sand, although it is recorded the church was being threatened by sand as early as 1281 (Doble 1931), when the "demesnes rendered 10/- only because immeasurably harmed by sand" (Henderson 1960, 401).

Henderson has compiled a number of important references, some of which referred to the vill or settlement around the church, demonstrating that the complex was once considerably larger. In 1231 "Roger de Antron and John de Trenhal sold for 6 marks rights in 6 acres and the advowson in the vill of St. Piran and outside it" while at about the same time "the Dean and Chapter of Exeter permitted John de Lanbron to hold his sixth part of the whole vill of Lanberan which he and his ancestors held ..." (Henderson 1960, 399).

Land associated to the church has also been directly documented. In 1650, an area of land linked to "Lamberran" was sold which included a number of fields which were named "Gear Widdon, Brandice Close, Trapp Close, Bunting Close and a stitch of 16 acres of land. The enclosures were described as "arable, pasture and sandy ground" (Henderson 1931, 42).

The church was described in 1755 as in "no little danger - the sands having spread all round it" (Henderson 1960, 401). By the start of the 19th century however, it was quite normal for the porch to have to be dug out in order to gain entrance to the church (Dexter 1920, 401). In 1805, a new church was built some 2.5km inland and St. Piran's Church was allowed to decay.

In 1820, Gilbert had described the old church as "ruinous, being divested of its roof, pillars, window frames and towers. Broken walls, staring windows and shattered tomb-stones are here seen in melancholy confusion, while the interior of the ruin is filled with sea sand" (1820, 681). The last record of the church still being visible was in 1838 (Penaluna 1838, 161), while a tradition grew up locally that every stone of the old church had been removed to build the new church.

3.2 Previous archaeological work

The site was excavated by T. F. G. Dexter between 1917 – 1920. The periphery of the church was excavated to define the shape and size of the structure in the summer of 1917 and the spring of 1918; the chancel was cleared of sand 'internally and externally' during the summer of 1918 and the spring summer of 1919 (Dexter 1922, 267-69, 298-99 and 304).

A survey of the church undertaken by the Cornwall Archaeological Unit in the mid 1980s (Fig. 11) demonstrates the focus of Dr Dexter's excavation. He clearly concentrated his efforts at the eastern end of the church, in the chancel and chancel aisle, but also excavated a number of trenches to clarify the position of extant walling.

Some one thousand cartloads of sand were removed from the chancel alone and the excavation revealed substantial walling, plastered window splays, carved stones and a number of other features. It is clear that the tower, pillars, font, tracery and other cut stone were removed to the new church site at Perranzabuloe. The complete foundations remain and the walls to the east are visible up to 2m high, with openings for windows and for a piscina.

From Dexter's work it is known that the church consisted of a nave and chancel, south aisle, south transept and tower. A north transept had been blocked off and replaced by a rood stair projecting from the line of the north wall. It is suggested that the church was extended with a chancel aisle in the late 13th or early 14th centuries, and at the same time

the north transept was possibly demolished. The south nave aisle, tower and possibly porch were added in the 15th century (Fig. 2).

According to Ann Preston Jones "the nave and chancel together measure 26.3m; the chancel is 7.0m long and 4.0m wide. The aisle is 3.5m wide at the east end and the 4.0m wide transept projects 2.5m beyond the south wall of the aisle. The exact proportions of the tower are uncertain, but it may have been about 4.0m by 4.0m internally. The walls vary considerably in thickness, from the east wall of the chancel which is 1.15m wide at its base to the south wall of the aisle which is 0.7m thick" (1994, 7).

Special architectural features within the church include the bases of window splays which survive in the chancel north and east walls, and an acute, chamfered-arched recess for a piscina (a stone basin with a drain used for the disposal of water used at mass).

All the walling in the church is of local material. The northern wall is of an angillaceous slate, abundant in the locality, the north-east quoins and the upper part of the eastern wall were of quartz felsite (elvan) found in a local quarry at Rose in the same parish and the killas slate of the chancel aisle is another local stone. The limited amount of granite found in the church is likely to have come from one of two local sources; either Indian Queens or St. Agnes (Dexter 1920, 460). Ann Preston Jones has also noted sandrock within the building fabric.

At the present time, levels within the church vary considerably (see Section 5.3). The east end, which was most thoroughly excavated, is lowest while the deposits in the west end are up to 1.5 metres higher. Comparison with historic photographs from the early 1920s (Figs. 3 and 4) do however show that there has been a considerable build-up of sand in the eastern part of the building since the end of that early excavation. Trenches along the northern wall of the nave and around the remains of the tower as well as along the position of southern wall of the nave aisle can still be noted, which demonstrates that the profile of the landscape in this area has otherwise remained relatively stable since Dexter's excavation.

However, the condition of the actual fabric of the building has deteriorated through much of the 20th century. In 1994, Ann Preston Jones of English Heritage wrote "the elements have reduced the already pathetic ruin to an even more ghastly wreck. Gradually, most of the plaster has fallen from the walls, mortar has washed out, stones have fallen or been removed. The attrition of sand and weather have been assisted, unintentionally, by visitors. The body of the church makes an excellent, sheltered picnic spot and the walls an ideal climbing frame" (1994, 4). In this same report, she produced an image showing how much of the stonework had been lost from the walling at the east end of the church (1994, 24).

Consolidation of the exposed stonework was undertaken in 1994 by Harold Philp, a local builder and parish councillor. This work was funded by English Heritage and Perranzabuloe Parish Council. For more detailed consideration of the standing fabric, and information about this work, see Preston Jones (1994).

Recent archaeological work include an assessment of Gear Sands (Cole 1997) and the extent of the Penhale Training Area (Cole 2004). Substrata Ltd also undertook a gradiometer and resistance survey of a 3 hectare area around the church in March 2004, in help inform the work of the St. Piran Trust. This work was funded by English Heritage.

4 Methodology

Two test pits were excavated by hand and backfilled as soon as the necessary archaeological recording work had been carried out.

The archaeological remains were recorded as follows:

- Drawings (plans and sections) were made by pencil (4H) on drafting film; with standard information such as site details, personnel, date, scale, etc.
- All features were accurately located at an appropriate scale.
- All archaeological contexts were described to a standard format.
- Scaled monochrome photography was used as the main record medium, with colour slides and prints used more selectively and for illustrative purposes.

The varying height levels of the material within the church were also recorded, so that the amount of sand, which would need to be removed in the future, could be properly estimated.

The work took place on 26th and 31st August 2004.

5 Results

5.1 Test pit 1

The first test pit was excavated within the chancel of the church (Fig. 11), an area where Dr Dexter had carried out considerable excavation work in the second decade of the 20th century. It was known that human remains had been encountered by Dexter in this area, who had written that burials were found "within a few inches of the floor" of the chancel and that "one skeleton, nearly entire, was found under the space once occupied by the high altar" (Dexter 1922, 293). This burial was revisited in the 1970s when an excavation was carried out by "sixth formers of Winchester College, under the expert guidance of their Chaplain, the Rev. Philip Wilmot" (undated newspaper cutting / Eileen Carter *pers comm*).

The test pit did encounter evidence of both the chancel floor and disarticulated human remains. Originally 1.0m^2, the test pit was extended to the west by 0.3m in order to more fully understand the remains of the floor layer that was found.

In the south-west corner of the test pit, the excavation encountered a top soil layer [1] less than 0.1m deep and then a deposit [2] made up largely of windblown dune sand. This overlay a gritstone slab measuring 0.48 by 0.33m, itself bedded onto a silty clay layer [5] containing human bone. The slab was clearly *in situ,* lying parallel to the northern wall of the chancel and surrounded by small elongated pieces of mortar that had obviously been laid in the cracks between the slabs (Figs. 9, 10 and 12). An irregular piece of slatestone was uncovered next to the slab, but this was debris and not part of the floor surface.

In the north-west corner of the same test pit, the corner of an excavated hollow with near-vertical sides was recorded. The hollow was full of windblown dune sand, showing that it had previously been excavated by Dexter. The base of the feature was 0.35m below the level of the floor.

The main deposit of sand [2] included a large number of pockets of a silty clay soil containing small fragments of mortar and human bone, as well as two larger deposits of such material in the north-east corner [7] and along its southern edge [4]. Human bone was visible in both these layers. Three small fragments of bone were recovered from the top soil [1], while 40 pieces were recovered from the main deposit of sand [2]. Most, though not all, of the pieces came from the lower half of the deposit and included two vertebrae, foot and hand bones, fragments of skull and pelvis. Bone fragments noted in the other deposits such as a long rib bone in layer [7] were left in the ground and not excavated. All

human bones removed from the test pit were reburied once the excavation had been completed.

The sand layer [2] also included a large amount of slate, mortar and plaster fragments. Twelve pieces of slate, with peg holes and blobs of attached mortar 0.05-0.1m in thickness were noted. The mortar included a fine sandy aggregate, while the numerous fragments of plaster were generally smooth and white with two pieces demonstrating evidence of having been painted.

A selection of these fragments were retained; 6 slates and 15 pieces of mortar.

It is clear from the evidence that in 1917-1920 Dr Dexter had excavated down to, at least, the level of the floor encountered in this test pit. The build-up of 0.6m of 'sand' obviously took place in the decade following the excavation. The pockets of material containing human bone within the sand and in layer [7], in particular, reflect on the condition of the site following Dexter's excavation. Figs. 3 and 4 show that the site was left in a very poor condition and presumably there were areas of disturbed earth containing bone and other remains, loose within the structure, that then became mixed in with the sand, as it partly infilled this end of the church.

Context no.	Description
1	Top soil. A sandy dark brown soil with a maximum depth of 0.1m. It contained three small fragments of human bone.
2	Dune sand, with occasional pockets of soil including mortar fragments and pieces of human bone.
3	Fine gritstone floor slab, measuring 0.48m by 0.33m, surrounded by band of a white mortar. This slab was 0.045m thick, it had a worked top face and a rough chamfer along its northern underside.
4	Light yellowish brown silty clay overlying the floor slab. A maximum depth of 0.1m, it was a gritty layer and contained small slate and mortar pieces throughout.
5	Firm light yellowish brown silty clay underlying the floor slab. Make-up for the identified floor layer, it was a gritty layer and contained small slate and mortar pieces throughout. It contained numerous pieces of human bone and was not excavated.
6	Corner of square-cut excavation, measuring 0.2m by 0.35m,. This was presumably excavated by Dexter. The base of the feature was 0.35m below level of the chancel floor. Filled with clean dune sand.
7	Light yellowish brown silty clay in north-east corner of the test pit. A disturbed deposit containing human bone, this may have been redeposited.

5.2 Test pit 2

The second test pit was positioned in a southern-most part of the nave. The excavation of this test pit turned out to be quite straight-forward in comparison to test pit 1.

It was 1.0m^2 and excavated to a maximum depth of 1.8m in its south-west corner, through a very clean dune sand. There was a slight top soil layer [1] top, 0.05m deep, while the top 0.2m of the sand layer was darker [2] than the sand below. Unlike the first test pit, no fragments of human bones were recovered, although there were occasional small stone pieces and small slate pieces, none of which were retained. Whereas the sandy layer identified in test pit 1 has accumulated following the 1917-1920 excavation, the sand in this test pit had not been disturbed by Dexter and had built-up during the early years of the 19th century, soon after the abandonment of the church.

At the base of the sand deposit, a demolition layer [3] was encountered. It was a light brown soil and included slate pieces and mortar fragments. Two small and well cut slates were recovered; the layer was not otherwise excavated.

5.3 Extent of infill

In order to inform the planned excavation of the interior of the St. Piran's Church, a series of heights were taken across the site. A temporary bench mark of 10.0m was set up and the relative levels across the site calculated from that starting point.

The floor level identified in test pit 1 was at approximately 6.65m, while the demolition layer in test pit 2 was encountered at 6.5m. This shows that the chancel end of the church was raised above level of the reminder of the interior of the building, as would be expected. This also suggests that the amount of demolition debris overlying the floor level of the nave is likely to be quite limited.

It is also interesting to note that Dexter identified evidence of a floor, only one foot beneath the piscina, in the south-east corner of the chancel aisle (Dexter 1920, 472). He felt this to be a later floor level, arguing that the base of the piscina would be expected to be about three feet above the level of the chancel floor. The piscina had been blocked up and plastered over. The identified level of the chancel floor in test pit 1 appears to be generally consistent with Dexter's assertion (Dexter 1920, 472; Preston Jones 1994, 18).

The height of the sand fluctuates throughout the interior of the structure. In the chancel, it varied from 7.27-7.45m, while in the chancel aisle it varied from 7.19-7.51. In both cases, the extent of sand was greater around the interior of the walling, which it had built up against. There was a greater amount of sand in the western part of the church, which varied from 8.78m at the highest point to 7.27m along the base of excavated walling and 7.20m where the tower has been excavated.

6 Discussion

The reason for this discussion is to consider the impact of the findings of this report on plans to excavate the interior of the structure.

While any excavation undertaken would need to extend, at least in part, to the actual floor level in order to investigate the nature and condition of the archaeological remains, it is also the case that a buffer layer of sand will need to be left overlying the archaeological remains to protect them once the excavation has been completed. Given the discovery that the sand at the eastern end of the church is likely to contain a large amount of human bone, the excavation strategy will also need to be engineered with this in mind.

Test pit 1 demonstrated that the majority of human bone remains were in the bottom half of the sand deposit. It is suggested that the buffer layer at this end of the church should be at least 0.3m thick and it would probably be sensible that the excavation should not proceed beneath an identified ground level of 7.0m. The western end of the church could also be excavated to the same level as at the chancel end. In the west end, this would mean that up to 1.8m of sand would be removed and there would still be a buffer of 0.5m over the identified demolition layer (assuming its height is relatively consistent).

These suggested levels could be varied however. A slightly deeper excavation could be undertaken in the western end of the church and an artificial terrace then constructed in the approximate position of the step up to the chancel, to reflect the position of this known feature.

If the excavation had the aim of creating a new floor level at 7.0m, this would mean that the walling along the northern edge of the nave would be visible to a height of 1.68-1.98m above the new ground level, and comparable to the height of the walling already visible at the chancel end. The south-east corner of the tower would be visible to a height of 1.07m.

Using the difference in levels to estimate the amount of sand to be removed, it is clear that approximately 250 cubic metres of material would need to be removed from the church. Care will need to be taken when excavating at the chancel end of the church and much of this will need to be done by hand. It would be sensible to use a mini-digger in the western part of the church however to remove the large amount of the clean sand that is anticipated.

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8 Project archive

The HES project number is **2004006.**

The project's documentary, photographic and drawn archive is housed at the offices of the Historic Environment Service, Cornwall County Council, Kennall Building, Old County Hall, Station Road, Truro, TR1 3AY. The contents of this archive are as listed below:

1. A project file containing site records and notes, project correspondence and administration.
2. Field plans and copies of historic maps stored in an A2-size plastic envelope (GRE 208/15).
3. Black and white photographs archived under the following index numbers: GBP 1661
4. This report held in digital form as: G:\CAU\DOCUMENT\HE PROJECTS\SITES\SITES S\ST PIRAN CHURCH TEST PITS\REPORT.DOC

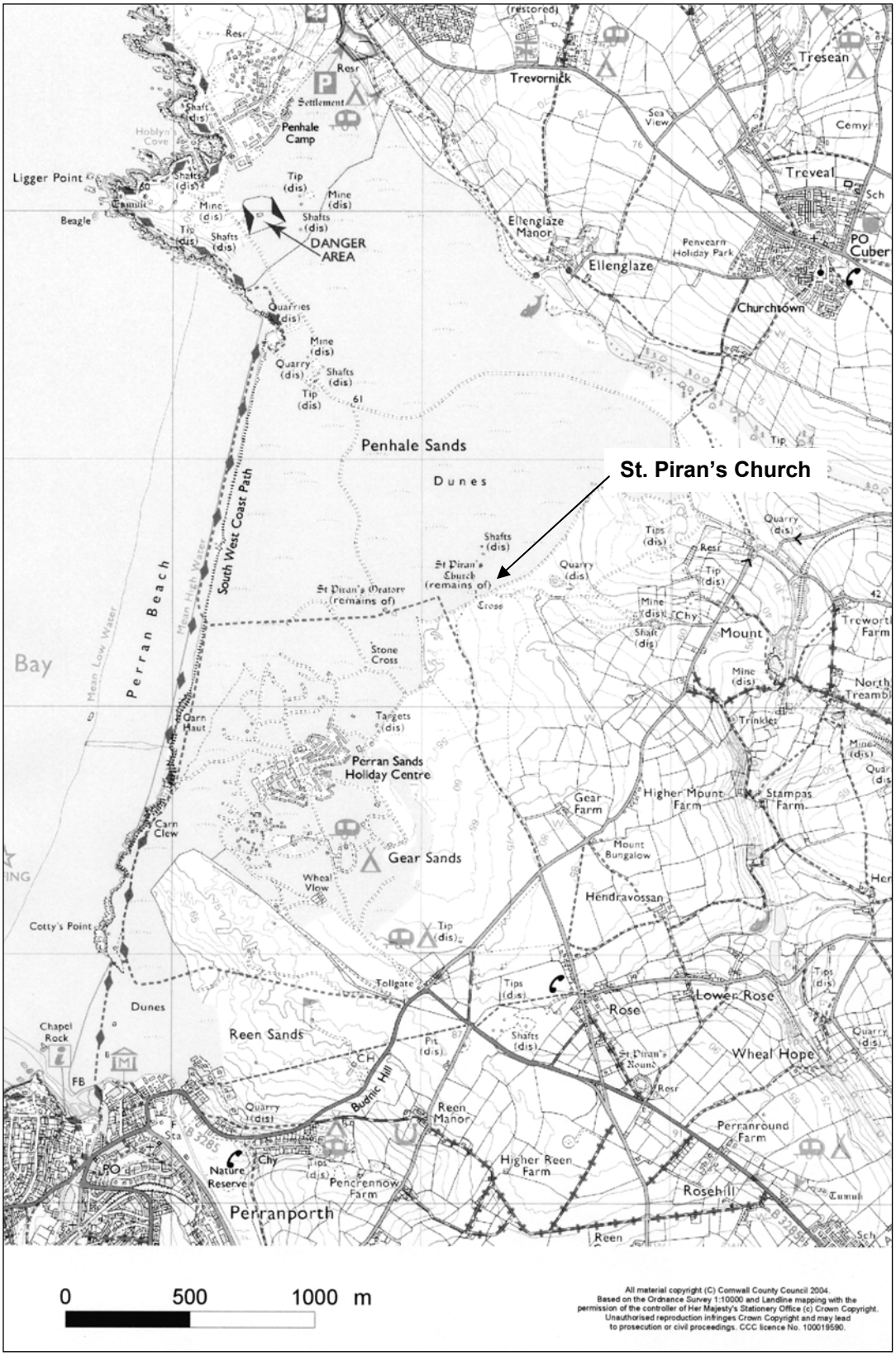


Fig. 1 Location map.

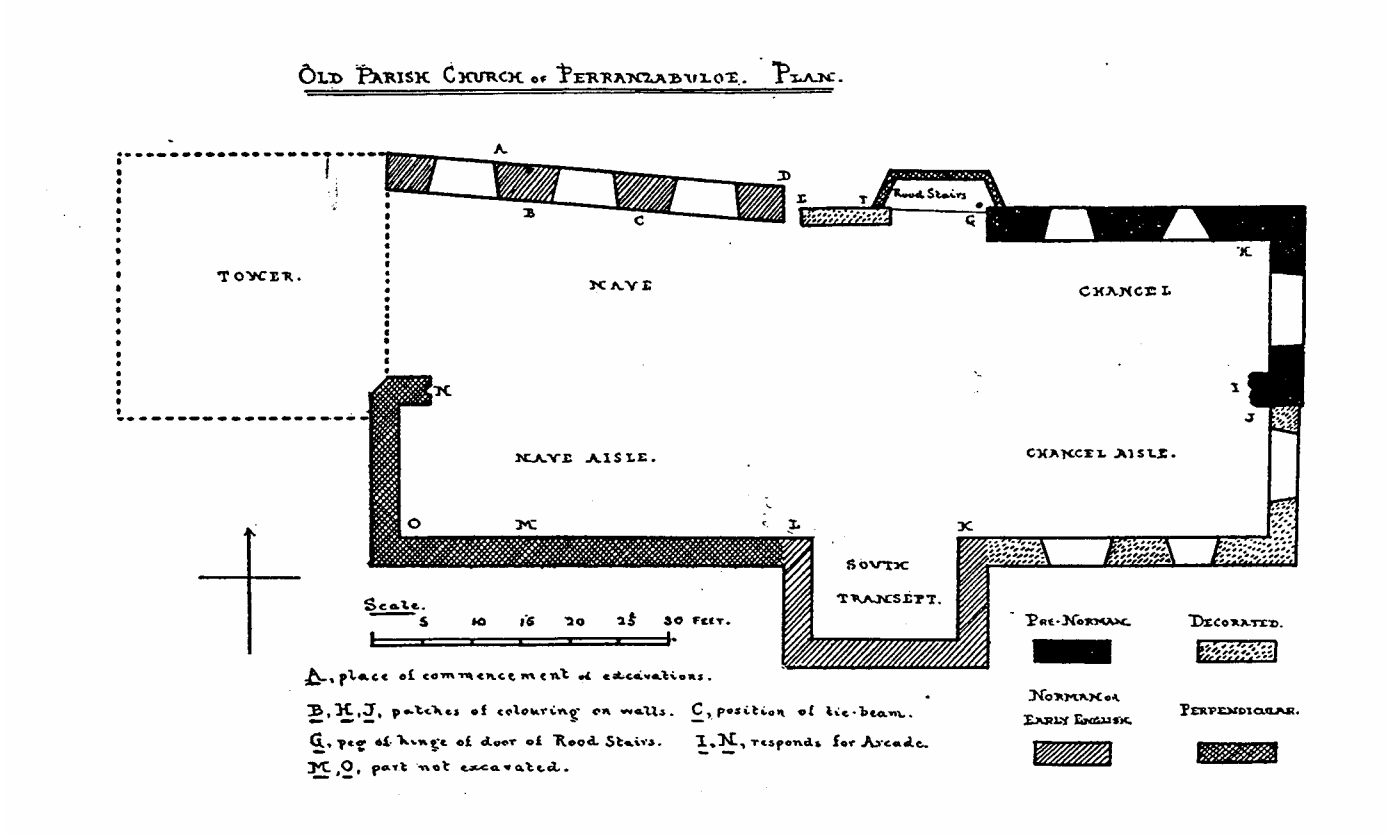


Fig.2 Plan of St. Piran's Church (reduced) (from Dexter 1920, 458).

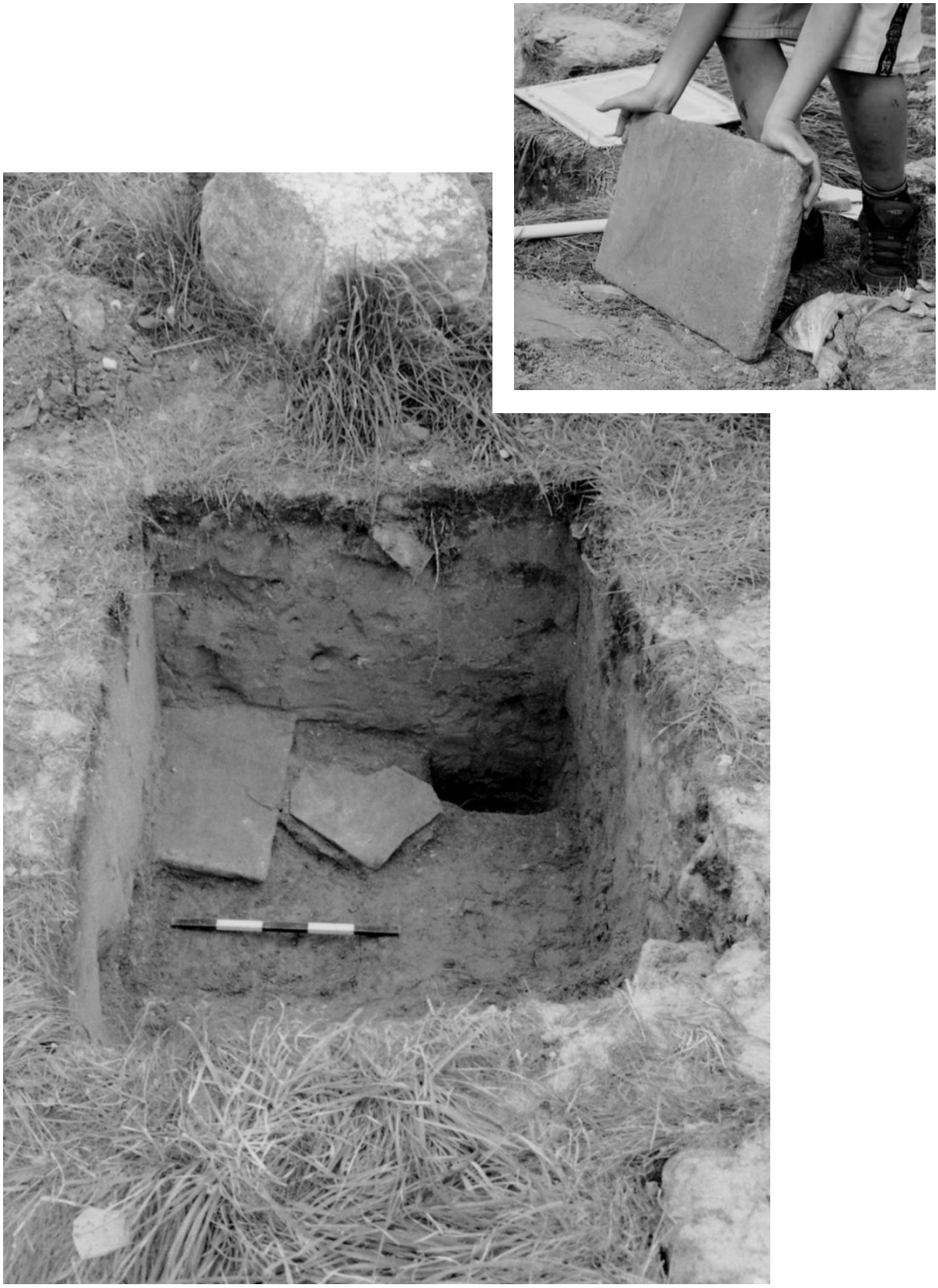
Fig. 3 *St. Piran's Church following Dexter's excavation.*

Fig. 4 *Dexter showing visitors around site of excavation in 1922.*

Figs. 5 and 6 *St. Piran's Cross c. 1890 and 2004, showing ground levels have changed.*

Fig. 7 *Excavation of test pit 1.*

Fig. 8 *Excavation of test pit 2.*



Figs. 9 and 10 Test pit 1 photographed from the east showing floor slab and the same floor slab once lifted.

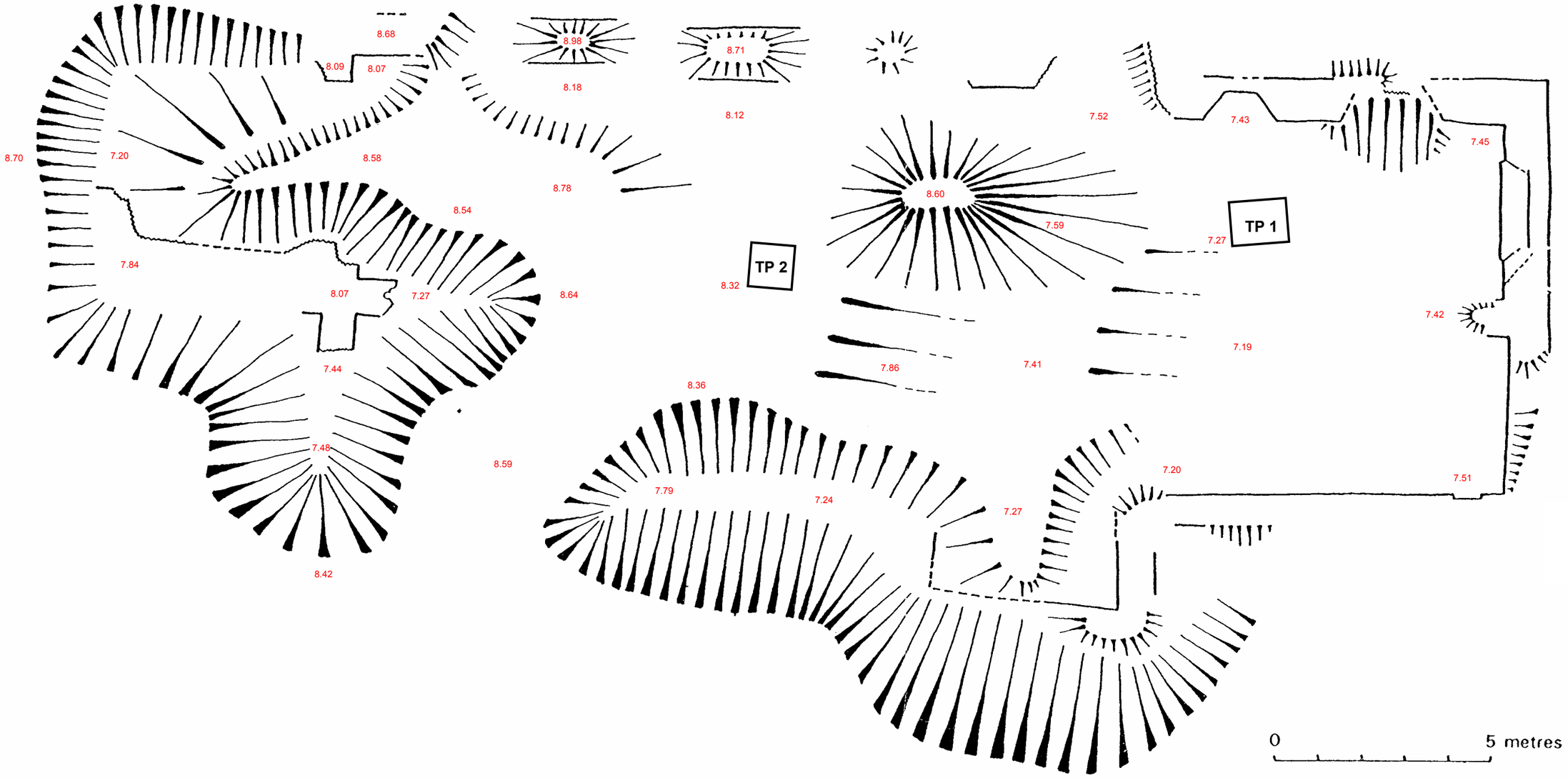


Fig. 11 *Location of the test pits and relative ground levels within the interior of St. Piran's Church.*

Please note; the ground levels shown are based on an arbitrary TBM height of 10.00.

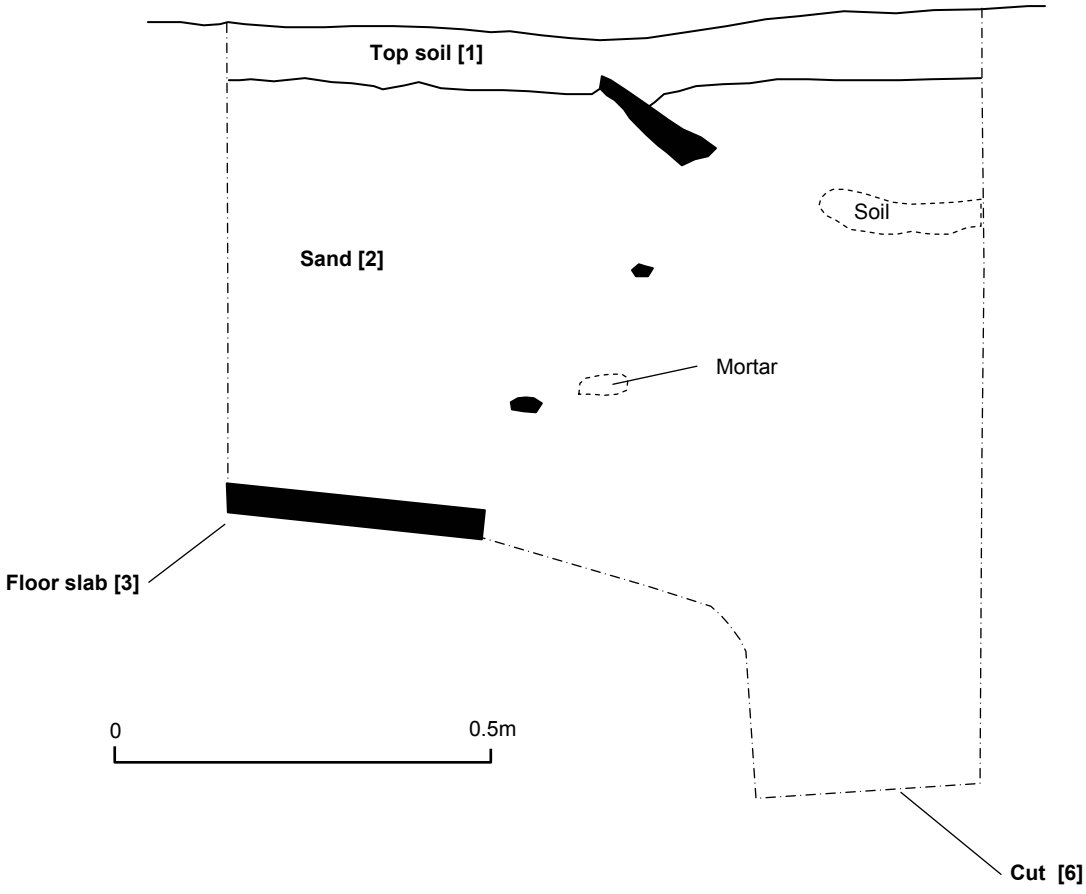


Fig. 12 East-facing section of test pit 1.